HYDRO ONE BRAMPTON NETWORKS INC.

CONDITIONS OF SERVICE

AUGUST 2010

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Hydro One Brampton Networks Inc.

PREFACE

The Distribution System Code (DSC) requires that every Distributor produce its own "Conditions of Service" document. The purpose of this document is to provide a means for communicating the types and level of service available to the Customers within Hydro One Brampton's service area. The Distribution System Code requires that the Conditions of Service be readily available for review by the general public. In addition, the most recent version of the document must be provided to the Ontario Energy Board (OEB), which in turn will retain it on file for the purpose of facilitating dispute resolutions in the event that a dispute cannot be resolved between the Customer and its local distributor.

This document follows the form and general content of the Condition of Service template appended to the DSC. The template was prepared to assist Distributors in developing their own "Conditions of Service" document based on current practice and the DSC. Hydro One Brampton has expanded on the contents to encompass local characteristics and other specific requirements.

The General section contains references to services and requirements that are common to all Customer classes. This section covers items such as Rates, Billing, Hours of Operation, Emergency Response, Power Quality, Available Voltages, Metering Back-Up Generation and Deposits.

The Customer Specific section contains references to services and requirements specific to the respective Customer class. This section covers items such as Service Entrance Requirements, Delineation of Ownership, Special Contracts, etc.

Other sections include the *Glossary of Terms, Tables* and ***References.***

Subsequent changes will be incorporated with each submission to the OEB.

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1 INTRODUCTION

1.1 Identification of Distributor and Service Area

Hydro One Brampton Networks Inc., referred to herein as “Hydro One Brampton,” (H.O.B.) is a corporation incorporated under the laws of the Province of Ontario and a Distributor of electricity.

H.O.B. is licensed by the Ontario Energy Board (“OEB”) to supply electricity to Customers as described in the Transitional Distribution License issued to H.O.B. on April 1, 2000 by the OEB (“Distribution License”). Additionally, there are requirements imposed on H.O.B. by the various codes referred to in the License and by the Electricity Act, 1998 and the Ontario Energy Board Act, 1998.

H.O.B. may only operate distribution facilities within its Licensed Territory as defined in its Distribution License. This service area is subject to change with the OEB's approval.

Nothing contained in these Conditions or in any contract for the supply of electricity by H.O.B. shall prejudice or affect any rights, privileges, or powers vested in H.O.B. by law under any Act of the Legislature of Ontario or the Parliament of Canada, or any regulations there under.

1.1.1 Distribution Overview

H.O.B. distributes electrical power through its 13.8kV, 27.6kV and 44.0kV primary distribution systems. On the 27.6kV and 44.0kV systems, feeders are arranged to run radial by maintaining open points between interconnections. The 44.0kV feeders also supply distribution transformers through a 13.8kV sub distribution system.

H.O.B. maintains an underground network system a distinct area in Brampton. This low voltage secondary network system may be available to some Customers in the downtown core of the City of Brampton as a source of supply at 120/208V, depending on the local capacity of the system and the energy requirements of the Customer.

The supply of electricity by H.O.B. to any Customer will be at one of the following primary voltage levels: 44.0kV, 27.6kV or 13.8kV depending on the proximity of the Customer’s premises to the nearest distribution facility.

1.2 Related Codes and Governing Laws

The supply of electricity or related services by H.O.B. to any Customer shall be subject to various laws, regulations, and codes, including the provisions of the latest editions of the following documents:

1. Electricity Act, 1998 } part of the Energy Competition
2. Ontario Energy Board Act, 1998 } Act, 1998
3. Distribution License
4. Affiliate Relationships Code
5. Transmission System Code
6. Distribution System Code
7. Retail Settlement Code
8. Standard Service Supply Code

In the event of a conflict between this document and the Distribution License or regulatory codes issued by the OEB, or the Energy Competition Act, 1998 (the ”Act”), the provisions of the Act, the Distribution License and associated regulatory codes shall prevail in the order of priority indicated above. If there is a conflict between a Connection Agreement with a Customer and this Conditions of Service, this Conditions of Service shall govern.

When planning and designing for electricity service, Customers and their agents must refer to all applicable provincial and Canadian electrical codes, and all other applicable federal, provincial, and municipal laws, regulations, codes and by-laws to also ensure compliance with their requirements. Without limiting to the foregoing, the work shall be conducted in accordance with the latest edition of the Ontario Occupational Health and Safety Act (OHSA), the Regulations for Construction Projects and the harmonized Electric Utility Safety Association (EUSA) rulebook.

1.3 Interpretations

In these Conditions, unless the context otherwise requires:

- headings, paragraph numbers and underlining are for convenience only and do not affect the interpretation of this Conditions;
- words referring to the singular include the plural and vice versa;
- words referring to a gender include any gender

1.4 Amendments and Changes

The provisions of this Conditions of Service and any amendments made from time to time form part of any Contract made between H.O.B. and any connected Customer, Retailer, or Generator, and this Conditions of Service supercedes all previous conditions of service, oral or written, of H.O.B. or any of its predecessor municipal electric utilities as of its effective date. In the event of changes to this Conditions of Service, H.O.B. will issue a notice with the Customer’s bill. H.O.B. may also issue a public notice in a local newspaper.

The Customer is responsible for contacting H.O.B. to ensure that the Customer has, or to obtain the current version of this Conditions of Service. H.O.B. may charge a reasonable fee for providing the Customer with a copy of this document.

1.5 Contact Information

H.O.B. can be contacted 24 hours a day at 905-840-6300 or such other numbers as H.O.B. may advise through its website, invoices or otherwise. Normal working hours are Monday to Friday between 8:30 a.m. and 4:30 p.m. The corporate mailing address is 175 Sandalwood Parkway West, Brampton, Ontario, L7A 1E8.

1.6 Customer Rights

H.O.B. shall only be liable to a Customer and a Customer shall only be liable to H.O.B. for any damages that arise directly out of the willful misconduct or negligence:

- of H.O.B. in providing distribution services to the Customer;
- of the Customer in being connected to H.O.B.’s distribution system;
- of H.O.B. or Customer in meeting their respective obligations under this Conditions, their licences and any other applicable law.

Notwithstanding the above, neither H.O.B. 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.

The Customer or Embedded Generator shall indemnify and hold harmless H.O.B., its directors, officers, employees and agents from any claims made by any third parties in connection with the construction and installation or operation of a generator by or on behalf of the Customer or the Embedded Generator.

1.7 Distributor Rights

1.7.1 Access to Customer Property

H.O.B. shall have access to Customer property in accordance with section 40 of the *Electricity Act, 1998.*

1.7.2 Safety of Equipment

The Customer will comply with all aspects of the Ontario Electrical Safety Code (latest edition) with respect to insuring that 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 a reasonable time, H.O.B. may disconnect the supply of power to the Customer.

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

The customer is responsible for ensuring that the slope of the grading from the building permits natural drainage of water away from the building. He is also responsible for any settling of the grade that causes damage to H.O.B.'s underground plant.

The Customer shall not use or interfere with the facilities of H.O.B. except in accordance with a written agreement with H.O.B. The Customer must also grant H.O.B. the right to seal any apparatus where an electrical connection could potentially be made on the line side of the revenue metering equipment (unauthorized unmetered load)

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

Customers will be required to pay the cost of repairs or replacement of H.O.B.'s equipment that has been damaged or lost by the direct or indirect act or omission of the Customer or its Agents.

1.7.3 Operating Control

The physical location on Customer's premises at which a distributor's responsibility for operational control of distribution equipment ends is defined by the DSC as the "operational demarcation point" (i.e: customer's primary isolating to his transformer).

Operational demarcation points for non flat-rate services are identified in tables 1.1 to 1.5.

For unmetered (flat-rate) overhead services the demarcation point is the connection point at the customer's service mast. For unmetered underground services the demarcation point is either in the customer's handwell (if used) or the secondary spades of H.O.B.'s mini-pad transformer.

H.O.B. will define its' point of Operating Control for each site as required. No Person shall operate remove, replace, alter, repair, inspect or tamper with H.O.B.'s equipment unless they are an employee or an agent of H.O.B., or other Person lawfully entitled to do so.

1.7.4 Repairs of Defective Customer Electrical Equipment

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

1.7.5 Repairs of Customer's Physical Structures

Construction and maintenance of all civil works on private property owned by the Customer, including such items as transformer vaults, transformer pads, cable chambers, cable pull rooms and underground conduit, will be the responsibility of the Customer. All civil work on private property that facilitates H.O.B. Equipment must be inspected and accepted by H.O.B.

The Customer is responsible for the maintenance and safe keeping conditions satisfactory to H.O.B. of its structural and mechanical facilities located on private property.

1.7.6 Force Majeure

Other than for any amounts due and payable by the Customer to Hydro One or by H.O.B. to the Customer, neither H.O.B. nor the Customer shall be held 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.

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

a) other than for Force Majeure Events related to acts of God, promptly notify the other party of the Force Majeure Event and its assessment in good faith of the effect that the event will have on its ability to perform any of its obligations. If the immediate notice is not in writing, it shall be confirmed in writing as soon as reasonably practical;
b) not be entitled to suspend performance of any of its obligations under these Conditions of Service to any greater extent or for any longer time that the Force Majeure requires it to do;
c) use its best efforts to mitigate the effects of the Force Majeure Event, remedy its inability to perform, and resume full performance of its obligations;

d) keep the other party continually informed of its efforts; and
e) other than for Force Majeure Events related to acts of God, provide written notice to the other party when it resumes performance of any obligations affected by the Force Majeure Event;
f) if the Force Majeure Event is a strike or lock out of H.O.B.'s employees or authorized agents, H.O.B. shall be entitled to discharge its obligations to notify its Customers in writing by means of placing an ad in the local newspaper.

1.8 Disputes

To resolve disputes, H.O.B. will follow the terms of Section 23 of the Transitional Distribution Licence.

Section 23 of the Transitional Distribution Licence states:

The Licensee shall:

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

2 DISTRIBUTION ACTIVITIES (GENERAL)

2.1 Connections - Process and Timing

Under the terms of the Distribution System Code, H.O.B. has the obligation to either connect or to make an offer to connect any Customers that lie in its service area.

The Customer or its representative shall consult with H.O.B. concerning the availability of supply, the supply voltage, service location, metering, and any other details. These requirements are separate from and in addition to those of the Electrical Safety Authority. H.O.B. will confirm, in writing, the characteristics of the electric supply.

The Customer or its authorized representative shall apply for new or upgraded electric services and temporary power services in writing. The Customer is required to provide H.O.B. with sufficient lead-time in order to ensure:

(a) the timely provision of supply to new and upgraded premises or
(b) the availability of adequate capacity for additional loads to be connected in existing premises.

H.O.B. shall make every reasonable effort to respond promptly to a Customer's request for connection. H.O.B. shall respond to a Customer's written request for a Customer connection within 15 calendar days of receipt of the written request. H.O.B. will make an offer to connect within 30 calendar days of receipt of the written request, unless other necessary information is required from the Customer before the offer can be made.

H.O.B. shall make every reasonable effort to respond promptly to a generator's request for connection. In any event H.O.B. shall provide an initial consultation with a generator that wishes to connect to the distribution system regarding the connection process within thirty (30) calendar days of receiving a written request for connection. A final offer to connect a generator to its distribution system shall be made within thirty (30) calendar days of receiving a written request for connection, unless other necessary information outside the distributor's control is required before the offer can be made.

H.O.B. shall make every reasonable effort to respond promptly to another distributor's request for connection. H.O.B. shall provide an initial consultation with another distributor regarding the connection process within thirty (30) days of receiving a written request for connection. A final offer to connect the distributor to H.O.B.'s distribution system shall be made within ninety (90) days of receiving the written request for connection, unless other necessary information outside the distributor's control is required before the offer can be made.

H.O.B., in its discretion, may require a Customer, generator or distributor to enter into a Connection Agreement with H.O.B. including terms and conditions in addition to those expressed in this Conditions.

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

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

2.1.1 Building that Lies Along

For the purpose of these Conditions, "lies along" means a Customer property or parcel of land that is directly adjacent to or abuts onto the public road allowance where H.O.B. has distribution facilities of the appropriate voltage and capacity.

Under the terms of the Distribution System Code, H.O.B. has the Obligation to connect (under Section 28 of the Electricity Act, 1998) a building or facility that "lies along" its distribution line, provided:

a) the building can be connected to H.O.B.'s distribution system without an Expansion or Enhancement and,
b) the service installation meets the conditions listed in the Conditions of Service of the Distributor that owns and operates the distribution line.

The location of the Customer's service entrance equipment will be subject to the approval of H.O.B. and the Electrical Safety Authority.

2.1.2 Expansions / Offer to Connect

Note: For residential or Commercial/Industrial Subdivision Services, please see sample Subdivision Agreements in Appendices #2, #6, and #7 respectively. The balance of this section describes the relationship with a customer wishing to connect.

Under the terms of the Distribution System Code, H.O.B. is required to make an "offer to connect: if, in order to connect a Customer, H.O.B. must construct new distribution system facilities or increase the capacity of existing distribution facilities (i.e. and "Expansion" of its system). In making an "Offer to connect", H.O.B. will include, without limitation, the following component, as applicable:

a. the Capital Contribution
b. the Security Deposit

The cost associated with the Expansion is to be fair and reasonable. Refer to Tables 1.1 to 1.5 in Section 5 for Basic and Capital Contribution Fees of each Customer Class and the respective ownership demarcation point.

H.O.B. will perform an economic evaluation to determine whether the future revenue from the Customer will pay for the capital and on-going maintenance costs of the Expansion project (refer to methodology and assumptions in the DSC Code –Appendix B). At the discretion of H.O.B., the capital costs for the Expansion may include incremental costs associated with the full use of H.O.B.'s existing spare facilities or equipment, which may result in an adverse impact to future Customers. The economic evaluation will be based on the Customer's proposed load.

In performing the economic evaluation, should the Net Present Value (NPV) of the costs and revenues associated with the Expansion be less than zero, a capital contribution in the amount of the shortfall is required. H.O.B. has the choice of either:

(a) collecting this shortfall from the Customer or,
(b) absorbing this shortfall.

H.O.B. may charge a Customer that chooses to pursue an alternative bid any costs incurred by H.O.B. associated with the expansion project, including but not limited to the following:

- Costs for additional design, engineering, or installation of facilities required to complete the project that were made in addition to the original offer to connect.
- Costs to review designs prepared by customer or customer representative.
- Costs for inspection or approval of the work performed by the contractor hired by the Customer.

2.1.2.1 Offer to Connect

H.O.B.'s offer to connect will be an estimate of the costs to construct the expansion and not a firm offer, the final amount charged to the Customer will be based on actual costs incurred. H.O.B. will calculate the first estimate and the final payment at no expense to the Customer.

2.1.2.2 Capital Contributions

If applicable, the capital contribution charges collected from the Customer is to be consistent with the respective Customer Class as outlined below:

Class 1 – Residential Single Service:

- Overhead: Contribution is not collected for up to a 200amp 120/240 volt service and the Utility supplying a maximum 30 meter of service cable. Consult with Utility for rural services or services larger than 200 amp at 120/240 volt.

- Underground: Contribution is collected for work involved in supplying and installing a service from the street line into the customer's meter base. A credit equivalent to the cost of supplying and installing up to 30 meters of overhead secondary conductor and an overhead transformer rated for 200 amp 120/240 volt capacity shall be applied to the recoverable costs incurred.

Class 2 – General Service (Below 50 kW):

- No Transformation required on private property. (Overhead or Underground): Contribution is collected from Customer.

Class 3 – General Service (50 kW – 1499 kW):

- Single building, 50 kW – 250 kW (No Transformation on Customer's property): Contribution is collected from Customer
- Single building, 50 kW – 1499 kW (Transformation on Customer's property): Contribution is collected from Customer
- Subdivisions, multi-unit or townhouse complex/developments: Contribution is collected from Customer

Class 4 – General Service (1500 kW and above):

- Contribution is collected from Customer.

Note: Customers who are serviced from H.O.B.'s 44 kV or 27.6 kV distribution system and own a high-voltage switchgear/transformer and whose monthly demand is less than 1500 kW are included in Class 4.

2.1.2.3 Settlement of Capital Contributions – Residential Subdivisions

The initial demand proposed by the Customer must be reasonable and shall be subject to acceptance by H.O.B. However, if after two (2) years from the In-Service Date, the Customer's 12-months rolling average monthly demand is less than 90% of the Incremental Demand for the Expansion, the Customer and H.O.B. agree to:

- re-do the economic evaluation based on the Customer's actual 12-months average monthly demand
- recalculate the amount of capital contribution
- readjust accordingly the expected Incremental Revenue
- the Customer or H.O.B. shall reduce the difference in the capital contribution to zero by paying the balance no later than 30 days after the date of H.O.B.'s notice of capital contribution settlement.

2.1.2.4 Rebates Related to Expansions – Residential Subdivisions

In scenarios where H.O.B. is required to install new plant solely for the connection of a Customer, the Customer will be required to pay H.O.B. 100% of the calculated shortfall. If within 5 years from the connection date, non-forecasted Customers shall contribute their share and the first Customer will be entitled to a rebate as outlined in H.O.B.'s rebate process.

2.1.2.5 Supply Agreement and Securities

To keep H.O.B. harmless as a result of H.O.B. agreeing to reduce the amount of capital contribution required for the Expansion, the General Service Class 3 & 4 Customers (i.e. 700 kW and above) shall enter into a Supply Agreement and provide a security deposit to cover for the difference between the actual costs incurred by H.O.B. and the capital contribution(s) paid by the Customer.

With each subsequent renewal of the security deposit the Customer's liability shall be reduced by an amount equal to the actual incremental revenue collected since the in-service date. The residual debt, if any, is due 5 years after the in-service date, or upon termination of the Supply Agreement. The obligation to pay any outstanding amount shall survive the termination of the Supply Agreement. An irrevocable (standby) letter of credit or a letter of guarantee from a chartered bank, trust company or credit union is acceptable in lieu of a cash deposit. This security deposit is in addition to any other charges or deposits that may be required by H.O.B. and is to be provided prior to the connection of service.

2.1.3 Connection Denial

The Distribution System Code provides for the ability of a Distributor to deny connections. A Distributor is not obligated to connect a building within its service area if the connection would result in any of the following:

- Contravention of existing laws of Canada and the Province of Ontario,
- Violations of conditions in H.O.B. 's License,
- Use of a distribution system line for a purpose that it does not serve and that the Distributor does not intend to serve,
- Adverse affect on the reliability or safety of the distribution system,
- Public safety reasons or imposition of an unsafe work situation beyond, normal risks inherent in the operation of the distribution system,
- A material decrease in the efficiency of the distributor's distribution system connection,

- Discriminatory access to distribution services,
- If the person requesting the connection owes H.O.B. money for distribution services,
- Potential increases in monetary amounts that already are in arrears with the distributor,
- If an electrical connection to H.O.B.'s distribution system does not meet H.O.B.'s design requirements, or
- Any other conditions documented in H.O.B.'s Conditions of Service document.

If H.O.B. refuses to connect a building in its service area that lies along one of its distribution lines, H.O.B. shall inform the person requesting the connection of the reasons for the denial, and where H.O.B. is able to provide a remedy, make an offer to connect. If H.O.B. is not capable of resolving the issue, it is the responsibility of the Customer to do so before a connection can be made.

2.1.4 Inspections Before Connections

Note: For Residential or Commercial/Industrial Subdivision Inspection Requirements please see Sample Subdivision Agreements in Appendices #2 and #6 respectively. For all other projects (connections) it is mandatory that the customer (or representative) coordinates a pre-construction meeting at which utility and customer representatives will review planned work.

All customer electrical installations shall be inspected and approved by the Electrical Safety Authority and must also meet H.O.B.'s requirements. H.O.B. requires written notification from the Electrical Safety Authority of this approval prior to the energization of a Customer's supply of electricity (other conditions outlined in this Conditions must also be met before a connection is made). Services that have been disconnected for a period of six months or longer must also be re-inspected and approved by the Electrical Safety Authority, prior to reconnection.

Temporary services, typically used for construction purposes must be approved by the Electrical Safety Authority and must be re-inspected should the period of use exceed twelve months.

Customer owned substations must be inspected by both the Electrical Safety Authority and H.O.B. The customer will have an independent High Voltage Contractor use a Checklist provided by the Utility to inspect the customer owned station and provide his findings to H.O.B. prior to connection.

Transformer vaults, manholes, pulling rooms and padmount transformer bases shall be inspected and approved by H.O.B. prior to the installation of H.O.B.'s equipment.

Duct banks shall be inspected and approved by H.O.B. prior to the pouring of concrete and again before backfilling. The completed ducts must be constructed to H.O.B.'s requirements and shall be clear of all extraneous material. In the presence of a H.O.B. Inspector, a mandrel, approved by H.O.B. for a nominal diameter of duct will be passed through each duct by the owner's representative. In the event of the duct(s) being blocked by ice after inspection but before H.O.B. installs cable(s), the owner's representative will be responsible for clearing the ducts prior to the cable installation.

Connection to existing concrete duct banks or manholes shall be done by a contractor approved by H.O.B. All work done on existing H.O.B. plant must be authorized by H.O.B. and carried out in accordance with all applicable safety acts and regulations.

Provision for metering shall be inspected and approved by H.O.B. prior to energization.

2.1.5 Relocation of Plant

When requested to relocate distribution plant, H.O.B. will exercise its rights and discharge its obligations in accordance with existing acts, by-laws and regulations including the *Public Service Works on Highways Act*, formal agreements, easements and law. In the absence of existing agreements, H.O.B. is not obligated to relocate the plant. However, H.O.B. shall resolve the issue in a fair and reasonable manner. Resolution in a fair and reasonable manner will include a response to the requesting party that explains the feasibility or unfeasibility of the relocation and a fair and reasonable charge for relocation based on cost recovery principles.

2.1.6 Easements

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

Subdivision Developers or Owners will prepare at their own cost any required reference plan to the satisfaction of H.O.B. Four copies of the deposited reference plan must be supplied to H.O.B. prior to the preparation of the easement documents. Details will be provided upon application for service.

For Commercial or Industrial projects H.O.B. will arrange for the preparation of a reference plan and the preparation and registration of easement documents which will be forwarded to your solicitor electronically for review and acceptance.

In the event of failure by the Owner/Developer to grant any easement required by H.O.B. pursuant to the terms of this agreement the same may be acquired by the exercise of powers available to H.O.B. under the Expropriations Act of Ontario. Notwithstanding any provision of the said Act no compensation or costs are payable by H.O.B. to the Owner/Developer for the forcible taking of any easement including the market value of the interest taken, disturbance damages, injurious affection or any other compensation. The Owner/Developer hereby waives all claims and H.O.B. shall not be obliged to comply with any provision of the said Act the purpose of which is to determine compensation payable to the Owner/Developer. The costs incurred by H.O.B. in expropriation an easement pursuant to this section are payable by the Owner/developer.

2.1.7 Contracts

2.1.7.1 Contract for New or Modified Electricity Service

At the present time a customer is generally not required to sign a contract for service. H.O.B. shall only connect a Building for a new or modified supply of electricity upon receipt by H.O.B. of a completed and signed Commercial – Industrial Customer Data Form, payment to H.O.B. of any applicable connection charge, and an inspection and approval by the Electrical Safety Authority and H.O.B. of the electrical and civil equipment for the new service.

2.1.7.2 Implied Contract

In all cases, notwithstanding the absence of a written contract, H.O.B. has an implied contract with any Customer that is connected to H.O.B.'s distribution system and receives distribution services from H.O.B. The terms of the implied contract are embedded in H.O.B.'s Conditions of Service, H.O.B.'s rate schedules, H.O.B.'s license and the Distribution System Code, as amended from time to time.

Any person or persons who take or use electricity from H.O.B. shall be liable for payment for such electricity. Any implied contract for the supply of electricity by H.O.B. shall be binding upon the heirs, administrators, executors, successors or assigns of the Person or Persons who took and/or used electricity supplied by H.O.B.

2.1.7.3 Special Contracts

Special contracts that may be customized in accordance with the service requested by the Customer normally include, but are not necessarily limited to, the following examples:

- Construction sites,
- Mobile facilities,
- Non-permanent structures,
- Special occasions, etc.
- Generation,
- Streetlight services,
- Flat rate services, or
- Multi-line electrical supply applications.

2.1.7.4 Payment by Building Owner

The owner of a Building is responsible for paying for the supply of electricity by H.O.B. to the owner's Building except for any supply of electricity to the Building by H.O.B. in accordance with a request for electricity by an occupant(s) of the Building.

A Building owner wishing to terminate the supply of electricity to its Building must notify H.O.B. in writing. Until H.O.B. receives such written notice from the Building owner, the Building owner or the occupant(s), as applicable, shall be responsible for payment to H.O.B. for the supply of electricity to such Building.

H.O.B. may refuse to terminate the supply of electricity to an owner's Building until notice has been served to the building occupant(s) that the owner has requested disconnection. The owner, prior to disconnection, must also pay the disconnect/reconnect fee.

2.1.7.5 Opening and Closing of Accounts

A Customer who wishes to open an account for the supply of electricity by H.O.B. shall contact H.O.B.'s Call Centre by phone, by written request (including requests submitted by facsimile), or other means acceptable to H.O.B. A Customer may be asked for information including but not limited to: employer name, address and phone number, Drivers License, S.I.N. #, lease agreements, date of birth and e-mail address.

A Customer who wishes to close an account with H.O.B. (i.e. because the Customer moves to another location, or the Customer wishes to purchase electricity from another supplier, or otherwise) must notify H.O.B.

Until H.O.B. receives such notice from the Customer or its authorized retailer, the Customer shall be responsible for payment to H.O.B. for the supply of electricity to the Customer.

2.2 Disconnection

H.O.B. reserves the right to disconnect the supply of electrical energy for causes not limited to:

- Contravention of the laws of Canada or the Province of Ontario.
- Adverse effect on the reliability and safety of the distribution system.
- Imposition of an unsafe worker situation beyond normal risks inherent in the operation of the distribution system.
- A material decrease in the efficiency of the distributor's distribution system.
- A materially adverse effect on the quality of distribution services received by an existing connection.
- Discriminatory access to distribution services.
- Inability of H.O.B. to perform meter reads, planned inspections and maintenance.
- Failure of the Customer to comply with a directive of H.O.B. that H.O.B. makes for purposes of meeting its license obligations.
- Overdue amounts payable to H.O.B. for the distribution or retail of Electricity as permitted by the Distribution System Code.
- Non-payment, in whole or in part, of any requested account security deposit as permitted by the Distribution System Code.
- Electrical disturbance propagation caused by Customer equipment that are not corrected in a timely fashion.
- When an Order to Disconnect is issued by Electrical Safety Authority.
- Any other conditions identified in this Conditions of Service document.

H.O.B. may disconnect the supply of electricity to a Customer without notice in accordance with a court order, or for emergency, safety or system reliability reasons.

2.2.1 Disconnection & Reconnection – Process and Charges

2.2.1.1 Non-Payment of Account:

Immediately following the due date, steps will be taken to collect the full amount of the bill. If the bill is still unpaid sixteen calendar days after the due date and seven calendar days after a disconnect notice has been given to the Customer, the service may be disconnected and not restored until satisfactory payment arrangements have been made, including costs of reconnection. Reconnection will only take place between the hours of 08:00 and 16:00. Additional charges will apply for reconnections performed outside of these hours and will only be done at Hydro One Brampton’s discretion. Such discontinuance of service does not relieve the Customer of the liability for arrears or minimum bills for the balance for the term of contract, nor shall H.O.B. be liable for any damage to the Customer’s premises resulting from such discontinuance of service. Disconnect notices will be in writing and if given by mail shall be deemed to be received on the third business day after mailing.

2.2.1.2 Electrical:

Upon discovery that a hazardous condition or disturbance propagation (feedback) exists, H.O.B. will notify the Customer to rectify the condition at once. In case the Customer fails to make satisfactory arrangement to remedy the condition within seven calendar days after a disconnect notice (request to rectify) has been given to the Customer, the service may be disconnected and not restored until satisfactory arrangements to remedy the condition have been made. H.O.B. shall not be liable for any damage to the Customer's premises resulting from such discontinuance of service. Disconnect notices will be in writing and if given by mail shall be deemed to be received on the third business day after mailing.

2.2.1.3 General:

Upon receipt of a written Disconnection request by the Customer, H.O.B. will disconnect and/or remove H.O.B.'s connection assets at the Customer's cost as outlined in Tables 1.1 to1.5 of these Conditions.

2.2.2 Unauthorized Energy Use

H.O.B. reserves the right to disconnect the supply of electrical energy to a Customer for causes not limited to energy diversion, fraud or abuse. Such service may not be reconnected until the Customer rectifies the condition and provides full payment to H.O.B. including all costs incurred by H.O.B. arising from unmetered energy use, including inspections, repair costs, and the cost of disconnection and reconnection.

2.3 Conveyance of Electricity

2.3.1 Limitations on the Guarantee of Supply

H.O.B. will endeavor to use reasonable diligence in providing a regular and uninterrupted supply but does not guarantee a constant supply or the maintenance of unvaried frequency or voltage and will not be liable for damages to the Customer by reason of any failure in respect thereof.

Customers requiring a higher degree of security than that of normal supply are responsible to provide their own U.P.S. (uninterruptible power supply) back-up or standby facilities. Momentary power interruptions may affect a customer's facility, and the Customer will protect itself from same.

Customers requiring a three-phase supply should install protective apparatus to avoid damage to their equipment, which may be caused by the interruption of supply to one phase, or non-simultaneous switching of any of the three phases of the HOB's supply. Damages resulting from the failure to install protective apparatus shall be at the Customer's expense.

During an emergency, H.O.B. may interrupt supply to a Customer in response to a shortage of supply, or to effect repairs on the distribution system, or while repairs are being made to Customer-owned equipment. H.O.B. shall have rights to access to a property in accordance with section 40 of the *Electricity Act, 1998* and any successor acts thereto.

To assist with distribution system outages or emergency response, H.O.B. may require a Customer to provide H.O.B. with emergency access to Customer-owned distribution equipment that normally is operated by H.O.B. or H.O.B. owned equipment on Customer's property.

2.3.2 Power Quality

2.3.2.1 Power Quality Testing

In response to a Customer power quality concern, where the utilization of electric power adversely affects the performance of electrical equipment, H.O.B. will perform investigative analysis to attempt to identify the underlying cause. Depending on the circumstances, this may include review of relevant power interruption data, trend analysis, and/or use of diagnostic measurement tools.

Upon determination of the cause resulting in the power quality concern, where it is deemed a system delivery issue and where industry standards are not met, H.O.B. will recommend and/or take appropriate mitigation measures. H.O.B. will take appropriate actions to control power disturbances found to be detrimental to the Customers. If H.O.B. is unable to correct the problem without adversely affecting other H.O.B. Customers, then it is not obligated to make the corrections. H.O.B. will use appropriate industry standards (such as IEC or IEEE standards) and good utility practice as a guideline.

If the power quality concern lies on the Customer side of the system, H.O.B. will seek reimbursement from the Customer for the costs incurred in its investigation. H.O.B. is not obligated to identify the source of the power quality concern on the customer's side of the electrical service.

2.3.2.2 Prevention of Voltage Distortion on Distribution

Customers having non-linear load shall not be connected to H.O.B.'s distribution system unless power quality is maintained by implementing proper corrective measures such as installing proper filters, and/or grounding. Further, to ensure the distribution system is not adversely affected, power electronics equipment installed must comply with IEEE Standard 519-1992 (latest edition). The limit on individual voltage harmonic distortion is 3%, while the limit on total voltage harmonic distortion is 5%.

2.3.2.3 Obligation to Help in the Investigation

During the course of a Power Quality Investigation being performed by H.O.B. or its representative, the Customer is obligated to help H.O.B. by providing required equipment information, relevant data and necessary access for monitoring the equipment.

2.3.2.4 Timely Correction of Deficiencies

If an undesirable system disturbance is being caused by Customer's equipment, the Customer will be required to cease operation of the equipment until the Customer, at the Customer's cost, has taken satisfactory remedial action. The Customer will be responsible for all costs incurred by the Utility in its effort to identify and correct the source of the disturbance. If the Customer does not take such action within a reasonable time, H.O.B. may disconnect the electrical supply to the Customer.

2.3.2.5 Notification for Interruptions

Although it is H.O.B.'s policy to minimize inconvenience to Customers, it is necessary to occasionally interrupt a Customer's supply to allow work on the electrical system. H.O.B. will endeavor to provide the Customers with reasonable notice of planned power interruptions. Notice may not be given where work is of an emergency nature involving the possibility of injury to persons or damage to property or equipment.

2.3.2.6 Third Party Notification to Customers

H.O.B. offers a service to Customers who require assistance communicating with our staff, due either to language difficulties, age, etc. Upon receipt of written instructions from the customer we will record the name and telephone number of a designated third party who our staff can contact regarding the Customer's account. The account record will instruct any H.O.B. representative how to contact the third party instead of the customer.

2.3.2.7 Emergency Interruptions for Safety

H.O.B. will endeavor to notify Customers prior to interrupting the supply to any service. However, if an unsafe or hazardous condition is found to exist, or if the use of electricity by apparatus, appliances, or other equipment is found to be unsafe or damaging to H.O.B. or the public, service may be interrupted without notice.

2.3.2.8 Emergency Service (Trouble Calls)

H.O.B. will exercise reasonable diligence and care to deliver a continuous supply of electrical service to the Customer. However, H.O.B. cannot guarantee a supply that is free from interruption.

When power is interrupted, the Customer should first ensure that failure is not internal within their property. If there is a partial power failure, the Customer should consult with our Control Room Operator (24 hrs/day, 7 days/week at 905-840-6300 ext. 7250) before obtaining the services of an electrical contractor. Once H.O.B. confirms that its' electrical supply has failed, it will initiate restoration efforts as soon as practicable.

2.3.2.9 Outage Reporting

In the event of a major loss of power and depending on the duration of the outage, H.O.B. may issue a news release to advise the general public of the outage. In turn, local news television and radio stations may call for information on a 24-hour basis when they hear of an outage.

2.3.3 Electrical Disturbances

H.O.B. shall not be held liable for the failure to maintain supply voltages within standard levels due to Force Majeure as defined in Section 2.3.5 of these Conditions.

Customers who require an uninterrupted source of electrical service or a supply completely free of fluctuation and disturbance must provide and maintain their own power conditioning equipment for these purposes.

2.3.3.1 Voltage Fluctuations

Voltage fluctuations and other disturbances can cause flickering of lights and other serious difficulties for Customers connected to the H.O.B.'s distribution system. Equipment that may cause disturbances include, but is not limited to: large motors, welders, arc furnaces, and variable speed drives, etc.

The Customer is responsible to ensure their equipment does not introduce voltage disturbances onto the utilities supply system that could adversely affect other customers. Should the Customer's equipment cause a disturbance onto the utilities supply system that affects the quality of service to other Customers operation, the operation of the disturbance causing equipment must be discontinued immediately. See Section 2.3.2.4.

2.3.3.2 Motors, Welders, Arc Furnaces, Etc.

The Customers motors, resistance welders, arc furnaces, and other electrical equipment must be of an approved design and be operated so that the quality of electrical service to other customers will not be affected.

Motor starting limitations and nameplate KVA ratings referred to in Table 7 do not imply the Customer's voltage is "flicker free." Rather, this is the limit where the Customer's equipment should not disturb the utilities electrical supply system. Please refer to Table 7 for Motor Starting and Welder limitations.

2.3.3.3 Three Phase Reclosure, & Single Phase Operation, & Loss of Phase

The distribution system incorporates circuit reclosure operation as a normal operating function of all primary voltages. This should be taken into account by the designer of electrical systems for equipment that is sensitive to automatic electrical reclosure operations.

The distribution system is such that "single phasing" (loss of one or two phases) is to be expected from time to time.

Customers using a three-phase supply should install protective apparatus to avoid damage to their equipment, which may be caused by the interruption of one phase, or non-simultaneous switching of phases of the Distributor's supply.

2.3.3.4 System Switching

H.O.B. and Hydro One Networks Inc. perform system switching as a normal course of operation of the distribution system. During some switching operations transients may occur that may cause operational difficulties to some equipment. It is recommended that the Customer consult with the manufacturer of the affected equipment regarding transient mitigation equipment. An example of this is the affect on small variable speed drives by capacitor bank switching operations.

2.3.3.5 Electric and Magnetic Fields

Some types of electronic equipment, such as video display terminals, can be affected by the close proximity of high electrical currents that may be present in transformers. H.O.B. will assist in attempting to resolve any such difficulties at the Customer's expense.

2.3.4 Standard Voltage Offerings

2.3.4.1 Primary Voltage

The primary voltage to be used will be determined by H.O.B. for both H.O.B. owned and Customer-owned transformation. Depending on what distribution voltage of the H.O.B. plant that “lies along”, the preferred primary voltage will be at 27.6kV grounded wire, three phase, four-wire system for utility owned transformation. For Customer-owned transformation the preferred primary supply voltage will be 44.0kV when both 27.6kV and 44.0kV "lies along" the proposed facility. All Customer-owned transformation will be delta connected primary, three phase - three wire, with H.O.B.’s system neutral connected to the customer’s station ground. As outlined in these Conditions, the Customer shall consult with H.O.B. to confirm primary voltage to be provided.

2.3.4.2 Supply Voltage

Depending on what secondary voltage of plant “lies along” H.O.B.’s distribution system, the preferred secondary voltage will be at 120/240 V, single phase, 120/208 V, three phase four wire or 600/347 V, three phase four wire. The Supply Voltage governs the limit of supply capacity for any Customer. General guidelines for supply from overhead street circuits are as follows:

(i) at 120/240 V, single phase - up to 100kVA demand load, or
(ii) at 600/347 V, three phase, four wire - up to 200kVA demand load if a transformer bank (having spare capacity) already exists, or
(iii) at 208/120 V, three phase, four wire - up to 150kVA demand load if a transformer bank (having spare capacity) already exists.

OR

Where street circuits are buried, the Supply Voltage and limits will be determined upon application to H.O.B.

OR

Where the Customer or Developer provides a precast concrete (approved by H.O.B.) transformer pad on private property;

(i) at 120/240 V, single phase, supply is available up to 100kVA, or
(ii) at 208/120 V, three phase, four wire, supply is available for loads up to 500kVA demand load, or
(iii) at 600/347 V, three-phase, four wire, supply is available for loads up to 1500kVA demand load when HOB’s primary supply voltage is 27.6kV, or 500kVA when HOB’s primary supply is 13.8kV,

OR

When the Customer or Developer provides a transformer vault (approved by H.O.B.) on private property;

(i) When H.O.B.’s primary supply is provided from its’ 13.8kV primary - 208/120 V or 600/347 V, three phase, four wire, supply is available for loads up to 500kVA depending on system availability in the area (limited application, consult with H.O.B.),
(ii) When H.O.B.’s primary supply is provided from its’ 27.6kV primary - 208/120 or 600/347 V, three phase, four wire, supply is available for loads up to 1500kVA demand load.

OR

Where the Customer or Developer provides an outdoor transformer station on private property;

(i) When H.O.B.'s primary supply is provided from its' 44.0kV primary - 600/347 V three phase, four wire supply is available for loads up to 1500kVA.

OR

When a customer requires larger services than identified above, the customer will provide their own transformer substation and primary switchgear and protection to meet the Ontario Electrical Safety Code (latest edition). Please consult with H.O.B. Technical Services Department to confirm primary voltage, winding configuration, minimum transformer losses acceptable, and other required characteristics.

2.3.5 Voltage Guidelines

H.O.B. maintains service voltage at the Customer's service entrance within the guidelines of C.S.A. Standard CAN3-C235-87 (latest edition), which allows variations from nominal voltage of,

5% for Normal Operating Conditions
8% for Extreme Operating Conditions

Where voltages lie outside the indicated limits for Normal Operating Conditions but within the indicated limits for Extreme Operating Conditions, improvement or corrective action should 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 should 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, the extent to which limits are exceeded with respect to voltage levels, and duration etc.

H.O.B. shall practice reasonable diligence in maintaining voltage levels, but is not responsible for variations in voltage from external forces such as operating contingencies, exceptionally high loads and low voltage supply from the Provincial Transmission Grid Company or host Distributor. H.O.B. shall not be liable for any delay or failure in the performance of any of its obligations under this Conditions of Supply due to any events or causes beyond the reasonable control of H.O.B., including, without limitation, severe weather, flood, fire, lightning, other forces of nature, acts of animals, epidemic, quarantine restriction, war, sabotage, act of a public enemy, earthquake, insurrection, riot, civil disturbance, strike, restraint by court order or public authority, or action or non-action by or inability to obtain authorization or approval from any governmental authority, or any combination of these causes ("Force Majeure").

2.3.6 Back-up Generators (Not for Parallel Operation)

Customers with portable or permanently connected generation capability used for emergency back-up shall comply specifically with, but not limited to Section 46, 14-612, and 75-608 (latest edition) and all other applicable criteria of the Ontario Electrical Safety Code. In particular, the Customer shall ensure that Customer's emergency generation does not parallel or connect with H.O.B.'s system without a proper interface protection and does not

adversely affect H.O.B.'s distribution system. See Section 3.5 – Embedded Generation – for parallel operation..

Customers with permanently connected emergency generation equipment shall notify H.O.B. regarding the presence and routine testing of such equipment.

Customer's planning to install back-up generator(s) shall submit two copies of relevant drawings and support documentation for review and comment. H.O.B. reserves the right to witness the commissioning and/or operation of an installation and its' connection to the Distribution System.

2.3.7 Metering

H.O.B. will supply, arrange installation, own, and maintain all meters, instrument transformers, ancillary devices, and secondary wiring required for revenue metering.

Metered Market Participants in the Independent Electricity System Operator ("IESO") administered wholesale market must meet or exceed all IESO metering requirements. Please refer to IESO for standards. The customer agrees to provide the utility with remote access to the metering point (at the customer's cost) for the purpose of data collection to enable the utility to perform settlement.

2.3.7.1 General

H.O.B. will normally meter the customer's load at the utilization voltage. Except for secondary supply from the street, secondary metering equipment will be located as close as is practically possible to the supply transformer regardless of the ownership of the supply transformer. Consult with Technical Services Department before secondary metering location is determined.

All residential and small commercial/industrial customers shall be metered by a Hydro One Brampton approved "Smart Meter" as mandated by the Ontario Government.

No person, except those authorized by H.O.B., may remove, connect, or otherwise interfere with meters, wires, or ancillary equipment.

Each Customer will normally be restricted to one metering point.

The Customer will be responsible for the care and safekeeping of H.O.B. meters, wires and ancillary equipment on the Customer's premises. If any H.O.B. equipment installed on Customer premises is damaged, destroyed, or lost other than by ordinary wear and tear, temperature or lightning, the Customer will be liable to pay to H.O.B. the lessor value of such equipment, or the cost of repairing the same.

The location allocated by the owner for H.O.B. metering shall provide direct access for H.O.B. staff and shall be subject to satisfactory environmental conditions, some of which are:

- A clear minimum working space of 1 meter shall be maintained in front of all equipment and from all side panels. This space shall have a minimum head room of 2.1 meters.
- Meter sockets, cabinets and other meter mounting devices shall be mounted and/or installed so to be free from vibration and away from heat, dust and chemical vapours.

Where H.O.B. deems its' meters to be in a hazardous location, a meter cabinet or protective housing will be required. Where sprinkler equipment is in the vicinity of meter equipment, drip shields will be installed over all meters and related equipment.

These regulations will apply equally to new installations as well as existing installations requiring increased electrical services.

Any compartments, cabinets, boxes, sockets, or other workspace provided for the installation of H.O.B.'s metering equipment shall be for the exclusive use of H.O.B.

2.3.7.1.1 Multi-Unit Residential Suite Buildings

All multi-unit residential and small commercial/industrial buildings shall be metered in accordance with Ontario Government regulations.

H.O.B. may provide a single, bulk-metered point for all multi-unit sites, at no charge to the Customer.

Customers wishing to have multi-unit sites equipped with individual tenant metering may install their own additional meters or sub-metering systems. Owners of sub-metering systems, or any other electricity meters used for revenue billing purposes must register as a contractor with Measurement Canada and ensure that all regulatory requirements are met.

H.O.B. may, at its discretion, allow individual metering for multi-unit buildings under the following conditions:

- The Customer pays all additional costs necessary to provide the individually metered services.

2.3.7.1.2 Main Switch and Meter Mounting Devices

The Customer's main switch immediately preceding the meter shall be installed so that the top of the switch is 1.83 m or less from the finished floor and shall permit the sealing and padlocking of:

(a) the handle in the "open" position; and
(b) the cover or door in the closed position.

Meter mounting devices for use on Commercial/Industrial accounts shall be installed on the load side of the Customer's main switch and be located indoors.

When the utilities' meter(s) is not installed on the main level of a building, the customer shall ensure that a staircase constructed to H.O.B.'s standards is constructed. Standards are available upon request.

The owner is required to supply and install a H.O.B. approved meter base for the use of the H.O.B.'s self contained socket meters for the main switch ratings and supply voltages listed in table 4 of this Conditions of Service.

A list of approved meter sockets is available upon request. The centre of meter sockets shall be set at 1.65m above the finished floor (See Standard Drwg. #27-15)

The Owner is required to supply and install a meter cabinet to contain H.O.B.'s metering equipment for the main switch ratings and supply voltages listed in Table 5 of this Conditions of Service.

Requests for meter load centres shall be submitted for approval prior to material being ordered for a project. The minimum socket mounting height of 600mm above finished floor shall be maintained. Please see table 6 of this Conditions of Service for further details.

The Customer shall permanently and legibly identify each metered service with respect to its specific address, including unit or apartment number. The identification shall be applied to all service switches, circuit breakers, meter cabinets, and meter mounting devices.

2.3.7.1.3 Service Mains Limitations

The metering provision and arrangement for service mains in excess of 600 amperes shall be submitted to the Technical Services Department for approval before the building construction begins.

2.3.7.1.4 Special Metering Enclosures

Specially constructed meter closures may be permitted for outdoor use. Please submit a written application with description to the Technical Services Department.

2.3.7.1.5 Meter Loops inside Meter Cabinets

Meter loops shall be provided having a length of 1 meter (36 inches) in addition to the length between line and load entry points. Consult with Meter Department to confirm entry and exit points in the meter cabinet. Line and load entry points shall be restricted to opposite ends and on the lower half of the meter cabinet (See Standard Dwg. No. 27-15). These entry points must be correctly marked "line" and "load."

Mineral insulated, solid and hard drawn wire conductors are not acceptable for meter loops.

The neutral conductor will be terminated on an insulated block at the bottom center of the meter cabinet 7 cm (3 inches) from the front edge of the cabinet if the neutral is not required past the metering point. If the neutral is needed past the metering point the conductors will be run along the bottom of the cabinet and not be looped as the other phases. Hydro One Brampton will supply a split bolt and connect a "tickler wire" to the neutral inside the meter cabinet.

2.3.7.1.6 Barriers

Permanently constructed barriers are required in each section of switchgear or service entrance equipment between metered and unmetered conductors and / or between sections reserved for H.O.B. use and sections for customer use.

2.3.7.1.7 Doors

Side hinged doors shall be installed over all live electrical equipment where H.O.B. personnel may be required to work (e.g.) splitter boxes, unmetered sections of switchgear, circuit breakers, switches, Utility metering compartments, meter cabinets and enclosures.

These hinged doors shall have provision for sealing and padlocking. Where bolts are used, they shall be of the captive knurled type. All outer-hinged doors shall open no less than 135 degrees. All inner-hinged doors shall open to a full 90 degrees.

2.3.7.1.8 Auxiliary Connections

All connections to circuits such as fire alarms, exit lights and Customer monitoring instrumentation shall be made to the load side of H.O.B.'s metering facilities.

Customer equipment shall not be connected to H.O.B.'s metering compartment or facilities.

2.3.7.1.9 Working Space

A clear minimum working space of 1meter shall be maintained in front of all equipment and from all side panels. This space shall have minimum headroom of 2.1 meter. H.O.B. revenue meter installations shall not protrude into a doorway, be located behind water sprinkler systems or be built into a closet with less than 1-meter clearance in front of the meter. All machinery located within 3 meters of the meter equipment shall have safety guards installed on the machinery to prevent injury to H.O.B. personnel when working on meter equipment. All self-contained meters will have at least 450mm clearance from the side of the meter base to an inside corner of a wall or equipment that protrudes more than 300mm from the wall beside the meter base.

Where a hinged door in an open position would block an exit route, a further 600mm of clearance from the edge of the open door shall be provided to allow an egress route.

2.3.7.2 Current and Potential Transformer Boxes (Utility Compartment)

When instrument transformers are incorporated into a low voltage switchgear, the customer will supply a separate meter cabinet for Utility revenue meters. This meter cabinet will be located to the satisfaction of H.O.B. and as close as possible to the Utility compartment(s). The meter cabinet and the Utility compartment(s) will be connected by an empty 1.25 inch conduit(s), the length of which shall not exceed 20 M. The meter cabinet will be installed with a minimum of 4 fasteners to the wall, and the back panel will be removable from the cabinet. The meter cabinet must also be properly grounded to the Utility Compartment ground with a #8 stranded green copper conductor. (ESA requirement)

The Customers electrical contractor is required to install H.O.B.'s instrument transformers in the low voltage switchboard. Arrangements must be made with the H.O.B. Meter department to have the instrument transformers delivered to site prior to meter installation.

The conduit for the H.O.B. metering circuit must run continuous from the Utility compartment to the metering cabinet. The conduit will enter the utility compartment in an unobstructed location.

Meter cabinet sizes depend on the number of points to be metered and/or totalized and are listed below: One Metering Point: 762 mm X 762 mm X 300 mm (30" x 30" x 12")
Totalizing of Circuits: 915 mm X 915 mm X 300 mm (36" x 36" x 12")

Where instrument transformers are incorporated in low voltage switchgear, the size and layout of the utility compartment shall be approved by H.O.B. prior to fabrication of equipment and shall include:

A neutral tap of 12.7 mm X 6.3 mm (0.5" x .25") buss, shall be suitably terminated in the instrument transformer compartment, where the service neutral does not pass through the instrument transformer compartment.

Note: If more than one incoming supply is used, each metering point will be connected to a meter cabinet by a 1.25" conduit.

The final layout and arrangements of components must be approved by H.O.B. prior to fabrication of equipment.

Please consult with H.O.B. when it is proposed to have two or more circuits totalized, or where remote totalizing is involved, or where instrument transformers are incorporated in high voltage switchgear (greater than 750 V). H.O.B. will issue specific metering requirements.

2.3.7.2.1 Primary Metering – Overhead and Underground Installations

Dependent on the number of circuits to be totalized, it will occasionally be more economical to install primary metering. In such cases H.O.B. will provide the primary metering unit(s) for installation by the customer. H.O.B. will supply and install its' metering circuit wiring harness, and metering equipment in the customer's meter cabinet. Capital contribution is not required from the customer provided they install the metering unit(s), meter cabinet, and connecting conduit. Coordination with H.O.B. Meter Department is required.

In the event of a customer specifically requesting the use of primary metering in a situation where H.O.B. would normally install secondary metering, the customer will be required to provide a capital contribution equivalent to H.O.B.'s difference in recoverable cost between secondary and primary metering costs. For underground installations, the customer is responsible for the mounting of the primary high voltage instrument transformers (CT's & PT's) in their switchgear as well as supplying and wiring all primary connections to the instrument transformers to a sealable junction box.

2.3.7.3 Interval Metering

Interval meters will be installed for all new or upgraded services, or existing customers where the peak demand is forecast to be 200 kW or greater or for any customer requesting the installation of an interval meter. Prior to the installation of an interval meter the Customer must provide a telephone line or extension to the meter cabinet or meter base. The customer will arrange for the installation of a telephone line, terminated at the metering point for the exclusive use of H.O.B. to retrieve interval meter data. The Customer will be responsible for the installation, maintenance and ongoing monthly costs of operating the phone line. The phone line will be direct dial voice quality, active 24 hours per day, and energized prior to meter installation. Failed customer communication lines must be repaired within 48 hours of notification from H.O.B. If repairs are not completed within this time frame, Hydro One Brampton will have to manually collect the interval meter reads done every second day after the notification. The customer will be invoiced for all costs associated with the manual meter reads.

Other Customers that request interval metering shall compensate H.O.B. for all incremental costs associated with that meter, including the capital cost of the interval meter, installation costs associated with the interval meter, ongoing maintenance (including allowance for meter failure), verification and reverification of the meter, installation and ongoing provision of communication line or communication link with the Customer's meter.

2.3.7.4 Meter Reading and Access to Meter Equipment

The Customer must provide or arrange free, safe and unobstructed access during regular business hours to any authorized representative of H.O.B. for the purpose of meter reading, meter changing, or meter inspection. Where premises are closed during H.O.B.'s normal business hours, the Customer must, on reasonable notice, arrange such access at a mutually convenient time.

2.3.7.5 Final Meter Reading

When a service is no longer required, the Customer shall provide sufficient notice of the date the service is to be discontinued so that H.O.B. can obtain a final meter reading as close as possible to the final reading date. The customer shall provide access to H.O.B. or its agents for this purpose. If a final meter reading is not obtained, the Customer shall pay a sum based on an estimated demand and/or energy for electricity used since the last meter reading.

2.3.7.6 Faulty Registration of Meters

Metering electricity usage for the purpose of billing is governed by the federal Electricity and Gas Inspection Act and associated regulations, under the jurisdiction of Measurement Canada, Industry Canada. H.O.B.'s revenue meters are required to comply with the accuracy specifications established by the regulations under the above Act.

In the event of incorrect electricity usage registration, H.O.B. will determine the correction factors based on the specific cause of the metering error and the Customer's electricity usage history. The Customer shall pay for all the energy supplied (a reasonable sum) based on the reading of any meter formerly or subsequently installed on the premises by H.O.B., due regard being given to any change in the characteristics of the installation and/or the demand. If Measurement Canada determines that the Customer was overcharged, H.O.B. will reimburse the Customer for the amount incorrectly billed. If Measurement Canada determines that the customer was undercharged, H.O.B. will follow Measurement Canada's recommendation for billing adjustment.

If the incorrect measurement is due to reasons other than the accuracy of the meter, such as incorrect meter connection, incorrect connection of auxiliary metering equipment, or incorrect meter multiplier used in the bill calculation, the billing correction will apply for the duration of the error. H.O.B. will correct the bills for that period in accordance with the regulations under the Electricity and Gas Inspection Act.

2.3.7.7 Meter Dispute Testing

Metering inaccuracy is an extremely rare occurrence. Most billing inquiries can be resolved between the Customer and H.O.B. without resorting to the meter dispute test.

Either H.O.B. or the Customer may request the service of Measurement Canada to resolve a dispute.

2.3.7.8 Working Ground Points – 120volt to 46kV Metering Applications

These requirements apply equally to all revenue metering installations complete with Utility Metering Compartments rated 120 volt to 46,000 volt.

In compliance with the Ontario Occupational Health and Safety Rules (in effect at the relevant time), working ground points, complete with a permanently mounted 25mm (1") diameter ball type ground stud Hubbell Chance C600-2102 (or equivalent), shall be provided at the following locations within the instrument transformer compartment;

(a) For 3 wire 2 element revenue metering applications:
- On each side of the phase A CT; and
- On each side of the phase C CT; and
- On the phase B; and
- On the ground bus,
  i.e.: a total of six ground studs.

(b) For 4 wire 3 element revenue metering application:
- On each side of the phase A CT; and
- On each side of the phase B CT; and
- On each side of the phase C CT; and
- On the ground bus,
  i.e.: a total of seven ground studs.

2.4 Tariffs and Charges

2.4.1 Service Connection

Charges for distribution services are made as set out in the Schedule of Rates available from H.O.B.. Notice of Rate revisions shall be published in major local newspapers. Information about changes will also be mailed to all Customers with the first billing issued at revised rates.

2.4.1.1 Customers Switching to Retailer

There are no physical service connection differences between Standard Service Supply (SSS) Customers and third party retailers' Customers. Both Customer energy supplies are delivered through the local Distributor with the same distribution requirements. Therefore, all service connections requirements applicable to the SSS Customers are applicable to third party retailers' Customers.

2.4.1.2 Supply Deposits & Agreements

Where an owner proposes the development of premises that require H.O.B. to place orders for equipment for a specific project and before actual construction begins, the owner is required to sign the necessary Supply Agreement and furnish a suitable deposit before such equipment is ordered by H.O.B.

An irrevocable letter of credit or a letter of guarantee from a chartered bank, trust company or credit union is acceptable in lieu of a cash deposit.

2.4.2 Energy Supply

2.4.2.1 Standard Service Supply (SSS)

All existing H.O.B. Customers are Standard Service Supply (SSS) Customers until H.O.B. is informed of their switch to a competitive electricity supplier. The Customer or the Customer's authorized retailer must make the Service Transfer Request (STR).

2.4.2.2 Retailer Supply

Customers transferring from Standard Service Supply (SSS) to a retailer shall comply with the Service Transfer Request (STR) requirements as outlined in sections 10.5 through 10.5.6 of the Retail Settlement Code.

All requests shall be submitted as an electronic file and transmitted through The Electronic Business Transaction hub. Service Transfer Request (STR) shall contain information as set out in section 10.3 of the Retail Settlement Code.

If the information is incomplete, H.O.B. shall notify the retailer or Customer about the specific deficiencies and await a reply before proceeding to process the transfer.

2.4.2.3 Wheeling of Energy

All Customers considering delivery or receiving of electricity through the H.O.B. distribution system are required to contact H.O.B. for technical requirements and applicable tariffs.

2.4.3 Deposits

Hydro One Brampton purchases electricity on behalf of all of its customers and then recovers the cost, along with the cost of distribution, through customer billings.

Section 2.4.6.1 and 2.4.6.2 of the Distribution System Code provide that a distributor may use any risk mitigation option available under law to manage customer non-payment risk. A distributor may impose an amount and type of security requirement on a customer depending on the distributor's assessment of the customer's likely risk of non-payment. A distributor shall not discriminate among customers with similar risk profiles or risk related factors.
As customers switch to competitive retailers and depending on the billing options, the amount of exposure for Hydro One Brampton will vary, and therefore the security deposit amount should be adjusted to reflect the new level of exposure.

The following policy shall apply for each billing option.

1. Standard Supply Service:
   Under this option, Hydro One Brampton will continue to issue a bill to the customer. Hydro One Brampton is responsible for customer non-payment risk and may require an amount of security deposit depending upon its assessment of the likely risk of non-payment by the customer.

2. Distributor-Consolidated Billing:
   Under this option, Hydro One Brampton will issue a bill to the customer and assume responsibility for customer non-payment risk. We may require an amount of security deposit depending upon our assessment of the likely risk of customer non-payment.

3. Retailer-Consolidated Billing:
   Under this option, Hydro One Brampton will not issue a bill to the customer. The retailer is responsible for issuing the bill and for customer non-payment risk. Hydro One Brampton would not require a security deposit from the customer.

   If we are in possession of a security deposit at the time of a switch to retailer-consolidated billing, the deposit shall be applied to the final bill and any excess returned to the customer.

4. Split Billing (if approved in future):
   Under this option, Hydro One Brampton and a retailer shall each be responsible for customer non-payment risk for the bill that each issues to the customer.

   If a customer already has a deposit with Hydro One Brampton, we will retain a portion of the deposit that reflects the non-payment risk associated with the new billing option. Any excess deposit amount will be returned to the customer.

2.4.3.1 SECURITY DEPOSIT REQUIREMENTS

Residential - Owners and Tenants

Hydro One Brampton requires a security deposit for Residential and Non-Residential customers who have not demonstrated a good payment history (see section 2.4.10 of Distribution System Code) or where, for example, the customer has received more than one disconnection notice from the distributor; more than one cheque or pre-authorized payment has been returned for insufficient funds; or if a disconnect / collect trip has occurred.

The form of payment for a residential customer can be either cash or cheque. A non-residential customer can provide cash, a cheque, or an automatically renewing irrevocable letter of credit.

Payment of a security deposit in the form of cash or cheque may be made in a lump sum payment or may be made in up to 4 equal monthly installments.

2.4.3.2 EXEMPTION FROM PAYING SECURITY DEPOSIT

For the purpose of the criteria outlined below, 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.

To be exempt from providing Hydro One Brampton with a security deposit, a consumer must fall into one of the following criteria:

Residential Customer

- 1 year good payment history (for existing customers), or
- provide a reference letter from another electricity or natural gas utility in Canada indicating good payment history for 1 year, or
- at the customer's expense, they may provide a credit check (from a list of approved credit agencies outlined in Hydro One Brampton's Deposit Policy) that demonstrates they are a good credit risk. Hydro One Brampton reserves the right to request updated credit checks from time to time at our discretion.

Non-Residential Customer <50kW demand rate class

- 5 years good payment history (for existing customers), or
- provide a reference letter from another electricity or natural gas utility in Canada indicating good payment history for 5 years, or
- at the customer's expense, they may provide a credit check (from a list of approved credit agencies outlined in Hydro One Brampton's Deposit Policy) that demonstrates they are a good credit risk. Hydro One Brampton reserves the right to request updated credit checks from time to time at our discretion.

Non-Residential Customer in any other rate class (excluding customers >5,000 kW)

- 7 years good payment history (for existing customers)*, or
- provide a reference letter from another electricity or natural gas utility in Canada indicating good payment history for 7 years, or
- at the customer's expense, they may provide a credit check (from a list of approved credit agencies outlined in Hydro One Brampton's Deposit Policy) that demonstrates they are a good credit risk. Hydro One Brampton reserves the right to request updated credit checks from time to time at our discretion or,

* To qualify for one of the following reductions, the customer must provide a credit rating from Dominion Bond Rating Service (DBRS), Standard & Poors (S&P) or Moody's. The reduction will be calculated as per the table below. Hydro One Brampton reserves the right to request updated credit ratings from time to time at our discretion.

Credit Rating *(using Standard and Poor's Rating Terminology)*	Allowable Reduction
AA- and above or equivalent	100%
AA-, AA, AA+ or equivalent	95%
A-, from a, A+ to below AA or equivalent	85%
BBB-, From BBB, BBB+ to below A or equivalent	75%
Below BBB- or equivalent	0%
Non-Residential Customer >	5,000 kW

- 7 years good payment history** (for existing customers - Hydro One Brampton is only required to refund 50% of the deposit), or
- provide a reference letter from another electricity or natural gas utility in Canada indicating good payment history for 7 years, or

** To obtain a refund higher than 50%, the customer must provide a credit rating from Dominion Bond Rating Service (DBRS), Standard & Poors (S&P) or Moody's. The reduction will be calculated as per the table below. Hydro One Brampton reserves the right to request updated credit ratings from time to time at our discretion.

Credit Rating *(using Standard and Poor's Rating Terminology)*	Allowable Reduction
AA- and above or equivalent	100%
AA-, AA, AA+ or equivalent	95%
A-, From a, A+ to below AA or equivalent	85%
BBB-, From BBB, BBB+ to below A or equivalent	75%
Below BBB- or equivalent	0%

2.4.3.3 SECURITY DEPOSIT LIMITS

The maximum amount of a security deposit requested will be equal to 2.5 X estimated bill based on the customer's average monthly load during the most recent 12 consecutive months within the past two years. Where relevant usage information is not available for the customer for 12 consecutive months within the past two years, the customer's average monthly load shall be based on a reasonable estimate made by Hydro One Brampton.

Customers who have more than one disconnection notice in a relevant 12 month period, will have their deposit calculation based on their highest actual or estimated monthly load.

2.4.3.4 RETENTION OF SECURITY DEPOSITS

Hydro One Brampton will review all security deposits annually. This is to determine whether the entire deposit or part of the deposit is to be returned to the customer based on a re-calculation of the maximum amount of security deposit allowed, as outlined in 2.4.12 of the Distribution System Code.

Customers with a good payment history of 1 year in the case of a residential customer, 5 years in the case of a non-residential customer in a <50kW demand rate class or 7 years in the case of a non-residential customer in any other rate class will have their deposit credited to their account.

In cases where an account is final billing, the security deposit and interest will be applied to the final bill and any credit balance will be refunded within 6 weeks of the final bill date.

A customer may, no earlier than 12 months after the payment of a security deposit or the making of a prior demand for a review, demand in writing that Hydro One Brampton undertake a review to determine whether the entire amount of the security deposit is to be returned to the customer.

2.4.3.5 INTEREST ON SECURITY DEPOSITS

Interest shall accrue monthly on security deposits paid in cash or by cheque, 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 website less 2 percent, updated quarterly. The interest accrued shall be paid out at least once every 12 months or on return or application of the security deposit or closure of the account, whichever comes first, and will be paid by crediting the customer's account.

2.4.3.6 ENFORCEMENT FOR UNPAID SECURITY DEPOSITS

Non-payment of a security deposit can result in a discontinuation of service and will be subject to our regular disconnection procedure (*also see 2.2.1 Conditions of Service*).

2.5 Billing

H.O.B. may, at its option, render bills to its Customers on a monthly basis. Bills for the use of electrical energy may be based on either a metered rate or a flat rate, as determined by H.O.B.

A Customer may elect aggregated billing for multiple services provided all of the following conditions are met:

- one municipal address
- the services are supplied from one primary supply point
- the meters are of the interval type, allowing logical totalization of the coincident demands. If interval meters are not already in place, H.O.B. will install the interval metering with the customer being financially responsible for H.O.B.'s costs incurred.

The Customer may dispute charges shown on the Customer's bill or other matters by contacting and advising H.O.B. of the reason for the dispute. H.O.B. will promptly investigate all disputes and advise the Customer of the results.

2.6 Payments and Overdue Account Interest Charges

Bills are rendered for energy services provided to the Customer. Bills are payable in full by the due date, otherwise, overdue interest charge of 1.5% per month will apply.

Where the Customer on or before the due date has made a partial payment, the interest charge will apply only to the amount of the bill outstanding at the due date, exclusive of arrears from previous billings.

Outstanding bills are subject to the collection process and may ultimately lead to the service being discontinued. Service will be restored once satisfactory payment has been made. Discontinuance of service does not relieve the Customer of the liability for arrears.

H.O.B. shall not be liable for any damage on the Customer's premises resulting from such discontinuance of service. A reconnection charge will apply where the service has been disconnected due to non-payment.
The Customer will be required to pay additional charges for the processing of non-sufficient fund (N.S.F.) cheques.

Customers will pay special charges and deposits, on request, which may arise from a variety of conditions such as:

Energy Deposit. As a guarantee of payment of energy bills some Customers will be required to pay a deposit to H.O.B.

Transfer Charge. A change of occupancy charge will apply to all accounts taken over by a new Customer.

Collection Charge. If a H.O.B. representative visits a Customer's premises to collect payment to avoid disconnection, there will be a charge for this service.

2.7 Customer Information

A third party who is not a retailer may request historical usage information with the written authorization of the Customer to provide their historical usage information. H.O.B. will provide information appropriate for operational purposes that has been aggregated sufficiently, such that an individual's Customer information cannot reasonably be identified, at no charge to another distributor, a transmitter, the IMO or the OEB. H.O.B. may charge a fee that has been approved by the OEB for all other requests for aggregated information.

At the request of a Customer, H.O.B. will provide a list of retailers who have Service Agreements in effect within its distribution service area. The list will inform the Customer that an alternative retailer does not have to be chosen in order to ensure that the Customer receives electricity and the terms of service that are available under Standard Supply Service.

Upon receiving an inquiry from a Customer connected to its distribution system, H.O.B. will either respond to the inquiry if it deals with its own distribution services or provide the

Customer with contact information for the entity responsible for the item of inquiry, in accordance with chapter 7 of the Retail Settlement Code.

An embedded distributor that receives electricity from H.O.B. shall provide load forecasts or any other information related to the embedded distributor's system load to H.O.B., as determined and required by H.O.B. A Distributor shall not require any information from another Distributor unless it is required for the safe and reliable operation of either Distributor's distribution system or to meet a Distributor's licence obligations.

2.8 Forestry

The Customer will ensure adequate clearances are maintained between private line(s) and all trees and any form of woody growth, as per the Ontario Electrical Safety Code Section 75-326 (latest edition). The Customer is responsible to ensure only qualified arborists (contractors) work near overhead lines. H.O.B. will provide one service isolation annually (during normal business hours) to assist the Customer in meeting the above requirement.

3.0 CUSTOMER CLASS SPECIFIC

3.0.1 MicroFIT Generator Class

This classification applies to an electricity generation facility contracted under the Ontario Power Authority's microFIT program and connected to Hydro One Brampton's distribution system.

3.1 Residential

All services supplied to single-family dwelling units for domestic or household purposes, including seasonal occupancy, shall be classed as a residential service. This includes, but is not limited to, detached houses, one unit of a semi-detached, duplex, triplex or quadraplex house, with a residential zoning. Separately metered dwellings within a town house complex also qualify as residential customers.

Refer to Table 1.1 in Section 5 for Point of Demarcation, Standard Allowance and Connection Fees for Residential Services.

Hydro One Brampton recommends that all new houses in existing residential areas be serviced via underground on the Customer's property.

For residential services where the revenue meter is located inside the Customer's premises and is installed after the main disconnect switch, connections inside the main disconnect switch are not permitted. Unauthorized connections found in this situation will be removed in a timely matter at the Customers expense. Back billing may be charged after investigation of unbilled loads.

Combined Services

When the property requiring electrical service is supplied via a single metered service and has mixed commercial or industrial and residential usage's, the metered service will be classified as a General Service account.

3.1.1 Overhead Services

3.1.1.1 Minimum Requirements

In addition to the requirements of the Ontario Electrical Safety Code (latest edition), the following conditions shall apply:

(i) A clevis type insulator is to be supplied and installed by the Customer.

(ii) This point of attachment device must be located:
   (a) Not less than 4.5 metres (15 feet) nor greater than 5.5 metres (18 feet) above grade.
   (b) Between 150 millimeters and 300 millimeters (6-12 inches) below the top of the service mast.
   (c) Within 914 millimeters (3 feet) of the front of the building (when service is supplied from the street).

(iii) Clearance must be provided between utility conductors and finished grade of a least 6 meters (19 feet) over traveled portions of the road allowance and 4.5 meters (15 feet) over all other areas. A minimum horizontal clearance of 1.0 meter (3 feet) must be provided between utility conductors and second storey windows.

(iv) A 4 jaw meter socket of an approved manufacturer shall be provided. Certain areas will require a 5-jaw socket as determined by H.O.B. The Customer should contact H.O.B. to confirm details.

(v) Clear unobstructed access must be maintained to and in front of the meter location.

a. Service locations requiring access to adjacent properties (mutual drives, narrow side setbacks, etc.) will require the completion of an easement from the property owner(s) involved.
b. The approved meter base shall be mounted directly below the service mast such that the midpoint of the meter is 1.73 m (± 100 mm) above finished grade within 914 mm of the face of the building, and be in front of any existing or proposed fence, unless otherwise approved by H.O.B.

3.1.1.2 Electrical Services in Vicinity of Swimming Pools

Electrical conductors that are located above a swimming pool or underground in the vicinity of a swimming pool must meet the minimum clearances as identified in the Ontario Electrical Safety Code. H.O.B. will inspect a Customer's application before approval is given.

When underground electrical circuits are in the vicinity of a proposed swimming pool, the customer will provide the utility with a site plan, clearly identifying the new swimming pool location. The Customer will also have obtained "locates" of all electrical services (high voltage and low voltage) and provide this information.

If the proposed swimming pool location conflicts with clearances required as per the Ontario Electrical Safety Code, the swimming pool will be relocated to permit minimum clearances. Alternately, the customer can choose to relocate the underground electrical services. The Customer is responsible for all costs that they incurred directly and by H.O.B. in the work. Approval will be given after minimum clearances have been achieved and verified.

Where overhead electrical conductors are located over a proposed swimming pool, the Customer will (if necessary) increase the height of the existing electrical conductors to meet the minimum clearances of the Electrical Safety Code. The Customer is responsible for all costs that they incurred directly and by H.O.B. in this work. Approval will be given after minimum clearances have been met.

3.1.2 Underground Services for Individual Residences

Customers requesting an underground service in an overhead area will be required to pay 100% connection costs for the underground service, minus H.O.B.'s Standard Allowance of a 200ampere 120/240 volt overhead service.

The owner shall pay for any necessary road crossings.

The trench route on the customers property must be approved by H.O.B. and is to follow the route indicated on the underground drawing supplied by H.O.B. Any deviation from this route must be approved by H.O.B. The Customer will be responsible for H.O.B.'s costs associated with re-design and inspection services due to changes or deviations initiated by the Customer or its agents.

The owner will assure the provision for the service entrance and meter meets H.O.B. approval.

It is the responsibility of the owner or his/her contractor to obtain clearances from all of the utility companies (including Hydro) before digging.

It is the responsibility of the owner to contact H.O.B. to inspect each trench and duct structure(s) prior to the installation of H.O.B.'s service cables.

The owner shall provide unimpeded access for H.O.B. to install its' service.

3.1.3 MicroFIT and Micro Generator Installations

Home owners planning to install Solar or Micro Generators are required to contact Hydro One Brampton's Technical Services Department prior to commencing work or ordering materials.

3.2 General Service

3.2.0 Common

a) The Customer shall supply the following to H.O.B. when initially proposing a new project:

- A completed Commercial & Industrial Customer Electrical Service Request form.
- Proposed Service Entrance equipment's Rated Capacity (Amperes) and Voltage rating and metering requirements.
- Proposed Total Load details in kVA and/or kW (Winter and Summer).
- Details respecting heating equipment, air-conditioners, and generation (back up or parallel operation).
- A Legal Survey plan and site plan indicating the proposed location of the service entrance equipment with respect to public rights-of-way and lot lines.
- For General Service (50 – 1499kW and 1500kW and above) Class Customers, electrical, architectural, site servicing, and/or mechanical drawings as required by H.O.B.

b) The Customer shall construct or install all civil infrastructure (including but not limited to poles, U/G conduits, cable chambers, cable pull rooms, transformer room/vault/pad, and switchgear foundations) on private property, that is deemed required by H.O.B. as part of its Connection Assets. All civil infrastructures are to be in accordance with H.O.B.'s current standards, practices, specifications and this Conditions of Service, and are subject to H.O.B.'s inspection and acceptance.

c) H.O.B. is responsible for the maintenance and repairs of its Connection Assets but not the Transformer Vault or pad(s) or any other civil structure that forms part or is part of the Customer's assets.

d) When effecting changes the Customer shall maintain sufficient clearances between electrical equipment and Buildings and other permanent structures to meet the requirements of the Ontario Electrical Safety Code and the Occupational Health & Safety Act and Regulations.

e) It is the responsibility of the owner or his/her contractor to obtain clearances from all of the utility companies (including Hydro) before digging.

g) H.O.B. will undertake the necessary programs to maintain and enhance its distribution plant at its expense. In the event that services or facilities to a Customer need to be restored as a result of these construction or maintenance activities by H.O.B., they will be restored to an equivalent condition.

h) Project Delays: Penalty charges will be applied when a customer's actual in-service date is delayed by a time period that extends more than 180 day beyond the initial confirmed in-service date. A penalty of 1% per month will be applied on the cost of materials purchased for the project, and will be applied to the final project invoice/statement.

i) Restocking Charges: A 15% restocking charge will be applied to all materials ordered for a project, based on written direction from customer, which is no longer required due to changes initiated by the customer. This will apply to materials in our inventory or on order from a supplier. This restocking charge will be added to the final project statement.

j) Downtown Network Services: Demand load limits for customers supplied from the network system in the Brampton downtown core will be determined upon application to the Technical Service Department. Only copper conductor will be accepted by H.O.B. for services supplied from our network system in this downtown core.

In addition H.O.B. will carry out the necessary construction and electrical work to maintain existing supplies by providing standard overhead or underground supply services to Customers affected by H.O.B.'s construction activities. If a Customer requests special construction beyond the normal H.O.B. standard installation in accordance with the program, the Customer shall pay the additional cost, including engineering and administration fees.

Refer to Tables 1.1, 1.2, 1.3, 1.4, & 1.5 of Section 5 for Point of Demarcation and Connection Fees for General Service.

3.2.0.1 Customer Rate Class Eligibility Criteria

Less Than 50kW - Class 2

All services supplied to premises other than those designated as residential or municipal street lighting shall be classified as general service less than 50kW providing they have a monthly peak demand of less than 50kW. Multi-unit residential establishments such as apartment buildings supplied through one service (bulk metered) shall normally be classified as general service.

Where service is provided to combined residential and business, or residential and agricultural, whether seasonal or all-year premises, and the wiring does not provide for separate metering, the service shall normally be classed as general service.

This classification also includes traffic signals and control lighting (other than municipal street lighting), sign and display lighting, telephone booths, cable television amplifiers and similar small loads throughout H.O.B.'s service territory.

Greater Than or Equal to 50kW But Less Than or Equal to 699kW – Class 3A

All services supplying accounts that have a monthly average peak of greater than, or equal to, or is forecast to be greater than or equal to 50kW but less than or equal to 699kW.

Greater Than or Equal to 700kW But Less Than or Equal to 4,999kW – Class 3B

All services supplying accounts that have a monthly average peak of greater than, or equal to 700kW, or is forecast to be greater than or equal to 700kW but less than or equal to 4,999kW.

Large Use – Class 4
Customer account with a monthly peak demand or forecasted demand averaged over 12 consecutive months, equal to 5000kW or greater shall be classified as a large user account.

3.2.1 Electrical Requirements (as applicable)

For low voltage supply, the Customer's service entrance equipment shall be suitable to accept conductors installed by H.O.B. The Customer's cables shall be brought to a point determined by H.O.B. for connection to H.O.B.'s supply.

3.2.1.1 Electrical (Utility) Room

When two or more metered services are required, the owner is required to supply and maintain an Electrical (Utility) Room of sufficient size to accommodate the service entrance and meter requirements of the tenants and provide clear working space in accordance with the Ontario Electrical Safety Code.

In order to allow for an increase in load, the owner shall provide spare wall space so that at least 30% of the Customers supplied through meter sockets can accommodate meter cabinets at a later date.

The owner shall identify each Customer's metered service by address and/or unit number in a permanent and legible manner. The identification shall apply to all main switches, breakers and to all meter cabinets or meter mounting devices that are not immediately adjacent to the switch or breaker. The electrical room shall be visibly identified from the outside. The Customer or landlord is responsible for all costs incurred by H.O.B. for sorting and identifying mislabeled meter bases and disconnect switches.

Access doors, panels, slabs and vents shall be kept free from obstructing objects. The Customer will provide unimpeded and safe access to H.O.B. at all times for the purpose of installing, removing, maintaining, operating or changing revenue metering (and equipment) and associated equipment.

When H.O.B.'s meter(s) is or the electrical (utility) room is not installed on the main level of a building, the customer shall ensure that a staircase constructed to H.O.B.'s standards is constructed. Standards are available upon request.

The electrical (utility) room must be located to provide safe access from the outside or main hallway, and not from an adjoining room, so that it is readily accessible to H.O.B.'s employees and agents at all hours to permit meter reading and to maintain electric supply.

The electrical (utility) room entry door shall be equipped with a pull handle on the exterior, and a push bar on the interior. This push bar shall extend across the full width of the door. The building owner is responsible for purchasing, installing and maintaining a Von Duprin model 22EO Panic Bar, complete with a 210NL or 230NL door trim (or a H.O.B. approved

equivalent) complete with a H.O.B. coded Primus lock cylinder on the electrical (utility) room door(s). Refitted electrical (utility) room doors will be upgraded to this standard.

The Primus lock cylinder will be purchased through H.O.B. Arrangements for purchasing this cylinder and obtaining extra keys shall be coordinated with H.O.B. Meter Department Supervisor.

All new electrical (utility) rooms are required to have an up to date building unit layout plan for the building mounted on an inside wall, showing the unit layouts, contact names and phone numbers for property managers and / or maintenance personal.

All new services in a multiple unit building are required to have unit numbers clearly identified on the tenant entry doors and we require access to the main switch inside the unit before the meter will be installed.

For service upgrades to existing tenant electrical services we require that all meter bases be identified with the correct unit number(s) and any existing meter base(s) with the same units' number(s) from previous metering installations changed to reflect the new layout. It is the building owner's responsibility to inform H.O.B. of any metered services not required during upgrades so they can be removed.

The Customer grants H.O.B. permission to operate the Customer's main disconnect switch for the purpose of meter re-verification and maintenance. The Customer will continue to be liable for the integrity (and replacement) of the disconnect switch should the switch fault during H.O.B. performing its work as described above.

A free standing building housing a financial institution shall not have a common electrical (utility) room incorporated into it.

Electrical (utility) rooms 'on' or 'below' grade must have a drain including a "P" trap complete with a non-mechanical priming device and a backwater valve connected to the sanitary sewer.

Hydro One Brampton recommends that the building not be designed to include entry of the electrical service into a below grade electrical (utility) room. If this is not possible, then it is customers responsibility to seal the underground ducts at both ends of the secondary (or primary) duct structure.

The electrical (utility) room shall not be used for storage or contain equipment foreign to the electrical installation within the area designated as safe working space. All stairways leading to electrical rooms above or below grade shall have a handrail on at least one side as per the Ontario Building Code and shall be located indoors.

The electrical (utility) room shall have a minimum ceiling height of 2.2 m clear, be provided with adequate lighting at the working level, in accordance with Illuminating Engineering Society (I.E.S.) standards, and a 120 V convenience outlet. The lights and convenience outlet noted above and any required vault circuit shall be supplied from a panel located and clearly identified in the electrical room.

3.2.2 Underground Service Requirements

The Customer shall construct or install all civil infrastructure (including but not limited to poles, underground conduits, cable chambers, cable pull rooms, transformer vault/pad) on private property that is deemed required by H.O.B. as part of its Connection Assets. All civil

infrastructures are to be in accordance with H.O.B.'s current standards, practices, specifications and this Conditions of Service and are subject to H.O.B.'s inspection/acceptance.

The Customer is responsible to maintain all its structural and mechanical facilities on private property in a safe condition satisfactory to H.O.B.

The trench route must be approved by H.O.B. Any deviation from this route must also be approved by H.O.B. The Customer will be responsible for H.O.B.'s costs associated with re-design and inspection services due to changes or deviations initiated by the Customer or its agents or any other body having jurisdiction.

It is the responsibility of the owner or his/her contractor to obtain clearances from all of the utility companies (including the local Distribution company) before digging.

It is the responsibility of the owner to contact H.O.B. 48 hours prior to planned installation of primary concrete encased duct structures or other civil facilities, which will house our plant. H.O.B. must observe and inspect this construction.

3.2.3 Temporary Services

A temporary service is a metered service provided for construction purposes or special events. Temporary services can be supplied overhead or underground. The Customer will be responsible for all associated costs for the installation and removal of equipment required for a temporary service to H.O.B.'s point of supply.

Where meter bases are required, they must be approved by H.O.B. and shall be securely mounted on minimum 152 mm diameter poles (or alternative if approved by H.O.B.) so that the midpoint of the meter is 1.73 m (± 100 mm) above finished grade.

In the case of temporary overhead services, the Customer shall leave 760 mm of cable at the masthead for connection purposes.

In the case of temporary underground services, the Customer's cable shall extend to H.O.B.'s point of supply.

3.2.4 Reference Guides / Standards for Commercial / Industrial Contribution

Please refer to appendix 4 for a complete listing of construction standards and typical standard drawings.

3.3 General Service (Above 50 kW)

All non-residential Customers with an average peak demand between 50 kW and 1499 kW over the past twelve months are to be classified as General Services above 50 kW. For new Customers without prior billing history, the peak demand may be based on 90% of the proposed capacity or installed transformer.

Telecom and Communication type services that are constructed inside of a fenced enclosure will provide H.O.B. with a lockable man gate. This man gate will be used by H.O.B. for it's access to read meters and perform it's necessary maintenance.

3.3.1 New Residential Subdivisions or Multi-Unit Developments

New Residential Subdivisions or Multi-unit Developments involving the construction of new city streets and roadways are treated as Non-Residential Class Customers and involve capital contribution for "Expansion" work, in addition to any applicable Connection Charges. Should the Economic Evaluation identify a shortfall for the Expansion, the Developer has a choice of either completing the portion of plant not yet connected to H.O.B.'s system or have H.O.B. complete this work in accordance with Section 3.3 of the DSC Code, titled "Alternate Bids". The Customer will not be allowed to complete construction work on H.O.B.'s existing distribution system.

New Residential Subdivisions or Multi-unit complexes not involving new City streets and roadways, but only private property, will follow the general terms and conditions for Connection Charges and Capital Contribution for the appropriate General Class Customers.

In all cases, all of the electrical service must be constructed to H.O.B.'s standards and in compliance with the Ontario Electrical Safety Code, applicable laws, regulations and codes. The Developer is required to enter into a Supply Agreement with H.O.B. and to pay H.O.B. the deposit(s) for ordering of equipment and associated design and construction work for the installation of the proposed underground electrical distribution system. This amount will be paid concurrently with the signing of the Supply Agreement.

In case of conflict between the Supply Agreement and the terms herein, the Supply Agreement shall be binding. All design work including service locations and trench routes must be approved by H.O.B. See sample agreement in appendix 2 of these conditions.

3.3.2 General Service (50 kW – 1499 kW)

3.3.2.1 Electrical Requirements

Where the size of the Customer's electrical service warrants, the Customer will be required to provide facilities on its property and an easement as required (i.e. on the premises to be served), acceptable to H.O.B., to house the necessary transformer(s) and/or switching equipment. H.O.B. will provide planning details upon application for service.

H.O.B. will supply, install and maintain the electrical transformation equipment within the transformer vault or pad as outlined in Section 2.3.4.2.

H.O.B. will not be responsible for damages resulting from the incorrect identification of services or equipment.

3.3.2.2 Electrical (Utility) Room

Please see section 3.2.1.1 for details

3.3.3 Technical Information

Where project drawings are required for H.O.B.'s approval, for items under H.O.B.'s jurisdiction, the Customer or its authorized representative must ensure that proposal drawings are fully in compliance with H.O.B.'s standards. Approval of project drawings by H.O.B. shall not relieve the Customer of its responsibility in respect of full compliance with H.O.B.'s standards. In all cases, one copy of all relevant drawings must be submitted to H.O.B. Where the Customer requires an approved copy to be returned, two copies of all plans must be submitted.

Prior to H.O.B.'s preparation of a design for a service, the Customer will provide the following information including the completion of our Electrical Demand Load Information (or Load Guarantee) Form that will confirm an approximate date that the Customer requires the electrical service.

3.3.3.1 Architectural Site & Grading Plans

Indicate the lot number, plan numbers and, when available, the street number. The site plan shall show the location of the Building on the property relative to the property lines, any driveways and parking areas and the distance to the nearest intersection. All elevations shall be shown for all structures and proposed installations. Include land usage details. This drawing which indicate all Utility poles and along the street facing(s) of the project.

3.3.3.2 Site Services Plan

Show the location on the property of all services proposed and/or existing such as water, gas, storm and sanitary sewers, telephone, et cetera.

3.3.3.3 Landscaping Site Plan

Provide one copy of the Landscaping Site Plan showing planned installation in the vicinity of H.O.B.'s plant or easements.

3.3.3.4 Electrical Site Plan

Indicate preferred location of the Electrical (Utility) Room, Transformer (or vault) location, and preferred routing of the primary concrete encased duct bank on the property.

3.3.3.5 Single Line Diagram

Show the main service entrance switch capacity, the required supply voltage, and the number and capacity of all sub-services showing provision for metering facilities, as well as the connected load breakdown for lighting, heating, ventilation, air conditioning et cetera. Provide protection equipment information where coordination is required between H.O.B. and Customer owned equipment.

3.3.3.6 Secondary Switchboard

Submit three copies of any service entrance (switchboard) to be installed for H.O.B.'s approval, including interlocking arrangement if required.

3.3.4 Technical Considerations

3.3.4.1 Protective Equipment - Short Circuit Ratings

44000 V Supply: The Customer's protective equipment shall have a three phase, short circuit rating of 1500 MVA symmetrical.
16000/27600 V Supply: The Customer's protective equipment shall have a three phase, short circuit rating of 800 MVA symmetrical. The asymmetrical current is 26,000 A (1.6 factor used).
13800 V Supply: The Customer's protective equipment shall have a three phase, short circuit rating of 330 MVA symmetrical or 25,000 A (1.6 factor used).
8320 V Supply: The Customer's protective equipment shall have a three phase, short circuit rating of 270 MVA symmetrical or 25,000 A asymmetrical (1.6 factor used).

600/347 V Supply: The Customer's protective equipment shall be capable of interrupting a fault current as defined in our standard drawing #25-40.
208/120 V Supply: The Customer's protective equipment shall be capable of interrupting a fault current as defined in our standard drawing #25-40.

3.3.4.2 Primary Fusing

All equipment connected to the H.O.B.'s distribution system shall satisfy the short circuit ratings specified in clause 3.3.4.1. The Customer and/or the Customer's consultant shall specify the fuse link rating and demonstrate coordination with H.O.B.'s upstream protection including station breakers and/or distribution fuses. The Customer shall submit a coordination study to H.O.B. for verification to ensure coordination with upstream protection including station breakers and/or distribution fuses. The Customer shall maintain an adequate supply of spare fuses.

3.3.4.3 Ground Fault Protection

Where ground fault protection is required to comply with the Ontario Electrical Safety Code, the method and equipment used shall be compatible with H.O.B.'s practice of grounding transformer neutral terminals in vaults. Zero sequence sensing will normally apply.

Where ground strap sensing is used, the ground sensing devices shall be set to operate at 600 amps if transformer and switchboard buses are not bonded and 400 amps if buses are bonded.

Ground fault protection proposals for dual secondary supply arrangements shall be submitted to H.O.B. for approval, before construction of the switchboard.

3.3.4.4 Lightning Arresters

Customer installations that are directly supplied from H.O.B.'s primary underground system may not be protected with lightning arresters. If the Customer wishes to install lightning arresters they shall be located on the load side of the first protective devices. For Customer installations that are supplied from H.O.B.'s primary overhead system, H.O.B. may install lightning arresters at the pole and the Customer may install lightning arresters in the switchgear on the load side of the incoming disconnect device. The proposed diagram shall indicate the presence of such devices in the switchgear.

3.3.4.5 Basic Impulse Level (B.I.L.)

The Customer's apparatus shall have a minimum Basic Impulse Level in accordance with the following:

(a)	2400/4160 supply voltage	- 75kV B.I.L.
(b)	4800/8320 supply voltage	- 95kV B.I.L.
(c)	8000/13800 supply voltage	- 95 kV B.I.L
(d)	16000/27600 supply voltage	- Delta primary 150 kV B.I.L.
(e)	44000 supply voltage	- 250kV B.I.L.

3.3.4.6 Unbalanced Loads

On three-phase service, the unbalance due to single-phase loads shall not exceed 20% of the Customer's balanced phase loading expressed in kilowatts.

3.4 General Service (Above 1500 kW) - Customer Owned Substations

All Customers requiring electrical service with an anticipated average peak demand of 1500 kW or higher are to be classified as Customers over 1500 kW. The Customer will consult with H.O. B. to confirm primary voltage supply.

Initial Installation or Upgrade / Replacement:

All Customer owned transformers in a customer owned substation supplied with primary voltage at 27.6 kV or 44 kV shall have a Delta connected primary and Wye grounded secondary winding configuration.

- The Technical Services Department will issue a copy of H.O.B.'s Protective Equipment Specifications at the time of confirming the characteristics of electrical supply. It is the customer's responsibility to ensure their primary fusing protects their high voltage equipment and transformer.
- All Customer owned transformers will be metered at the secondary voltage unless the customer's proposed transformer losses exceed limits prescribed by Canadian Standards Association Specification # C802 and subsequent revisions. For transformer sizes not covered in #C802, losses shall be as outlined in Table 8A and/or B in Table of this standard.
- Note about Upgrade / Replacement Installation: Consult with Technical Services Department prior to installation. Our requirements (ie: winding losses, pre-service, required drawings etc.) will apply equally to an Upgrade / Replacement transformer application.
- It is a requirement of H.O.B. that prior to the energization of a customer owned substation, the substation shall receive a pre-service inspection by a qualified contractor approved by H.O.B. and independent of the installing contractor. All results of such testing shall be presented to H.O.B. Technical Services Department at least one week prior to the expected date of energization. The costs of such testing shall be borne by the customer. A copy of the required checklist is available upon request.
- H.O.B. has operating control of the customer owned L.I.S. and switch operation will be performed by H.O.B. in radio communication with our Control Room.
- H.O.B. will lock all station access gates (if applicable).

It is recommended that Customers' transformer(s) have voltage taps in their primary windings as shown in Table 3 appended to these Conditions. Transformers other than listed in Table 3 may be suitable but shall not be connected without the specific written approval of H.O.B.

Customer owned substations must be inspected by both the Electrical Safety Authority and H.O.B. The owner will provide a pre-service inspection report to H.O.B. A contractor acceptable to H.O.B. will prepare the certified report to H.O.B.

To facilitate and encourage the maintenance of this equipment, H.O.B. will provide one power interruption annually, at no charge, during normal working hours. This no-charge service would be scheduled during H.O.B.'s normal business hours, Monday to Friday, and are not necessarily guaranteed. H.O.B. will charge Customers for power interruptions arranged at times other than as outlined above.

3.4.1 Customer Owned Substation with Customer Owned 44kV Transformer

Three copies each of the substation drawings and transformer name plate data must be submitted to the Technical Services Department for approval prior to the order of materials. These are in addition to the drawings submitted to the Electrical Safety Authority Inspection Department.

3.4.1.1 Protective Equipment Specifications are as follows:

Primary L.I.S.

A 46 kV, 600 Ampere, 250 BIL, 3 pole, double break outdoor type, station structure mounted load break switch equipped with operating mechanism and an operating handle mounted at the bottom of the structure. The switch will have provision for locking.

Fuses

The customer and Electrical Safety Authority shall determine fuse ratings and specifications. Three spare fuses are to be maintained by the customer at their location. The customer will advise H.O.B. of the fuse specifications installed.

Lightning Arresters

Lightning Arresters to be 39 MCOV (minimum, 48kV duty) rated intermediate class. The housing shall consist of non-fragmenting polymer material.
These lightning arresters shall be mounted on the transformer or failing that, on the load side of the customer owned primary fuses.

Maintenance of the transformer and associated primary protective equipment will be the responsibility of the customer. However, access to this equipment and enclosure must be made available by H.O.B.

3.4.2 Customer Owned Substation with H.O.B. 44kV Transformer

Three copies each of the substation drawings (electrical & structural) must be submitted to the Technical Services Department for approval prior to the order of materials. These are in addition to the drawings submitted to the Electrical Safety Authority Department.

As noted in Section 2.3.4.2, H.O.B. will supply a standard outdoor transformer rated 1500 kVA, 44,000 – 347/600 volts, equipped with cover mounted primary bushings for connection to an overhead bus and a Low Voltage Junction Box for the customer's secondary cables. The customer is responsible for picking up the transformer at H.O.B.'s Service Centre, and installing it in the substation. The customer is also responsible for the supply and installation of the primary load interrupter switch, the primary fuses, and 39 kV MCOV (minimum) intermediate class lightning arresters.

Note:

a. The Technical Services Department will issue a copy of H.O.B.'s Protective Equipment Specifications at the time of confirming the characteristics of electrical supply. It is the customer's responsibility to ensure their primary fusing protects their high voltage equipment and our transformer.
b. The Technical Services Department will provide dimensions and weight of its transformer upon request. A structural consultant must provide details/approval of the proposed transformer concrete base.

3.4.2.1 Protective Equipment Specifications are as Follows:

Protective Equipment Specifications for use when a H.O.B. owned transformer (1500 kVA 44kV—600/347V) is installed in a customer owned substation are as follows:

Primary L.I.S.

A 46 kV, 600 Ampere, 250 BIL, 3 pole, double break outdoor type, station structure mounted, load break switch equipped with operating mechanism and an operating handle mounted at the bottom of the structure. The switch will have provision for locking.

Fuses

Fuses to be 46kV, rated S&C SMD2C, comprising 3 SMD2C fuse mounts complete with connectors, 6 standard speed SMD2C fuse units. The 30 amp spare fuses are to be maintained by the customer at their location.

Lightning Arresters

Lightning arresters to be 39 kV MCOV (minimum, 48kV Duty) rated intermediate class. The housing shall consist of non-fragmenting polymer material. These lightning arresters shall be mounted on the transformer or failing that, on the load side of the customer owned primary fuses.

3.4.3 Customer Owned Substation (u/g) with Customer Owned 27.6 kV Transformer

Three copies each of the substation drawings and transformer name plate data must be submitted to the Technical Services Department for approval prior to the order of materials. These are in addition to the drawings submitted to the Electrical Safety Authority Inspection Department.

3.4.3.1 Protective Equipment Specification are as Follows:

Fuses

The customer and Electrical Safety Authority shall determine fuse ratings and specifications. Three spare fuses are to be maintained by the customer at their location. The customer will advise H.O.B. of the fuse specifications installed.

Lightning Arresters

Lightning arresters to be 17 kV MCOV (minimum 21kV Duty) rated intermediate class. The housing shall consist of non-fragmenting polymer material. These lightning arresters shall be mounted on the load side of the customer owned primary fuses.

Maintenance

Maintenance of the transformer and associated high voltage primary switchgear will be the responsibility of the customer. However, access to this equipment and enclosure must be made available to H.O.B.

3.4.3.2 General

The customer owned transformer must be directly connected to a 34.5 kV high voltage metal clad primary switchgear.

Service Entrance Equipment

The customer's Primary and Secondary service entrance equipment will be built to the Ontario Electrical Safety Code.

3.4.4 Electrical Requirements

Refer to 3.3.2

3.4.5 Technical Information and Considerations

The same information and considerations apply as for other General Service Customers. Refer to Subsection 3.3.3 and 3.3.4 for applicable requirements.

3.5 Green Energy Act & Customer Generation

3.5.1 Introduction

Customers of Hydro One Brampton may choose to supply some or all of their electrical energy needs through the installation of an on-site, Customer-owned generation facility. Hydro One Brampton will provide non-discriminatory access to its distribution system for a generator, and will make every effort to respond promptly to a generator's request for connection. For the purposes of this document, a generator that requests connection to the Hydro One Brampton distribution system will be referred to as an "embedded generator".

This section outlines the typical technical requirements and procedural activities required of a prospective embedded generator of 10 MW or less to connect to the Hydro One Brampton (HOB) electrical distribution system to ensure safe and reliable distribution system operations. Generation facilities of 10 MW or higher will be reviewed on a case-by-case basis, as these will require a greater degree of difficulty for connection, and significantly higher costs. This section also ensures that Hydro One Brampton and the embedded generator comply with the requirements of the Ontario Energy Board's Distribution System Code, Section 6.2, the Hydro One Brampton Conditions of Service, and the Ontario Electrical Safety Code, Section 84. The Distribution System Code is available on the OEB website at www.oeb.gov.on.ca. Further, the embedded generator may need to meet the requirements of the EIMO and Hydro One Networks Inc.

CONDITIONS OF SERVICE

An embedded generator facility that includes a generation unit rated at 10 MW or higher, or whose embedded generation facility is comprised of generation units whose net output is greater than 50 MVA, will require approval of the Independent Electricity Market Operator (IESO). Such a facility must meet the applicable IESO performance standards identified in Chapter 4 of the "Market Rules for the Ontario Electricity Market". These rules are available on the IESO website at www.IESO.com.

In 2009 the Province of Ontario directed the Ontario Energy Board to promote the use of Green Energy Generation options, and has enacted Bill 150 – The Green Energy Act, 2009. The Act is designed to encourage the installation of privately owned renewable energy generation facilities. At the present time The Ontario Power Authority (OPA) is encouraging renewable energy generation through the Feed- in- Tariff (FIT) Program and Micro-FIT Program. Hydro One Brampton is committed to supporting renewable energy generation.

The Ontario Energy Board has defined MicroFIT and FIT Generation classification for connection to a distribution system as:
MicroFIT - up to 10 kW; This classification applies to an electricity generation facility contracted under the Ontario Power Authority's microFIT program and connected to Hydro One Brampton's distribution system;
FIT - Allocation Exempt – 10 kW up to 250 kW or 500 kW based on the following definition;
An embedded generation facility which is not a micro-embedded generation facility, and which has a nameplate rated capacity of 250 kW or less when connected to Hydro One Brampton's distribution system rated at less than15 kV, and 500 kW or less in the case of a facility connected to a 15 kV circuit or greater in Hydro One Brampton's distribution system.

FIT – Non Allocation Exempt – 251 kW or 501 kW up to 10 MW – based on the definition provided below; An embedded generation facility which has a nameplate rated capacity of greater than 500 kW when connected to Hydro One Brampton's distribution system rated at greater than 15 kV, but is less than 10 MW in capacity.

Large - greater than 10 MW

Regardless of the classification, the generation proponent must contact Hydro One Brampton at greenenergyconnections@hydroonebrampton.com or 1-905-452-5533 to initiate the connection process. Alternately, a proponent can visit our website at www.hydroonebrampton.com for more information on the FIT and Micro-FIT programs, and application forms (Form A – Pre-FIT application. Form B – FIT Connection Impact Assessment request, Form C – Micro-FIT application, and Form D – Micro-Fit Connection Agreement). A Sample Connection Agreement for a Large project is included in Appendix 3.

Process for FIT Generation Connection:

1. Once the completed application Form A is forwarded to Hydro One Brampton, HOB will respond with required information (ie: feeder number & Transformer station name).
2. The proponent will make application to the OPA to obtain a contract number.
3. The Proponent will complete HOB's Form B, and submit it to HOB along with the required support documentation. The documentation required can be found on our website (in Green Energy section).
4. After the customer impact assessment is complete, the scope of work required to connect the new generation will be developed and the cost of connection to HOB's distribution system estimated.
5. Once agreement on the scope, cost and timing are established, the Proponent will be required to enter into a Cost Recovery Agreement to ensure all costs will be recovered. Once

all the necessary assessments have been completed any required modification to HOB's distribution system may begin and the generator can be installed.

Process for Micro -FIT Generation Connection:

1. The proponent will make application to the OPA to obtain a contract number.
2. The Proponent will complete HOB's Form C, and submit it to HOB along with the required support documentation. The documentation required can be found on our website (in Green Energy section).
3. Once agreement on the scope, cost and timing are established, the Proponent will be required to complete and submit a Connection Agreement (Form D) to HOB.

3.5.2 Hydro One Brampton Distribution System

Hydro One Networks Inc. (HONI) owns the high-voltage transmission system and three of the four transformer station facilities in Brampton that supply power to Hydro One Brampton at the 44.0kV and 27.6/16 kV level which, in turn, Hydro One Brampton distributes to various Customers throughout their electrical distribution system. Hydro One Brampton owns and operates the fourth transformer station in Brampton. Because of this arrangement, an embedded generator must also comply with HONI requirements for connection, as an embedded generator could have a serious impact on the HONI system under fault conditions.

It is assumed that the embedded generating facility will be designed, constructed, owned and operated by a party independent of Hydro One Brampton. All embedded generator interconnection arrangements must be acceptable to and approved by Hydro One Brampton and, for some specific relay protections, by HONI.

3.5.3 Hydro One Brampton Utility Practices Non Allocation Exempt FIT & Large Embedded Generation

The major elements of a utility connection for an embedded generation facility with a name-plated rating in excess of 500 kW include a circuit breaker (switcher) for fault current interruption, a transformer for matching the generator and utility system voltages, and a connecting line to the utility facilities. Control, metering and protective relaying facilities are also necessary for both the embedded generator and Hydro One Brampton operations. Hydro One Brampton will have operating control of the circuit breaker (switcher) at the demarcation point between the embedded generator and the Hydro One Brampton distribution system.
Protection systems are required at the generation facility, and these protection systems must be capable of automatically isolating the embedded generator from the Hydro One Brampton system. The embedded generator should provide protection systems to cover the following conditions:

internal faults (i.e., faults within the embedded generator);

- external faults (i.e., faults on the Hydro One Brampton system to which the embedded generator is connected);
- certain abnormal system conditions that could result in embedded generator islanding (e.g., conditions where the embedded generator becomes separated from the Hydro One Brampton system, along with some load); and
- additional protection features, such as Remote Trip or Voltage Supervision, may be required in some applications.

The purpose of the connection and protection requirements outlined in this guide is to:

- consider the health and safety of the general public and of Hydro One Brampton employees in the performance of their duties;
- preserve the security and reliability of the Hydro One Brampton and HONI distribution systems;
- preserve acceptable quality of the electrical supply to other Hydro One Brampton Customers; and
- ensure operating flexibility during normal or emergency conditions.

Once a prospective embedded generator decides to proceed with the installation of a generation facility, they will be responsible to reimburse the cost reasonably incurred by Hydro One Brampton in making an offer to connect a generator. Costs that could be reasonably incurred by Hydro One Brampton include costs associated with:

- preliminary review for connection requirements;
- detailed study to determine connection requirements; and
- final proposal to connect the generator.

This guideline is prepared for one embedded generator on a Hydro One Brampton distribution feeder. If there is a second embedded generator to be connected to the same feeder, then total generation versus maximum feeder load must be considered, and the protection package must be designed accordingly. If additional equipment protection is required for the embedded generator already connected to the feeder, the second embedded generator may be responsible for the modification costs.

An embedded generator will be required to comply with all of Section 5.2 of the DSC in regards to metering requirements for a generating facility. For an OEB-Licensed generator connected to the Hydro One Brampton system that sells energy and settles through the Hydro One Brampton settlement process, the embedded generator must install a four-quadrant interval meter. Hydro One Brampton will meter Customers with generation that does not require an OEB License, such as back-up capability or generation for load displacement, in the same manner as other Hydro One Brampton load Customers.

An embedded generator that wishes to become connected to the Hydro One Brampton distribution system must enter into a Connection Agreement with Hydro One Brampton. This Connection Agreement shall contain specific terms and conditions relating to the connection, operations, maintenance and communications requirements of the generator and Hydro One Brampton.

3.5.4 Non Allocation Exempt FIT and Large Embedded Generator Interconnection - Requirements and Procedure

As connection costs are to be paid by the generating facility as outlined in the OPS's FIT program, most applicants will want to determine the demarcation point and expected costs prior to committing to the project. This information can only be provided after a preliminary review is conducted by Hydro One Brampton and HONI.

The preliminary review includes a verification of the voltage and power ratings of the embedded generator installation to confirm whether they are compatible with those of the distribution system. The impact of the proposed connection on reliability, power quality, equipment and personnel safety, as well as the generator's contribution to the HOB Distribution System will also be assessed. Once the preliminary review is completed, and should the embedded generator installation be pursued

further, more detailed analysis, specifications and information will need to be provided by the embedded generator.

Listed below are the recommended steps involved in proceeding to have an embedded generator connect to the Hydro One Brampton electrical distribution system.

3.5.4.1 Initial Contact and Embedded Generator Interconnection Application

1. Contact Hydro One Brampton to identify an interest in connecting a generator to the Hydro One Brampton electrical distribution system, and obtain a copy of the Hydro One Brampton Conditions of Service, as well as a copy of our Embedded Generator Connection Review Form (Form A or Form B).

2. Provide Hydro One Brampton with a written request for connection, including the preliminary technical information (two copies) describing the proposed embedded generator facility. As a minimum, this would include the following information pertaining to the connection:

    - site location with a scaled map referencing the site relative to existing lot lines, easements, road allowances and power lines, that identifies the facility location;

    - A completed copy of the Embedded Generator Connection Review Form (Form B).

    - a brief description of the proposed plant design and operating characteristics, including expected monthly peak power and net energy production for each month of the year. If the embedded generator intends to purchase power from Hydro One Brampton to supplement its embedded generator production to meet its total plant load, a monthly estimate of this expected purchase should also be provided;

    - short and long-term site development plans and installation schedule, and the preferred demarcation point to the Hydro One Brampton system;

    - preliminary single-line diagram showing generator(s), transformer(s), grounding arrangements and main isolating devices;

    - type and rating of main isolating device, generator(s) and transformer(s), and nameplate data if available;

    - proposed preliminary relay protection schemes; and

    - proposed revenue-metering equipment (i.e., 4-quadrant interval metering).

3. Once Hydro One Brampton has received the required information to begin an analysis, Hydro One Brampton will proceed with a preliminary review of the embedded generator connection requirements.

3.5.4.2 Preliminary Review for Connection Requirements

1. The applicant will be responsible to reimburse Hydro One Brampton for all costs incurred in completing the preliminary review.

2. Hydro One Brampton will review the preliminary information and its associated documents and, if insufficient information has been provided, Hydro One Brampton will advise the embedded generator of its requirements, or will put on hold its review until all sufficient data is provided. In general, the preliminary review will be conducted as follows:

    - determine the acceptability of the location and voltage level of connection to the Hydro One Brampton system;

    - determine the embedded generator plant capacity limitations for the proposed connection;

    - confirm that the voltage and power ratings of the embedded generator installation are compatible with those of the Hydro One Brampton distribution feeder. Where a mismatch between HOB's feeder and embedded generator capacity ratings is revealed, the feeder will require upgrading. To determine this compatibility the following checks will be completed: feeder current rating; surge impedance loading; voltage regulation; reliability; power quality; and safety considerations;

    - depending on the total generation to be connected to the Hydro One Brampton feeder, and the minimum feeder load, remote trip protection facilities between the transformer station (HONI or HOB supply) and the embedded generator may be required. Hydro One Brampton and HONI will determine if this requirement is necessary.

    - the size of the generator and the embedded generator transformer configuration will determine the feeder protection modifications and requirements at the HONI or HOB transformer station. This information will also help to determine any specific connection and equipment requirements, (e.g., requirement for a remote trip protection scheme).

3. HOB will consult with HONI on any possible relay protection modifications or additions.

4. Hydro One Brampton will provide the applicant with a written response to the preliminary review for connection request within 30 calendar days of starting the review. Hydro One Brampton will also provide a preliminary cost estimate to the applicant for connecting the generator to the distribution system.

5. If the prospective embedded generator finds the preliminary review acceptable, it must confirm acceptance in writing to Hydro One Brampton, and provide Hydro One Brampton with the completed Connection Assessment Form (Form B) so that Hydro One Brampton can proceed with a detailed review. The prospective embedded generator must commit to reimburse Hydro One Brampton reasonable costs incurred in completing the detailed review(as defined in the OPA's FIT Program). For Large Generator projects, Hydro One Brampton will request on Impact Assessment from the IESO. The customer will be responsible for review costs assessed during the detailed review by HOB, HONI, and the IESO.

3.5.4.3 Detailed Study to Determine Connection Requirements

The completed Connection Assessment Form (Form B) must be submitted to Hydro One Brampton before the detailed review can proceed. Hydro One Brampton will provide the embedded generator with an offer to connect within 60 calendar days of starting the detailed review, unless other

necessary information outside of Hydro One Brampton control is required before an offer can be made.

1. Hydro One Brampton, in association with HONI, will review the detailed electrical package and determine the acceptability of the interface design as it affects the Hydro One Brampton and HONI systems, and provide written comments to the embedded generator.

2. It is recommended that the embedded generator not begin procurement of electrical equipment until Hydro One Brampton, the Electrical Safety Authority and HONI (through HOB) have provided, in writing, the acceptability of the embedded generator interface design.

3. Once the embedded generator agrees to proceed with the construction of the generating facility, the embedded generator must enter into various agreements with Hydro One Brampton.

Note: Hydro One Brampton will not provide any consulting services to an embedded generator, but only evaluate proposed generating facilities as to how it may impact on the Hydro One Brampton distribution system.

3.5.4.4 Agreements

Before a Non – Allocation Exempt FIT or Large generator installation begins operation, the prospective embedded generator applicant must enter into various agreements with Hydro One Brampton. These agreements must clearly define the obligations and privileges of each party that need to be executed between the embedded generator owner and Hydro One Brampton. The embedded generator may be required to enter into all or some of the following agreements:

- **Construction Agreement:** This agreement between the embedded generator and Hydro One Brampton will detail the connection requirements and cost recovery terms. This agreement will include a provision that the embedded generator reimburse Hydro One Brampton for any and all costs associated with expansions and/or enhancements of the Hydro One Brampton distribution system and/or the HONI transmission system which may be necessary in order to accommodate the operation of the embedded generator.

- **Construction Agreement** (HONI): In the event that the HONI transmission or distribution system requires modifications to connect the embedded generator, this agreement will describe the obligations of Hydro One Brampton and HONI to complete the connection and cost recovery terms.

- **Customer Account Contract:** In the event that the embedded generator is also a load customer of Hydro One Brampton, this contract describes the terms and applicable rates for General Service customers and standby power, and conditions under which standby power is granted and revoked.

- **Connection – Operating Agreement:** This is a technical document which identifies: common language and procedures to be used for normal and emergency situations; installed protection equipment; ownership and operating control of equipment; expected levels of maintenance and testing by both parties; contact names and telephone numbers' definitions; and all necessary schematic diagrams for proper communication between Hydro One Brampton and the embedded generator.

This agreement will include provisions for safe and effective operation of the embedded generator's equipment connected to the Hydro One Brampton system.

An embedded generator shall enter into a Connection – Operating Agreement with Hydro One Brampton. Until such time as the embedded generator executes such a Connection Agreement with Hydro One Brampton, the embedded generator shall be deemed to have accepted and agreed to be bound by the Conditions of Service and any operational schedules delivered to it from time to time by Hydro One Brampton.

3.5.4.5 Commissioning

Prior to the embedded generator facility being connected to the Hydro One Brampton electrical distribution system, Hydro One Brampton staff, or their delegate, will review and witness the embedded generator's commissioning tests to the extent that is necessary to ensure acceptable security to the Hydro One Brampton and HONI distribution systems.

3.5.5 General Responsibilities

3.5.5.1 Embedded Generator Responsibilities

- Design the generating facility electrical and protection package to meet the Hydro One Brampton, HONI and DSC connection requirements and Electrical Safety Authority inspection requirements. For Electrical Inspection requirements, refer to the Electrical Safety Authority Code, Section 84, and Electrical Inspection Department Bulletin #84-1-1, or the most recent version.

- Ensure that the generating facility produces no objectionable harmonics or voltage flicker on the Hydro One Brampton system. If objectionable harmonics or voltage flicker do occur, the embedded generator will be responsible to modify the generating facility to correct the problem.

- The Hydro One Brampton system is operated within CSA Standard C235, entitled "Preferred Voltage Levels for AC Systems, 0 - 50,000 Volts", which recommends voltage variation limits on customer circuits. Any embedded generator interconnected with the Hydro One Brampton supply system must not cause voltages, as measured at Customer Service Entrances, to deviate more than the amounts indicated in the CSA Standard.

- The output of an embedded generator, when connected in parallel with the Hydro One Brampton supply system, must not adversely affect the voltage, frequency or wave shape of the Hydro One Brampton electrical distribution system.

- If a remote trip protection scheme and/or a voltage supervision scheme is required by HONI (or HOB), HONI (and / or HOB) may be required to modify equipment at HONI (and / or HOB) owned transformer stations and, therefore, the embedded generator will be responsible to cover reasonable costs incurred.

- If a remote trip protection scheme is required, the embedded generator and HOB will comply with direction provided in the OPA's FIT Program. A Large Generator must arrange for, maintain, and pay the leased circuit costs on data communications circuits.

- Hydro One Brampton will require the installation of a "Remote Terminal Unit" (RTU), which will provide data input to the Hydro One Brampton Supervisory Control Assisted

Data Acquisition (SCADA) system. Hydro One Brampton will require the embedded generator to allow for space in their generation facility for the RTU, and provide an AC supply circuit for the unit.

The generator is required to detect and isolate from the Hydro One Brampton distribution system when faults/disturbances occur on the distribution system, to protect the Hydro One Brampton system and other Customers on the distribution system. The embedded generator should consider these typical protection requirements when preparing the proposed protection package for Hydro One Brampton review; however, **this guide is not intended to take the place of a detailed final design**. A detailed final design should be completed by a competent person or organization, and should include consideration of proposed power and protective equipment, and local conditions, including existing and future equipment loading and operating conditions.

The connection and operation of a Customer's embedded generator must not endanger workers, jeopardize public safety, or adversely affect or compromise equipment owned or operated by Hydro One Brampton. Further, the security, reliability, efficiency and the quality of electrical supply to other Customers connected to Hydro One Brampton's distribution system must not be affected. If damage or increased operating costs result from a connection with a generator, Hydro One Brampton shall be reimbursed for these costs by the generator.

The embedded generator shall disconnect from Hydro One Brampton's distribution system when:

a) a remote trip is included in the interface protection; and

b) the generator effects changes in the normal feeder arrangements other than those agreed upon in the operating agreement between Hydro One Brampton and the Generator.

c) or when the telecommunication link between HONI (or HOB) transformer station control and the generator is not operational.

The customer must provide an incoming circuit breaker (switcher) of required rating including sufficient protection to be the first protective device. This must coordinate with Hydro One Brampton's protection.

When SCADA monitoring is required by HOB, the customer will arrange for a Type 4 –4 wire data line data communications circuit for the SCADA unit, and pay the monthly charges for this leased circuit. HOB will monitor (as a minimum) the following:

- Status of the incoming circuit breaker (switcher)
- Status of the generator circuit breaker
- Status of any other switches or devices that may affect HOB's ability to operate
- Metering total energy delivered by HOB (kW, kVA, P.F.)
- Metering total energy delivered by customer (kW, kVA, P.F.)

- The Large embedded generator connected to the Hydro One Brampton system must install its own meter in accordance with Hydro One Brampton metering requirements, and provide Hydro One Brampton with the technical details of the metering installation.

- The embedded generator metering must be installed at the demarcation point.

- An embedded generator's substation must include space for a metering compartment for the installation of instrument transformers and other devices for revenue metering.

- It will be the responsibility of the embedded generator to forward a detailed electrical package to the Electrical Safety Authority for their review of the proposed generation facility.

- It will be the responsibility of the embedded generator to obtain all appropriate permits for the construction and operation of the generation facility (e.g., Electrical Safety Authority approvals, generator Licenses, municipal construction permits, etc.).

- The embedded generator must advise Hydro One Brampton of the timetable for commissioning tests of the generator(s) in order that Hydro One Brampton or its delegate may review and witness the tests.

3.5.5.2 Hydro One Brampton Responsibilities

- Hydro One Brampton must identify and explain the Hydro One Brampton's cost recovery policy to the prospective embedded generator.

- Hydro One Brampton must review the embedded generator's electrical design package and determine if it meets the minimum requirements to permit connection to the Hydro One Brampton system.

- Hydro One Brampton must design and modify, to present HOB standards, Hydro One Brampton's facilities to incorporate the embedded generator.

- Hydro One Brampton must discuss and review with HONI any relay protection modifications that may be required on Hydro One Brampton's supply feeder(s).

- Hydro One Brampton Control Room will be responsible to coordinate the parallel connection between the embedded generator and the Hydro One Brampton electrical distribution system.

- Hydro One Brampton will initiate the preparation of agreements between the embedded generator and Hydro One Brampton.

- As required by the Market Rules for the Ontario Electricity Market, Hydro One Brampton will notify the IESO of the generation connection.

3.5.6 Important Technical Requirements for Connection Of Non Allocation Exempt FIT and Large Generation Projects

The embedded generator's electrical and protection package shall provide the following:

- a three-phase, gang-operated, visible load break switch, with provision for padlocking at the demarcation point to the Hydro One Brampton system, and which must be accessible to Hydro One Brampton staff. Hydro One Brampton will have operating control of this isolating point;

- a fault interrupting/synchronizing device with suitable rating for each generator;

- automatic tripping of the generator(s) for all faults on the embedded generator side of the connection point;

- automatic tripping of the generator(s) for phase and ground faults on the Hydro One Brampton electrical distribution system;

- an appropriate transformer connection between the embedded generator and the Hydro One Brampton electrical distribution system:

- The preferred transformer connections for generator units connected through a customer owned transformer above 1.5 MVA is High Voltage delta.

- suitable transformer protection;

- install protective relays to prevent the embedded generator from delivering power to the Hydro One Brampton feeder line when that line has become isolated or islanded from the rest of the Hydro One Brampton system. (This will usually include over/under frequency relays and over/under voltage relays);

- for embedded generator load displacement projects with no power purchase by Hydro One Brampton, “Directional Protection” will be required;

- normal reclosure time of the Hydro One Brampton supply station feeder breaker could be from 0.1 to 0.5 seconds. There is no intentional delay incorporated into the feeder breakers. This Short time delay for reclosure will increase the risk of generator damage, and may emphasize the need for a remote trip protection and voltage supervision scheme, since the embedded generator islanding protection may be too slow;

- remote trip may be required between the embedded generator and the feeder circuit breaker. This feature will provide for isolation of the embedded generator when certain faults or system disturbances are detected at the feeder circuit breaker (switcher) location, or when the telecommunication link between HONI (or HOB) transformer station control and the generator is not operational;

- synchronizing facilities for each synchronous generator;

- a ground potential rise study to satisfy Hydro One Brampton and the Electrical Safety Authority for step/touch potential and to satisfy the Communications Company for incoming voice-data circuit/personnel protection;

- the communication requirements for the Hydro One Brampton revenue metering, and SCADA equipment and remote trip circuit must be confirmed with Hydro One Brampton before installation; and

- for induction generators, ensure that the power factor is greater than 0.9. This may require the installation of automatically disconnecting capacitors. Embedded generators with synchronous generators will be required to operate as near to unity power factor as possible.

Note: Hydro One Brampton continually strives to provide the most up-to-date information to our Customers. Therefore, we reserve the right to amend this guideline and its requirements at any time upon the sole discretion of Hydro One Brampton.

3.5.7 Maintenance Schedules

The Embedded Generator must implement and adhere to a regular scheduled maintenance plan to assure both Hydro One Brampton and the Embedded Generator that the connection devices and 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 Brampton signed by professional licensed engineer.

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

3.5.8 Reporting Requirements

All Embedded Generators over 100 kVA shall report any significant event to Hydro One Brampton within 5 business days. The Connection – Operating 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 Brampton. The log shall contain, at a minimum, the following information:

(a) Date and time of event/operation of protections;
(b) Which relay or protection feature of the relay initiating the trip;
(c) Conditions and unit output at the time of the trip that may be related to the operation (e.g. Lightning, outage of feeder etc.)
(d)

3.5.9 Disconnection of Embedded Generation Facility

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

(a) there is a material deterioration of the Distribution System reliability resulting from the performance of the Embedded Generator's equipment;
(b) 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;
(c) the Embedded Generator has failed to re-verify the protection and control systems every 48 months or as specified in the Connection – Operating Agreement or failed to submit the report within 30 days; or
(d) the Embedded Generator's report of the re-verification of the protection and control systems shows unacceptable deficiencies.

3.6 Embedded Market Participant

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

A Connection Agreement will be required between an Embedded Market Participant and Hydro One Brampton, which will also include an operating schedule.

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 Brampton to the Embedded Market Participant on the meter seal expiry date.

3.7 Embedded Distributor

All embedded distributors within the service jurisdiction of Hydro One Brampton are required to inform Hydro One Brampton on their status in writing 30 days prior to the supply of energy from Hydro one Brampton. The terms and conditions applicable to the connection of an embedded distributor shall be included in the Connection Agreement with Hydro One Brampton.

3.8 Unmetered Connections

3.8.1 Street Lighting

All services supplied to street lighting equipment owned by or operated for a municipality or the Province of Ontario shall be classified as Street Lighting Service. For rate structure details refer to H.O.B.'s Schedule of Rates.

Street Lighting plant, facilities, or equipment owned by the Customer are subject to the Electrical Safety Authority (ESA) requirements.

Charges related to the Connections of Street Lighting will be recovered by a Variable Connection Fee (if applicable) consistent with the Ownership Demarcation Point defined in Table 2 for various Street Lighting Distribution systems.

3.8.2 Traffic signals and Pedestrian X-Walk Signals/Beacons

Traffic Signals and Pedestrian X-Walk signals/beacons shall have a rate structure equal to General Service (< 50 kW) Class Customers.
Each Traffic Signal and Pedestrian X-Walk/Beacon location is reviewed individually and is connected to H.O.B.'s low voltage distribution system. Electrical Safety Authority (ESA) "Authorization to Connect" is required prior to connecting the service.

The Ownership Demarcation point is as follows:

- For Overhead - the top of the Customer's service standpipe/mast.
- For Underground – the line side of the fuse in the first handwell, tap box, junction box (as applicable) beyond H.O.B.'s plant.

The Customer is responsible for maintaining and repairing its equipment and/or facilities.

3.8.3 Bus Shelters, Telephone booths, and Miscellaneous Unmetered Loads (< 5kW)

The above service types shall have a rate structure as General Service (< 50 kW) Class Customers and have the same terms and conditions as outlined in Section 3.8.2 above titled "Traffic Signals and Pedestrian X-walk signals/beacons".

CONDITIONS OF SERVICE

GLOSSARY OF TERMS

Sources for definitions:

A Electricity Act, 1998, Schedule A, Section 2, Definitions
MR Market Rules for the Ontario Electricity Market, Chapter 11, Definitions
TDL Transitional Distribution License, Part I, Definitions
TTL Transitional Transmission License, Part I, Definitions
DSC Distribution System Code Definitions
RSC Retail Settlement Code Definitions

Accounting Procedures Handbook means the handbook approved by the Board and in effect at the relevant time, which specifies the accounting records, accounting principles and accounting separation standards to be followed by the distributor; (TDL, DSC)

Affiliate Relationships Code means the code, approved by the Board 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; (TDL, DSC)

ancillary services means services necessary to maintain the reliability of the IMO controlled grid; including frequency control, voltage control, reactive power and operating reserve services; (MR, TDL, DSC)

apartment building means a structure containing four or more dwelling units having access from an interior corridor system or common entrance;

apparent power means the total power measured in kiloVolt Amperes (kVA);

application for service means the agreement or contract with H.O.B. under which electrical service is requested;

bandwidth means a distributor's defined tolerance used to flag data for further scrutiny at the stage in the VEE (validating, estimating and editing) process where current reading is compared to a reading from an equivalent historical billing period. For example, a 30 percent bandwidth means a current reading that is either 30 percent lower or 30 percent higher than the measurement from an equivalent historical billing period will be identified by the VEE process as requiring further scrutiny and verification; (DSC)

billing demand means the metered demand or connected load after necessary adjustments have been made for power factor, intermittent rating, transformer losses and minimum billing. A measurement in kiloWatts (kW) of the maximum rate at which electricity is consumed during a billing period;

Board or OEB means the Ontario Energy Board; (A, TDL, DSC)

building means a building, portion of a building, structure or facility; "complex metering installation" means a metering installation where instrument transformers, test blocks, recorders, pulse duplicators and multiple meters may be employed; (DSC)

Conditions of Service means the document developed by a distributor in accordance with subsection 2.4 of the Code that describes the operating practices and connection rules for the distributor; (DSC)

connection means the process of installing and activating connection assets in order to distribute electricity to a Customer; (DSC)

Connection Agreement means an agreement entered into between a distributor and a person connected to its distribution system that delineates the conditions of the connection and delivery of electricity to that connection; (DSC)

connection assets means that portion of the distribution system used to connect a Customer to the existing main distribution system, and consists of the assets between the point of connection on a distributor' s main distribution system and the ownership demarcation point with that Customer; (DSC)

Consumer means a person who uses, for the person' s own consumption, electricity that the person did not generate; (A, MR, TDL, DSC)

Customer means a person that has contracted for or intends to contract for connection of a building. This includes developers of residential or commercial subdivisions; (DSC)

demand means the average value of power measured over a specified interval of time, usually expressed in kilowatts (kW). Typical demand intervals are 15, 30 and 60 minutes; (DSC)

demand meter means a meter that measures a Customer's peak usage during a specified period of time; (DSC)

developer means a person or persons owning property for which new or modified electrical services are to be installed;

disconnection means a deactivation of connection assets that results in cessation of distribution services to a Customer; (DSC)

distribute, with respect to electricity, means to convey electricity at voltages of 50 kilovolts or less; (A, MR, TDL, DSC)

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; (DSC)

distribution loss factor means a factor or factors by which metered loads must be multiplied such that when summed equal the total measured load at the supply point(s) to the distribution system; (RSC)

distribution services means services related to the distribution of electricity and the services the Board has required distributors to carry out, for which a charge or rate has been approved by the Board under section 78 of the Ontario Energy Board Act; (RSC, DSC)

distribution system means a system for distributing electricity, and includes any structures, equipment or other things used for that purpose. A distribution system is comprised 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; (A, MR, TDL, DSC)

Distribution System Code means the code, approved by the Board, and in effect at the relevant time, which, among other things, establishes the obligations of the distributor with respect to the services and terms of service to be offered to Customers and retailers and provides minimum technical operating standards of distribution systems; (TDL, DSC)

distributor means a person who owns or operates a distribution system; (A, MR, TDL, DSC)

duct bank means two or more ducts that may be encased in concrete used for the purpose of containing and protecting underground electric cables; "Electricity Act" means the Electricity Act, 1998, S.O. 1998, c.15, Schedule A; (MR, TDL, DSC)

Electrical Safety Authority or **"ESA"** means the person or body designated under the Electricity Act regulations as the Electrical Safety Authority; (A)

electric service means the Customer's conductors and equipment for energy from H.O.B.;

embedded distributor means a distributor who is not a wholesale market participant and that is provided electricity by a host distributor; (RSC, DSC)

embedded generator or "embedded generation facility" means a generator whose generation facility is not directly connected to the IMO-controlled grid but instead is connected to a distribution system; (DSC)

embedded retail generator means an embedded generator that settles through a distributor's retail settlements system and is not a wholesale market participant; (DSC)

embedded wholesale Customer means a Customer who is a wholesale market participant whose facility is not directly connected to the IMO-controlled grid but is connected to a distribution system; (DSC)

embedded wholesale generator means an embedded generator that is a wholesale market participant; (DSC)

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; (DSC)

emergency backup means a generation facility that has a transfer switch that isolates it from a distribution system; (DSC)

energy means the product of power multiplied by time, usually expressed in kilowatt-hours (kWH);

Energy Competition Act means the Energy Competition Act, 1998, S.O. 1998, c. 15; (MR)

energy diversion means the electricity consumption unaccounted for but that can be quantified through various measures upon review of the meter mechanism, such as unbilled meter readings, tap off load(s) before revenue meter or meter tampering;

enhancement means a modification to an existing distribution system that is made for purposes of improving system operating characteristics such as reliability or power quality or for relieving system capacity constraints resulting, for example, from general load growth; (DSC)

expansion means an addition to a distribution system in response to a request for additional Customer connections that otherwise could not be made; for example, by increasing the length of the distribution system; (DSC)

extreme operating conditions means extreme operating conditions as defined in the Canadian Standards Association ("CSA") Standard CAN3-C235-87 (latest edition);

four-quadrant interval meter means an interval meter that records power injected into a distribution system and the amount of electricity consumed by the Customer; (DSC)

general service means any service supplied to premises other than those designated as Residential and less than 50kW, Large User, or Municipal Street Lighting. This includes multi-unit residential establishments such as apartments buildings supplied through one service (bulk-metered);

generate, 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; (A, TDL, DSC)

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; (A, MR, TDL, DSC)

generator means a person who owns or operates a generation facility; (A, MR, TDL, DSC)

geographic distributor, with respect to a load transfer, means the distributor that is licensed to service a load transfer Customer and is responsible for connecting and billing the load transfer Customer; (DSC)

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; (MR, DSC)

host distributor means the registered wholesale market participant distributor who provides electricity to an embedded distributor; (RSC, DSC)

house service means that portion of the electrical service in a multiple occupancy facility which is common to all occupants, (i.e. parking lot lighting, sign service, corridor and walkway lighting, et cetera);

IEC means International Electrotechnical Commission;

IEEE means Institute of Electrical and Electronics Engineers;

IESO means the Independent Electricity Market Operator established under the Electricity Act; (A, TDL, DSC)

IMO-controlled grid means the transmission systems with respect to which, pursuant to agreements, the IMO has authority to direct operation; (A, TDL, DSC) “interval meter” means a meter that measures and records electricity use on an hourly or sub-hourly basis; (RSC, DSC)

large user means a Customer with a monthly peak demand of 5000 kW or greater, regardless the demand occurs in the peak or off-peak periods, averaged over 12 months;

load factor means the ratio of average demand for a designated time period (usually one month) to the maximum demand occurring in that period;

load transfer means a network supply point of one distributor that is supplied through the distribution network of another distributor and where this supply point is not considered a wholesale supply or bulk sale point; (DSC)

load transfer Customer means a Customer that is provided distribution services through a load transfer; (DSC)

main service refers to H.O.B. ’s incoming cables, bus duct, disconnecting and protective equipment for a Building or from which all other metered sub-services are taken;

Market Rules means the rules made under section 32 of the Electricity Act; (MR, TDL, DSC)

Measurement Canada means the Special Operating Agency established in August 1996 by the Electricity and Gas Inspection Act, 1980-81-82-83, c. 87., and Electricity and Gas Inspection Regulations (SOR/86-131; (DSC)

meter service provider means any entity that performs metering services on behalf of a distributor; (DSC)

meter installation means the meter and, if so equipped, the instrument transformers, wiring, test links, fuses, lamps, loss of potential alarms, meters, 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; (RSC, DSC)

meter socket means the mounting device for accommodating a socket type revenue meter;

metering services means installation, testing, reading and maintenance of meters; (DSC)

MIST meter means an interval meter from which data is obtained and validated within a designated settlement timeframe. MIST refers to “Metering Inside the Settlement Timeframe;” (RSC, DSC)

MOST meter means an interval meter from which data is only available outside of the designated settlement timeframe. MOST refers to “Metering Outside the Settlement Timeframe;” (RSC, DSC)

multiple dwelling means a Building which contains more than one self-contained dwelling unit;

municipal street lighting means all services supplied to street lighting equipment owned and operated for a municipal corporation;

non-competitive electricity costs means costs for services from the IMO that are not deemed by the Board to be competitive electricity services plus costs for distribution services, other than Standard Supply Service (SSS); (RSC)

normal operating conditions means the operating conditions comply with the standards set by the Canadian Standards Association ("CSA") Standard CAN3-C235- 87 (latest edition);

Ontario Energy Board Act means the Ontario Energy Board Act, 1998, S.O. 1998, c.15, Schedule B; (MR, DSC)

operational demarcation point means the physical location at which a distributor’s responsibility for operational control of distribution equipment including connection assets ends at the Customer; (DSC)

ownership demarcation point means the physical location at which a distributor’s ownership of distribution equipment including connection assets ends at the Customer; (DSC)

performance standards means the performance targets for the distribution and connection activities of the distributor as established by the Board pursuant to the Ontario Energy Board Act and in the Rate Handbook; (DSC)

person includes an individual, a corporation, sole proprietorship, partnership, unincorporated organization, unincorporated association, body corporate, and any other legal entity;

physical distributor, with respect to a load transfer, means the distributor that provides physical delivery of electricity to a load transfer Customer, but is not responsible for connecting and billing the load transfer Customer directly; (DSC)

plaza means any Building containing two or more commercial business tenants;

point of supply, with respect to an embedded generator, means the connection point where electricity produced by the generator is injected into a distribution system; (DSC)

power factor means the ratio between Real Power and Apparent Power (i.e. kW/kVA);

primary service means any service which is supplied with a nominal voltage greater than 750 volts;

private property means the property beyond the existing public street allowances; “rate” means any rate, charge or other consideration, and includes a penalty for late payment; (TDL, DSC)

Rate Handbook means the document approved by the Board that outlines the regulatory mechanisms that will be applied in the setting of distributor rates; (RSC, DSC)

reactive power means the power component which does not produce work but is necessary to allow some equipment to operate, and is measured in kiloVolt Amperes Reactive (kVAR);

real power means the power component required to do real work, which is measured in kiloWatts (kW);

Regulations means the regulations made under the *Ontario Energy Board Act* or the *Electricity Act*; (TDL, DSC)

residential service means a service which is less than 50kW supplied to single-family dwelling units that is for domestic or household purposes, including seasonal occupancy. At H.O.B.'s discretion, residential rates may be applied to apartment buildings with 6 or less units by simple application of the residential rate or by blocking the residential rate by the number of units;

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; (A, MR, TDL, DSC)

Retail Settlement Code means the code approved by the Board 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 Customers and provides for tracking and facilitating Customers transfers among competitive retailers; (TDL, DSC)

retailer means a person who retails electricity; (A, MR, TDL, DSC)

secondary service means any service which is supplied with a nominal voltage less than 750 Volts;

service agreement means the agreement that sets out the relationship between a licensed retailer and a distributor, in accordance with the provisions of Chapter 12 of the Retail Settlement Code; (RSC)

service area with respect to a distributor, means the area in which the distributor is authorized by its license to distribute electricity; (A, TDL, DSC)

service date means the date that the Customer and H.O.B. mutually agree upon to begin the supply of electricity by H.O.B. ;

Standard Supply Service Code means the code approved by the Board 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; (TDL)

sub-service means a separately metered service that is taken from the main Building service;

supply voltage means the voltage measured at the Customer's main service entrance equipment (typically below 750 volts). Operating conditions are defined in the Canadian Standards Association ("CSA") Standard CAN3-C235 (latest edition);

temporary service means an electrical service granted temporarily for such purposes as construction, real estate sales, trailers, et cetera;

terminal pole refers to the H.O.B. 's distribution pole on which the service supply cables are terminated;

total losses means the sum of distribution losses and unaccounted for energy; (DSC)

transformer vault means an isolated enclosure built to applicable codes to house transformers and associated electrical equipment;

transmission system means a system for transmitting electricity, and includes any structures, equipment or other things used for that purpose; (A, MR, TDL, DSC)

Transmission System Code means the code, approved by the Board, that is in force at the relevant time, which regulates the financial and information obligations of the Transmitter with respect to its relationship with Customers, as well as establishing the standards for connection of Customers to, and expansion of a transmission system; (DSC)

transmit, with respect to electricity, means to convey electricity at voltages of more than 50 kilovolts; (A, TDL, DSC)

transmitter means a person who owns or operates a transmission system; (A, MR, TDL, DSC)

unaccounted for energy means all energy losses that can not be attributed to distribution losses. These include measurement error, errors in estimates of distribution losses and unmetered loads, energy theft and non-attributable billing errors; (DSC)

unmetered loads means electricity consumption that is not metered and is billed based on estimated usage; (DSC)

validating, estimating and editing (VEE) means the process used to validate, estimate and edit raw metering data to produce final metering data or to replicate missing metering data for settlement purposes; (MR, DSC)

wholesale buyer means a person that purchases electricity or ancillary services in the IMO-administered markets or directly from a generator; (TDL, DSC)

wholesale market participant, means a person that sells or purchases electricity or ancillary services through the IMO- administered markets; (RSC, DSC)

wholesale settlement cost means costs for both competitive and non-competitive electricity services billed to a distributor by the IMO or a host distributor, or provided by an embedded retail generator or by a neighboring distributor; (RSC, DSC)

wholesale supplier means a person who sells electricity or ancillary services through the IMO-administered markets or directly to another person, other than a Customer; (TDL, DSC)

Table 1.1 Demarcation Points & Charges for Connection Assets and Disconnection for Class 1 Residential - Single Service & Rural Service

Rate / Customer Class	Operational & Ownership Demarcation Point	Standard Allowance (Basic) (Connection)	Basic Connection Fee (for Standard Allowance)	Capital Contribution Fee	Additional Services Charged to customer	Service Disconnection Fee (Initiated by customer Request)
Residential Overhead	Top of Customer's Service Mast	Up to 30 m OH service lines from Distributor's "feed" pole or lines. Include connections at feed poles or lines, at customer's service mast.	Recovered through Distributor's rates	Customer charged Actual costs for connection assets beyond standard allowance.	Customers requesting an UG service in OH areas will be required to pay 100% connection costs less the Standard Allowance for an OH service.	Recovered through Distributor's Tariffs or rates.
Rural Overhead Primary Connection	Primary Connection point at Distributors pole line.	See Residential Overhead	Customer charged actual costs for connection of assets.	Customer charged Actual costs for connection assets beyond standard allowance.	See Residential Overhead	Recovered through Distributor's Tariffs or rates.
Rural Overhead Secondary Connection	Top of Customer's Service Mast	See Residential Overhead	Recovered through Distributor's rates	Customer charged Actual costs for connection assets beyond standard allowance.	See Residential Overhead	Recovered through Distributor's Tariffs or rates.
Underground	Line side of Customer's Meter base	Equivalent of above is credited to underground service.	Equivalent of above is credited to underground service.	Customer charged Actual costs for connection assets, Including street crossing. If customer's load requires transformation facilities on customer's property, refer to "General Service" Rate Class category for Underground service with Transformation.	N/A	Recovered through Distributor's Tariffs or rates.

Table 1.2 Demarcation Points & Charges for Connection Assets and Disconnection for Class 2 Customers General Service 0 – 50kW

Rate / Customer Class	Operational & Ownership Demarcation Point	Capital Contribution Fee	Additional Services Charged to customer	Service Disconnection Fee (Initiated by customer request)
Overhead Single Service	Top of Customer's Service Mast	Customer charged Actual costs for connection assets.	Additional or redesign due to changes in customer initial proposal: or electrical inspections more than expected.	Recovered through Distributor's Tariffs or rates.
Underground Single Service	Connection point at property line.	Customer charged Actual costs for connection assets.	Additional or re-design due to changes in customer initial proposal; or electrical inspections more than expected and all civil inspections.	Recovered through Distributor's Tariffs or rates.

Table 1.3 Demarcation Points & Charges for Connection Assets and Disconnection for Class 3 Customers Not requiring Transformation Facility on Private Property. Class 3A – General Service 50kW – 1499kW

Rate / Customer Class	Operational & Ownership Demarcation Point	Capital Contribution Fee	Additional Services Charged to customer	Service Disconnection Fee (Initiated by customer Request)
Overhead Single Building (Not requiring Transformation Facilities on private property)	Top of Customer's Service Mast	Customer charged Actual costs for connection assets.	Additional or redesign due to changes in customer initial proposal: or electrical inspections more than expected.	Customer charged actual costs associated with disconnection and / or removal of connection assets up to the demarcation point.
Underground Single Building (Not requiring Transformation Facilities on private property)	Line side of Customer's Service Conductor. Connection point at property line	Customer charged Actual costs for connection assets, including cable, chamber(s) &UG conduits as required.	Additional or re-design due to changes in customer initial proposal; or electrical inspections more than expected and all civil inspections.	Customer charged actual costs associated with disconnection and/or removal of connection assets up to the demarcation point

Table 1.4 Demarcation Points & Charges for Connection Assets and Disconnection for Class 3 Customers Requiring Transformation Facilities on Private Property. Class 3B – General Service 50kW – 1499kW

Rate/ Customer Class	Operational & Ownership Demarcation Point	Capital Contribution Fee	Additional services Charge to Customer.	Service Disconnection Fee (Initiated by Customer Request)
Overhead Single Building (Requiring Transformation Facilities on private property) (existing Building only)	Load side of distributor's transformer (secondary u/g) or top of customer's service mast (secondary OH)	Customer charged Actual costs for connection assets including, associated switching equipment, transformer poles(s), cable chamber(s), u/g conduits as applicable.	Additional or redesign due to changes in customer initial proposal; or electrical inspections more than expected allowance and all civil inspections and related feeder switching/scheduling.	Customer charged actual costs associated with the disconnection and/or removal of connection assets including cables, transformers and related vault equipment up to demarcation point, and related feeder switching and scheduling.
Underground Building (Requiring Transformation Facilities on private property)	Load side of distributor's transformer	Customer charged actual costs for connection assets including, TX connections, associated switching equipment, u/g conduits and cable and road crossings (as applicable).	Additional or redesign due to changes in customer initial proposal: or electrical inspections more than expected and all civil inspections and related feeder switching/scheduling	Customer charged actual costs associated with the disconnection and/or removal of connection assets including cables, transformers and related vault equipment up to demarcation point, and related feeder switching and scheduling.

Table 1.5 Demarcation Points & Charges for Connection Assets and Disconnection for Class 4 Customers. Class 4 General Service 1500kW and larger.

Rate/Customer Class	Operational & Ownership Demarcation Point	Capital Contribution Fee	Additional Services charge to customer (as part of Var. Connection)	Service Disconnection Fee (Initiated by customer Request)
Underground or overhead (Requiring Customer Transformation Facilities on private property)	27.6 kV-at line side of customer's primary H.V. switch. 44 kV Overhead - at the point where customer's primary H.V. aerial cable connects to distributor's circuit. Or 44 kV Underground - at line side of the customers Primary H.V. switch.	Customer charged actual costs for connection assets including connections, fusing, fault indicators associated switching equipment and Scada.	Additional or redesign due to changes in customer initial proposal, electrical inspection more than standard allowance and all civil inspections and related feeder switching/scheduling.	Customer charged actual costs associated with the disconnection and/or removal of connection assets including cables, and related equipment up to the demarcation point, and related feeder switching and scheduling.

Table 2 Street Lighting Service – Points of Demarcation & Connection Charges

Type of Street Lighting, Distribution Systems	Operational & Ownership Demarcation Point	Capital Contribution Fee
Municipal – owned Lights attached to Distributor's pole and connected to Distributor's 120/240V "house lighting" secondary bus/lines via photocell	a) line side of fuse. b) If no fuse, point of connection on Distributor's feed pole/lines.	Customer charged actual costs for connection assets.
Municipal – owned Street Lighting "Controlled" circuits, poles, and equipment/lights (i.e. Municipal – owned Street Light Distribution plant) totally separate from Distributor's system.	First point of connection past Distributor's system. Overhead: First Point of connection at Municipal owned plant. Underground: Line side of the first protective device (e.g. fuse)	Customer charged actual costs for connection assets.

Table 3 Customer Owned Transformers (Article 3.4)

Transformer Voltage		Recommended Primary Tap Voltage					
Primary	Secondary	+5%	+2½%	0	-2 ½%	-5 %	-7 ½%
44000 Delta	less than 750	46200	45100	44000	42900	41800	
27600 grd. Delta	Less than 750						
		28980	28290	27600	26910	26220	
27600	2400/4160 Y		28290	27600	26910	26220	25530

Table 4 Meter Sockets (Article 2.3.7.1.2)

SELF-CONTAINED SOCKET METERING				
Voltage	Phase	Wire	Maximum Service Switch Size Rating Amperes	Number of Jaws Socket
120/240	1	3	200	4
208/120	3	3	200	5
208/120	3	4	200	7
600/347	3	4	200	7
600 *	3	3	200	5

* Used only where grounded supply is not available

Notes:
1. A list of approved meter sockets is available upon request.
2. Meter sockets shall be mounted so that the midpoint of the meter is set at 1650 mm above finished floor.
3. Where the supply is grounded, 600 V, metering shall be 4 wire. Where the Customer does not require a neutral, a full size neutral conductor sized in accordance with Table 17 of the Ontario Electrical Safety Code must be provided to all meter cabinets or sockets. The neutral conductor is to be terminated in the socket (or cabinet) on an insulated block at the bottom center of the cabinet, approximately 50mm the front edge in accordance with the Ontario Electrical Safety Code.

Table 5 Meter Cabinets (Article 2.3.7.1.2)

The owner is required to supply and install a meter cabinet to contain H.O.B.'s metering equipment for the main switch ratings and supply voltages as follows:

Meter Cabinet Sizes for Transformer Rated Metering				
Voltage	**Phase**	**Wire**	**Amperage**	**Cabinet Requirement**
120/240	1	3	201 to 400	Meter base with built in current tx ***
120/240	1	3	401 to 800	48"x48"x12"
120/240	1	3	Over 800	48"x48"x12"+30"x30"x12"
120/208	3	3	201 to 400	48"x48"x12"
120/208	3	3	401 to 800	48"x48"x12"
120/208	3	3	Over 800	48"x48"x12"+30"x30"x12"
120/208	3	4	201 to 400	48"x48"x12"
120/208	3	4	401 to 800	48"x48"x12"
347/600	3	4	201 to 400	48"x48"x12"
347/600	3	4	401 to 800	48"x48"x12"
347/600	3	4	Over 800	48"x48"x12"+30"x30"x12"
600 *	3	3	201 to 400	48"x48"x12"
600 *	3	3	401 to 800	48"x48"x12"
600 *	3	3	Over 800	48"x48"x12"+30"x30"x12"

Notes:

1. Any service that is over 600 amps and has more than 2 conductors per phase requires a second meter cabinet 30"x30"x12' connected to the first by a 1 1/4" conduit.

1. "*" Use only were grounded supply is not available; consult with Technical Services Department.

2. H.O.B. will supply only the following lugs for connections to current transformers.

   250 mcm single conductor
   250 mcm double conductor
   350 mcm double conductor
   500 mcm single conductor

4. For all other wiring arrangements the customer is required to supply the lugs. Contractors will supply llsco or Burndy allen screw mechanical lugs, with a 3/8" hole for services 400 amp and under and with a 0.5 hole for over 400 amp.

5. "***" If residential application, use 400amp socket identified in TS-08.

CONDITIONS OF SERVICE

A meter cabinet shall conform to the following specifications:

- be fabricated of minimum #16 gauge steel;
- be equipped with steel back plate of a minimum #12 gauge and be more than 3 inches shorter than the height of the cabinet;
- the back plate shall be removable and so mounted as to allow a clearance of ½ inch behind the plate;
- have side hinged doors opening at the centre;
- be equipped with three point latching and provision for padlocking; and
- where the customer desires to view meter readings, the cabinet doors may be equipped with wired glass viewing windows positioned in the upper section of the doors.

  All meter cabinets shall be installed 1.8 meters to the top from the finished floor.

Table 6 Meter Centres (Article 2.3.7.1.2)

Meter centers rated 750v or less are to meet the following specifications:

1) Side-hinged doors or panels shall be installed over all sections of the switchboard where H.O.B. may be required to work, such as un-metered sections and those sections containing breakers, switches and meter mounting devices. Hinged doors or panels shall have provision for sealing and padlocking in the closed position. Where bolts are used, they shall be of the captive knurled type.

2) Breakers or switch handles shall have provision for positive sealing and padlocking in the “off’ position.

3) Meter mounting devices shall be wired so as to be on the “load” side of the breakers or switches.

4) Each combination meter socket and breaker panel shall have adequate space for permanent Customer identification of street address and/or unit number.

5) The centre of the bottom row of meter sockets shall be not less than 600 mm from the finished floor. The centre of the top row of meter sockets shall not exceed 1800 mm above the finished floor.

6) The distance between adjacent meter socket rims in the horizontal plane shall not be less than 152 mm.

7) The distance between adjacent meter socket rims in the vertical plane shall be as follows:

    a) For 100 A., 4 or 5 jaw, not less than 76 mm.
    b) For 100 A., 7 jaw, not less than 152 mm.

8) The meter mounting socket and sealing ring shall be acceptable to H.O.B.

9) Where a neutral is required, the meter-mounting device shall have a pre-wired, ungrounded neutral connection to the 5th or 7th terminal. The connection, if not made directly to the neutral bus, shall be not less than #12 AWG copper or equivalent.

10) The Meter Centre is to be securely mounted to the floor and wall (site specific) and braced, to prevent movement.

Table 7 - a

Motors

Motors are subject to the starting current limitations shown in the following table:

System Supply Voltage	Maximum Permissible Starting Current
120v 1 Phase	40 Amps
240v 1 Phase	75 Amps
208v 3 Phase	Will be specified upon application to the Technical Services Department
600v 3 Phase	" " " " "
4160v 3 Phase	" " " " "
8320v 3 Phase	" " " " "
13800v 3 Phase	" " " " "
27600v 3 Phase	" " " " "
44000v 3 Phase	" " " " "

Incremental starters may be used provided that current increments occur at not less than one second intervals and do not exceed the prescribed starting current limit.

Table 7 - b

Welders

Generally, arc welder installations, due to their lower demand and operating characteristics, do not cause a flicker problem. However installations with a significant number of arc welders should be reviewed by H.O.B. prior to installation by the customer.

Resistance Welders are subject to limitations on kVA nameplate as per the following table:

Supply Voltage	Welder Type	Maximum Permissible Nameplate Rating
120/240 V	1 Phase Resistance	9 kVA
120/208 V	3 Phase Resistance	To be determined upon application to the Technical Services Department.
600 V; 600/347 V	3 Phase Resistance	" "
4160 V; 8320 V	3 Phase Resistance	" "
13800 V; 27600 V	3 Phase Resistance	" "
44000 V	3 Phase Resistance	" "

Arc Furnaces

Because of the continuous fluctuations caused by the operation of an Arc Furnace, it is imperative that the design features of the Arc Furnace be submitted to the Technical Services Department for approval prior to installation.

TABLE 8 – Maximum Losses for Power Transformers

TABLE A

Maximum losses for Power Transformers
3001 kVA – 5000 kVA, Min Low Voltage of 600 V
High Voltage 44 kV and Below

Rating		Impedance Voltage Range, %		Maximum Loss	
KVA	Minimum Low Voltage, V	Min	Max	No-Load,(NL),W	Load (L),W
3001-3500	600	5	7.5	6300	18650
3501-3750	600	5	7.5	6700	19400
3751-4000	600	5	7.5	7000	20500
4001-4500	600	5	7.5	7700	22600
4501-5000	600	5	7.5	8400	24750

TABLE B

Maximum Losses for Power Transformers
501 kVA – 5000 kVA, Min Low Voltage of 480 v
High Voltage 44 kv and Below

Rating		Impedance Voltage Range, %		Maximum Loss	
KVA	Minimum Low Voltage, V	Min	Max.	No-Load (NL), W	Load (L), W
501-750	480	5	7.5	2200	5900
751-1000	480	5	7.5	2700	7200
1001-1500	480	5	7.5	3500	9800
1501-2000	480	5	7.5	4200	12200
2001-2500	480	5	7.5	5000	14100
2501-3000	480	5	7.5	5600	16200
3001-3500	480	5	7.5	6300	18650
3501-3750	480	5	7.5	6700	19400
3751-4000	480	5	7.5	7000	20500
4001-4500	480	5	7.5	7700	22600
4501-5000	480	5	7.5	8400	24750

APPENDIX

1

Methodology And Assumptions For An Economic Evaluation

APPENDIX 1 -
METHODOLOGY AND ASSUMPTIONS FOR AN ECONOMIC EVALUATION

1.1 COMMON ELEMENTS OF THE DISCOUNTED CASH FLOW MODEL

To achieve consistent business principles for the development of the elements of an economic evaluation model, the following parameters for the approach are to be followed by all distributors.

The discounted cash flow (DCF) calculation for individual projects will be based on a set of common elements and related assumptions listed below.

Revenue Forecasting

The common elements for any project will be as follows:

(a) Total forecasted customer additions over the Customer Connection Horizon, by class as specified below;

(b) Customer Revenue Horizon as specified below;

(c) Estimate of average energy and demand per added customer (by project) which reflects the mix of customers to be added – for various classes of customers, this should be carried out by class;

(d) Customer additions, as reflected in the model for each year of the Customer Connection Horizon; and

(e) Rates from the approved rate schedules for the particular distributor reflecting the distribution (wires only) rates.

Capital Costs

Common elements will be as follows:

(a) An estimate of all capital costs directly associated with the expansion to allow forecast customer additions.

(b) For expansions to the distribution system, costs of the following elements, where applicable, should be included:
- distribution stations;
- distribution lines;
- distribution transformers;
- secondary busses;
- services; and
- land and land rights.

Note that the “Ownership Demarcation Point” as specified in the distributor’ s Condition of Service would define the point of separation between a customers’ facilities and distributor’ s facilities.

(c) Estimate of incremental overheads applicable to distribution system expansion.

APPENDIX 1 -
METHODOLOGY AND ASSUMPTIONS FOR AN ECONOMIC EVALUATION

Expense Forecasting

Common elements will be as follows:

(a) Attributable incremental operating and maintenance expenditures – any incremental attributable costs directly associated with the addition of new customers to the system would be included in the operating and maintenance expenditures.

(b) Income and capital taxes based on tax rates underpinning the existing rate schedules.

(c) Municipal property taxes based on projected levels.

Specific Parameters/Assumptions

Specific parameters of the common elements include the following:

(a) A maximum customer connection horizon of five (5) years.[1]

(b) A maximum customer revenue horizon of twenty five (25) years, calculated from the in service date of the new customers.[2]

(c) A discount rate equal to the incremental after-tax cost of capital, based on the prospective capital mix, debt and preference share cost rates, and the latest approved rate of return on common equity.

(d) Discounting to reflect the true timing of expenditures. Up-front capital expenditures will be discounted at the beginning of the project year and capital expended throughout the year will be mid-year discounted. The same approach to discounting will be used for revenues and operating and maintenance expenditures.[3]

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1 For customer connection periods of greater than 5 years an explanation of the extension of the period will be provided to the Board

2 For example, that the revenue horizon for customers connected in year 1, is 25 years while for those connected in year 3, the revenue horizon is 22 years.

3 For certain projects Capital Expenditures may be staged and can occur in any year of the five-year Connection Horizon.

APPENDIX 1 -
METHODOLOGY AND ASSUMPTIONS FOR AN ECONOMIC EVALUATION

1.2DISCOUNTED CASH FLOW (DCF) METHODOLOGY

Net Present Value ("NPV")	= Present Value ("PV") of Operating Cash Flow + PV of CCA Tax Shield - PV of Capital
1. PV of Operating Cash Flow	= P V of Net Operating Cash (before taxes) - PV of Taxes
a) PV of Net Operating Cash	= PV of Net Operating Cash Discounted at the Company's discount rate for the customer revenue horizon. Mid-year discounting is applied. Incremental after tax weighted average cost of capital will be used in discounting.
Net (Wires) Operating Cash	= (Annual(Wires) Revenues - Annual (Wires) O&M)
Annual (Wires) Revenue	= Customer Additions * [Appropriate (Wires) Rates * Rate Determinant]
Annual (Wires) O&M	= Customer Additions * Annual Marginal (Wires) O&M Cost/customer
b) PV of Taxes	= PV of Municipal Taxes + PV of Capital Taxes + PV of Income Taxes (before Interest tax shield)
Annual Municipal Tax	= Municipal Tax Rate * (Total Capital Cost)
Total Capital Cost	= Distribution Capital Investment + Customer related Investment + overheads at the project level
Annual Capital Taxes	= (Capital Tax Rate) * (Closing Undepreciated Capital Cost Balance)
Annual Capital Tax	= (Capital Tax Rate) * (Net Operating Cash - Annual Municipal Tax – Annual Capital Tax)

The Capital Tax Rate is a combination of the Provincial Capital Tax Rate and the Large Corporation Tax (Grossed up for income tax effect where appropriate).

Note: Above is discounted, using mid-year discounting, over the customer revenue horizon.

2. PV of Capital = PV of Total Annual Capital expenditures

   a) PV of Total Annual Capital Expenditures

   Total Annual Capital Expenditures over the customer's revenue horizon discounted to time zero.

   Total Annual Capital Expenditure = (for New Facilities and/or Reinforcement Investments + Customer Specific Capital + Overheads at the project level). This applies for implicated system elements at the utility side of the "Ownership Demarcation Line".

   Note: Above is discounted to the beginning of year one over the customer addition horizon.

3. PV of CCA Tax Shield

   P V of the CCA Tax Shield on [Total Annual Capital]

   The PV of the perpetual tax shield may be calculated as:

   PV at time zero of: $\frac{[(\text{Income tax Rate}) * (\text{CCA Rate}) * \text{Annual Total Capital}]}{(\text{CCA Rate} + \text{Discount Rate})}$

   or,

   Calculated annually and present valued in the PV of Taxes calculation.
   Note: An adjustment is added to account for the ½ year CCA rule.

4. Discount Rate

   PV is calculated with an incremental, after-tax discount rate.

APPENDIX

2

Sample
Offer to Connect – Residential Subdivision

DATE

Attn : Our E. P. File

Re: Offer to Connect - ___ Lot Subdivision,

Draft Plan 21T – _____, In the City of Brampton

Dear Sir/Madam:

Further to recent discussions with your consultant we are pleased to submit the following information regarding our residential servicing process.

We offer the Developer two choices to service residential subdivisions in Brampton. The two methods, Option A and Option B, are distinctly different and are described in detail in this letter.

Option A; Turn Key Design and Installation by Hydro One Brampton

Option B; Alternative Bid – Design and Installation by the Developer

Street Lighting

Please note that the City of Brampton will be managing all street lighting and park lighting aspects of your project regardless of the servicing option you select. This includes design, approvals, inspection, and maintenance of the street lighting system within the public road allowance, walkways, and parklands.

Hydro One Brampton will require an approved streetlight design and an Electrical Safety Authority permit prior to connecting any lighting supplies to our system. For more information concerning street lighting in new developments, please contact Mr. George Yip of the City of Brampton, he can be reached at 905-874-2575.

The Electrical Servicing Process

1.) Option A: Turn Key Design and Installation by Hydro One Brampton

HOB will process all works required to complete the installation of the electrical distribution system for the site. This includes but is not limited to preparing the electrical design, procuring materials, site layout, contract administration and tendering for the installation of electrical facilities, inspection and energization of the system.

Under this arrangement the Hydro One Brampton will:

- design the electrical system
- supply all electrical distribution system materials
- provide survey and layout services for the installation of the electrical distribution system
- install the electrical distribution system
- complete all cable terminations and splices

Under this option the Developer will:

- design the street light system
- supply all street light related materials
- install the street light system including supply pedestals
- complete street light pole connections

……all subject to City of Brampton specifications and approvals.

The developer will be responsible to hire an electrical consultant to prepare a separate streetlight design. This design must be reviewed and approved by the City of Brampton. Contact Mr. George Yip at 905 874-2575 for details.

Under the Option A arrangement the Developer is responsible to provide a Letter of Credit to Hydro One Brampton for one hundred percent of the estimated cost of the electrical distribution system. This Letter of Credit is required twelve weeks prior to servicing your site.

Hydro One Brampton will draw on the LC at predetermined intervals to pay for the cost of materials. Draws may be substituted with cash payments.

The estimated servicing cost under an Option A arrangement is as follows:

a) Electrical servicing:
(____units @ $3,000 / per unit): ..... $_____
HST @ 13 % ..... $_____
Total Securities Required: ..... $_____

Please note that these costs exclude street lighting as well as the cost of installing the services from the street line to the electrical meter base at each home.

2.) Option B: Alternative Bid – Design and Servicing by the Developer

In selecting the Option B process the developer accepts all obligations for the installation and placement of Hydro One Brampton's infrastructure in accordance with Hydro One Brampton's design criteria, HOB standards and the City of Brampton road cross sections prepared for the development. The developer will be responsible to manage all site servicing issues and to provide personnel to respond to site issues as they arise. HOB staff will be consulted where changes to the original electrical design are required.

Under this arrangement the Developer will:

- design the electrical system
- supply all electrical distribution system materials
- provide survey and layout services for the installation of the electrical distribution system
- provide complete project management services
- install the electrical distribution system
- complete all non energized low voltage and distribution voltage cable terminations and splices
  ……all subject to Hydro One Brampton specifications and approvals

- design the street light system
- supply all street light related materials
- install the street light system including supply pedestals
- complete all street light connections
  ……all subject to City of Brampton specifications and approvals

HOB will be responsible for; review of the Developer's design, perform site inspections, complete terminations and splicing of feeder cables where applicable, approval of cable and transformer Certified Test Reports and any work on or in proximity to the distribution system once it becomes energized. All work and materials supplied by HOB, with the exception of the design review, will be applied to the total subdivision costs and shall be included in the economic analysis.

All costs incurred by HOB to accommodate phased construction of the development will be fully recoverable and excluded from the economic analysis.

Under this Option, the Developer will provide a Letter of Credit for 33% of the estimated total installed cost of the electrical distribution system.

The estimated servicing cost under an Option B arrangement is as follows:

(____ units @ $1,000 / per unit): ..... $_____
HST @ 13 % ..... $_____
Total Securities Required: ..... $_____

This Letter of Credit is required prior to the release of any Civil or Electrical construction drawings

Economic Evaluation

Under Chapter 3, Section 3.2.1. of the OEB Distribution System Code, the Utility must "perform an economic evaluation to determine if the future revenue from the customer(s) will pay for the capital cost and on-going maintenance costs of the expansion project".

Section 3.2.6 states that "if a shortfall between the present value of the project costs and revenues is calculated, the distributor may propose to collect all or a portion of that amount from the customer, in accordance with the distributor's documented policy on capital contribution by customer class." The economic evaluation period will commence based on the date when the first primary cable internal to the expansion project, is connected to Hydro One Brampton's point of supply.

Using the methodology in Appendix "B" of the Distribution System Code, HOB will complete a final analysis at the end of the "Five Year Customer Connection Horizon" or, after ninety percent of all services have been connected. This will determine any refund to or amounts owing by the Developer.

Design (Option A) or Design Review (Option B)

In order to commence the electrical distribution design or review a subdivision design prepared by the developer we require the following items:

1) One hard copy set of the plan and profile engineering drawings at the second submission stage showing community mailbox locations.

2) Hard copy and digital files of the City of Brampton road cross-sections for roadways to be constructed in this development.

3) Digital files of the general above and below ground engineering drawings.

In order to initiate a design or design review the developer must submit a design deposit. The design deposit is calculated at $42.00 per lot including HST, with a minimum amount of $2,120.00 to a maximum amount of $10,600.00. The design review deposit for your development is **$_____**

Costs incurred by HOB for reviewing a design prepared by the Developer (Option B) are fully recoverable and not included in the economic analysis in accordance with OEB rules. Actual costs incurred for the design review will be invoiced against the deposit.

Costs incurred by HOB to prepare a design (Option A) are included in the economic analysis in accordance with OEB rules. Actual costs incurred for the design review will be included in the final economic analysis and the design deposit will be credited towards the developer's financial obligations for the project.

Maintenance Period

In order to provide security for maintenance of the installed electrical system, we will not reduce the Letter of Credit to less than 15% of its original amount (Minimum $10,000 – Maximum $50,000) until the lands dedicated by the Developer for use as public highways, are accepted by the municipality.

The Developer will be responsible for correcting all deficiencies of the electrical system during the maintenance period. The maintenance period will terminate upon assumption of the development by the City of Brampton. HOB will rectify all deficiencies where work is required in proximity to energized equipment or situations where immediate action is required as a result of a safety or system reliability issues. Costs to correct deficiencies will be the responsibility of the Developer during the maintenance period.

Capitalization Cost

Upon completion of the electrical system in your subdivision, we require a summary of actual costs including engineering and administration fees for the following:

a) Distribution Transformers: include the installed cost of distribution transformers used to transform electricity to the voltage at which it is used by the consumer. The cost will include the transformers, the foundation, grounding equipment, and other material and labour necessary for the installation.
b) Balance of Distribution: include the installed cost of the balance of the cables or distribution facilities to distribute electrical energy from Hydro One Brampton's system to the dwelling units.

Costs provided are to exclude HST and any streetlighting related expenses.

Please note that prior to releasing any Letter of Credit amounts or proceeding with the final economic analysis we will require a statutory declaration letter signed by the owner stating that all monies payable for works, services or fees relating to any aspect of the electrical servicing of the site, have been paid in full excluding any holdback amounts properly retained.

Meter base Locations

Please note that meter base locations on condominium units and town houses must be reviewed and approved by this office. Surface mount, recessed mount, and ganged meter installations are options available for specific applications. Appropriate site plan and elevation drawings must be provided to the project designer to determine suitability. Please notify your builders of this requirement.

If you have any comments or questions, please contact the undersigned at 905-840-6300 extension 5508 and refer to our File # _____.

In closing we require that you confirm the servicing option that you wish to pursue.

Yours truly,
Hydro One Brampton Networks Inc.

Engineering Supervisor – Development Division
WS/
c.c. Engineering Manager Hydro One Brampton ,
Eng Tech Hydro One Brampton
G.Yip City of Brampton, Electrical Consultant

SCHEDULE "B"

TO AN AGREEMENT BETWEEN
HYDRO ONE BRAMPTON

And

_____

TO: HYDRO ONE BRAMPTON

WE HEREBY AUTHORIZE YOU TO DRAW ON THE (NAME OF CANADIAN CHARTERED BANK OR TRUST COMPANY AND ADDRESS) FOR THE ACCOUNT OF (NAME OF DEVELOPER) UP TO AN AGGREGATE AMOUNT OF $_____ AVAILABLE ON DEMAND.

Pursuant to the request of our customer, the said (NAME OF DEVELOPER) we (NAME OF BANK) hereby establish and give to you an Irrevocable Letter of Credit in your favour in the total amount of $_____ which may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you which demand we shall honour without enquiring whether you have a right as between yourself and our said customers to make such demand, and without recognizing any claim of our said customers.

Provided, however, that you are to deliver to us at such time as a written demand for payment is made upon us, a certificate confirming that monies drawn pursuant to this Letter of Credit are to be and/or have been expended pursuant to obligations incurred or to be incurred in connection with the Agreement between (NAME OF DEVELOPER) and HYDRO ONE BRAMPTON.

This Letter of Credit will continue up to the ____ day of (month) 2004 and will expire on that date and may call for payment of the full amount outstanding under this Letter of Credit at any time prior to that date. Partial drawings are permitted. The amount of this Letter of Credit may be reduced from time to time as advised by notice in writing given to us by you.

It is a condition of this Letter of Credit that it shall be deemed to be automatically extended for one year from the present or any future expiration date hereof, unless thirty days prior to any such date we shall notify you in writing that we elect not to consider this Letter of Credit renewed for any such additional period. Upon receipt by you of such notice, you may draw hereunder by means of your demand accompanied by your written certification that the amounts drawn will be retained and used to meet obligations incurred or to be incurred in connection with the above mentioned Agreement.

DATED:_____ _____

THIS AGREEMENT made in duplicate this ___day of _____200_.

BETWEEN

HYDRO ONE BRAMPTON NETWORKS INC.

hereinafter called "H.O.B.N.I."

OF THE FIRST PART

- And -

_____

hereinafter called the "Developer"

OF THE SECOND PART

WITNESSETH THAT WHEREAS:

The Developer represents that he is the registered owner of the lands described in Schedule "A" hereto (referred to herein as "the lands");

The Developer proposes to develop the lands as a residential subdivision and has obtained draft approval of the plan by the Minister under the Planning Act;

The Developer is required, as a condition of final approval, to enter into an Agreement or Agreements with the municipality for the provision of services in the subdivision;

H.O.B.N.I. has exclusive authority, over the construction, management and operation of the works for the supply of such power within the City of Brampton.

The Developer wishes to enter into an Agreement with H.O.B.N.I. for the construction of an extension of the said works for the purpose of providing electrical power to the future inhabitants of the subdivision and for the construction of an extension of the City's system to provide street lighting and park lighting within the subdivision (referred to herein collectively as the systems and individually as the electrical system and the street and park lighting system).

TABLE OF CONTENTS

1.0 THE WORK

1.1 The Developer shall, subject to the terms hereof, provide and install at his cost all transformers, switchgear, concrete pads, primary and secondary cables, house services from the street line to the meter base including splicing at the street line, ground rods and ground wires for the electrical system and all cables, poles, pole caps, luminaries and brackets for the street and park lighting system, but excluding the work and materials specified in Section 1.2.

1.2 H.O.B.N.I. shall, perform all terminating and connecting of cables to energized H.O.B.N.I. facilities. H.O.B.N.I. shall provide at the Developer's cost all materials associated with the work described in this Section. All costs mentioned in this section are included in Clause (d) of Section 2.1.

1.3 H.O.B.N.I. shall supervise the construction done by the Developer and will co-ordinate the construction work done by the parties.

2.0 PRELIMINARY STEPS

2.1 Upon the signing of this Agreement by the parties:

(a) H.O.B.N.I. shall supply to the Developer a list of approved contractors and the Developer shall inform H.O.B.N.I. in writing of the contractor or contractors on the list who it proposes to employ for any part of the work. A contractor who is not on H.O.B.N.I.'s list shall not be employed by the Developer;

(b) The Developer shall advise H.O.B.N.I. in writing of the date he expects that the lands will be ready for commencement of construction of the systems. Save with the approval in writing of H.O.B.N.I. obtained in advance, the date shall not occur before the expiry of a notice period of 120 days following such notification nor before the completion by the Developer of the following matters:

(i) Installation of sewer and water mains and of services to the property lines of all lots;

(ii) Road bases constructed and graveled;

(iii) Curb bases and curbs installed or ditches and shoulders established and final elevations provided to H.O.B.N.I.;

(iv) Grading completed to within 15 centimeters of final grade (more or less) of all parts of the lands in which the electrical system will be constructed;

(v) Contractual arrangements satisfactory to H.O.B.N.I. have been made by the Developer for the installation of telecommunications equipment in the lands and such work has been co-ordinate with the construction of the electrical system;

and the date so designated by the Developer is referred to herein as "commencement date".

(c) The Developer shall provide to H.O.B.N.I. such information as it may require respecting the subdivision, including but not limited to a copy of the plan of subdivision, engineering plans, the number and types of dwellings and the type of heating system to be used.

(d) H.O.B.N.I. costs will include:

(i) Work contracted out by H.O.B.N.I.;

(ii) Salaries and wages of H.O.B.N.I.'s own forces and usage of hourly rated vehicles and equipment engaged in the construction;

(iii) Materials provided by H.O.B.N.I.;

(iv) Services provided by H.O.B.N.I. in respect of the telecommunications companies' installations;

(v) Administrative, supervisory and inspection services, salary burdens, contract specifications, handling and storing materials and any other items of cost to H.O.B.N.I. generated by the construction through the work and materials provided by either party described herein (collectively referred to herein as "overhead").

2.2 H.O.B.N.I. shall notify the Developer in writing of the amount of the contract price and particulars, attaching to such notification a request for payment for the design portion of the contract price, payable within 30 days.

2.3 The Developer shall also provide a Letter of Credit to H.O.B.N.I. from a Canadian chartered bank or a trust company approved by H.O.B.N.I. in the form attached hereto as Schedule "B", 30 days prior to commencing work, as security. The Letter of Credit shall be in the amount of $ _____. This is 50% of the estimated total installed cost of the Electrical Distribution System.

In order to provide security for maintenance of the installed electrical system, the Letter of Credit will not be reduced to less than 15% of its total amount, until the lands dedicated by the Developer for use as public highways, are accepted by the municipality.

2.5 If the Developer fails to provide the Letter of Credit mentioned in Section 2.3 within 30 days of signing this Agreement, this Agreement may, at the option of H.O.B.N.I., be declared null and void.

3.0 DESIGNING THE SYSTEMS

3.1 The electrical system will be designed in such manner as to facilitate the extension of the same to other lands. If the Developer has no interest in those lands no extra costs associated with design and construction for such purpose will be included in the contract price.

3.2 The design drawings will identify the standards and specifications applicable to each aspect of the work. H.O.B.N.I. will make available to the Developer, his tenderers, contractors and employees for examination all standards and specifications identified in the design drawings. Such standards and specifications are deemed to be a schedule to this Agreement and an integral part thereof.

3.3 The Developer shall carefully examine the design layout of the system and advise H.O.B.N.I. of any conflict in the location of the systems or any part or parts thereof with other aspects of the subdivision, including driveways, fire hydrants, deep services, postal boxes and special landscaping. The parties shall certify in writing to H.O.B.N.I. that no conflict exists before any work on the systems is commenced.

4.0 CONSTRUCTION SCHEDULE

Upon receipt of the certificate mentioned in Section 3, H.O.B.N.I., in consultation with the Developer, shall make a construction schedule which will divide the work of constructing the systems into appropriate stages and establish a preliminary sequence to be followed. The purpose of the construction schedule is to co-ordinate supervision of the work and inspection of completed stages of the work by H.O.B.N.I. and to ensure continuity of the work and completion of the work without undue delay. The sequence of stages of the work may be altered by H.O.B.N.I. to accommodate the schedule to circumstances arising in the course of construction.

5.0 EASEMENTS

5.1 The Developer shall grant to H.O.B.N.I. such easements within the lands, free from encumbrance, as are determined by H.O.B.N.I. to be necessary for the construction and operation of the systems and in the locations designated by it up to the end of the maintenance period as set out in Section 14. H.O.B.N.I. shall make known to the Developer at the time of the design layout mentioned in Section 3 of this Agreement, the particulars and location of the easements, which in H.O.B.N.I.'s view will be required.

5.2 H.O.B.N.I. shall be entitled to require further easements, which are necessary, in its sole discretion, for the system at any time before completion of construction.

5.3 The Developer shall prepare the reference plans describing the areas over which the easements are required. The documents creating the easements shall be prepared and registered by H.O.B.N.I. The form of easement shall be such as may be approved by H.O.B.N.I.

5.4 Easements may, at the option of H.O.B.N.I., include as grantees, transferees, and licensed telecommunications operators using a common trench with H.O.B.N.I. for its cables and associated equipment. All easements unless otherwise specified by H.O.B.N.I. shall be granted in perpetuity.

5.5 In the event of failure by the Developer to grant any easement required by H.O.B.N.I. pursuant to the terms of this agreement the same may be acquired by the exercise of powers available to H.O.B.N.I. under the Expropriations Act of Ontario. Notwithstanding any provision of the said Act no compensation or costs are payable by H.O.B.N.I. to the Developer for the forcible taking of any easement including the market value of the interest taken, disturbance damages, injurious affection or any other compensation. The Developer hereby waives all claims and H.O.B.N.I. shall not be obliged to comply with any provision of the said Act the purpose of which is to determine compensation payable to the Developer. The costs incurred by H.O.B.N.I. in expropriating any easement pursuant to this section are payable by the Developer.

5.6 H.O.B.N.I. shall not expropriate an easement in any part of the lands occupied by a dwelling or any accessory or other building or structure or which is to be so occupied according to the Developer's plans and no easement so acquired shall be used by H.O.B.N.I. in such a manner as to affect the foundation or earth support of such dwelling, building or structure. A structure in this section shall not include any fence or any structure or object resting by its own weight on the surface of the ground.

6.0 NOTICE OF INTENTION TO COMMENCE WORK

6.1 The Developer shall give H.O.B.N.I. thirty (30) days notice in writing of his intention to commence the work under this Agreement. If the Developer fails to give written notice of intention to commence work on the commencement date or on a date within 12 months following the commencement date or if, having given notice of intention to commence work, he fails to commence work on the stated date and proceed with the work in accordance with the construction schedule, this Agreement may in any such case at the option of H.O.B.N.I. be terminated by written notice to the Developer.

6.2 The Developer shall give H.O.B.N.I. twenty-four hours written notice of his intention to commence any stage of construction in the construction schedule.

6.3 No work by the Developer under this contract will be performed outside of H.O.B.N.I.'s normal hours of work save with the approval of H.O.B.N.I.

7.0 REVIEWS, APPROVALS AND INSPECTIONS

7.1 Construction methods proposed by the developer are subject to review by H.O.B.N.I. before work commences on any stage of construction.

7.2 All work done by the Developer is subject to inspection by H.O.B.N.I.. Such inspection shall be requested by the Developer and performed by H.O.B.N.I. before any portion of the work is covered.

7.3 All materials provided by the Developer shall conform to H.O.B.N.I.'s specifications and all suppliers from whom materials are purchased by the Developer are subject to the approval of H.O.B.N.I. H.O.B.N.I. shall provide to the Developer a list of approved suppliers.

7.4 The Developer shall provide to H.O.B.N.I. for review drawings and test results of all equipment he proposes to purchase for the systems.

7.5 Transformers provided by the Developer under this Agreement must be evaluated at the lowest total cost calculated under the Municipal Electric Association's loss evaluation formula and a purchase order shall not be issued by the Developer to the supplier without H.O.B.N.I.'s approval in writing of the calculation. Such approval is not to be construed as a waiver of compensation where actual losses

exceed estimated losses. The Developer shall pay H.O.B.N.I.'s invoices for any such excess losses issued in accordance with the penalty formula in the latest MEA specification.

8.0 COMPLIANCE WITH LEGISLATIVE PROVISIONS

8.1 The Developer shall:

(a) Comply H.O.B.N.I.'s standards in providing for installation of H.O.B.N.I.'s energy meter on each dwelling;

(b) Comply with the requirements of the Ontario Building Code and Electrical Safety Authority and H.O.B. Networks Inc.'s regulations in respect of the location, minimum sizes and all other aspects of underground meter bases;

(c) Ensure that buildings are located in such manner that the minimum line-of-sight distance between any transformer of the electrical system and any door, window or combustible surface material is 3 meters and that all distances are in compliance with the Electrical Safety Authority.

8.2 The Developer shall rectify any violation of the laws, regulations, ordinances and provisions relating to the matters in this Section 8. Upon being directed to do so by the governmental authority involved or by H.O.B.N.I.. In the event of default by the Developer in carrying out such directions within 20 days H.O.B.N.I. may make the correction and invoice the Developer for the cost so incurred, the amount of which as determined by H.O.B.N.I. shall not be open to question and shall be paid forthwith by the Developer.

9.0 INSURANCE

Before the commencement date, the Developer shall provide and pay for comprehensive liability insurance in the joint names of the Developer and H.O.B.N.I. with limits of not less than Two Million ($2,000,000.00) Dollars per occurrence for bodily injury, death and damage to property including loss of use of property and shall maintain the same in effect during the term of this Agreement. There shall be no exclusion for blasting. The provision of such insurance shall not be construed as relieving the Developer from indemnifying H.O.B.N.I. in respect of any claim made against it arising out of the operations contemplated by this Agreement, whether or not such claim exceeds the insurance limits and whether or not the insurer denies liability to indemnify the named insured under the terms of the policy and the Developer hereby agrees to indemnify H.O.B.N.I. and its employees in respect of all such claims. The Developer shall provide to H.O.B.N.I. such proof as may reasonably be required that the said insurance has been obtained and may, at any time and from time to time, require proof from the Developer that the policy remains in effect.

10.0 CONSTRUCTION LIENS

10.1 H.O.B.N.I., upon receipt from the Developer's Letter of Credit in accordance with Section 2.3 of this Agreement, waives any lien to which it may be entitled under the Construction Lien Act of Ontario and agrees to indemnify the Developer in respect of any claim for lien or any action to realize such lien by anyone employed by H.O.B.N.I. or by any contractor or his employees, subcontractors or suppliers.

10.2 The Developer shall retain no holdbacks, whether in purported compliance with the Construction Lien Act or otherwise, out of the monies payable to H.O.B.N.I. under this Agreement.

10.3 H.O.B.N.I. shall not be deemed, by any provision of this Agreement, to admit that the Construction Lien Act applies to the construction of the systems.

10.4 H.O.B.N.I. shall be entitled to defend, in the Developer's name, any action to realize a claim for lien by anyone mentioned in this section or claiming to have provided services or materials to the lands for H.O.B.N.I., or under H.O.B.N.I. by contract, arrangement or employment with or by anyone in respect of which claim H.O.B.N.I. must indemnify the Developer and H.O.B.N.I. registered or of which notice is given to the Developer and to act in every respect, in the Developer's name, in dealing with any such claim, including the negotiation of settlement of an action to realize a lien.

10.5 The Developer shall notify H.O.B.N.I. in writing of any notice of claim for lien received by him forthwith upon receipt thereof.

11.0 CO-ORDINATION OF TELEPHONE AND CABLE TELEVISION WORK

The parties shall co-ordinate the work under this Agreement with the installation of equipment by any cable television company and licensed communications operator(s).

12.0 ENERGIZATION OF THE SYSTEMS

H.O.B.N.I. shall energize the systems in such manner and at such times as in its discretion it deems appropriate.

13.0 CERTIFICATE OF COMPLETION

When H.O.B.N.I. has completed its final inspection and is satisfied that the work of the Developer and that of H.O.B.N.I. is completed, it shall issue a certificate of completion.

14.0 PERIOD OF MAINTENANCE

14.1 The period of maintenance under this Agreement is the period commencing on the date of completion of the systems stated in the certificate of completion and ending when all the lands within the plan of subdivision dedicated by the Developer for use as public highways are accepted by the municipality.

14.2 The systems, including those portions constructed by H.O.B.N.I., shall remain at the risk of the Developer during the period of maintenance.

14.3 H.O.B.N.I. shall be responsible for the operation of the systems during the period of maintenance and shall have full access to the same and to the use of the easements granted pursuant to this Agreement.

14.4 At the expiration of the period of maintenance the electrical system shall, by that event, become the property of H.O.B.N.I. and the street and park lighting system shall become the property of the Corporation of the City of Brampton and thereupon, this agreement shall be at an end.

15.0 DEVELOPER'S DUTIES IN THE MAINTENANCE PERIOD

15.1 If during the maintenance period any pole, transformer or other component or part of the system is damaged, displaced, removed, toppled or is otherwise the subject of harm, impairment or mischief and is caused by any person, agency or means other than a person for whose acts H.O.B.N.I. is responsible in law, or if any defect in the developer's work shall appear the Developer shall promptly carry out the necessary repair or rectification upon being notified in writing by H.O.B.N.I..

15.2 If the Developer fails to comply with the said notice within 15 days of delivery thereof, H.O.B.N.I. may carry out the necessary repair or rectification at the Developer's expense and the Developer shall pay the cost thereof forthwith upon receipt of any invoice therefore from H.O.B.N.I..

15.3 H.O.B.N.I. shall have the right to draw on the Letter of Credit in any instance of default in the Developer under this Section 15.

16.0 RIGHT OF TERMINATION

16.1 In addition to the provision for termination under Sections 6.1 and 2.4, H.O.B.N.I. shall be entitled to terminate this Agreement by notice in writing to the Developer:

(a) If the Developer should become insolvent or cease to pay his debts as they become due or makes an assignment for the benefit of his creditors or is declared bankrupt;

(b) If the Developer is in substantial breach of this Agreement and fails to rectify such breach within 10 days of notice in writing delivered to him by H.O.B.N.I. or fails to commence such rectification within the said time and proceed with dispatch to its completion if the breach cannot reasonably be rectified within 10 days;

16.2 Without limiting Clause (b) of Section 16.1 the Developer shall be in substantial breach of this Agreement:

(a) If he fails to provide within a reasonable time any reference plan for an easement required by H.O.B.N.I. or fails to execute a grant of easement called for under this Agreement or remove any encumbrance on the title of the land which is to be subject to the easement;

(b) If he causes undue delay in the construction of the systems;

(c) If he fails to proceed with the subdivision development in accordance with the terms of his subdivision Agreement with the Municipality or

(d) If he assigns this Agreement contrary to Section 20.

16.3 Notice of termination in accordance with Clause (b) of Section 16.1 is a condition of termination under Clauses (a), (b) and (c) of Section 16.2.

16.4 If H.O.B.N.I. terminates the Agreement for breach by the Developer H.O.B.N.I. may, subject to the Developer's right to an accounting, utilize moneys paid under this Agreement to the extent necessary in its discretion to complete any of its work or to secure work already done by either party and generally to minimize any adverse effect upon the systems from the termination.

16.5 The foregoing Section 16.4 shall not be construed as limiting H.O.B.N.I.'s rights arising from a developer's breach.

17.0 WAIVER

The waiver by H.O.B.N.I. of any right under this Agreement or at law accruing from any act, omission or default by the Developer shall not be construed as a waiver of such right in respect of any subsequent act, omission or default.

18.0 COMMUNICATIONS IN WRITING

18.1 Any notice or communication in writing by one party to the other under this Agreement may be given or made:

(a) By delivery by hand to any adult person at the party's address or

(b) By telephone transmission to the party's fax number or

(c) By courier addressed to the party at his address or

(d) By prepaid first class mail addressed to the party at his address.

18.2 A notice or communication in writing is deemed to have been delivered and received by the party to whom it is sent:

(a) If delivered by hand, on the day of delivery;

(b) If transmitted by telephone, on the day it is transmitted;

(c) If sent by courier, on the day it is delivered to the party's address;

(d) If mailed, on the fourth day following the date of mailing.

19.0 ADDRESS FOR COMMUNICATIONS

19.1 The address of each party is:

(a) H.O.B. NETWORK INC.
175 Sandalwood Parkway West
Brampton, Ontario
L7A 1E8

Attention: Manager of Engineering

Telephone: (905) 840-6300
Fax: (905) 840-1305

(b) Attention:

Telephone:
Fax:

19.2 A party may change his address by notifying the other party in writing of the change in any manner specified in Section 18.

20.0 ASSIGNMENT

This Agreement shall not be assigned by the Developer without the written consent of H.O.B.N.I. obtained in advance.

21.0 OEB DISTRIBUTION SYSTEM CODE

Under Chapter 3, Section 3.2.1 of the Ontario Energy Board Distribution System Code, the Utility must "perform an economic evaluation to determine if the future revenue from the customer(s) will pay for the capital cost and on-going maintenance costs of the expansion project". Section 3.2.6 states that "if a shortfall between the present value of the projected costs and revenues is calculated, the distributor may propose to collect all or a portion of that amount from the customer, in accordance with the distributor's documented policy on capital contribution by customer class".

Some of the requirements in the Distribution System Code have yet to be developed or documented and other parameters are not yet available. In view of the Developer's schedule for this subdivision, H.O.B.N.I. will not be able to perform the economic evaluation on time. As a result, the servicing agreement has been based on H.O.B.N.I.'s existing conditions of service.

H.O.B.N.I. will proceed with an economic evaluation as soon as the methodology and parameters have been determined. This evaluation will be calculated using the date of signing of this agreement or the date of the Design Deposit, whichever occurs first, as the starting point. Using the methodology in Appendix "B" of the Distribution System Code, the analysis will be performed yearly using actual customer additions to determine H.O.B.N.I.'s cost responsibilities for the development and H.O.B.N.I. will refund the Developer accordingly. This will be done each year over the Customer Connection Horizon of 5 years as per the code.

IN WITNESS WHEREOF each party has executed the Agreement in the manner provided by law.

SIGNED, SEALED AND DELIVERED
In the presence of

Per: _____

Per: _____

Affix Seal

HYDRO ONE BRAMPTON NETWORKS INC.

Per: _____

Per: _____

Affix Seal

SCHEDULE "A"

TO AN AGREEMENT BETWEEN

HYDRO ONE BRAMPTON NETWORKS INC.

AND

_____

DESCRIPTION OF LANDS:

Lands to be serviced as shown on

And

As defined by Draft Plan 21T-

All

Part of the, in the City of Brampton.

Lands to be subdivided into residential detached building lots.

SCHEDULE "B"

TO AN AGREEMENT BETWEEN

HYDRO ONE BRAMPTON NETWORKS INC.

And

_____

TO: HYDRO ONE BRAMPTON NETWORKS INC.

WE HEREBY AUTHORIZE YOU TO DRAW ON THE (NAME OF CANADIAN CHARTERED BANK OR TRUST COMPANY AND ADDRESS) FOR THE ACCOUNT OF (NAME OF DEVELOPER) UP TO AN AGGREGATE AMOUNT OF $_____ AVAILABLE ON DEMAND.

Pursuant to the request of our customer, the said (NAME OF DEVELOPER) we (NAME OF BANK) hereby establish and give to you an Irrevocable Letter of Credit in your favor in the total amount of $_____ which may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you which demand we shall honor without enquiring whether you have a right as between yourself and our said customers to make such demand, and without recognizing any claim of our said customers.

Provided, however, that you are to deliver to us at such time as a written demand for payment is made upon us, a certificate confirming that monies drawn pursuant to this Letter of Credit are to be and/or have been expended pursuant to obligations incurred or to be incurred in connection with the Agreement between (NAME OF DEVELOPER) and HYDRO ONE BRAMPTON NETWORK INC.

This Letter of Credit will continue up to the ____ day of (month) 2001 and will expire on that date and may call for payment of the full amount outstanding under this Letter of Credit at any time prior to that date. Partial drawings are permitted. The amount of this Letter of Credit may be reduced from time to time as advised by notice in writing given to us by you.

It is a condition of this Letter of Credit that it shall be deemed to be automatically extended for one year from the present or any future expiration date hereof, unless thirty days prior to any such date we shall notify you in writing that we elect not to consider this Letter of Credit renewed for any such additional period. Upon receipt by you of such notice, you may draw hereunder by means of your demand accompanied by your written certification that the amounts drawn will be retained and used to meet obligations incurred or to be incurred in connection with the above mentioned Agreement.

DATED:

_____ _____

APPENDIX

3

Sample Generator Connection Agreement

THIS CONNECTION AGREEMENT made as of the of

B E T W E E N :

Hydro One Brampton Networks Inc.

("H.O.B.")

- and -

[CUSTOMER]

("Customer")

RECITALS:

1. The Customer owns and operates _____ generator (the "Generating Equipment") located at _____and within the facility at Brampton, Ontario (the "Facility");

2. The Customer is defined as a Large Generator, as per the Province of Ontario's Distribution System Code Appendix F (In excess of 10 MW).

3. The H.O.B. electric distribution system (the "Distribution System") is designed to provide a unidirectional flow of electrical power radially from its supply stations to its customers' loads;

4. The connection of dispersed or embedded generation (such as the Generating Equipment) to and operated in parallel with, the Distribution System may alter the character of the Distribution System which raises various issues and concerns including the following:

    1. potential back feeding of electrical power into the Distribution System (including system fault infeed);

    2. start up transients;

    3. improper synchronizing;

    4. induced voltage fluctuations and harmonic content; and

    5. isolation of the Generating Equipment on a H.O.B. circuit;

5. The Ontario Energy Board Distribution System Code (the "Distribution Code") requires the Parties to enter into a connection agreement containing certain provisions relating to connection and access to the Distribution System including provisions relating to the matters as set out in Appendix E to the Distribution Code;

6. In order to promote public safety, to protect the employees and assets of H.O.B. and the Customer, to maintain quality of electrical distribution services to H.O.B. customers and to comply with the Distribution Code, the Parties wish to enter into this Agreement;

7. Hydro One Brampton and the customer shall comply with all Applicable Laws including the following in order of priority:

    -The Affiliate Relationships Code for Electricity Distributors and Transmitters;

    -The Distribution System Code;

-The Retail Settlement Code; and

-The Standard Supply Service Code.

If there is a conflict between this Agreement and any of the above, the documents listed above shall govern in order of priority. If there is a conflict between the Conditions of Service and this Agreement, this Agreement will govern. The fact that a condition, right, obligation, or other term appears in the Conditions of Service but not in any of the documents listed above or in this Agreement shall not be interpreted as, or be deemed grounds for finding conflict.

FOR TEN (10) DOLLARS AND OTHER VALUABLE CONSIDERATION, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

ARTICLE 1
INTERPRETATION

Capitalized terms used in this Agreement and not defined in it shall have the meanings set out in Schedule A.

The division of this Agreement into Articles, Sections and Subsections, the insertion of headings and the provision of any table of contents are for convenience of reference only and shall not affect the construction or interpretation of this Agreement.

Unless the context requires otherwise, words importing the singular include the plural and vice versa and words importing gender include all genders.

Subject to any provision contained herein which requires immediate action, if any payment is required to be made or other action required to be taken pursuant to this Agreement on a day which is not a Business Day then such payment or action shall be made or taken on the next Business Day.

Any reference in this Agreement to any statute, order or code or any section thereof shall, unless otherwise expressly stated, be deemed to be a reference to such statute or section as amended, restated or re-enacted from time to time.

Unless the context requires otherwise, references in this Agreement to Sections or Schedules are to Sections or Schedules of this Agreement.

The following Schedules shall be attached to and form part of this Agreement:

Schedule A - Definitions
Schedule B - Contacts
Schedule C - Verification of Protection and Control Systems and Devices
Schedule D - One-Line Diagram.

OWNERSHIP AND JURISDICTION

The Customer's electrical service connects to the Distribution System at in Brampton, Ontario.

H.O.B. owns pole number _____in Brampton, Ontario and all hardware and feeders on the pole, including the line clamps identified on the pole as Line Clamps, which connect all equipment on the Customer-owned primary cable to the Distribution System upstream of the line clamps.

The Customer owns all hardware downstream from the line clamps identified as _____ Line Clamps.

Each Party shall have exclusive jurisdiction over the operation and control of its own assets except as otherwise set out in this Agreement.

H.O.B. shall, at all times, have unfettered control of primary switch number _____.

REPRESENTATIONS AND WARRANTIES

Representations and Warranties of Hydro One Brampton

H.O.B. represents and warrants to the Customer as follows and acknowledges that, except as otherwise expressly provided herein, the Customer is relying on such representations and warranties in connection with this Agreement and the connection and operation of the Generating Equipment and the Facility to the Distribution System.

H.O.B. is a corporation duly incorporated and validly subsisting under the Laws of Ontario and has the corporate power, capacity and authority to enter into this Agreement and perform its commitments and obligations under this Agreement and any other agreement or document to be delivered pursuant hereto. H.O.B. has taken, or has caused to be taken all action required to be taken by H.O.B. to authorize the execution and delivery of this Agreement.

This Agreement has been duly executed by H.O.B. and will, upon delivery, constitute a valid and binding obligation of H.O.B., enforceable against it in accordance with its terms.

All of the foregoing representations and warranties of H.O.B. will continue to be true and correct during the Term.

Representations and Warranties of the Customer

The Customer represents and warrants to H.O.B. as follows and acknowledges that, except as otherwise expressly provided herein, H.O.B. is relying on such representations and warranties in connection with this Agreement and the connection and operation of the Generating Equipment and the Facility.

The Customer is a [corporation duly incorporated and validly subsisting under the Laws of Ontario and has the corporate] power, capacity and authority to enter into this Agreement and perform its commitments and obligations under this Agreement and any other agreement or document to be delivered pursuant hereto. The Customer has taken, or has caused to be taken all action required to be taken by the Customer to authorize the execution and delivery of this Agreement.

This Agreement has been duly executed by the Customer and will, upon delivery, constitute a valid and binding obligation of the Customer, enforceable against it in accordance with its terms.

All the Generating Equipment is located within the legal boundaries of the Real Property.

The Customer is the legal and beneficial title holder to the Facility, the Real Property and the Generating Equipment, free and clear of all encumbrances.

The Customer is in material compliance with all Applicable Law relating to the Real Property, the Facility and the Generating Equipment.

All of the foregoing representations and warranties of the Customer will continue to be true and correct during the Term.

INTERCONNECTION

Subject to the terms and conditions set out in this Agreement and specifically Sections 4.2 and 4.3, the Customer is hereby granted the right to connect the Generating Equipment to and operate the Generating Equipment in parallel with, the Distribution System.

The Generating Equipment shall not connect to and be operated in parallel with the Distribution System for the first time without the Customer having received the prior written approval of H.O.B.. Subject to H.O.B.'s right to disconnect and maintain a state of disconnection between the Generating Equipment and the Distribution System pursuant to Sections 6.1 and 7.10, the Customer may reconnect the Generating Equipment to the Distribution System (following disconnection) at any time following H.O.B.'s written approval of the initial connection of the Generating Equipment to the Distribution System.

In determining whether to grant approval for connection of the Generating Equipment to the Distribution System, H.O.B. will consider various matters and facts including the following:

whether the Customer has complied with the terms and conditions of the H.O.B. Networks Inc. Conditions of Service Standard of December 31,2001 as amended or restated from time to time;

integrity of the Generating Equipment protection and control system including the Customer's submission of a one-line diagram of the Generating Equipment illustrating, among other things, all protection and control devices as set out in Schedule D;

inspection of the Facility and the Generating Equipment by H.O.B.;

results of a co-ordination study submitted for review to H.O.B. by the Customer;

payment of all outstanding costs due and payable by the Customer to H.O.B. relating to the connection of the Generating Equipment to the Distribution System;

whether the Customer has complied with all Applicable Law;

whether the Generating Equipment is fitted with suitable switching and protective equipment (in the opinion of H.O.B.) including automatic synchronizing equipment;

whether the Customer has Qualified Personnel, operating procedures and protocol in place to ensure the safe operation of the Generating Equipment in parallel with the Distribution System;

whether the Generating Equipment has been approved by the Ontario Electrical Safety Authority; and

whether all materials required to be submitted to H.O.B. for review and approval are in their final form and have not been altered or amended without notification to and approval from H.O.B..

COMMUNICATION AND NOTICES

Subject to Article 6, any notice, certificate, consent, determination, payment or other communication required or permitted to be given or made in writing under this Agreement shall be in writing and shall be effectively given and made if (i) delivered personally, (ii) sent by prepaid courier service or mail, or (iii) sent prepaid by fax or other similar means of electronic communication, in each case to the applicable address set out below:

if to Hydro One Brampton, to:

175 Sandalwood Pky West
Brampton, ON L7A 1E8
Attn: Michael Hale

Telephone: 905-452-5533
Fax No: 905-452-5542
Email: mhale@hydroonebrampton.com

if to the Customer, to:

Brampton, ON

Attn:

Fax No:
Email:

Any such communication so given or made shall be deemed to have been given or made and to have been received on the day of delivery if delivered, or on the day of faxing or sending by other means of recorded electronic communication, provided that such day in either event is a Business Day and the communication is so delivered, faxed or sent prior to 4:30 p.m. on such day. Otherwise, such communication shall be deemed to have been given and made and to have been received on the next following Business Day. Any such communication sent by mail shall be deemed to have been given and made and to have been received on the fifth Business Day following the mailing thereof, provided however that no such communication shall be mailed during any actual or apprehended disruption of postal services. Any such communication given or made in any other manner shall be deemed to have been given or made and to have been received only upon actual receipt.

Any Party may from time to time change its address under this Section by prior written notice to the other Party given in the manner provided by this Section.

All other notice or communication required or permitted under this Agreement shall be made by facsimile, telephone call or other simultaneous voice communication at the number(s) and to the persons and/or departments set out in Schedule B. The deposit of a voice message shall not be considered prior notice under this Agreement where such notice is required.

Each Party shall be able to contact the other party by telephone or other simultaneous voice communication at the number(s) as set out in Schedule B on a twenty-four (24) hour basis at all times.

In no circumstances shall the Parties make any change to the contact information contained in Schedule B without (a) delivering prior written notice to the other Party in accordance with Section 5.1 and (b) receiving written confirmation back of receipt of such written notice. The Parties hereby acknowledge that the nature of the operation of the Generating Equipment and the Distribution System is that instantaneous and/or Emergency communication may be required from time to time and therefore, the

contact information contained in Schedule B must be correct at all times and within the actual knowledge of each Party in order to safeguard life and property.

EMERGENCY OPERATING PROCEDURES

During an Emergency, either Party may take whatever immediate action is reasonably necessary in the circumstances and is qualified to perform, to safeguard life and property. The Party taking action in an emergency shall report such action to the other Party as soon as reasonably possible. For greater certainty, H.O.B. may be required to open the Customer's load interrupter switch (connecting the Facility to the Distribution System) to protect the stability of the Distribution System during an Emergency and such action may be taken without prior notice to the Customer.

OPERATING COVENANTS AND PROTECTION PROCEDURES

The Customer shall comply at all times during the Term with all Applicable Law relating to the Facility, the Real Estate and the Generating Equipment including the Electrical Safety Code and the *Occupational Health and Safety Act* (Ontario). The Customer shall operate or cause to be operated at all times the Facility and the Generating Equipment in accordance with the terms and conditions of this Agreement and in a prudent, reliable and safe manner in accordance with prudent industry practice and always with a view to safeguarding and protecting life and property including the Distribution System and the employees of H.O.B. and the Customer.

The Customer shall provide prior written notice to H.O.B. of any changes to the Facility or the Generating Equipment which may have any impact on the Distribution System including changes to the following:

interface protection relaying; and

control facilities and settings.

The notice shall provide a detailed description of the proposed changes and the steps being taken by the Customer to prevent any damage or injury to the Distribution System, life and other property. No change shall be made to the Generating Equipment in the foregoing circumstances without the prior written approval of H.O.B., acting reasonably.

The Generating Equipment shall not, in any circumstances, energize a H.O.B. circuit or a circuit under the control and operation of H.O.B.

The Customer shall not permit the flow of electricity in to the Distribution System at all times.

Upon request by H.O.B. from time to time, acting reasonably, the Customer shall demonstrate to H.O.B. the integrity of the protection and control system(s) relating to the Generating Equipment.

The Customer shall maintain, at all times, Qualified Personnel and authorized personnel at the Facility to operate the Generating Equipment in accordance with the terms and conditions set out in this Agreement.

The Customer shall contact and advise H.O.B. immediately of any abnormal operating conditions relating to the Generating Equipment including over or under voltage conditions, frequency conditions or voltage unbalance. The Customer shall take immediate steps to correct any such abnormal operating conditions.

The Customer shall maintain the following equipment related to the Generating Equipment in full functioning service at all times during the Term:

transfer trip protection devices;

interface protection devices; and

station services.

The Customer shall advise H.O.B. of any local or trade specific procedures that may have an impact on the overall operation and maintenance of the Generating Equipment.

In the event that the Customer is not operating or not causing the Generating Equipment to be operated in accordance with the terms and conditions of this Article 7, in the discretion of H.O.B., acting reasonably, H.O.B. may provide notice of the deficiency in operation to the Customer (with reasonable particulars of the deficiency in order that it may be identified and corrected by the Customer) and the Customer shall forthwith take reasonable steps to correct such deficiency within the period specified by H.O.B. in its notice, failing which H.O.B. may disconnect immediately the Generating Equipment from the Distribution System for an indefinite period pending resolution of the deficiency in operation satisfactory to H.O.B., acting reasonably. This provision is in addition to H.O.B.'s other rights under this Agreement including the right to terminate the Agreement and the connection of the Generating Equipment to the Distribution System.

The Customer shall ensure the closing of the Generating Equipment onto the H.O.B. feeder is synchronized.

Operating orders and messages will refer to nomenclature as identified on the one-line diagram attached as Schedule D.

WORK PROTECTION PRACTICES

All work on the Generating Equipment shall be carried out by the Customer in accordance with the Customer's practices and procedures which practices and procedures shall be consistent with the practices and procedures of a prudent operator in similar circumstances. At a minimum, the Customer shall meet the standards set forth in the *Occupational Health and Safety Act* (Ontario) and the Electrical Safety Code.

In the event the Generating Equipment must be isolated from the Distribution System, the Customer shall request H.O.B. to provide a Condition Guarantee on the terms requested by the Customer, acting reasonably. The Customer shall then establish its own Work Protection in accordance with the Customer's Work Protection practices. A request for a Condition Guarantee shall be verbally transmitted to H.O.B. and made with a minimum two Business Days advance notice.

MAINTENANCE

The Customer shall conduct routine and emergency maintenance on all equipment owned or controlled by it and related to the Generating Equipment and/or to the protection of the Distribution System. The Customer shall conduct the maintenance in a manner and at intervals as a prudent operator would conduct maintenance in similar circumstances. The maintenance shall include the inspection and testing of equipment and the replacement of old or damaged equipment.

The Customer shall make upgrades and rehabilitate equipment to ensure there is no degradation in equipment performance that would lead to unacceptable increases in equipment failure rates that would impact negatively on the Generating Equipment, the Facility and the Distribution System.

H.O.B. and the Customer may elect to conduct maintenance on their respective equipment during normal working hours even though this may prevent the parallel operation of the Generating Equipment. At the request and incremental cost of the Customer, H.O.B. may perform the required maintenance outside normal working hours.

The Customer shall maintain its relaying and control facilities and shall perform routine verification of its relaying and control facilities in accordance with the test schedule set out in Schedule C. The Customer shall retain records of such tests and re-verifications for inspection by H.O.B..

INFORMATION REQUIREMENTS AND EXCHANGE

H.O.B. and the Customer shall use reasonable efforts to keep each other informed of conditions and events within their respective jurisdictions that may affect each Party's respective assets related to the connection of the Generating Equipment to the Distribution System and the performance of each Party's obligations under this Agreement. Each Party shall consider the importance of various information in its possession relating to the safe and prudent operation of the Generating Equipment in parallel with the Distribution System when interpreting the words "reasonable efforts" set forth above in this Section.

The Customer shall maintain a daily operation log relating to the Generating Equipment which shall include:

general operating information on the Generating Equipment;

scheduled maintenance;

forced outages;

circuit breaker trip operations that require manual reset;

H.O.B. requested switching operations;

material events related to the operation of the Generating Equipment;

customer loading;

information related to verification of relaying and control facilities in accordance with the test schedule set out in Schedule C;

time of connection and disconnection of the Generating Equipment; and

such other information as H.O.B. may reasonably request from time to time.

The Customer shall retain the records contained in the daily operations log on file for a minimum of the previous five (5) years, and upon request shall provide information from the daily operations log to H.O.B.

ACCESS AND SECURITY

The Customer shall provide H.O.B. with immediate access to the Facility and the Generating Equipment on 24-hour basis at all times in the event of an Emergency. The Customer shall provide to persons designated by H.O.B. access codes and/or keys to the Facility.

The Customer shall provide H.O.B. with immediate access to all H.O.B. equipment located within the Facility and the Generating Equipment including all metering, monitoring and telemetry equipment on a 24-hour basis at all times.

The Customer shall provide to H.O.B. reasonable access to the Facility for H.O.B.'s purposes (in addition to the purposes set out in Sections 11.1 and 11.2) including the inspection of the Facility and the Generating Equipment by H.O.B. and the safe and efficient operation of the Distribution System.

The Customer shall provide prior written notice to H.O.B. prior to any modification to the electrical room, entrance way or security of the Facility which affects the ability of H.O.B. to gain access to the Facility on the same basis as set out above in Section 11.1 following any modification or change.

Subject to Article 6, all H.O.B. personnel shall contact the Customer prior to accessing the Facility and/or Generating Equipment.

The Customer shall ensure that the Generating Equipment is secure and shall take measures to prevent damage to or interference with the Generating Equipment by third parties.

INSURANCE AND INDEMNIFICATION

The Customer shall indemnify, defend and hold harmless H.O.B. and H.O.B.'s affiliates, and its and their directors, officers, employees, and agents (each an "Indemnified Party"), from and against all claims, losses, damages, costs, liabilities, obligations, and expenses (including reasonable legal fees) suffered by the Indemnified Party caused by, or arising, directly or indirectly, from, a claim by a third party relating to:

the inaccuracy, incorrectness or breach of any representation or warranty made by the Customer in this Agreement;

the business and activities of or related to, as the case may be, the Customer, the Facility or the Generating Equipment;

the operation, control and/or maintenance of the Facility, the Real Property and the Generating Equipment by the Customer; or

the Customer's performance or failure to perform its obligations under this Agreement;

in each case except to the extent that the claims, losses, damages, costs, liabilities, obligations or expenses are determined to have resulted solely from the negligence or intentional misconduct of the Indemnified Party.

Each Indemnified Party will promptly notify the Customer in writing of any claim described above, and the Customer will have the sole right to conduct the defence of any claim at the Customer's sole expense and all negotiations for its settlement or compromise, provided that the Customer will obtain the Indemnified Party's consent to the final terms of any settlement or compromise, which consent shall not be unreasonably withheld. In the event that the Customer does not undertake to conduct the defense of any claim as provided above, H.O.B. or the Indemnified Party may assume and control the defense and the Customer shall fully co-operate with H.O.B. or the Indemnified Party in conducting such defense and make available all witnesses, records, materials and information in the Customer's control relating to the claim as are required by H.O.B. or the Indemnified Party in conducting such defense. The Customer shall bear all costs incurred by H.O.B. or the Indemnified Party in conducting the defense of a claim by a third party.

The Customer shall insure the Facility and the Generating Equipment with a reputable insurer against accidents as a prudent operator of the Facility and the Generating Equipment would insure. The insurance policy shall carry limits of liability in an amount not less than $15,000,000 inclusive per occurrence for bodily injury, death and damage to property including loss of use of such property (such insurance shall be separate from standard automobile policies for any vehicle(s), providing third party liability and accident benefits insurance) and shall name H.O.B. as an additional insured with a cross-liability clause attached to the policy. The policy shall cover risks of environmental damage or loss as a result of the operation by the Customer of the Facility, the Real Property and the Generating Equipment. If requested by H.O.B., the Customer shall provide evidence to H.O.B. that the policy of insurance is in effect, that H.O.B. has been named as an additional insured and/or the premiums on the policy have been paid and are up to date and are in full force and effect.

PAYMENTS AND CHARGES

H.O.B. shall charge the Customer and the Customer shall pay H.O.B. for services performed relating to the Facility and the Generating Equipment including the following:

all costs incurred in reviewing and approving proposed generator installation; or

all costs for connection, re-connection or disconnection of the Generating Equipment to the Distribution System.

Unless agreed otherwise, H.O.B. shall invoice the Customer for all products and services provided and the Customer shall pay in full all amounts owning in connection with such invoices within 35 days of the invoice date.

TERM AND TERMINATION

The term of this Agreement (the "Term") will begin on the date first written above and continue until terminated in accordance with this Article.

The Customer may terminate this Agreement for any reason whatsoever on at least ninety (90) days prior written notice by the Customer to H.O.B. provided that any and all payments due to H.O.B. at the date of termination shall be made forthwith by the Customer.

H.O.B. may, in its sole discretion, terminate this Agreement upon the occurrence of one or more of the following at which time any and all payments due to H.O.B. shall be made forthwith by the Customer:

the Customer breaches the terms of this Agreement and fails to remedy the breach within five (5) Business Days following its receipt of written notice of the breach from H.O.B.;

a petition for relief under any bankruptcy legislation is filed by or against the Customer, or the Customer makes an assignment for the benefit of creditors, or a receiver is appointed, for all or a substantial part of the Facility and/or the Generating Equipment, and the petition, assignment or appointment is not dismissed or vacated within thirty (30) days; or

the Customer sells, transfers or assigns the Generating Equipment to a third party.

Any obligation of either Party to the other pursuant to the terms and conditions of this Agreement which is outstanding or due upon the termination of this Agreement shall survive such termination including any obligation to indemnify hereunder.

DISPUTE RESOLUTION

The Parties shall use reasonable efforts to resolve any dispute arising in connection with this Agreement failing which the Parties may exercise those remedies available under Applicable Law.

ENVIRONMENTAL REQUIREMENTS AND INDEMNITY

The Customer shall store and handle regulated and hazardous wastes and all other substances in accordance with Applicable Law including Ontario Regulation 347 - Waste Management Regulation of the *Environmental Protection Act* (Ontario). The Customer shall take immediate action in accordance with Applicable Law to clean up a spill of any hazardous, toxic or regulated waste on or in connection with the Real Property, the Facility and the Generating Equipment.

In addition to the indemnification provided in Article 12, the Customer covenants and agrees to indemnify, defend and hold harmless H.O.B. and H.O.B.'s affiliates, and its and their directors, officers, employees, and agents (each an "Indemnified Party") from and against all claims, losses, damages, costs, liabilities, obligations, and expenses (including reasonable legal fees) which may be made, brought against or suffered by an Indemnified Party and all damages which they may suffer or incur, directly or indirectly, as a result of or in connection with:

the presence of any hazardous substances on or within the real property (the "Real Property") of the Facility (whether it is owned or leased)(including underlying soils and substrata, surface water, groundwater and vegetation) which are not in compliance with Applicable Law or which exceed the decommissioning or remediation standards under any Applicable Law or standards published or administered by those governmental authorities responsible for establishing or applying such standards;

the presence of any hazardous substances on or within properties adjoining or proximate to any of the Real Property (including underlying soils and substrata, surface water, groundwater and vegetation) relating to any act or omission of the Customer or in any way related to the carrying on of the business at the Facility which is not in compliance with Applicable Law or which exceed the decommissioning or remediation standards under any Applicable Law or standards published or administered by those governmental authorities responsible for establishing or applying such standards;

any remedial order imposed in connection with the Generating Equipment, the Facility, the Real Property and/or any business carried on at the Facility (including underlying soils and substrata, surface water, groundwater and vegetation) relating to any condition, event or circumstances existing or occurring during the Term; and

any remedial order imposed in connection with properties adjoining or proximate to the Real Property (including underlying soils and substrata, surface water, groundwater and vegetation), in each case relating to any act or omission of the Customer or in any way to the carrying on of the business(es) carried on at the Facility.

GENERAL

The purchase and sale of electricity between the Customer and H.O.B., in relation to the operation of the Facility and the Generating Equipment shall be the subject matter of the Retail Settlement Code.

Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction will, as to that jurisdiction, be ineffective to the extent of such prohibition or unenforceability and will be severed from the balance of this Agreement, all without affecting the remaining provisions of this Agreement or affecting the validity or enforceability of such provision in any other jurisdiction.

This Agreement, constitutes the entire Agreement between the Parties pertaining to the subject matter of this Agreement and supersedes all prior agreements, understandings, negotiations and discussions, whether oral or written. There are no conditions, warranties, representations or other agreements between the Parties in connection with the subject matter of this Agreement (whether oral or written, express or implied, statutory or otherwise) except as specifically set out in this Agreement.

Neither Party may assign this Agreement without the prior written consent of the other Party except that H.O.B. may assign this Agreement to a purchaser of all or substantially all of the assets comprising the Distribution System without the consent of the Customer.

This Agreement will be governed by and construed in accordance with the laws of the Province of Ontario and the laws of Canada applicable in that Province and shall be treated, in all respects, as an Ontario contract. The Parties hereby attorn to the exclusive jurisdiction of the courts of Ontario.

Time will be of the essence of this Agreement in all respects.

Each Party will, promptly do, execute, deliver or cause to be done, executed and delivered all further acts, documents and things in connection with this Agreement that the other Party may reasonably require, for the purposes of giving effect to this Agreement and the spirit and intent of this Agreement.

No amendment of this Agreement will be effective unless made in writing and signed by the Parties.

A waiver of any default, breach or non-compliance under this Agreement is not effective unless in writing and signed by the Party to be bound by the waiver. No waiver shall be inferred from or implied by any failure to act or delay in acting by a Party in respect of any default, breach or non-observance or by anything done or omitted to be done by the other Party. The waiver by a Party of any default, breach or non-compliance under this Agreement will not operate as a waiver of that Party's rights under this Agreement in respect of any continuing or subsequent default, breach or non-observance (whether of the same or any other nature).

This Agreement will ensure to the benefit of, and be binding on, the Parties and their respective successors and permitted assigns.

This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original and all of which taken together shall be deemed to constitute one and the same instrument. Counterparts may be executed either in original or faxed form and the Parties adopt any signatures received by a receiving fax machine as original signatures of the Parties; provided, however, that any Party providing its signature in such manner shall promptly forward to the other Party an original of the signed copy of this Agreement which was so faxed.

Except to the extent otherwise required by law or with the prior written consent of the other Party, neither Party will make any public announcement regarding this Agreement or the transactions contemplated by this Agreement.

Subject to the Section 17.7 (the requirement that any amendment made hereto be made in writing and signed by the Parties), either Party, acting reasonably, may request that the Parties review this Agreement. In any event, the Parties will meet at least every two (2) years (the “Bi-Annual Review”), commencing within fifteen (15) Business Days of the second anniversary of this Agreement, to review the terms and conditions of this Agreement. The Parties agree to meet within fifteen (15) Business Days of the anniversary date of this Agreement during each year in which a Bi-Annual Review is to take place.

IN WITNESS WHEREOF the Parties hereto by their duly authorized representatives have executed this Agreement as of the date first written above.

HYDRO ONE BRAMPTON NETWORKS INC.

_____c/s
Name:
Title:
I have authority to bind the Corporation

CUSTOMER

_____c/s
Name:
Title:
I have authority to bind the Corporation

DEFINITIONS

In this Agreement, the following terms shall have the meanings set out below unless theontext requires otherwise.

Agreement means this Connection Agreement including the Schedules to this Connection Agreement as it or they may be amended or supplemented from time to time, and the expressions “hereof”, “herein”, “hereto”, “hereunder”, “hereby” and similar expressions refer to this Connection Agreement and not to any particular Section or other portion of this Connection Agreement.

Applicable Law means with respect to any person, property, transaction, event or other matter, any law, rule, statute, regulation, order, judgment, decree, treaty, guideline or other requirement having the force of law (collectively the “Law”) relating or applicable to a person, property, transaction, event or other matter. Applicable Law also includes, where appropriate, any interpretation of the Law (or any part) by any person having jurisdiction over it, or charged with its administration or interpretation.

Bi-Annual Review shall have the meaning set out in the Recitals hereto;

Business Day means any day except Saturday, Sunday or any day on which banks are generally not open for business in the City of Brampton.

Condition Guarantee is a guarantee issued in support of Work Protection, which shall set out in detail the terms of the Work Protection. For example, the period for which specified electrical equipment shall remain in a de-energized state in order that maintenance work can be performed by Qualified Personnel. The Condition Guarantee may state that the guarantee shall continue for the period until such guarantee is surrendered by the Party in whose favour it was given. It is intended that a Work Protection shall ensure that apparatus specified in the Work Protection will remain in a given position for the length of time the Work Protection is in effect.

Distribution Code shall have the meaning set out in the Recitals hereto.

Distribution System shall have the meaning set out in the Recitals.

Emergency means an imminent or existing condition or situation which in the reasonable judgment of H.O.B. or the Customer, as applicable, will affect the ability of either Party to maintain a condition of safety in relation to the Generating Equipment and the Distribution Facility.

Facility shall have the meaning set out in the Recitals hereto. For greater certainty, the Facility shall include all assets and equipment located at, on or within the Facility including the Generating Equipment.

Generating Equipment shall have the meaning set out in the Recitals hereto.

Including means including without limitation, and “includes” means includes without limitation.

Indemnified Party shall have the meaning set out in Sections 12.1 and 16.2.

Isolated means a condition in which electrical equipment is disconnected or separated from sources of energy by industry accepted devices and procedures.

Party means a party to this Agreement and any reference to a Party includes its successors and permitted assigns; “Parties” means every Party.

Qualified Personnel means persons with all required licenses and the level of skill and training that would be reasonably required by a prudent operator to control and operate the Generating Equipment in a safe and reliable manner in accordance with the terms and conditions of this Agreement.

Real Property shall have the meaning set out in Subsection 16.2(a).

Term shall have the meaning set out in Section 14.1.

Work Protection is a state or condition whereby an Isolated state or condition has been established for work to be performed on specified equipment.

SCHEDULE A

CONTACTS

[Note to Draft: Contact numbers and persons/departments including emergency contact numbers should be set forth in this Schedule.]

Hydro One Brampton

Control Centre (24 hr.):	905-840-6300 ext. 7250
Control Centre Supervisor:	905-840-6300 ext. 5529
Control Centre Facsimile:	905-452-5536

Customer

(to be inserted)

VERIFICATION OF PROTECTION AND CONTROL SYSTEMS AND DEVICES

1. The Generating Equipment protection systems that may impact on the Distribution System shall be re-verified every four (4) years by the Customer.

2. The Customer shall provide H.O.B. with at least seven (7) days notice of the re-verification of Generating Equipment protective relaying and shall provide to H.O.B. documentation confirming that the re-verification has been completed. H.O.B., in its discretion, may elect to supervise the testing and the Customer shall provide access for such supervision.

   Re-verification of the Generating Equipment protective relaying shall include:

   - Relay recalibration;
   - Test tripping of Generating Equipment breakers; and
   - Measurement and analysis of secondary AC voltages and currents to confirm integrity of protection system.

3. Specific protections to be observed and/or confirmed:

   - All line, generator, bus and transformer protections that trip the circuit switcher.
   - Confirmation that Generating Equipment settings accepted and submitted by H.O.B. are applied to the following protections:
   - Over/under voltage;
   - Over/under frequency; and
   - Line/feeder protection

SCHEDULE D

ONE-LINE DIAGRAM

One-line diagram attached hereto.

APPENDIX

4

Reference Guides / Standard Drawings for
Commercial / Industrial Services

APPENDIX 4

Reference Guides/Standards for Commercial/Industrial Services Constructions

Please consult with Hydro One Brampton to ensure that your design's incorporate the most recent versions of our standard drawings.

Guide/Standard#	Description
Guides: TS-01	Commercial – Industrial Customer Data Form
TS-02	Customer-Owned Station Pre-service Inspection
TS-03	Transformer Vault Guide
TS-04	Three-phase Padmounted Transformer Guide
TS-05	Underground Concrete encased Primary Duct Structure Guide
TS-06	Overhead Supply Service Guide
TS-07	Underground Supply Lines
TS-08	Approved Meter Bases – Typical
TS-09	Pre-cast Foundation Base for Three-Phase Padmount Transformer
TS-10	Three Phase Padmounted Transformer Dimensions
Standard Drawings:	
37-114	Installation of Precast Foundation for Three Phase Pad-mounted
41-11	Transformer Three Phase Padmount Transformer Grounding Detail
37-116	Padmount Transformer Clearances from Vegetation
37-113	Installation of Precast Foundation for Single Phase Padmount Transformers
41-10	Single Phase Padmount Transformer Grounding Detail
37-380	Guard Post Detail
37-217	Three Phase Padmount Transformer Guard Post Installation
37-202	Typical Building Vault Layout
37-360	Prefabricated Manhole Detail
37-361	Manhole Cable Racking and Internal Grounding Detail
37-363	Typical Concrete Manhole Chimney Installation
37-120	Installation of Switchgear Foundation Base
27-15	General Service Meter Cabinet and Meter Socket Installation
27-30	Utility / Electrical Room Door
25-40	Maximum Short Circuit Current
19-50	Typical Transformer Impedances
41-37	Manhole External Grounding Detail

TS-01

Hydro One Brampton
175 Sandalwood Pkwy West
Brampton, Ontario L7A 1E8
Tel: (905) 840-6300
Fax: (905) 840-1305

Date: _____

Re: Electrical Demand (kW) Load Information to Hydro One Brampton Networks Inc.

In accordance with the Ontario Energy Board's (O.E.B.) Distribution System Code, sections 3.1, 3.1.5, & 3.1.6, (latest revision), and in accordance with Hydro One Brampton's (H.O.B.) Condition of Service sections 2.1.1, 2.1.2, 2.1.2.2, & 2.1.2.3, (latest revision), I/We provide the "Electrical Demand Load Information" identified on page two of this agreement, and confirm that it will be consumed at the municipal address shown on page two.

I/We understand that based on the information provided, H.O.B. will perform an initial economic evaluation to determine the need for a capital contribution by the customer.
If a Capital Contribution is required, I/We agree to deposit this estimated contribution at least four weeks prior to H.O.B. commencing its work at our project site.

I/We further understand and accept that (as per H.O.B.'s Condition of Service) H.O.B. will review actual construction costs incurred and revise its economic evaluation accordingly. Adjustments to any capital contribution previously calculated will be forwarded to the undersigned.

I/We provide the following details to assist Hydro One Brampton design the electrical service required for connection of our proposed facility to the Hydro One Brampton Networks Inc distribution system:

Authority:

Company Name: _____

Name: _____ **(print)**

Signature: _____

Title: _____

I have authority to bind the Corporation.

Deposit To Be Provided By:

Company Name: _____

Mailing Address: _____

Telephone Nbr: _____

COMMERCIAL & INDUSTRIAL
CUSTOMER DATA

A. GENERAL

Address of Property: _____
Legal Name of Company Developing Property: _____
Address of Company Developing Property: _____
_____
Building to be Occupied By: _____
Building Area: _____

B. ELECTRICAL SERVICE REQUIREMENTS:

Service Voltage: _____
Service Size (Amps): _____

C. ELECTRICAL DEMAND LOAD (kW)

Confirmed Demand Load (kW): _____

D. LOAD CHARACTERISTICS:

Largest Motor (hp): _____
Welders (Number, Size & Type): _____
Lighting Load (kW): _____
Electrical Heating (kW): _____
Air Conditioning (kW): _____
Computer: _____
Miscellaneous: _____
Total Connected Load (kW): _____
Initial Demand Load (kW): _____

E. PROJECT CONTACTS:

Owner Representative:_____ Phone:_____
Electrical / Mechanical Consultant: _____ Phone: _____
General Contractor: _____ Phone: _____
Architect: _____ Phone:_____
Electrical Contractor: _____ Phone: _____

F. CONSTRUCTION SCHEDULE:

Start of Construction: _____
Temporary Service Required By: _____
Permanent Service Required By: _____

Customer-Owned Sub-Station Pre-Service Inspection

Customer:	
Location:	
Date Performed:	
Disconnect Switch:	- type, ratings, condition.
Lightning Arresters:	- type, ratings, condition,
Fusing:	- type, ratings, condition, TCC.
Primary Cable & Terminations:	- type, ratings, termination high potential test values, time leakage.
Secondary Cable:	- type, size, connection type, and condition, number of conductors per phase
Transformer (customer owned)	- manufacturer, serial number, ratings, leaks, insulation, resistance test values, oil test results, including dielectric strength, neutralization number, interfacial tension, colour, API gravity and bolted connections
Transformer (Hydro owned)	- same as above except that Hydro personnel will check the condition of bolted connections.
Site:	- fence integrity, grounding, interlock

3.0 TRANSFORMER VAULTS

3.1 Transformer vaults supplied by the owner for the installation of Hydro One Brampton owned transformers shall conform to the Ontario Electrical Safety Code and to Hydro One Brampton's requirements. The location, size and vault configuration for each building will be determined in consultation with the Technical Services Department before building construction begins to ensure satisfactory space and access requirements have been provided.

3.2 The vault is to be constructed to the detail and specifications shown on Hydro One Brampton's standard vault drawing No. 37-202 and to the design shown on the vault detail sketch to be issued by the Technical Services Department for each building or project requiring a vault. All vaults will be constructed on grade.

3.3 Transformer vaults shall be located so as to provide a free and clear entrance for personnel and equipment directly from the outside. Equipment access requires a vault location adjacent to pavement that will provide for free and safe mobility of Hydro One Brampton vehicles.

3.4 Hydro One Brampton's employees and agents shall have access 24 hours to the vault to permit them to maintain supply to the building.

3.5 A ventilation system shall be provided in accordance with the requirements of Hydro One Brampton.

Ventilation openings are to be sized according to Table "A" of our Standard Drawing 37-202. The air intake vent is to be located 450mm above inside grade and the air exhaust vent is to be located as close as possible to the vault ceiling. Ventilation opening to have 60mm spaced gabled double louvre vent made of 16 GA galvanized steel and separated by a ½" square mesh bird screen, or 12 GA. aluminum louvres separated by a ½ " square bird screen complete with a centre support bar. A security bar made of ½" round bars, welded and having 150mm square spacing should be securely fastened to the inside wall of the intake vent.

3.6 Only equipment belonging to Hydro One Brampton will be located in the vault and to ensure that only persons familiar with high voltage equipment have entry, Hydro One Brampton will padlock the vault door.

3.7 Hydro One Brampton will supply and install all equipment and transformers. This includes warning signs, all electrical work in the vault and the connection to the owner's transition bus duct (or secondary cables).

3.7.1 Secondary connections between the electrical room and transformer vault are to be provided and installed by the owner in accordance with the requirements of Hydro One Brampton and the Ontario Electrical Safety Code and shall be via a transition unit.

3.7.2 Detail drawings of the transition unit must be submitted to the Technical Services Department for approval prior to fabrication. Drilling details will be shown on a separate standard drawing included with the approved shop drawing(s) when returned to the submitter.

3.7.3 The exact location of the secondary entrance to the transformer vault will be determined by Hydro One Brampton.

3.7.4 All the necessary secondary connections within the vault will be completed by Hydro One Brampton.

3.8 The owner will supply a separately fused lighting circuit and a standard 120V receptacle solely for vault purposes.

3.9 Subject to prior approval by Hydro One Brampton, ground rods may be located in an area remote from the vault. They shall be installed in the form of a grid to meet Ontario Electrical Safety Code Section 36-300, 36-302 etc.

3.10 Hydro One Brampton representatives will inspect the vault according to the following schedule:

- before floor or ceiling has been poured and with the duct entry to the vault in position.

- upon completion of ducts and vault including ventilation, drains, doors, grounding and painting.

Reasonable notice (48 hour minimum) is required by Hydro One Brampton's Inspection Department for those inspections.

4.0 THREE PHASE PAD MOUNTED TRANSFORMERS

4.1 A three phase pad mounted transformer will be provided by Hydro One Brampton for services up to and including 1600 ampere at 347/600V or 1600 ampere at 120/208V. Hydro One Brampton will require a five meter wide easement over the transformer and a three meter easement over the primary duct bank to the street line. We may also require extra ducts, the number to be determined by the Technical Services Department.

4.2 A precast transformer foundation is to be supplied and installed by the customer to the requirements shown on Hydro One Brampton Standard Drawing No. 37-114. For grounding details, see Hydro One Brampton Standard Drawing No. 41-11.

4.3 Padmounted transformers are to be located so that the line of sight measurement from the transformer to doors, windows or other building openings is a minimum of three meters. The distance from the transformer to vehicle access is to be maximum of 4.5 meters.

4.4 In order to avoid a direct view of the pad mounted transformer form the street, we ask that it be concealed by location, shrubs, decorating walls or beams. When deciding the method of concealment you must ensure that the side of the transformer containing doors will be kept clear of walls or other obstructions. Walls or shrubs can be used to conceal the other three sides but must be no closer to the transformer than 1 meter.

4.5 Hydro One Brampton’s employees and agents shall have 24 hours access to the transformer to permit them to maintain supply to the building.

4.6 For approval of your design or assistance in choosing a suitable location for the padmount transformer please contact our Technical Services Department.

4.7 Consult with the City of Brampton Site Plan Approval process to ensure that the proposed placement of the pad mount transformer meets City of Brampton by-laws.

5.0 UNDERGROUND CONCRETE ENCASED PRIMARY DUCTS

5.1 The customer shall supply and maintain a sufficient number of concrete encased ducts to permit the installation of conductors by Hydro One Brampton.

5.2 The duct run shall consist of parallel ducts; the number and arrangements of ducts to be specified by Hydro One Brampton. These ducts shall have an internal diameter of 100mm and shall be terminated with bell fittings at each end unless otherwise specified.

5.3 The duct lengths shall be joined together with an approved coupling to provide a sound and watertight joint. The joints in adjacent ducts shall be staggered by at least 200 mm. The minimum bend radius permitted with a performed duct will be 1.5 metres.

5.4 The ducts shall be laid with a spacing of 150mm centre to centre, both horizontally and vertically. Spacers shall be plastic or masonry. Wooden spacers shall not be used. Two spacers per 3m of conduit shall be used.

5.5 The top surface of the duct bank shall be at least 760mm below the finished grade and a maximum of 1060m below the finished grade where the duct bank terminates at or near the street line.

5.6 The ducts shall have an even slope in one direction of not less than 75mm in 30m to provide drainage. If, in order to meet the requirements of paragraph 8.5 above, the direction of slope is from the street to the building, a soak away pit or riser manhole must be incorporated. The method to be used will be determined upon application to the Technical Services Department.

5.7 The ducts shall be Type 2, P.V.C. These ducts shall comply with C.S.A. Standards C22.2, B196.1 - 1972 and any subsequent revisions.

The ducts shall be encased with 20 mpa concrete with a maximum size aggregate of 10mm. A minimum cover of 75mm will be maintained on all sides, excluding bottom where cover will be 125mm. The concrete will be worked below and between pipes, to produce a level homogeneous mass, clear of voids.

5.8 The duct run shall be reinforced whenever it is laid over recent fill where the trench bottom is not solid, in areas of proposed driveways, roadways, and parking lots and in all other locations specified by Hydro One Brampton. The trench shall be deepened and the foundation spacers blocked up from the bottom to ensure a concrete base thickness of 125mm. Reinforcing steel bars 15mm (5/8”) diameter shall be laid longitudinally along the trench with 100mm lateral spacing and 50mm above the base of the concrete. An overlap of 610mm on the reinforcing bars shall be provided where necessary. Reinforcing shall extend 1.5m out from such entry walls; the bars being embedded in the walls.

5.9 The contractor shall apply to Hydro One Brampton Technical Services Department 48 hours before digging the trench. The contractor will then schedule construction and pouring inspections with our Inspection Department.

5.10 When complete, the ducts shall be clean, waterproof and free from obstructions and the ends plugged with standard plastic duct plugs to prevent the ingress of moisture and dirt. The ducts shall be tested for clearance with a 95mm mandrel in the presence of a Hydro One Brampton representative. The mandrel shall be pulled through a minimum of 1.5m bending radius. A non-metallic, non-deteriorating rope of minimum five hundred pound breaking strength shall be installed in each duct (e.g. 5mm polypropylene rope).

5.11 Where it is required that the customer's ducts shall join directly with Brampton Hydro's ducts, the customer's ducts shall be left projecting (minimum 305mm) from their concrete envelope in staggered pattern. They shall be equipped with suitable couplings and plugged until the joints are made. The face of the concrete envelope shall be left rough to key with the extension envelope and 15mm diameter steel reinforcing bars 1.8m in length shall be encased longitudinally in the envelope, 50mm inside the perimeter of the bank at 100mm centres along sides and bottom of the bank. The rods shall project 914mm from the concrete to anchor firmly into the concrete of the extension when the latter is poured. The end of the duct bank is to be marked with a 50mm x 100mm x 1.8m stake with the bottom of the stake level with the end of the duct bank.

5.12 Where a duct bank is not to be continued, reinforcing bars and ducts complete with bell ends shall terminate flush with the end of the concrete encasement.

6.0 OVERHEAD SUPPLY LINES

6.1 Where conditions require the construction of a pole line by the customer to obtain service, the pole line shall be guyed at opposite ends in such a manner to be considered self-supporting.

6.2 For secondary voltage supply, the customer's first pole from the road shall be located within 30m of Hydro One Brampton's line pole. The size of this pole will be determined upon application to the Technical Services Department. The customer will leave sufficient conductor coiled at the base of the pole for Hydro One Brampton to connect to its line pole on the street.

6.3 For high voltage supply, the line must be constructed in accordance with detail and specifications outlined on a drawing to be prepared by the customer and approved by Electrical Safety Authority and Hydro One Brampton. Where the primary supply voltage is 27.6 kV or below, the line must be constructed and insulated to Hydro One Brampton 27.6 kV standards.

6.4 All distribution at any primary voltage other than 44kV is a 4 wire. The customer is required to bring out a neutral conductor for connection to the system neutral. If not required for the customer's use, this neutral shall be connected to the customer's station ground system.

6.5 Sufficient primary conductor must be left coiled at the base of the pole closest to the road for connection to Hydro One Brampton's circuit by Hydro One Brampton. The minimum conductor size shall be 3/0 ACSR.

6.6 Should a customer install a pole on which our transformers are to be erected, he/she will be responsible for installation of ground rods in undisturbed earth at the pole location.

6.7 Clearances from buildings shall be sufficient to meet the Electrical Safety Authority regulations as outlined in the current edition of the Ontario Electrical Safety Code.

7.0 UNDERGROUND SUPPLY LINES

7.1 With the exception of high voltage supply to customer substations, supply to customers in new industrial subdivisions will be by way of underground lines from the road allowance to the customer's building.

7.2 The customer will provide and install concrete encased ducts constructed to Hydro One Brampton's standards (see TS-05) for primary circuits. Secondary ducts will be built as per the Ontario Electrical Safety Code, unless Hydro One Brampton is providing secondary cables into the customer's service. Consult with H.O.B..

7.3 Duct structures will be terminated at the road allowance as designated on a drawing that will be prepared by Hydro One Brampton. Duct construction must not commence until this drawing has been received.

7.4 Where Hydro One Brampton is required to cross a roadway underground to bring electrical supply to a customer, the customer shall terminate his duct structure in a staggered pattern with the ducts and re-bar extending beyond the end of the concrete envelope. See Section TS-05 – 5.11 and 5.12.

7.5 Hydro One Brampton will supply and install primary conductor to the point of supply as agreed upon.

7.6 The customer's primary or secondary service entrance equipment shall be built as per the Ontario Electrical Safety Code.

7.7 The customer is required to supply and install C.S.A. approved secondary conductors between the main disconnect switch and the utilities point of attachment, and leave sufficient conductor coiled for our use. The conductors used must meet Electrical Safety Authority approval. The customer shall supply CSA approved 2 hole compression style lugs suitable for crimping by Hydro One Brampton.

7.8 For high-voltage supply to a customer-owned metal clad switchgear, the line terminals of the incoming load interrupter shall have connectors suitable for cable terminators. The terminators will be supplied by Hydro One Brampton and be of the modular style.

A minimum vertical dimension of 914mm is required between the concrete pad surface and terminator connection to the switch, and each cable entry through the pad shall be directly below the terminating point. (Cable entries grouped in one location are not acceptable). Adequate space is required to permit training of cables to the terminals).

TS-08

Meter Socket Requirements for Hydro One Brampton

Microlectric

Application	Phase	Wire	Amps	Voltage	Socket Jaws	Style	Model Number(s)
Residential Self Contained	1	3	100	120/240	4	O/H	BA3-TCV or BE1-TCV
Residential Self Contained	1	3	100	120/240	4	U/G	MO2-V or MO2-V0
Residential Self Contained	1	3	200	120/240	4	O/H	BQ2-V or BS2L-V
Residential Self Contained	1	3	200	120/240	4	U/G	MO2-V or MO2-V0
Residential Transformer Rated	1	3	400	120/240	5	U/G	JS4A-400 *
Commercial Self Contained (Network)	3	3	100	120/208	5	O/H or U/G	BE1-TVC-IN-6 or -9 or BS2L-TVC-IN-6 or -9
Commercial Self Contained (Network)	3	3	200	120/208	5	O/H or U/G	BS2-TVC-IN-6 or -9 or BS2L-TVC-IN-6 or -9
Commercial Self Contained	3	3	100	600	5	O/H or U/G	BE1-TVC-IN-6 or -9 or BS2L-TVC-IN-6 or -9
Commercial Self Contained	3	3	200	600	5	O/H or U/G	BS2-TVC-IN-6 or -9 or BS2L-TVC-IN-6 or -9
Commercial Self Contained	3	4	100	120/208	7	O/H or U/G	PL17-TCV-IN
Commercial Self Contained	3	4	100	347/600	7	O/H or U/G	PL17-TCV-IN
Commercial Self Contained	3	4	200	120/208	7	O/H or U/G	PL27-TCV-IN
Commercial Self Contained	3	4	200	347/600	7	O/H or U/G	PL27-TCV-IN
Central Metering	1	3	200 +	120/240	5	O/H	CL5-V *
Commercial Transformer Rated	3	4	200 +	120	13	U/G	CT-113 **

Notes: * to be purchased through Hydro One Brampton Only

** special approval only

Ganged Meter Base - Residential - See Hydro One Brampton Standard # 27-20

TS-09

PRE-CAST FOUNDATION BASE FOR
THREE-PHASE PADMOUNT TRANSFORMER

75 KVA - 1500 KVA

Item	Industrial Cast Stone	Brooklin Concrete Products (Newmarket, ON)
Transformer Base		
75 kVA - 1500 kVA	ICS # 206	BCP 114PB
Top Lid Cover		
75 kVA - 500 kVA	ICS # 206A	BCP 114TBA9
750 kVA - 1500 kVA	ICS # 206B	BCP 114TBB9

Note: Telephone Numbers: Brooklin 1-888-407-6443 (Toll Free)

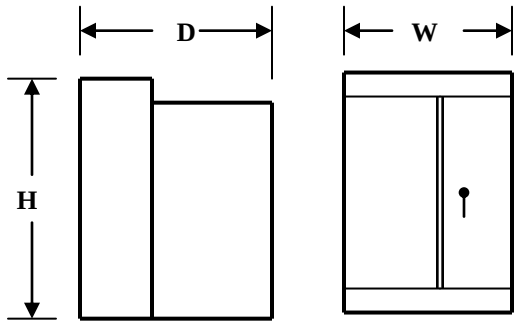
Industrial 1-905-737-5330

TS-10

THREE PHASE PADMOUNTED TRANSFORMER DIMENSIONS

TRANS SIZE (kVA)	VOLTAGE (kV)			DIMENSION (mm)		MASS (kg)
	PRIM	SEC	D'	W'	H	
75	27.6/16	600/347	----	----	----	1570
150	27.6/16	208/120	1124	1473	1791	1870
150	27.6/16	600/347	1173	1473	1791	2000
300	27.6/16	208/120	1226	1473	1892	2615
300	27.6/16	600/347	1275	1603	1791	2475
500	27.6/16	208/120	1275	1655	1791	3055
500	27.6/16	600/347	1275	1655	1791	3040
500	27.6x13.8	208/120	1325	1655	1892	3250
500	27.6x13.8	600/347	1275	1655	1892	3145
750	27.6/16	208/120	----	----	----	----
750	27.6/16	600/347	1327	1727	1892	3645
1000	27.6/16	600/347	1454	1857	1892	4795
1500	27.6/16	600/347	1555	1857	1892	6808
POWER TX 1500	44	600/347	2057	1905	2135*	6740

NOTE: * - MINIMUM TANK HEIGHT
' – INCLUDES FINS



APPENDIX

5

Reference Guides / Standards for Residential Subdivision Construction

APPENDIX 5

Reference Guides/Standards for Residential/Subdivision Construction

Please consult with Hydro One Brampton to ensure that your designs incorporate the most recent version of our standard drawings.

Guide/Standard#	Description
Guides: TS-08	Approved Meter Bases - Typical
Standard Drawings:	
25-053	Typical Installation of 30" Deep Junction Tap Box
25-102	600amp Splitter Box for 120/240v Underground Service
25-103	Termination for Residential Underground Secondary Service
25-104	Termination for Residential Underground 400amp Secondary Service
25-110	Service Lateral from Main Trench to Meter Base
25-111	Service Lateral Terminations
27-20	Typical End Unit Gang Metering Installation
37-100	Cable in Conduit Installation for Mini-Pad Transformer
37-109	Transformer Base and Communications Plant Layout
37-113	Installation of Precast Foundation for 1 PH Padmount Transformer
37-120	Installation of Switchgear Foundation Base
37-199	Duct Bank Details
37-200	Typical Road Crossing details
37-201	Typical Duct and Trench Details
37-208	Typical Road Crossing for Cable in Conduit Installation
37-211	Typical 1 PH Padmount Transformer Installation
37-360	Prefabricated Manhole Detail
37-363	Typical Manhole Installation
37-380	Typical Concrete Chimney Installation
37-450	Typical Guard Post Detail
41-005	Typical Grounding Rod Installation
41-010	1 PH Padmount Transformer Grounding Detail (Alternative B)
41-012	Padmounted Switchgear Grounding Detail
41-013	Installation of Grounding and system Neutral on Padmounted Switchgear

APPENDIX

6

Sample
Offer to Connect – Commercial & Industrial Subdivision

Our E. P. File #

Attention:

Re:

Dear Sir:

Thank you for your submission concerning the above noted development.

As part of the work required to supply this development the developer accepts all obligations for the installation and placement of Hydro One Brampton's infrastructure in accordance with Hydro One Brampton's design criteria, HOB standards and the City of Brampton road cross sections prepared for the development. The developer will be responsible to manage all site servicing issues and to provide personnel to respond to site issues as they arise. HOB staff will be consulted where changes to the original electrical design are required.

The Developer will:

- design the electrical system
- supply all electrical distribution system materials
- provide survey and layout services for the installation of the electrical distribution system
- provide complete project management services
- install the electrical distribution system
- complete all non energized low voltage and distribution voltage cable terminations and splices

  All aspects of the electrical design are subject to Hydro One Brampton specifications and approvals

- design the street light system
- supply all street light related materials
- install the street light system including supply pedestals
- complete all street light connections

  All aspects of the street light design are subject to City of Brampton specifications and approvals

HOB will be responsible for; review of the Developer's design, perform site inspections, complete terminations and splicing of feeder cables where applicable, approval of cable and transformer Certified Test Reports and any work on or in proximity to the distribution system once it becomes energized. All work and materials supplied by HOB, with the exception of the design review, will be applied to the total subdivision costs and shall be included in the economic analysis.

Street Lighting

Please note that the City of Brampton will be managing all street lighting and park lighting aspects of your project. This includes design approvals, inspection, and maintenance of the street lighting system within the public road allowance, walkways, and parklands.

Hydro One Brampton will require an approved streetlight design and an Electrical Safety Authority permit prior to connecting any lighting supplies to our system. For more information concerning street lighting in new developments, please contact Mr. George Yip of the City of Brampton; he can be reached at 905-874-2575.

Financial Requirements

The Developer is required to provide securities in the form of a letter of credit, for the total cost of services to be provided by Hydro One Brampton for the development.

The costs for this project include the following items:

1.)	Design review deposit		$ 2,000.00
2.)	Relocate		
3.)	Complete 1000 Kcmil feeder riser pole terminations distribution riser pole terminations on Steeles Avenue.		$
4.)	Complete 1/0 Al 28kV riser pole terminations		$
5.)	Complete PMH- 9 switchgear termination including		$
6.)	Maintenance Security:		$
		SubTotal:	$
		HST:	$
		Total:	$

All costs incurred by HOB to accommodate phased construction of the development will be fully recoverable and excluded from the economic analysis.

Please note that these costs exclude any work required to provide electrical service from the public road allowance to individual customer connections within the subdivision.

Please contact our Technical Services Department at 905 840-6300 ext 5533, to process new service connections within this development.

Design Review

In order to review and approve your consultant's design we require the following items:

4) One hard copy set of the plan and profile engineering drawings at the second submission stage showing community mailbox locations.

5) Hard copy and digital files of the City of Brampton road cross-sections for roadways to be constructed in this development.

6) Digital files of the general above and below ground engineering drawings.

7) Hard copy and digital files of the street-light design drawings.

8) Hard copy and digital files of the legal plans for the subdivision.

For your information we have provided the design parameters and supply points, to your consultant under separate cover.

Warranty Period

All labour equipment and materials supplied and installed by the developer will be the responsibility of the developer or the developer's agents until such time as the new system is accepted and energized by HOB.

Following energization of the new system HOB will respond to any electrical deficiencies of power outages. This work is covered under the maintenance period.

Maintenance Period

In order to provide security for maintenance of the installed electrical system, we will not reduce the Letter of Credit to less than 15% of its original amount (Minimum $10,000 – Maximum $50,000) until the lands dedicated by the Developer for use as public highways, are accepted by the municipality.

The Developer will be responsible for correcting all deficiencies of the electrical system during the maintenance period. The maintenance period will terminate upon assumption of the development by the City of Brampton. HOB will rectify all deficiencies where work is required in proximity to energized equipment or situations where immediate action is required as a result of a safety or system reliability issues. Costs to correct deficiencies will be the responsibility of the Developer during the maintenance period.

Economic Evaluation

Under Chapter 3, Section 3.2.1. of the OEB Distribution System Code, the Utility must "perform an economic evaluation to determine if the future revenue from the customer(s) connected to the new system will pay for the capital cost and on-going maintenance costs of the expansion project".

Section 3.2.6 states that "if a shortfall between the present value of the project costs and revenues is calculated, the distributor may propose to collect all or a portion of that amount from the customer, in accordance with the distributor's documented policy on capital contribution by customer class." The economic evaluation period will commence based on the date when the first primary cable internal to the expansion project, is connected to Hydro One Brampton's point of supply.

Using the methodology in Appendix "B" of the Distribution System Code, HOB will complete a final analysis at the end of the "Five Year Customer Connection Horizon" to determine any final settlement amounts.

Capitalization Cost

Upon completion of the electrical system in your subdivision, we require a summary of actual costs including engineering and administration fees for the following:

c) Distribution Transformers: include the installed cost of distribution transformers used to transform electricity to the voltage at which it is used by the consumer. The cost will include the transformers, the foundation, grounding equipment, and other material and labour necessary for the installation.
d) Balance of Distribution: include the installed cost of the balance of the cables or distribution facilities to distribute electrical energy from Hydro One Brampton's system to the dwelling units.

Costs provided are to exclude HST and any street-lighting related expenses.

Please note that prior to releasing any Letter of Credit amounts or proceeding with the final economic analysis we will require a statutory declaration letter signed by the owner stating that all monies payable for works, services or fees relating to any aspect of the electrical servicing of the site, have been paid in full excluding any holdback amounts properly retained.

For general inquiries refer to Project File # _____and for financial inquiries refer to work order _____. If you have any questions, please call me at extension _____ or the project designer at ext. _____.

Yours truly,
Hydro One Brampton Networks Inc.

R.Evangelista C.E.T.
Engineering Supervisor –Development
WS/lm

c.c.	R.Fernandes	VP Engineering & Operations	HOB
	M. Hale,	Technical Service Supervisor,	HOB
		Engineering Technician	HOB
		Project Manager	Consultant

SCHEDULE "B"

TO AN AGREEMENT BETWEEN
HYDRO ONE BRAMPTON

And

_____

TO: HYDRO ONE BRAMPTON

WE HEREBY AUTHORIZE YOU TO DRAW ON THE (NAME OF CANADIAN CHARTERED BANK OR TRUST COMPANY AND ADDRESS) FOR THE ACCOUNT OF (NAME OF DEVELOPER) UP TO AN AGGREGATE AMOUNT OF $_____ AVAILABLE ON DEMAND.

Pursuant to the request of our customer, the said (NAME OF DEVELOPER) we (NAME OF BANK) hereby establish and give to you an Irrevocable Letter of Credit in your favour in the total amount of $_____ which may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you which demand we shall honour without enquiring whether you have a right as between yourself and our said customers to make such demand, and without recognizing any claim of our said customers.

Provided, however, that you are to deliver to us at such time as a written demand for payment is made upon us, a certificate confirming that monies drawn pursuant to this Letter of Credit are to be and/or have been expended pursuant to obligations incurred or to be incurred in connection with the Agreement between (NAME OF DEVELOPER) and HYDRO ONE BRAMPTON.

This Letter of Credit will continue up to the ____ day of (month) 2004 and will expire on that date and may call for payment of the full amount outstanding under this Letter of Credit at any time prior to that date. Partial drawings are permitted. The amount of this Letter of Credit may be reduced from time to time as advised by notice in writing given to us by you.

It is a condition of this Letter of Credit that it shall be deemed to be automatically extended for one year from the present or any future expiration date hereof, unless thirty days prior to any such date we shall notify you in writing that we elect not to consider this Letter of Credit renewed for any such additional period. Upon receipt by you of such notice, you may draw hereunder by means of your demand accompanied by your written certification that the amounts drawn will be retained and used to meet obligations incurred or to be incurred in connection with the above mentioned Agreement.

DATED:_____ _____

APPENDIX

7

Sample
Offer to Connect – Condominium Townhouse Subdivision

(Date)

Attn : Our E. P. File

Re: Offer to Connect - ___ Unit Condominium
Draft Plan 21T – _____ , In the City of Brampton

Dear Sir/Madam:

Further to recent discussions with your consultant we are pleased to submit the following information regarding our residential servicing process.

We offer the Developer two choices to service residential subdivisions in Brampton. The two methods, Option A and Option B, are distinctly different and are described in detail in this letter.

Option A; Turn Key Design and Installation by Hydro One Brampton

Option B; Alternative Bid – Design and Installation by the Developer

Street Lighting

The lighting in this Development is privately owned and operated by the Condominium Board.

Hydro One Brampton will require an approved streetlight design and an Electrical Safety Authority permit prior to connecting any lighting supplies to our system.

The Electrical Servicing Process

1.) Option A: Turn Key Design and Installation by Hydro One Brampton

HOB will process all works required to complete the installation of the electrical distribution system for the site. This includes but is not limited to preparing the electrical design, procuring materials, site layout, contract administration and tendering for the installation of electrical facilities, inspection and energization of the system.

Under this arrangement the Hydro One Brampton will:

- design the electrical system
- supply all electrical distribution system materials
- provide survey and layout services for the installation of the electrical distribution system
- install the electrical distribution system
- complete all cable terminations and splices

Under this option the Developer will:

- design the street light system
- supply all street light related materials
- install the street light system including supply pedestals
- complete street light pole connections

……all subject to City of Brampton specifications and approvals.

The developer will be responsible to hire an electrical consultant to prepare a separate streetlight design. This design must be reviewed and approved by the City of Brampton. Contact Mr. George Yip at 905 874-2575 for details.

Under the Option A arrangement the Developer is responsible to provide a Letter of Credit to Hydro One Brampton for one hundred percent of the estimated cost of the electrical distribution system. This Letter of Credit is required twelve weeks prior to servicing your site.

Hydro One Brampton will draw on the LC at predetermined intervals to pay for the cost of materials. Draws may be substituted with cash payments.

The estimated servicing cost under an Option A arrangement is as follows:

b) Electrical servicing:

(____units @ $3,000 / per unit): .....$_____
HST @ 13 %.....$_____
Total Securities Required:.....$_____

Please note that these costs exclude street lighting as well as the cost of installing the services from the street line to the electrical meter base at each home.

2.) Option B: Alternative Bid – Design and Servicing by the Developer

In selecting the Option B process the developer accepts all obligations for the installation and placement of Hydro One Brampton's infrastructure in accordance with Hydro One Brampton's design criteria, HOB standards and the City of Brampton road cross sections prepared for the development. The developer will be responsible to manage all site servicing issues and to provide personnel to respond to site issues as they arise. HOB staff will be consulted where changes to the original electrical design are required.

Under this arrangement the Developer will:

- design the electrical system
- supply all electrical distribution system materials
- provide survey and layout services for the installation of the electrical distribution system
- provide complete project management services
- install the electrical distribution system
- complete all non energized low voltage and distribution voltage cable terminations and splices
- ……all subject to City of Brampton specifications and approvals

- design the street light system
- supply all street light related materials
- install the street light system including supply pedestals
- complete all street light connections

……all subject to City of Brampton specifications and approvals

HOB will be responsible for; review of the Developer's design, perform site inspections, complete terminations and splicing of feeder cables where applicable, approval of cable and transformer Certified Test Reports and any work on or in proximity to the distribution system once it becomes energized. All work and materials supplied by HOB, with the exception of the design review, will be applied to the total subdivision costs and shall be included in the economic analysis.

All costs incurred by HOB to accommodate phased construction of the development will be fully recoverable and excluded from the economic analysis.

Under this Option, the Developer will provide a Letter of Credit for 33% of the estimated total installed cost of the electrical distribution system.

The estimated servicing cost under an Option B arrangement is as follows:

(____ units @ $1,000 / per unit): .....$_____
HST @ 13 %.....$_____
Total Securities Required:.....$_____

This Letter of Credit is required prior to the release of any Civil or Electrical construction drawings

Economic Evaluation

Under Chapter 3, Section 3.2.1. of the OEB Distribution System Code, the Utility must "perform an economic evaluation to determine if the future revenue from the customer(s) will pay for the capital cost and on-going maintenance costs of the expansion project".

Section 3.2.6 states that "if a shortfall between the present value of the project costs and revenues is calculated, the distributor may propose to collect all or a portion of that amount from the customer, in accordance with the distributor's documented policy on capital contribution by customer class." The economic evaluation period will commence based on the date when the first primary cable internal to the expansion project, is connected to Hydro One Brampton's point of supply.

Using the methodology in Appendix "B" of the Distribution System Code, HOB will complete a final analysis at the end of the "Five Year Customer Connection Horizon" or, after ninety percent of all services have been connected. This will determine any refund to or amounts owing by the Developer.

Design (OptionA) or Design Review (OptionB)

In order to commence the electrical distribution design or review a subdivision design prepared by the developer we require the following items:

9) One hard copy set of the plan and profile engineering drawings at the second submission stage showing community mailbox locations.

10) Hard copy and digital files of the City of Brampton road cross-sections for roadways to be constructed in this development.

11) Digital files of the general above and below ground engineering drawings.

In order to initiate a design or design review the developer must submit a design deposit. The design deposit is calculated at $42.00 per lot including HST, with a minimum amount of $2,120.00 to a maximum amount of $10,600.00. The design review deposit for your development is **$** _____

Costs incurred by HOB for reviewing a design prepared by the Developer (Option B) are fully recoverable and not included in the economic analysis in accordance with OEB rules. Actual costs incurred for the design review will be invoiced against the deposit.

Costs incurred by HOB to prepare a design (Option A) are included in the economic analysis in accordance with OEB rules. Actual costs incurred for the design review will be included in the final economic analysis and the design deposit will be credited towards the developer's financial obligations for the project.

Maintenance Period

In order to provide security for maintenance of the installed electrical system, we will not reduce the Letter of Credit to less than 15% of its original amount (Minimum $10,000 – Maximum $50,000) until the lands dedicated by the Developer for use as public highways, are accepted by the municipality.

The Developer will be responsible for correcting all deficiencies of the electrical system during the maintenance period. The maintenance period will terminate 36 months after completion of the installation. HOB will rectify all deficiencies where work is required in proximity to energized equipment or situations where immediate action is required as a result of a safety or system reliability issues. Costs to correct deficiencies will be the responsibility of the Developer during the maintenance period.

Capitalization Cost

Upon completion of the electrical system in your subdivision, we require a summary of actual costs including engineering and administration fees for the following:

e) Distribution Transformers: include the installed cost of distribution transformers used to transform electricity to the voltage at which it is used by the consumer. The cost will include the transformers, the foundation, grounding equipment, and other material and labour necessary for the installation.

f) Balance of Distribution: include the installed cost of the balance of the cables or distribution facilities to distribute electrical energy from Hydro One Brampton's system to the dwelling units.

Costs provided are to exclude HST and any streetlighting related expenses.

Please note that prior to releasing any Letter of Credit amounts or proceeding with the final economic analysis we will require a statutory declaration letter signed by the owner stating that all monies payable for works, services or fees relating to any aspect of the electrical servicing of the site, have been paid in full excluding any holdback amounts properly retained.

Meter base Locations

Please note that meter base locations on condominium units and town houses must be reviewed and approved by this office. Surface mount, recessed mount, and ganged meter installations are options available for specific applications. Appropriate site plan and elevation drawings must be provided to the project designer to determine suitability. Please notify your builders of this requirement.

If you have any comments or questions, please contact the undersigned at 905-840-6300 extension 5508 and refer to our File # _____.

In closing we require that you confirm the servicing option that you wish to pursue.

Yours truly,
Hydro One Brampton Networks Inc.

(Name)
Engineering Supervisor – Development Division
RE/
c.c.
(Engineering Manager Name) Hydro One Brampton
(Eng Techician Name) Hydro One Brampton
G.Yip City of Brampton,
(Electrical Consultant Name and Company)