CONDITIONS OF SERVICE

'A Guide to the types and level of service available to a Customer within the Essex Powerlines Corporation electrical service area.'

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ESSEX POWERLINES CORPORATION - CONDITIONS OF SERVICE

SECTION 1 INTRODUCTION

1.1 Identification of Distributor and Service Area

Essex Powerlines Corporation referred to herein as EPLC is a corporation, incorporated under the laws of the Province of Ontario to distribute electricity.

EPLC is licensed by the Ontario Energy Board "OEB" to supply electricity to Customers as described in the Transitional Distribution License on April 1, 1999 and thereafter by the Distribution License issued to EPLC by the OEB.

EPLC is limited to operate distribution facilities within their Licensed Territory as defined in the Distribution License. The EPLC defined distribution territory is the former Town of Amherstburg, former Municipality of Leamington, former Town of Tecumseh and the Town of LaSalle.

Nothing contained in this document or in any contract for the supply of electricity by EPLC shall prejudice or affect any rights, privileges, or powers vested in EPLC by law under any Act of the Legislature of Ontario or the Parliament of Canada, or any regulations thereunder.

Any customer may not resell electrical energy purchased from EPLC at a profit to a third party using EPLC's rates. In the case of multi-tenant buildings with bulk metering, the Owner must pay the total cost of electrical energy.

The customer or their representative, who apply to EPLC for connection services, shall consult with EPLC or its agent concerning the availability of supply, the voltage of supply, service location, metering and any other details. These requirements are separate from and in addition to those of the Electrical Safety Authority. EPLC or its agent will confirm the characteristics of electric supply available at a specific site.

The customer is required to provide EPLC 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.

If special equipment is required or equipment delivery problems occur then longer lead times may be necessary. The customer will be notified of any extended lead times. Customers will be required to pay the cost of repair or replacement of EPLC's equipment that has been damaged through the customer's action or neglect.

The supply of electricity is conditional upon EPLC being permitted and able to provide such a supply, obtaining the necessary apparatus and material, and constructing works to

provide the service. Should EPLC not be permitted to supply or not be able to do so, it is under no responsibility to the customer whatsoever.

Customers may be required to pay for the addition of new electrical services in accordance with EPLC Capital Contribution Policy.

1.2 Related Codes and Governing Laws

Current versions of the following codes and laws are implicitly part of this document. These supplementary documents outline rules, codes and mandatory practices that are the underpinnings of how EPLC operates and should be referred to if any questions arise.

1) Electricity Act, 1998
2) Affiliate Relationships Code (ARC)
3) Distribution System Code (DSC)
4) Retail Settlements Code (RSC)
5) Ontario Energy Board Act, 1998
6) EPLC Distribution Licence
7) Standard Supply Service Code (SSSC)
8) Electrical Safety Code (ESA)
9) Performance Based Rates Handbook (PBR)
10) Applicable CSA codes
11) Ontario Business Corporations Act (OBCA)

The above is not all-inclusive – other codes and laws may apply in special circumstances (i.e. by-laws, tax laws…).

In the event of a conflict between this document and the EPLC Distribution Licence or regulatory Codes issued by the OEB, or the Electricity Act, the provisions of the Act, the Distribution Licence and associated regulatory Codes shall prevail.
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. The work shall be conducted in accordance with the Ontario Occupational Health and Safety Act, the Regulations for Construction Projects and the Electrical Utilities Safety Association rulebook.

1.3 Interpretations

This Conditions of Service document adds to and clarifies points in the previously listed documents. No clause or rule outlined in this document can contradict or change in any material way the intent of established law, standards and statutes. In any dispute on interpretation the relevant law, standard or statute shall be taken as correct. If there is no

relevant document to reference then this document can be considered the official policy of EPLC and dispute resolution can be resolved as outlined in Dispute Resolution.

In these Conditions, unless the context otherwise requires:
1) Headings and underlining are for convenience only and do not affect the interpretation of these Rules.
2) Words referring to the singular include the plural and vice versa.
3) Words referring to a gender include any gender.

1.4 Amendments and Changes

The Board of Directors of EPLC may from time to time authorize changes to this Condition of Service document. Any material change that represents a significant alteration to the EPLC-customer relationship (as judged by the Board) shall be advertised either through the mail, press, by means of a note on the customer's bill, web site or by public meeting.

A current copy of this Condition of Service document is filed with the OEB as is required by the Distribution System Code (DSC)

The customer is responsible for contacting EPLC or its agent to ensure that the customer obtains the current version of the Conditions of Service. EPLC may charge a reasonable fee for providing the customer with a copy of this document.

1.5 Contact Information

Essex Powerlines Corporation and its agents can be contacted as follows:

- Address (full): Essex Powerlines Corporation
360 Fairview Avenue W., Suite 218
Essex, ON
N8M 3G4
- Phone #: 519-776-8900
- After Hours Emergency Ph. #: 519-561-6366
- Fax #: 519-776-9888
- Email: customerservice@essexpower.ca
- Web site: www.essexpowerlines.ca
- Toll free #: 1-866-776-8900 (***Amherstburg Customers only***)

1.6 Customer Rights and Obligations

The following details the general obligations and rights of a customer of EPLC. Refer to specific sections for details that apply to a particular customer class.

EPLC shall only be liable to the customer and the customer shall only be liable to EPLC for any damages, which arise directly out of the wilful misconduct or negligence:

- Of EPLC in providing distribution services to the customer;
- Of the customer in being connected to EPLC's distribution system; or
- Of EPLC or customer in meeting their respective obligations under the Distribution System Code, their licences and any other applicable law.

Despite the above, neither EPLC 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 notwithstanding the customer financial contribution.

The customer shall assume all risk, liability or obligation to:

a) All loss, damage or injury to property of the customer or property of a third person on the lands of the customer.
b) All loss, damage or injury to any person or persons (including loss of life) on the customer lands and premises, which loss, damage or injury shall have been due to power supplied by EPLC to the customer, except to the degree that such loss, damage or injury shall have been due to the negligence or intentional acts of EPLC, its servants or agents.

1.6.1 Customer Obligations

The Customer is obligated to provide reasonable and safe access to EPLC or its agent employees for the installation, operation and maintenance of the metering and electrical connection plant located on the Customer's property.

The property Owner wanting an electrical service connected to the distribution system is obligated to provide consent permitting EPLC plant to be placed on that property. If access to private property, other than the property in question, is required, the property owner will obtain the necessary registered easements as described in Easements of these Conditions of Service.

The Customer is responsible for removing and reinstating any privately owned obstructions (tree trimming, landscape, sprinklers, driveways, etc.) for EPLC or its agent to perform installation, operation and maintenance of the electrical connection plant located on the Customer's property.

The Customer is required to supply all necessary facilities such as meter sockets, cabinets, enclosures, panels, mounting boards, conduits, wiring devices, fittings, space and 120 volt AC supply requirements of and for the metering equipment.

Customers whose load is < 50 kW (including residential customers), are typically not required to sign a Connection Agreement. However, in accepting electrical service from EPLC, Customers are bound by these Conditions of Service, the OEB Rate Handbook, EPLC's rate schedules, EPLC's Distribution Licence and the DSC.

Use of electrical service, is construed by EPLC as a willingness and intention to pay.

1.6.2 Customer Rights

A Customer should expect to receive electrical energy within specified voltage limits as defined by the CSA standard CAN3-C235. Voltage Guidelines of these Conditions of Service identifies the voltage variation limits at a Customer's service entrance outlined in the CSA standard.

Customers who experience outages or other disturbances will be notified, upon request, of the cause of the outage and if possible an expected time until power can be restored (refer to Conveyance of Electricity). EPLC or its agent shall make every reasonable effort to respond promptly to a Customer's request for connection.

Proof of metering accuracy can be requested by a customer or by a Meter Service Provider. For details, refer to Meter Dispute Testing of these Conditions of Service.

At EPLC's discretion, two services to a customer location may both be energized for a period of up to three (3) days to allow time for the transferring of internal electric circuits. . However, EPLC reserves the right to disconnect the non-permanent service should the three-day period lapse.

1.7 EPLC Rights and Obligations

1.7.1 EPLC Obligations

Before entering a customer's property to carry out an activity, described in Section 40 of the Electricity Act, 1998, EPLC or its agent shall, in accordance with subsection 40(8) of the Electricity Act:

- Provide reasonable notice of the entry to the owner of the property;
- In so far as is practicable, restore the property to its original condition;
- Provide compensation for any damages caused by the entry that cannot be repaired.

Where there is a possibility that unsafe conditions may be created by a planned power interruption, or there would be significant financial loss, EPLC or its agent will cooperate with the Customer to resolve that condition. This work may involve isolation of the system and other work and could incur a fee to the Customer.

1.7.2 EPLC Rights

EPLC has the sole right to determine the “Voltage of Supply”. For further explanation of customer voltage of supply to a customer’s premises, refer to Standard Voltage Offerings of these Conditions of Service.

Although it is EPLC’s policy to minimize inconvenience to customers, it is necessary to occasionally interrupt a Customer's supply to allow work on the electrical system. Customers will be provided with reasonable notice of planned power interruptions and, whenever practical, arrangements suitable to the customer will be made to minimize any inconvenience. Notice may not be given where work is of an emergency nature involving the possibility of injury to persons or damage to equipment

1.8 Dispute Resolution

Any dispute between Customers or Retailers and EPLC or its agent shall be settled according to the dispute resolution process specified in Section 23 of the EPLC Transitional Distribution Licence or, once the OEB issues permanent licenses, by the relevant section of the permanent licence.

1.8.1 Dispute Process – Local Resolution

Disputes include any apparent violation of this document or the supporting codes specified in these Conditions of Service.

The process for a Customer to register a complaint is as follows:

1. The Customer must supply the complaint in written form addressed to the Customer Service of Essex Powerlines Corporation (EPLC).
2. Upon receipt the Customer will be contacted and the EPLC department best able to deal with the complaint will respond and provide a remedy if at all possible.
3. If the Customer and the EPLC department cannot resolve the complaint, the Customer may request that the General Manager of EPLC review the complaint and if possible, provide a remedy to the complaint.
4. It is the intention of the Board of Director’s of EPLC that all disputes of this nature be resolved at this stage. If the General Manager cannot resolve the complaint, then the dispute can be referred to the Chairperson of EPLC Board of Directors.

It is the intention of EPLC that disputes are to be handled at the lowest possible stage in the order given – Department, General Manager, and EPLC Board.

1.8.2 Dispute Process – Third Party Arbitration

Disputes of this nature include complaints that have not been or cannot be resolved through the Local Resolution process. In these cases the Customer has the option of referring unresolved complaints to an independent third party complaint resolution agency that has been approved by the OEB. The decision of the arbitrator will be considered binding on both parties. Cost for this process is to be shared 50/50 between the Customer and EPLC.

SECTION 2 DISTRIBUTION ACTIVITIES (GENERAL)

2.1 Connections

2.1.1 Building that Lies Along

Essex Powerlines Corporation (EPLC) – Policies for Connection

- The Distribution System Code obligates the EPLC to provide an electrical connection to any building that "Lies Along" its electrical distribution system.

- A building "Lies Along" a distribution line if the building can be connected to a supply of electricity using only equipment, material and devices dedicated to the supply of electrical energy to a single property, none of which provides current carrying capacity to the main circuits on a road allowance or easement that has the potential to provide electrical energy to present or future customers.

- EPLC will offer to connect any building or customer facility that "Lies Along" its distribution line in accordance with the Distribution System Code and, a customer requesting connection must abide by the terms and conditions further stipulated within this Conditions of Service manual.

- A customer receiving a connection to the EPLC system and then the customer taking electrical power constitutes the acceptance of the terms and conditions of all regulations, conditions and rates established by EPLC in accordance with this Conditions of Service document and the Distribution System Code.

- A building that "Lies Along" a distribution line may be refused connection to that line should:
  a) The distribution lines not have sufficient capacity for the requested connection.
  b) The connection is deemed to be unsafe or detrimental to the electrical distribution system.
  c) The service voltage level requested by the customer not be available.

See further explanation in Connection Denial.

- A Customer may be required to pay a Capital Contribution as their share of the cost to benefit from an earlier expansion of the EPLC distribution system. In such an event, the apportioned benefit shall be determined by considering such factors as the

Customer's relative load level and the relative line length (in proportion to the line length being shared by all parties).

- Where the customer requests a service upgrade to an existing building that has more than one service connection into the building, EPLC will require that all services be consolidated into a single service connection. This position is supported by the Electrical Safety Authority and is consistent with the Electrical Safety Code.

Request for Residential connection service must be made through the EPLC Customer Service Department. Generally, contact may be in person, by mail, telephone 776-8900, and fax 776-9888 or for Amherstburg customers only, 1-866-776-8900. All time lines for the processing of the request will be based on the date the Request for Connection is received.

Requests for Commercial or Industrial connection service must be made in writing through the EPLC Offices located at 360 Fairview Ave., West, Suite 218, Essex, Ontario, telephone 776-8900, and fax 776-9888 or for Amherstburg customers only, 1-866-776-8900.

EPLC shall recover costs associated with the installation of "Connection Assets", by customer Class, via a Basic Connection Charge and a Variable Connection Charge, as applicable.

a) For Residential Customers, the Basic Connection Charge is recovered through EPLC's rates and covers the Standard Allowance to provide a basic connection consistent with the defined ownership demarcation point as outlined in this Conditions of Service. This point may differ from the "operational demarcation point".

Note: for the purpose of this Conditions subdivisions, multi-units or townhouse type developments are considered as Non-Residential Class of Customers.

b) For Non-Residential Customers, EPLC may recover the Basic Connection Charge either through EPLC's rates, or through a Basic Connection Fee levied from the customer requesting the connection. The Basic Connection Fee is determined for each customer Class as indicated in this Conditions of Service.

c) The Variable Connection Charge shall be calculated as the costs associated with the installation of Connection assets above and beyond the Standard Allowance for Basic Connection. EPLC may recover this variable connection fee which shall be based on actual cost.

Note: Basic Connection Fees are reviewed annually and are calculated based on the average costs to provide the Standard Allowance and the Basic Connection for each customer Class as identified in this Conditions of Servcie. Standard fees are determined using historical data from previous year(s) for all completed projects in each customer Class.

2.1.2 Expansions / Offer to Connect

Expansion to the main Distribution System

If EPLC must construct new facilities to its main distribution system or increase the capacity of existing distribution facilities in order to be able to connect a specific Customer or group of Customers, the customer will make a capital contribution as per EPLC Capital Contribution Policy and EPLC will perform an economic evaluation of the expansion project 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. EPLC Capital Contribution Policy contains the methodology and assumptions for an economic evaluation model identified by the OEB.

For all customers, as per the Distribution system Code, the “Shortfall” and an expansion deposit may be collected as a charge prior to connection.

In the case of a residential subdivision the costs would be charged to the developer and where there is no developer the costs should be shared appropriately by the residential customers (building lots).

Unforecasted Customers that connect to the distribution system during the five-year connection horizon will benefit from the earlier expansion and therefore, should contribute their share of the cost. In such an event, the initial contributor shall then be entitled to a rebate from EPLC as follows:

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

Offer to Connect

EPLC or its agent will make an Offer to Connect a Customer, subject to Connection Denial, if an expansion to the main distribution system is needed. EPLC's offer shall include the following:

1. A description of the material and labour required by EPLC to build the expansion required for connecting the customer.
2. The offer to connect costs will be broken down into design, materials, labour, equipment and administrative costs.
3. An estimate of the amount that will be charged to the customer in order to construct the distribution system expansion necessary to make the connection.
4. A description and estimate of the connection charges that would apply to the offer.
5. A description of any contracts and/or agreements that may be required as part of the offer to connect.
6. Whether the offer is a firm offer or is an estimate of the costs that would be revised in the final payment to reflect actual costs incurred.
7. Whether the offer includes work for which the customer may obtain an alternative bid and, if so, the process by which the customer may obtain the alternative bid.

Firm Offer to Connect

EPLC or its agent will provide one estimate to the customer for any plans submitted to EPLC for an expansion project, at no expense to the customer. This estimate can only be provided after a review is conducted by EPLC based on receiving all the appropriate information from the customer. The review and preparation of the offer is expected to take 30 days after all the required information is submitted to EPLC. If the customer submits revised plans to EPLC, after receiving a firm offer, EPLC or its agent will provide a new firm offer based on the revised plans within 30 days at the customer's expense.

Estimated Offer to Connect

If the offer is an estimate of the costs to construct the expansion and not a firm offer, the final amount charged to the Customer shall be based on actual costs incurred, and EPLC's Capital Contribution Policy of these Conditions of Service. EPLC or its agent will calculate the one estimate and the final amount of customer contribution at no expense to the customer. The review and preparation of the offer is expected to take 30 days after all the required information is submitted to EPLC.

Alternative Bid

A Customer requesting connection to the EPLC distribution system has a choice to obtain alternative bids for the connection and expansion facilities from qualified contractors if the offer meets the following conditions:

- The project requires a capital contribution from the customer; and
- Construction work would not involve work with existing circuits.

- The work by a contractor does not contravene the Collective Agreement in effect with the distributor and unionized employees of the distributor.

If an alternative bid is pursued and the customer elects to obtain the services of an alternative contractor for an aspect of the expansion project, EPLC will:

1. Inform the customer of the work that the customer may obtain through an alternative bid.
2. Require the customer to hire an alternative contractor from EPLC's pre-qualified list of contractors, select, hire and pay the contractor's costs for the work eligible for the alternative bid and to assume full responsibility for the construction of that aspect of the expansion project.
3. Require the customer to be responsible for administering the contract or to have the customer pay EPLC to do this activity on a fee for service basis. Administering the contract includes acquisition of all required permissions, permits, and easements.
4. Reserve the right to inspect and approve all aspects of the constructed facilities, in accordance with EPLC's Distribution Standards of Construction, as part of a system commissioning activity, prior to connecting the constructed facilities to the existing distribution system, and be reimbursed on a fee for service basis.

Alternative bid costs incurred by EPLC will be charged to the customer that chooses to pursue an alternative bid. These costs may include but not limited to the following:

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

2.1.3 Connection Denial

EPLC will consider the following as reasons for refusal to connect, or continue to connect a Customer:

1) Contravention of the laws of Canada or the Province of Ontario. Typical examples would be as follows:
   a) Unfit or Dangerous Premises as deemed by the Fire Department or the Electrical Safety Authority (ESA) of Ontario may render a premise wholly unfit for occupation or for the purpose of the customer's business. The supply of electricity shall be suspended at the direction of the Fire Department or ESA until such time as the premises have been reconstructed or necessary repairs made and approved.
   b) A service will not be connected to a building, which is known to be in violation of the building code, implicated in unauthorized use of energy or contravenes the ESA inspection code.
2) Violation of conditions in EPLC's license from the Ontario Energy Board.
3) EPLC may disconnect from its distribution system or refuse to connect a Customer if any amounts of money payable by a Customer to EPLC for distribution services are overdue.

4) A connection that could cause an adverse effect on the reliability or safety of the distribution system. An example of this would be a connection that could cause the distribution system to trip out-of-service or brownout if connected without proper protection systems.
5) Imposition of an unsafe worker situation beyond normal risks inherent in the operation of the distribution system. An example of this would be where an EPLC worker, entering to make a connection, is exposed to customer actions, customer's pet, customer's facilities, etc. posing a danger to the worker.
6) A material decrease in the efficiency of the EPLC distribution system. An example of this would be where the distribution system is not capable of providing for the customer load to be connected or is not intended for the type of service that the customer desires (i.e. dedicated feeder line).
7) A material adverse effect on the quality of distribution services received by an existing connection. An example of this is where the rights of the existing customers would be adversely affected due to the creation of a voltage or harmonics problem. Rights of the existing customers take precedence over new connections to the same line.
8) Discriminatory access to distribution services. This would be where a retailer, generator or consumer would not be connected if the connection is discriminatory through avoiding proper procedures and adherence to the EPLC Conditions of Service.
9) Violation of any other conditions identified in these Conditions of Service document.

If EPLC or its agent refuses to connect a building in its service territory that lies along one of its distribution lines, EPLC or its agent will inform the person requesting the connection of the reason for not connecting, and where EPLC is able to provide a remedy, make an offer to connect. If EPLC or its agent is unable to provide a remedy to resolve the issue, it is the responsibility of the customer to do so before a connection can be made.

2.1.4 Inspections Before Connections

All electrical installations of the customer shall be inspected and approved by the Electrical Safety Authority (ESA) before connection to the distribution system. EPLC requires notification from ESA of this approval prior to the energization of a customer's service.

An electrical service, which has been disconnected for a period as defined in the Electrical Safety Code, shall be inspected and approved by ESA prior to re-connection.

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

Customer owned substations must be inspected by both the ESA and EPLC.

Transformer rooms shall be inspected and approved by EPLC or its agent prior to the installation of equipment.

Provision for metering shall be inspected and approved by EPLC or its agent prior to energization.

EPLC reserves the right to inspect all materials and workmanship related to any electrical installation that will be connected to the distribution system in order to determine compliance with items listed in section Connection Denial.

Civil Construction

Duct banks shall be inspected and approved by EPLC or its agent prior to backfilling. The completed ducts must be clear of all extraneous material. In the event of ducts blocked by ice, the owner's representative will be responsible for clearing the ducts prior to the cable installation. The customers can backfill all excavations only after receiving approval from EPLC or its agent.

Only an approved contractor will make the connection to existing concrete duct banks or manholes. All work done on the existing distribution plant must be authorized by EPLC and carried out in accordance with all applicable safety acts and regulations. Any defects in workmanship or deviations from the EPLC construction standards will be required to be corrected at the Customer's expense.

2.1.5 Relocation of Plant

The relocation of EPLC electrical distribution plant will be governed by Public Service Works on Highways Act, letters of agreement, easement agreements, and the laws of Ontario as applicable.

In the absence of existing arrangements, EPLC is not obligated to relocate its facilities. However, EPLC will endeavor to resolve the issue in a fair and reasonable manner. EPLC or its agent will provide the Customer documents that explain the feasibility or unfeasibility of the relocation and will identify a fair and reasonable charge for the relocation based on cost recovery principles.

Relocation of a Residential Overhead Service - Will be considered on an individual basis where the customer has requested to clear a proposed addition/structure or swimming pool. If the customer agrees to pay an applicable relocation cost EPLC will normally relocate and attach to the most secure point along the distribution where feasible. Normally an aerial service will be relocated to a property line between two neighbouring customers to avoid further relocation.

Relocation of an Underground Service –EPLC will provide, install and/or splice cables providing the customer agrees to pay an applicable relocation cost.

2.1.6 Easements

To maintain the reliability, integrity and efficiency of the distribution system, EPLC has the right to have supply facilities on private property registered against title to the property. Easements are preferred whenever EPLC underground or overhead plant is to be located on private property or crosses over an adjacent private property to service a Customer other than the owner of that adjacent property.

Where an Easement is required the customer will be required to enter into a Landowner / EPLC Easement Agreement which is explained in Contracts and Agreements of this Conditions of Service. The customer shall pay all costs of obtaining survey services and the creation of a reference plan, legal fees associated with registration at the Land Registry Office, and all EPLC costs related to obtaining the easement. The width and extent of this easement shall be determined by EPLC and the easement shall be granted and registered before energization of the service.

The Customer is responsible for registering the easement on title against their property; however, prior to registration the customer shall prepare a reference plan and associated easement documents to the satisfaction of EPLC’s solicitor.

Access to Property of Third Party

If access to private property, other than the property of the owner requesting a service connection, is necessary for the installation, operation and maintenance of the connection plant, the customer requesting connection will obtain the necessary registered easements. The customer requesting the connection is responsible for all costs incurred with obtaining and registering the easement. The customer may be required to enter into a Landowner/EPLC Easement Agreement.

2.1.7 Contracts and Agreements

Implied Contract

In all cases, notwithstanding the absence of a formal contract, the taking and using of electrical energy from EPLC by any Person or Persons constitutes the acceptance of the terms and conditions of all regulations, conditions and rates as established by EPLC. Such acceptance and use of energy shall be deemed to be the acceptance of a binding contract with EPLC and the Person so accepting shall be liable for payment for such energy and the contract shall be binding upon the Person's heirs, administrators, executors, successors or assigns.

Connection Agreement

This agreement is for instances where EPLC deems that a signed agreement is necessary between themselves and the customer. The customer is required to complete and sign the standard Connection Agreement to apply for connection and upon EPLC's completion of the signed contract and, receipt of approval by the Electrical Safety Authority, the electrical service will be connected. A Connection Agreement for service shall be considered as being in force from the date it is signed by the Customer and EPLC and shall remain in force until terminated by either party. A sample Connection Agreement is contained in Appendix 5.3 of these Conditions of Service.

Easement Agreement with Landowner

Where EPLC requires that plant be placed on private property, this shall be documented in an Easement Agreement registered against the title of the property.

The Easement Agreement will describe the boundaries of the easement by means of a reference plan prepared by an Ontario Land Surveyor.

The Agreement will describe the rights and liabilities of each party and will usually make the owner of the private property responsible for the costs of future relocation of the EPLC plant requested by the owner.

Floating Easement Agreement

In the case of large housing developments, condominiums or shopping plazas, EPLC may not be able to give an exact description of the easement it requires at an early stage of negotiations with the developer. EPLC or its agent may therefore obtain from the developer a Floating Easement giving EPLC the right to locate its plant wherever required on the property. This right will be limited to the extent that EPLC plant will not interfere in any way with the buildings to be erected initially and the Developer/Owner must approve the location of the utility plant.

The Developer/Owner is responsible for registering the Floating Easement on title against the property and it will be binding on all purchasers of lots on the property, however, prior to registration the Developer/Owner shall prepare a reference plan and associated easement documents to the satisfaction of EPLC's solicitor.

2.2 Disconnection

The *Electricity Act, 1998; Energy Competition Act, 1998* gives a distributor the authority to disconnect a Customer. Reasons for disconnecting a Customer can range from non-payment of bills to emergency system conditions.

Under no circumstances shall EPLC be held liable for damage/claims arising as a result of disconnection of service. EPLC shall use the following, in accordance with the OEB Retail Settlement Code, as a guide for its disconnection policy and process.

Disconnection with 7 Days Notice

Consistent with sections 30 and 31 of the Electricity Act and good utility practices, EPLC will give at least 7 calendar days notice as consideration to disconnect for any of the following reasons:

1) Unapproved equipment as deemed by EPLC or its agent, the Electrical Safety Authority (ESA) or the Canadian Standards Association (CSA).
2) Electrical disturbance caused by the customer's type of load.
3) A material decrease in the efficiency of the distribution system.
4) A materially adverse effect on the quality of distribution services received by an existing connection.
5) Inability of EPLC or its agent staff to read meters or perform planned inspections and maintenance.
6) Any other conditions identified in EPLC's Conditions of Service document.

Disconnection without Notice

Disconnection without notice may be carried out by EPLC, consistent with sections 30 and 31 of the Electricity Act and good utility practices, for the following reasons:

1) An emergency or hazardous condition as deemed by EPLC or its agent, the police, a court order, Emergency Response Authority or the Electrical Safety Authority (ESA).
2) An emergency situation causing an adverse effect on the reliability and safety of the EPLC electrical system.
3) Threats to health and safety of the public or EPLC or its agent worker(s) beyond the normal risks inherent in the association and operation of the electrical distribution system.
4) Failure of the consumer or customer to comply with an EPLC directive that is made for the purpose of meeting EPLC's license obligations.

Notice of Disconnection for an Overdue Amount

EPLC or its agent, in accordance with section 31(2) of the *Electricity Act, 199*8, will inform a customer responsible for an overdue amount that their service may be disconnected.

If a Customer fails to make satisfactory payment of their bill, EPLC or its agent will notify the customer of the amount that is overdue and in the form of a "final notice" that they may face disconnection of service.

Disconnection of service will not exempt the customer from payment of overdue amounts. Such overdue amounts shall become payable prior to re-connection of service unless the Manager, Customer Service or his/her designate specifically authorizes re-connection.

Notice of Disconnection for Unauthorized Use of Energy

If a Customer is suspected of unauthorized use of energy either by tampering with metering equipment or by altering the electrical connections to bypass the meter, EPLC or its agent may notify the Police, Measurements Canada, the Electrical Safety Authority and the appropriate Retailer of the location affected. Subsequent to an investigation and determination by EPLC or its agent that the location is using energy without authorization, EPLC or its agent will disconnect the service immediately. To have the service reconnected to the location, the customer or consumer requesting reconnection is responsible for settling with EPLC for unauthorized energy use, time spent finding the location, disconnection (including assisting the appropriate authority), inspection, repair costs, and any appropriate deposit.

Disconnection/Reconnection of Residential Meters and Overhead Service at the Same Location

EPLC has developed an operating instruction that describes the procedure for disconnecting and later reconnecting the meter or secondary supply service cables to residential family dwellings up to 200 amp. The operating instruction is intended to coordinate the activities of EPLC, the ESA and a Contractor.

2.3 Conveyance of Electricity

2.3.1 Limitations on the Guaranty of Supply

EPLC agrees 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 in damages to the Customer by reason of any failure in respect thereof.

Customers requiring a higher degree of security than that of normal supply, are responsible to provide their own back-up or standby facilities.

EPLC will endeavor to maintain voltage variation limits, under normal operating conditions, at the Customers' Delivery Points, as specified by the latest edition of the Canadian Standards Association (CSA), C235, Preferred Voltage Levels for AC Systems, 0 - 50,000 volts.
Customers may require special protective equipment on their premises to minimize the effect of momentary power interruptions.

It is recommended that Customers requiring a three-phase supply, 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 EPLC' s supply.

Although it is EPLC's policy to minimize inconvenience to Customers, it is necessary to occasionally interrupt a Customer's supply to maintain or improve EPLC's distribution system, or to provide new or upgraded services to other customers. Whenever practical and cost effective, as determined by EPLC, advanced notification and arrangements suitable to the Customer and EPLC will be made to minimize any inconvenience.

EPLC or its agent will endeavor to notify Customers prior to interrupting the supply to any individual 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 EPLC or the public, service may be discontinued without notice.

Depending on the outage duration and the number of Customers affected EPLC or its agent may issue a news release to advise the general public of the outage.

2.3.2 Power Quality

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

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, EPLC or its agent will recommend and/or take appropriate mitigation measures. EPLC will endeavor to control harmonics generated by its own system where these are found to be detrimental to the Customers. If EPLC or its agent is unable to correct the problem due to the impact on other Customers, then it is not obligated to make the corrections. EPLC will use appropriate industry standards and good utility practices as a guideline. If the problem lies on the Customer side of the system, EPLC or its agent may seek reimbursement for the time spent in investigating the problem.

The Customer shall operate their equipment so as to avoid unacceptable harmonics, voltage flicker or voltage level being subjected onto the EPLC electrical distribution system. If an undesirable system disturbance is being caused by the Customer's equipment, the Customer will be required to cease operation of the equipment until satisfactory remedial action has been taken. If the Customer does not take such action within a reasonable time, EPLC may disconnect the supply of power to the Customer in accordance with Disconnection with 7 Days Notice.

It is the Customer's responsibility to provide for the protection from voltage variations and transient operations.

2.3.3 Electrical Disturbances

A major cause of erratic operation of Customer owned equipment is disturbances on the power line, such as transient spikes, voltage fluctuations, and outages.

Customers must ensure that their equipment does not cause any disturbances such as harmonics and spikes that might interfere with the operation of adjacent customer equipment. Examples of equipment that may cause disturbance include large motors, welders and variable speed drives. Most harmonics are generated from electrical equipment operated at residential, commercial and industrial facilities and, therefore, in planning the installation of such equipment, the customer must consult with EPLC or its agent.

Whenever a Customer is experiencing electrical disturbances, EPLC or its agent will assist in attempting to resolve any such difficulties at the Customer's expense.

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

2.3.4 Standard Voltage Offerings

Depending on the type of distribution plant that "lies along", the preferred secondary voltage that EPLC will provide is as follows:

- 120/240 Volts 1 Phase 3 Wire
- 120/208 Volts 3 Phase 4 Wire
- 347/600 Volts 3 Phase 4 Wire

Note: 600 volt and 240 volt, 3 phase 3 wire services exists in certain areas in the EPLC system and these voltages will not be extended to new Customers as it is EPLC's intent to eliminate these secondary services. Also, any existing Customer who requires a service upgrade must upgrade to a 4-wire system.

EPLC approved 120/240 volt single-phase services may be limited to 400 ampere capacity. The Customer may be expected to utilize a three-phase service in such areas unacceptable to 400-ampere 120/240-volt demands. Under no circumstances will it be permissible to have a single-phase, 120/240-volt service and a three-phase; 120/208-volt service to a building except in existing circumstances which will be phased out in the future.

EPLC provides the following primary voltage:

- 27.6/16 kV 3 Phase 4Wire

2.3.5 Voltage Guidelines

EPLC endeavors to maintain voltage at the customer's service entrance within the guidelines of C.S.A. standard CAN3-C235, Preferred Voltage Levels for AC Systems, 0 - 50,000 volts, which allows variations from nominal voltage.

Where voltages lie outside the indicated limits for Normal Operating Conditions but within the indicated limits for Extreme Operating Conditions, improvement or corrective action will be taken on a planned and programmed basis, but not necessarily on an emergency basis. Where voltages lie outside the indicated limits for Extreme Operating Conditions, improvement or corrective action will be taken on an emergency basis. The urgency for such action will depend on many factors such as the location and nature of load or circuit involved, the extent to which limits are exceeded with respect to voltage levels and duration, etc.

Recommended Voltage Variation Limits at Service Entrance

Nominal System Voltages	Voltage Variation Limits Applicable at Service Entrance			
	Extreme Operating Conditions			
		Favourable (Normal) Operating Conditions		
120/240 Single-phase	106/212	110/220	125/250	127/254
120/208 Three-phase	110/190	112/194	125/216	127/220
347/600 Three-phase	306/530	318/550	360/625	367/635
240 Three-phase Three-wire	212	220	250	254
600 Three-phase Three-wire	530	550	625	635

*refererenced from CSA CAN3-C235

2.3.6 Back-up Generators

The application of portable or permanently connected generators to supply power, in total or in part, to any facility must meet the equipment and connection requirements specified in the Ontario Electrical Safety Code and must be inspected to ensure proper connection and operation. In particular, customers with an emergency generator shall ensure that their emergency generation does not back feed on the EPLC distribution system.

Customers with permanently connected emergency generation equipment shall notify EPLC or its agent regarding the presence of such equipment**.**

2.3.7 Metering

2.3.7.1 General

EPLC shall provide, install and maintain a meter installation for retail metering settlement and billing purposes for each customer connected to the EPLC distribution system, subject to Embedded Generation which requires an embedded generator connected to the EPLC system to install its own meter.

Regardless of any charges for metering installations, all metering equipment shall remain the property of EPLC and maintenance of this equipment shall be the responsibility of EPLC.

Generally, metering will be at utilization voltage. Where EPLC provides primary transformation, primary voltage metering will be allowed only in special circumstances following approval from EPLC or its agent's staff. When primary transformation is supplied and owned by the customer, primary metering may be allowed only after discussions following approval of EPLC or its agent.

Meters and all other EPLC owned equipment located on the customer's premises shall be in the care of the customer. If destroyed or damaged, by other than ordinary wear and tear, the customer shall pay the material and labour costs of repair and/or replacement.

The customer shall obtain a service location from EPLC or its agent prior to proceeding with the installation or relocation of any electrical service. Failure to do so may result in the relocation of the point of service at the customer's cost.

The meter shall be located as near as possible to the service entrance box. For residential services, the location of the meter must be 3 feet or 1 meter back of the corner of the building from the direction in which the supply is coming and 6 feet or 1.8 meters from center of meter to finished grade level. All other meter locations will be approved by EPLC.

The location of the indoor or outdoor meter shall be readily accessible at all times and acceptable to EPLC. Inside General Service meters shall not be in a bathroom, stairway, behind an oil tank, directly under a water or steam pipe or within 460 mm (18 in.) of water, gas, or steam pipes. A space of 1.2 meters (4 feet) clear of all obstructions shall be provided in front of the meter and service panel. If a meter is required to be recessed or enclosed after installation, prior approval shall be obtained from EPLC or its agent.

Normally a residential service will not be energized until the outside finish in the area of the revenue meter has been completed. If exceptions are made to this, then the general contractor constructing the home will be responsible for ensuring that the meter is suitably protected while work is being done on the exterior wall adjacent to the meter. As a minimum, protection shall consist of a wooden box, at least 250 mm (10 in.) deep and constructed to fit around the meter socket base. The general contractor will be entirely responsible for all costs for materials and labour for repairing or replacing a damaged meter.

In all installations where the customer requests revenue metering remote from the secondary entrance equipment or downstream from a customer-owned dry-core transformer, provisions are required for a bulk meter directly after the main switch. This bulk metering is required in addition to any public metering provisions. The customer will be required to contribute to the cost of the metering installation.

Non-residential or mixed-use buildings will normally be bulk metered by a single meter. However, where specific areas are clearly and permanently defined and in other respects as a separate entity, individual metering of the loads will be considered.

For electrical services greater than 200 amps, the customer is required to supply and install a metal metering cabinet and conduit, which meet EPLC specifications. Details of cabinet specification are contained in Customer Class Specific of this Conditions of Service.

All general service customers will be metered up to 50 kilowatts by a watt-hour meter and over 50 kilowatts by a demand watt-hour meter.

For all services, the customer shall supply CSA approved meter socket bases with the number of jaws indicated for the appropriate service type.

Normally, only one service is permitted per property. Where multiple services are approved, EPLC or its agent may request that the meters be grouped together in a single location.

All splitter boxes on the line side of the EPLC metering shall have provisions for padlocking.

When a disconnect device has been locked in the "OFF" position by EPLC, under no circumstances shall anyone remove the lock and energize it without first receiving approval from EPLC.
Where aluminum conductors are used, service entrance equipment must have CSA approval for aluminum conductors.

Multi-unit sites shall have the metering located in “Meter Rooms” and shall be accessible via an outside door or from a public area. Either a dual locking arrangement or a key box arrangement will be required on the access door. A copy of the grouped metering layout plan shall be forwarded to EPLC for review.

The customer is required to supply all sockets, cabinets, enclosures, panels, mounting boards, conduits, wiring devices, fittings, space and 120 volt AC supply requirements of and for the metering equipment.

No meters or metering equipment shall be permitted to be installed in a hazardous location.

No devices other than those required by EPLC for its purposes are permitted to be connected to the metering equipment or circuits. Any metering or load control equipment required by the customer shall be installed on the load side of the EPLC metering equipment.

Notwithstanding the above statement, the customer may request the use of duplicate meter pulses from the EPLC metering equipment. The customer shall be responsible for all associated costs of changing from standard metering.

2.3.7.2 Current Transformer Boxes

Where a current transformer (CT) box is required, it shall be CSA approved, painted or galvanized, made of No. 16 gauge sheet metal and include a provision for sealing. A removable plate shall be provided in the box for mounting the equipment.

As an alternative to a separate CT box and meter, a single enclosure combining both functions may be feasible. Customers should contact EPLC or its agent for details.

Where current transformers are to be installed in the secondary bus of metal clad switchgear, shop drawings must be submitted to EPLC to ensure that the CTs will fit. In cases where the CTs only meter a portion of the metal clad switchgear (such as public loads), a separate disconnect switch must be installed ahead of the metering compartment so that the service can be de-energized without any interruption to the main service supply. Generally, one public meter only will be allowed. Additional public meters will require authorization from EPLC or its agent.

Where a current transformer box is required, its size will depend on the size of the service conductors to be used. The relationship is as follows:

1. Up to and including 500 MCM inclusive, use 910 mm x 910 mm x 300 mm (36 in. x 36 in. x 12 in.) CT box.
2. Above 500 MCM, use 1220 mm x 1220 mm x 300 mm (48 in. x 48 in. x 12 in.) CT box.
3. Conductors should enter the current transformer box on the marked, line side and leave the CT box on the marked, load side.
4. On all electrical services that require current transformers and the neutral for metering, the neutral shall run continuously through the cabinet and be looped through as per EPLC specifications.

2.3.7.3 Interval Metering

On the date that the OEB Distribution System Code comes into force, EPLC shall within six months provide an interval metering (MIST) to any customer that has an average monthly peak demand during a calendar year of over 500 kilo-watt. EPLC shall install a MIST meter on any new installation that is forecast by EPLC to have a monthly average peak demand during a calendar year of over 500 kilo-watt, for the purposes of measuring energy delivered to the customer.

EPLC will provide an interval meter within a reasonable period of time to any customer who submits to it a written request for such meter installation. The request may come directly from the customer or through its retailer in accordance with the Retail Settlement Code. EPLC will provide the interval meter subject to the following conditions:

1. The customer shall compensate EPLC for all incremental costs associated with that interval meter. Such costs include the capital cost and installation costs of the interval meter, ongoing maintenance (including allowance for meter failure), verification and reverification of the meter, installation and on-going provision of a communication line or communication link with the customer's meter, and cost of metering made redundant by the customer requesting an interval metering.
2. EPLC shall determine whether the meter will be a MIST or MOST meter.
3. A communications system utilized for MIST meters shall be in accordance with EPLC requirements.
4. A communications line shall be required in the case of inside or restricted access to meters.

EPLC may meter some Customers using pulse-recording meters, which can be interrogated remotely. For all general service Customers with loads exceeding 500 kW, and any Customer requiring pulses for Spot Market Price Pass-through, the Customer shall provide the following facilities:

1. A metering board 1.2 m x 1.2 m x 16 mm (4 ft. x 4 ft. x 5/8 in.) plywood exclusively for the EPLC metering plant and equipment.
2. A 13 mm (1/2 in.) conduit from the telephone entrance equipment and a 1 ML direct dial voice quality telephone line supplied by the customer which is active 24 hours a day to the metering location extension jack which is mounted on the metering panel. This phone line must be installed and functioning prior to the new service being energized.

2.3.7.4 Meter Reading

EPLC or its agents shall have the right to read any of EPLC's electricity meters on the Customer's premises. The customer shall allow EPLC staff, or authorized agents, access to the customers' premises at all reasonable times to read, repair or maintain, or inspect meters and/or metering equipment. Where a customer fails to meet the access to metering requirements, EPLC may make suitable metering arrangements at the customer's expense or discontinue the electrical supply after the customer has been given 7 days notice to this effect.

2.3.7.5 Final Meter Reading

When a service is no longer required, or if the customer is switching Energy Providers, the customer shall provide EPLC with at least two (2) working days notice in advance of the date so that a final meter reading can be obtained. The customer shall provide access to EPLC staff 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. EPLC'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, EPLC will determine the correction factors based on the specific cause of the metering error and the customer's electricity usage history. The customer's billing determinants shall be adjusted by a reasonable sum based on the reading of any meter formerly or subsequently installed on the premises by EPLC or its agent, due regard being given to any change in the character of the installation and/or the demand. In the case of an individual consumer who is not responsible for the incorrect meter registration, the allowable period of time for which the consumer may be charged is two years. For non-residential consumers or for instances of willful damage, the relevant time period is the duration of the defect.

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 for non-residential consumers will apply for the duration of the error. EPLC will correct the bills for that period in accordance with the regulations under the 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 EPLC without resorting to the meter dispute test.

Either the Meter Service Provider or the customer may request the service of Measurement Canada to resolve a dispute. If the Customer initiates the dispute, the Meter Service Provider will charge the Customer a meter dispute fee if the meter is found to be accurate and Measurement Canada rules in favor of the utility.

2.4 Tariffs and Charges

2.4.1 Service Connection

Service and connection fees shall apply to all new electrical service connections and shall also apply where an upgrade to an electrical service requires equipment upgrades to accommodate the change.

The Ontario Energy Board (OEB) approves EPLC specific service charges and distribution rates. These rates and charges are recorded in the current EPLC "Schedule of Rates and Charges" which is available upon request from EPLC Customer Service staff.

EPLC has developed distribution rates for the following groups:

Residential	- service supplied to single family dwelling units. Multi-unit Residential establishments (apartment buildings) supplied through one service normally shall be classified as general service.
General Service	- service supplied to premises other than those classified as residential, street lighting, GS 3,000 to 4,999 kW or GS > 5,000 kW Scattered, unmetered connections will be classified as General Service.
General Service	- normally these are customers with an average monthly demand greater than 3,000 kW but less than 5,000 kW.
General Service	- individual customers whose monthly measured maximum demand (kW) averaged over the most recent 12 consecutive months is equal or greater than 5,000 kW.
Street Lighting	- service supplied to street lighting equipment owned by the Municipal Corporation.
Sentinel Lights	- unmetered lighting load supplied to a sentinel light.

In addition to the above, EPLC has identified a requirement for the following service charges, which have been approved by the OEB:

Late Payment Charge	- where the total amount of the bill has not been paid within the time outlined in Billing of these Conditions of Service, a late payment charge on outstanding balances may be applied to the amount of the bill outstanding on the due date.
Returned Payment Charge	- where a customer's cheque or Automatic Payment Plan (APP) presentation is returned by the financial institution for faulty issue, a charge may be added to the customer's account to cover the cost associated with processing the item.
Collection of Account	- a collection of account charge may be made if a representative of EPLC staff is dispatched to collect the account.
Occupancy Change	- where an electrical service is no longer required, or if the

customer is switching Energy Providers, EPLC will be required to obtain a final meter reading for which a service charge will be applied.

New Account Set-up - an account setup charge is applied when a new account is opened in order to recover the costs associated with the set up of the new account directly from those customers creating the costs.

Temporary Service - the customer must pay for the cost of erecting and removing any additional equipment and a rental charge may be made for transformation equipment supplied by EPLC.

Dispute Involvement - a charge for utility services related to the Measurement Canada review of a customer initiated dispute investigation may be made by EPLC to the customer if Measurement Canada dismisses the dispute. These charges would be for costs incurred by EPLC during the dispute investigation.

Disconnection/
Reconnection Charge - where the electricity service has been disconnected in order to collect the account and then reconnected, a reconnection of service charge may be applied. Two rates have been established, one to reconnect during "Office Hours" and another to reconnect "After Hours".

Arrears Certificate - this is a specific service charge for when a lawyer makes an inquiry on behalf of a pending new home owner to determine if there are any arrears on the service account.

Service Charge - for the provision of services that are not included in EPLC's standard level of service, including work done at a customer's request, EPLC may charge a specific service charge, depending on the type of service.

Transformer Ownership
Credit - Allowance for Non-Utility Owned Step Down Facilities - where EPLC does not provide step down facilities to the utilization voltage for a customer or where service is supplied directly to a customer's high voltage equipment without the necessity of any step down transformation, EPLC has applied to the OEB for a credit rate to be applied for such customers.

Subject to this Code and other applicable laws, a distributor shall comply with its Conditions of Service but may waive a provision of its Conditions of Service in favour of a customer or potential customer.

2.4.2 Energy Supply

Standard Supply Service Customers

In accordance with the Electricity Act, with its licence and with the requirements of the Retail Settlement Code, EPLC will provide 100 % of the electrical power needs via Standard Supply Service (SSS) to any person connected to their distribution system:

(a) who has not advised EPLC in writing that they do not wish to purchase electricity from EPLC; or
(b) who requests EPLC in writing to sell electricity to such person; or
(c) whose retailer is unable for any reason to sell electricity to such person.

Power purchased from EPLC Standard Supply Service (SSS) will be billed at a regulated rate for electrical energy plus an administrative charge that allows EPLC to recover its cost of providing SSS plus the settlement costs. The regulated rate and administrative charge rate is approved by the Ontario Energy Board (OEB). Separate from these rates will be the settlement costs, which are calculated according to the provisions of the Retail Settlement Code (RSC) of the OEB.

In accordance with the Electricity Act, and in accordance with the requirements of the Retail Settlement Code, EPLC will discontinue Standard Supply Service to a person who is connected to their distribution system if:

a) the person or a retailer acting on behalf of the person informs EPLC in writing that the person wishes to purchase electricity from the retailer; and
b) the person or the retailer acting on behalf of the person provides EPLC with the following information:
    - the date after which the retailer is prepared to provide service to the person, subject to the final meter reading date;
    - the person's account number with EPLC or address; and
    - other information necessary for implementing a change in service that may be required by the Board.

In accordance with the Electricity Act, and in accordance with the requirements of the Retail Settlement Code, EPLC will begin to provide Standard Supply Service to a person who is connected to EPLC's distribution system and purchases electricity from a retailer if:

a) the person or the retailer acting on behalf of the person informs EPLC in writing that the person wishes to purchase electricity from EPLC;
b) the person or the retailer acting on behalf of the person informs EPLC that the retailer is unable to sell electricity to the person; and
c) the person or the retailer acting on behalf of the person provides EPLC with the following information:
    - the date after which service no longer will be provided by the retailer, subject to final meter reading;

- the person's account number with EPLC or address; and
- other information necessary for implementing a change in service that may be required by the OEB.

Wheeling of Electrical Power

EPLC shall provide export service for any Generator-Customer seeking to deliver energy and ancillary services over the EPLC distribution system for purposes of delivery to electric loads or distribution systems located outside the EPLC service area. The Generator-Customer shall arrange to purchase export service for the delivery of such energy and ancillary services whether they are produced by generators located within the EPLC service area (wheeling out) or located outside the EPLC territory (wheeling through).

2.4.3 Deposits

The purpose of the deposit policy is to provide security to manage consumer non-payment risk.

Types of Security Accepted

1) Cash
2) Certified Cheque
3) Money Order
4) Bank Draft
5) Credit Card
6) Irrevocable Letter of Credit from a financial institution with no expiry and 90 days written notice to cancel
7) Parent Company Guarantee

Security Deposit Amounts

The maximum amount of a security deposit which EPLC may require a customer to pay, is calculated as follows:

> **Billing cycle factor of 2.5(monthly customers) x estimated bill based on the customer's average monthly bill with EPLC during the most recent 12 consecutive months within the past two years.**

Where relevant information is not available for the customer for 12 consecutive months within the past two years or where EPLC does not have systems capable of making the above calculation, the customer's average monthly bill shall be based on a reasonable estimate made by EPLC.

For the purposes of calculating the estimated bill under the above calculation for a low-volume consumer or designated consumer who is billed under SSS or distributor-

consolidated billing, the price estimate used in calculating competitive electricity costs shall be the same as the price used by the IESO for the purpose of determining maximum net exposures and prudential support obligations for distributors, low-volume consumers and designated consumers. For all other customers billed under SSS or distributor-consolidated billing, the price estimate used in calculating competitive electricity costs shall be the same as the price used by the IESO for the purpose of determining maximum net exposures and prudential support obligations for market participants other than distributors, low-volume consumers and designated consumers.

No discrimination shall take place among customers with similar risk profiles or risk related factors unless stipulations are described under the DSC or RSC.

Security Deposit Amounts (other than < 50 kW)

Despite the above calculation, where a non-residential customer in any rate class other than a < 50 kW demand rate class has a credit rating from a recognized credit rating agency, the maximum amount of a security which EPLC may require the non-residential customer to pay shall be reduced in accordance with the following table:

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

Payment of Security Deposit:

Where a security deposit is applicable, the service is not to be connected unless a security deposit has been received or appropriate installment arrangements have been made. EPLC shall permit the customer to provide a security deposit or an increase in security deposit, in equal installments paid over at least four months. A customer may, in its discretion, choose to pay the security deposit over a shorter period of time. The equal installments must be in the form of post-dated cheques. In the absence of appropriate arrangements, the security deposit will be billed to the customer at the time of the first billing. Should equal installments in the form of post-dated cheques be received or the customer meets the conditions of a security deposit exemption or reduction, a credit of the amount of the security deposit billed to the account will be subsequently issued.

Conditions in Which A Security Deposit Is Not Required

For the most recent relevant time period (1 year in the case of residential customers, 5 years in the case of non-residential customers in a <50kW demand rate class or 7 years in the case of a non-residential customer in any other rate class) provided it has occurred in the previous 24 months; or:

a) a customer provides a letter from another distributor or gas distributor in Canada confirming a good payment history with that distributor for the most recent relevant time period; or

b) a customer, other than a customer in a > 5000 kW demand rate class, provides a satisfactory credit check made at the customer's expense.

Non-Payment of Security Deposit

a) Should a deposit or an increase in deposit be required the customer will be advised that EPLC requires the payment of a security deposit , as a condition to supply or as a condition to continuing to supply service to the customer.
b) When EPLC has accepted security deposit installments and the customer does not pay the security deposit installment , the installment amount will be billed immediately and added to the customer's account.
c) Customers failing to provide a security deposit will be deemed to be in the same position as a customer in arrears and subject to the same conditions as provided for in Disconnection of these Conditions of Service.

When EPLC is in possession of a consumer deposit when a consumer changes from SSS to a competitive retailer or between competitive retailers EPLC will retain the deposit. Where EPLC is in possession of a consumer deposit when a customer changes billing options from EPLC-distributor consolidated billing to either split billing or retailer-consolidated billing, the deposit shall be applied to the consumer' s final bill prior to the change in service. EPLC or its agent will return any excess deposit amount not required for the new billing option to the consumer according to the terms specified by EPLC at the time the deposit was originally collected. EPLC or its agent will not redirect any portion of a consumer's deposit to a competitive retailer. In the event that a change is made from EPLC- Distributor Consolidated Billing to Split Billing, EPLC will retain a portion of the deposit amount that reflects the non-payment risk associated with the new billing option.

Deposit Interest

Interest will accrue on cash deposits on a monthly basis equal to the Prime Business Rate as published on the Bank of Canada website less two 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 may be paid by crediting the account of the customer or otherwise.

Conditions of Default

A security deposit may be required from a customer who is not billed by a competitive retailer under retailer-consolidated billing unless the customer has a good payment history of:

a) 1 year in the case of residential customers,
b) 5 years in the case of non-residential customers in a <50 kW demand rate class or;
c) 7 years in the case of a non-residential customer in any other rate class.

A customer is deemed to have a good payment history unless, during the relevant time period mentioned above, the customer has received:

a) more than one disconnection notice,
b) more than one cheque or payment returned due to insufficient funds or;
c) a disconnect / collect trip.
d) disconnection for non-payment.

If any of the preceding events occur due to an error by EPLC, the customer's good payment history shall not be affected.

If the customer is deemed to have a bad payment history, EPLC may use that customer's average bill for the most recent 12 consecutive months within the past 2 years for the purposes of making the calculation of the maximum amount of security deposit found above.

Conditions for Refunding Deposit

EPLC shall review every customer's security deposit at least once in a calendar year to determine whether the entire amount of the security deposit is to be returned to the customer as the customer is now in a position that it would be exempt from paying a security deposit.

Effective February 1, 2005, a customer may, no earlier than 12 months after payment of a security deposit or the making of a prior demand for a review, demand in writing that EPLC undertake a review to determine whether the entire amount of the security deposit is to be returned to the customer as the customer is now in a position that it would be exempt from paying a security deposit, had it not already paid a security deposit or whether the amount of the security deposit is to be adjusted based on a re-calculation of the maximum amount of the security deposit.

EPLC shall promptly return any security deposit received from the customer upon closure of the customer's account, subject to EPLC's right to use the security deposit to set off other amounts owing by the customer to EPLC. The security deposit shall be returned within six weeks of the closure of the account.

EPLC shall apply a security deposit to the final bill prior to the change in service where a customer changes from SSS to a competitive retailer that uses retailer-consolidated billing or a customer changes billing options from distributor-consolidated billing to split billing or retailer-consolidated billing. EPLC shall not return any portion of a customer's security deposit to a competitive retailer. Where a change is made from distributor-consolidated billing to split billing, EPLC may retain a portion of the security deposit amount that reflects the non-payment risk associated with the new billing option.

2.4.4 Billing

A) Bills to Customers Purchasing Standard Supply Service from EPLC

EPLC will separate the commodity charges for electrical energy from all other charges. Also, additional information included with the billing shall only include EPLC's marketing information or promotional materials, and materials or information that EPLC is obligated to send as part of its regulated distribution function.

Large Volume Customers

Large volume customers purchasing electricity from EPLC will pay a price based on the weighted average hourly spot market cost of electricity, for the period over which the customer is being billed, weighted according to the hourly consumption of the Standard Supply Service (SSS) customer as measured by a meter or estimated using a load profile methodology approved by the Ontario Energy Board.

Billing Cycles

The EPLC billing cycle period, for all customer classes, will be monthly. EPLC is responsible for calculating competitive and non-competitive electricity services. Billings shall be based on an actual meter reading or an estimated reading where actual is not available.

If at any time a customer chooses to change their supplier of power from EPLC to a Retailer, EPLC or its agent will perform a true-up calculation to determine if a rebate or net charge applies to the account for the competitive electricity costs.

General Service meters, over 50kW, are read monthly and the demand meter(s) is reset. If necessary, an allowance for customer-owned step-down facilities and, power factor and transformer loss adjustments will be applied as follows:

- Where the demand is calculated in kilowatt (kW) and in kilovolt-ampere (kVA), the billing demand will be the greater of the measured kW demand or 90% of the measured kVA demand.
- Where the customer provides step-down facilities from the distribution voltage, the customer's monthly bill shall be reduced by an allowance as approved by the Ontario Energy Board. The amount of this allowance is listed in the EPLC schedule of rates and charges. This authorized allowance will also apply where service is supplied direct to a customer's high voltage equipment without the necessity of any step-down. The allowance for step-down shall be applied to the customer's bill before any late payment charges.

Intermediate Use Meters are electronically interrogated every month for billing purposes. If necessary, an allowance for customer-owned step-down facilities and power factor and transformer loss adjustments will be applied as identified above for General Service meters over 50kW.

Large Use Meters are electronically interrogated every month for billing purposes. If necessary, an allowance for customer-owned step-down facilities and, power factor and transformer loss adjustments will be applied as identified above for General Service meters over 50kW.

Sentinel Lights are individually billed monthly, based on the connected kW load of the light(s). Scattered, unmetered connections are billed individually monthly, based on connected load.

Street Lighting is billed monthly, based on the connected kW load of the light(s).

B) Bills to Customers Purchasing from a Retailer

EPLC has the ability to accommodate three billing options:
1. Retailer-consolidated billing;
2. EPLC-consolidated billing; and
3. Split billing.

The consumer and the retailer shall determine the selection of a billing option. The retailer will notify EPLC or its agent of the desired option.

EPLC-Consolidated Billing

If a consumer is billed by way of EPLC-consolidated billing, EPLC or its agent will issue a bill to the consumer that includes the full cost of delivered electricity with the portion of the bill attributable to competitive electricity costs based on the contract terms between the consumer and their retailer. Under this option EPLC shall bill and collect from consumers on behalf of retailers. The Ontario Energy Board shall approve the charge for such billing services.

Two forms of EPLC-consolidated billing are possible, bill-ready and rate-ready. Under bill-ready billing, a retailer calculates the portion of the bill covering competitive electricity services for each consumer and the information is transmitted to EPLC for inclusion on the consumer's bill. Under rate-ready billing, EPLC or its agent calculates the portion of the bill covering competitive services based on the price and terms provided by the retailer. In both cases, EPLC is responsible for calculating the portion of the bill covering non-competitive services. Also, in both cases, EPLC or its agent will determine settlement costs attributable to the competitive electricity service portion of the bill.

Retailer-Consolidated Billing

If a consumer is being billed by way of retailer consolidated billing, EPLC or its agent shall bill the designated retailer for all competitive and non-competitive electricity costs incurred on behalf of the consumer. EPLC or its agent shall not directly bill a consumer who is to be billed under retailer-consolidated billing.

Split Billing

For a consumer being billed by way of Split Billing, EPLC or its agent shall issue one bill to the consumer that covers all non-competitive electricity costs less any administrative costs that are paid by the retailer. The consumer's retailer is responsible for the issuance of the other bill that covers the cost of competitive electricity services based on the price and other contractual terms agreed to by the consumer and the retailer.

Under split billing, EPLC or its agent shall issue settlement statements to the consumer's retailer that charge for the competitive electricity costs calculated, as well as any other relevant settlement costs or credits according to rates approved by the Ontario Energy Board.

C) Billing Errors

Where a billing error, from any cause, has resulted in a consumer or retailer being over billed, and where Measurement Canada has not become involved in the dispute, EPLC shall credit the consumer or retailer with the amount erroneously billed. The credit EPLC remits to the appropriate parties shall be the amount erroneously billed for up to a six-year period.

Where the billing error is not the result of EPLC's standard documented billing practices, i.e. estimated meter reads, EPLC shall pay interest on the amount credited to the relevant party equal to the prime rate charged by EPLC's bank.

Where a billing error, from any cause, has resulted in a consumer being under billed, and where Measurement Canada has not become involved in the dispute, EPLC shall charge the consumer or retailer with the amount that was not previously billed. In the case of an individual residential consumer who is not responsible for the error, the allowable period of time for which the consumer may be charged is two years. For non-residential consumers or for instances of willful damage, the relevant time period is the duration of the defect.

2.4.5 Payments and Late Payment Charges

Bills are due when rendered by EPLC or its agent to the customer. A customer may pay the bill without the application of a late payment charge up to a due date, which shall be a minimum of sixteen calendar days from the date of mailing or hand delivery of the bill. This due date shall be identified clearly on the customer's bill.

Where payment is made at a financial institution acceptable to EPLC, payment will be deemed to be made when stamped/acknowledged by the financial institution or an equivalent transaction record is made.

Payments to Essex Powerlines Corporation by customers can be made at 360 Fairview Ave., Suite 218, Essex, Ontario in the form of cash, cheque, certified cheque, money order VISA, Mastercard or Debit Card. EPLC reserves the right to exclude payment by cheque based on the customer payment record. Payment can also be made at registered financial institutions acceptable to EPLC and via the Internet, Interact or Telephone Banking.

The Equal Payment Plan (EPP) is a payment option where a customer purchasing power from EPLC, is billed for the same payment amount every month, and then on the 12th month a true-up is performed to adjust the total billed payment amounts to the total actual billed consumption amounts. This is an averaged payment plan where the customer's average yearly consumption is spread over the year into equal payments for 11 months. In the 12th month the account is reviewed and a true-up is done. If the account true-up is less than $100.00 credit, then this amount will be rolled into the next year calculation of the plan. Credit balances of $100.00 or more will be refunded by cheque and all balances will be due on the due date of the billing. Customers on the EPP plan will have their meter read (or estimated if deemed necessary) and billed every month. Customers will be automatically removed from the EPP with the plan balance due and payable upon the return of two (2) payments from the financial institution for reason of non payment. The Equal Payment Plan option is only available to customers on Standard Supply Service. Equal Payment Plan customers must be on the EPL Automatic Payment Plan (APP).

The Automatic Payment Plan (APP) is a payment option where a customer pays the billed amount automatically out of their bank account. The APP plan requires the customer to leave a voided cheque with EPLC to allow for their banking information to be set up on their EPLC account. Customers on this plan are issued a billing 16 days prior to the due date of the bill. An extract of the amount due is sent to the banking institution to initiate the automatic withdrawal from the customer's bank account on the due date of the bill and electronically deposited to EPLC's bank account.

EPL reserves the right to exclude payment by APP based on the customer's payment record.

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.

EPLC 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 payment returned by the financial institution for faulty issue.

2.5 CUSTOMER INFORMATION

The following describes the rights of consumers and retailers to access current and historical usage information and related data and the obligations of EPLC in providing access to such information. Access is provided in accordance with the Ontario Energy Board, Retail Settlement Code.

Upon a consumer's written authorization to EPLC, the following information will be provided to a retailer that provides electricity to a consumer located within EPLC's electrical service area:

1) EPLC's meter number for the meter or meters located at the consumer's service address;
2) The consumer's service address;
3) EPLC's account number;
4) The date of the most recent meter reading;
5) The date of the previous meter reading;
6) Multiplied kilowatt-hours recorded at the time of the most recent meter reading;
7) Multiplied kilowatt-hours recorded at the time of the previous meter reading;
8) Multiplied kW for the billing period (if demand metered);
9) Multiplied kVA for the billing period (if available);
10) Usage (kWhs/h) for each hour during the billing period for interval-metered consumers;
11) An indicator of the read type (e.g., EPLC read, consumer read, distributor estimate, etc.); and
12) Average distribution loss factor for the billing period.

A consumer with a remotely read or non-remotely read interval meter shall have access to meter usage data under the same terms and conditions as for a retailer, as described above.

A consumer with a manually read kilowatt-hour meter or any other type of non-interval meter shall have access to current usage information either through direct access to the meter, as described below, or in printed form on the bill provided by EPLC.

A consumer has the right to interrogate his or her meter, or to assign this right to others, in accordance with any relevant technical specifications and codes. If a consumer desires regular access to his or her meter or meter information; EPLC shall provide access under the following conditions:

1) The timing of consumer access to the meter is negotiable with EPLC. EPLC has priority when selecting access windows for the purpose of reading the meter.
2) If EPLC's access to the meter is hindered or a consumer's access to the meter corrupts usage information, EPLC may suspend a consumer's right to access until any outstanding problems are resolved.
3) A consumer shall pay the reasonable cost of any software, hardware or other services required for a consumer to obtain direct access to meter information. This may include installation of a secondary meter access system.
4) A consumer shall bear any cost incurred by EPLC or its agent to correct problems caused by a consumer's direct access to the meter.

5) If a consumer assigns his or her right to direct meter access to a retailer or third party, the consumer shall remain responsible for the action of the assigned party.

Upon written authorization by a consumer, EPLC will provide to the consumer or to one or more retailers, usage data, meter data and payment information as defined below. For non-interval-metered consumers, historical usage data are comprised of:

1. EPLC's customer account number;
2. Consumer's service address;
3. Consumer's billing address;
4. Identification of the current regulated rates that apply to the consumer (e.g., standard supply rate, distribution service rate, etc.);
5. Multiplied kilowatt-hours used in each billing period;
6. Multiplied kilowatt-hours used in each TOU consumption period for each billing period, if the consumer has a TOU meter;
7. Multiplied kW for each billing period (if demand metered);
8. Multiplied kVA for each billing period (if relevant);
9. Date of actual or estimated meter read for each billing period;
10. An indicator of the read type (e.g., EPLC read, consumer read, EPLC estimate);
11. The next scheduled meter read date (or read-cycle date);
12. The next scheduled bill date; and
13. Distribution loss factor for the billing period.

For interval-metered consumers, usage data are comprised of the above items except that usage will be reported on an hourly basis for each billing period.

Meter data is comprised of the following:

1. EPLC meter number;
2. Meter manufacturer;
3. Manufacturer's model number;
4. Manufacturer's serial number;
5. Meter owner (if other than EPLC);
6. Last seal date; and
7. All meter multipliers necessary to calculate a bill, including, but not limited to, relevant PT and CT ratios.

A consumer's payment information is comprised of the following:

1) An indication of whether or not the consumer is currently in arrears and, if so, for how long;
2) Data on the number of cheques received or pre-authorized payment presented from a consumer that had to be returned for insufficient funds over a specific period of time designated by EPLC; and
3) Data on the number of times the consumer has been disconnected for non-payment over a specific period of time designated by EPLC.

For any of the above information that varies by billing period, EPLC or its agent will provide data for 24 billing periods if EPLC has this many billing periods easily accessible (e.g., "online"). If more than 24 billing periods are available, EPLC or its agent may

release information for more periods at its discretion. If fewer than 24 billing periods are readily accessible, EPLC or its agent will provide data for no less than one calendar year's worth of information, unless the consumer has been connected to EPLC's distribution system for less than one year.

SECTION 3 CUSTOMER CLASS SPECIFIC

3.1 Residential

This section refers to the supply of electrical energy to residential Customers residing in detached or semi-detached dwelling units, as defined in the local zoning by-law. It applies only to buildings that meet the following conditions:

- the building lies along a distribution line; and
- the building can be connected without an expansion or enhancement to the distribution system.

3.1.1 General

A Residential Customer is anyone whose electricity requirements are for normal domestic or household purposes. This definition shall apply to all detached, semi-detached and linear row housing and be consistent with appropriate municipal zoning requirements.

The basic connection cost for each residential service is provided by EPLC at no up-front charge to the customer. The basic connection includes the following:

1. Supply and installation of overhead distribution transformation capacity to supply a 100 amp service or an equivalent credit for transformation equipment,
2. The service voltage will be 120/240 volts, single phase, three wire and each service location will be established through consultation with EPLC.
3. Up to 30 meters of installed overhead conductor terminating at the head of the service standpipe (stack) including connectors and road crossings pole if required or an equivalent credit for an underground service and, an appropriate non-time-of-use energy meter for a 100 amp service.

A variable connection charge will be required where the installation costs are beyond those of the basic connection. Payment of the variable connection cost by the customer must be completed prior to connection of the service.

For a residential class service, energy is supplied single phase, 3-wire, 60-Hertz, having a nominal voltage of 120/240 volts, up to a maximum of 400 amps per dwelling unit. In some unique situations, 600 amp service may be allowed with EPLC approval.

New residential subdivisions will be serviced totally via underground construction practices. In-Fill lots can be serviced with either overhead or underground construction

practices at the discretion of EPLC and the jurisdiction having authority over the property (usually the Road Authority).

There shall be only one Delivery Point to a dwelling except for semi-detached buildings and linear row housing. For semi-detached buildings and linear row housing with required fire separation, there may be a Delivery Point for each unit.

In circumstances where two existing services are installed to a dwelling, and one service is to be upgraded, the upgraded service will replace both the existing services.

Overhead Secondary Service
The meter socket, conduit and service standpipe (stack) are supplied and installed by the customer according to Service Mast Installation of the Ontario Electrical Safety Code. Appendix 5.5 contains a copy of this specification.

Underground Secondary Service – The down pipe, meter socket, and adequate sand as per EPLC if clean native fill is not available, are supplied and installed by the developer / customer according to EPLC "Standard U.R.D. Electrical Service Meter Base Connections". Appendix 5.6 contains a copy of this standard.

Note:
1. The Owner/Contractor must contact EPLC or its agent to obtain a service layout for either pre-serviced lot or in-fill lot construction.
2. All new electrical services must have the electrical meters across from each other for underground pre-serviced lots. See Appendix 5.7 for a diagram outlining this requirement.

3.1.2 Early Consultation

1. Required in service date.
2. Service entrance capacity and voltage rating of the service entrance equipment.
3. Location of other services e.g. gas, telephone, water, cable TV, storm and sanitary sewers.
4. Details of heavier loads e.g. heating equipment, air-conditioners and any appliances, which demand a high consumption of electrical energy.
5. Site plan indicating proposed location of the service entrance equipment with respect to public rights-of-way and lot lines - location is to be approved/specified by EPLC or its agent.
6. All information required for setting up a billing account.

3.1.3 Point of Demarcation

Ownership Demarcation

The Ownership Demarcation is the point on the electrical distribution system where ownership, repair and maintenance responsibility for the service connection wires transfer from EPLC to the customer.

For overhead construction, EPLC's ownership responsibilities are the meter (excluding the meter socket) and the triplex to the point of connection, including the connections, at the head of the standpipe (stack).
For underground construction, EPLC's ownership responsibilities are the meter (excluding the meter socket) and the underground electrical service cable up to the line terminating side of the meter socket.

Operational Demarcation:
Operational Demarcation is the point on the electrical distribution system where responsibility for operational control, safety and work protection reasons changes from EPLC to the customer.

For a residential customer supplied by either overhead or underground construction; EPLC's operational responsibilities are up to and including the meter. This operational responsibility and control is ensured by EPLC through their sealing of the mechanical interface between the meter and the meter socket. Everything beyond the meter is the operational responsibility of the customer.

The supply point might be located on an adjacent property from which EPLC has an registered easement. In all cases the final delivery point will be the decision of EPLC. The Customer must obtain a delivery point location from EPLC before proceeding with the installation of any service. Failure to do so may result in the delivery point having to be relocated at the customer's expense.

3.1.4 Access

Service locations requiring access to adjacent properties (mutual drives, narrow side setbacks, etc.) will require the completion of a registered easement from the property owner(s) involved.

The Customer will provide unimpeded and safe access (i.e. keys, entry codes, etc.) to EPLC or its agent at all times for the purpose of installing, removing, maintaining, operating or changing metering and distribution equipment.

3.1.5 Residential Metering

The owner will supply and install a meter socket acceptable to EPLC or its agent. Meter sockets will be installed such that it is directly accessible to the EPLC staff and:

1. Mounted on the exterior of the building and must be 3 feet or 1 meter back of the corner of the building from the direction in which the supply is coming and 6 feet or

1.8 meters from center of meter to finished grade to the center of the meter. All other meter locations will be approved by EPLC or its agent.
2. Installed ahead (on the line side) of the main disconnect switch.
3. Meter base must be C.S.A. approved.

Provision for metering shall be inspected and approved by EPLC or its agent prior to service being energized.

3.1.6 Inspection

Prior to the service being energized, EPLC requires notification from the Electrical Safety Authority (ESA) that the electrical installation within a building has been inspected and approved by the ESA.

All services are generally installed by EPLC or its agent, or by a Contractor approved by EPLC.

The Customer may be asked to provide the trenching and adequate sand as per EPLC if clean native fill is not available. All work done by the Customer shall be as specified by EPLC and subject to inspection by EPLC or its agent.

3.2 General Service (All)

All electrical service supplied to premises, excluding those classified as residential, street lighting, sentinel lighting.

A General Service customer that has a fiscal annual average monthly peak electrical demand of not more than 50 kW shall be classified as General Service – Below 50 kW.

Combined Residential/Business or Residential/Agricultural, whether seasonal or all-year premises, where the wiring does not provide for separate metering, the service shall normally be classified as General Service.

3.2.1 General

General Service customers are not assessed a basic connection, a variable connection charge will apply. Acceptance in writing of the variable connection cost by the customer must be completed prior to connection of the service. If transformation equipment (new or upgrade) is required, refer to the Capital Contribution Policy. All connection costs may be paid up front or invoice after connection is complete.

Underground Secondary Service – The trenching, meter socket/cabinet and conduit are supplied and installed by the customer according to ESA specifications and as per the following:

- For roadway crossings, the customer may hire a contractor to bore the road once all Municipal approvals have been obtained. In some situations, the Municipality may allow the roadway to be open cut.
- Under normal circumstances, Commercial buildings are supplied electrical energy by an underground service through a single point of entry for each building, at a location specified by EPLC.

3.2.2 Early Consultation

Detailed regulations cannot be stated which would be applicable to all cases, therefore the Owner will consult with EPLC or its agent in the early planning stages to ascertain EPLC's requirements. The Owner shall submit to EPLC the following information:

1. Address (complete municipal address)
2. Name, address, telephone number, fax number and e-mail address of the owner
3. Name, address, telephone number, fax number and e-mail address of the person to contact regarding technical aspects of the service.
4. Required in-service date.
5. Voltage requirements.
6. Estimated initial Maximum Demand.
7. Estimated future Maximum Demand.
8. Specific listing of the type of loads for lighting, motor, heating, air conditioning or other.
9. Number of suites and the areas of each.
10. Grading plan and site plan, to scale, showing the apartment or office building in relation to existing or proposed property lines, and other buildings or structures such as parking garages and loading ramps. The plans shall include vertical and horizontal views of the proposed incoming duct bank from the Point of Entry to the Delivery Point.
11. Plan, to scale, of the area in which the transformer vault is to be located, showing all details of the vault.
12. Plan, to scale, showing the electrical room and provision for the metering equipment.
13. For multiple units, a layout drawing is required showing the number of units/meters required and the size of electrical service to each unit.
14. All information required for setting up a billing account.

3.2.3 Point of Demarcation

Ownership Demarcation

The Ownership Demarcation is the point on the electrical distribution system where ownership, repair and maintenance responsibility for the service connection wires transfer from EPLC to the customer.

For overhead secondary service construction, EPLC's ownership responsibilities are the meter (excluding the meter socket) and the wire to the point of connection at the head of the standpipe (stack).

For overhead transformer and underground secondary service construction, EPLC's ownership responsibilities are the meter (excluding the meter socket) and the underground electrical service cable up to the line terminating side of the connection.

For primary underground service construction, EPLC's ownership responsibilities are up to and including the transformer. The customer owns secondary cables and conduit.

Operational Demarcation:
Operational Demarcation is the point on the electrical distribution system where responsibility for operational control, safety and work protection reasons changes from EPLC to the customer.

For General Service customers the point of operational responsibility shall be the first gang operated load break devise within the building. This does not exclude the customer from operating this switch for internal maintenance requirements.

The supply point might be located on an adjacent property from which EPLC has a registered easement. In all cases the final delivery point will be the decision of EPLC. The Customer must obtain a delivery point location from EPLC before proceeding with the installation of any service. Failure to do so may result in the delivery point having to be relocated at the customer's expense.

3.2.4 Supply Voltage

1. A Commercial building is supplied at one service voltage.
2. Single-phase energy is supplied at a nominal value of 120/240 volts, three-wire, up to 100-Kilowatt Demand.
3. The Owner shall make provision to take delivery at one of the nominal utilization voltages as specified by EPLC in Standard Voltage Offerings of these Conditions of Service. The Owner shall obtain prior approval from EPLC for the use of any specific voltage at any specific location.

3.2.5 Transformation

Except as allowed in the residential basic connection, all additional transformation requirements will be considered as an expansion to the EPLC distribution system, and subject to the economic evaluation model process to determine customer contributed capital requirements.

Transformer locations are determined and designed in consultation with EPLC. Current transformer specifications can be obtained from EPLC as part of the early consultation process.

All three phase padmount transformers up to and including 750 KVA must have an oil immersed two position secondary loadbreak switch that is hot stick operable.

All customer supplied three-phase padmount or power transformers must meet current C.S.A. and EPLC standards and have current C.S.A. nameplates attached. Non C.S.A. transformers will not be connected to the EPLC distribution system.

3.2.6 Supply of Equipment

EPLC supplies installs and maintains:

1. For installations that require a MIST interval meter, as per the EPLC load standard of 500 KVA or higher, EPLC will provide a dedicated telecommunications circuit, to read the meter, if a shared line (i.e. fax) is physically and practically not available. If a shared line is available, EPLC will modify, or pay the cost to modify, the customer's telephone system as required.
2. Meter and secondary metering transformers and wiring.
3. Transformation equipment with costs for equipment that can not be retrieved through distribution rates being paid by the customer.

The Owner shall supply, install and maintain (on private property):

1. Transformer vault and associated equipment.
2. All primary cable or overhead conductors to the appropriate EPLC ownership demarcation point complete with connectors at both ends to current EPLC specifications.
3. Primary cable duct bank (normally concrete-encased) from the point of entry to the vault designed by the Owner to ESA and EPLC specifications.
4. Where EPLC has determined that cables may not be readily pulled through the duct bank, the Owner shall also design, supply, install and maintain a pulling manhole or pit on the property to ESA and EPLC specifications. Where EPLC's distribution system is underground the Owner shall be responsible for the cost of supply and installation of ducts to ESA and EPLC specifications at locations where driveways cross the distribution system. Ducts shall be installed prior to the final paving of driveways for secondary service entrance equipment.
5. Dry-type transformers for special utilization voltages.
6. Secondary cables, connectors and conduit to the service entrance.

3.2.7 Short Circuit Capacity

The Owner shall ensure that his service entrance equipment has an adequate short-circuit interrupting capability. EPLC or its agent will advise, on request, the maximum available short-circuit symmetrical in-rush Amperes at any specific location.

3.2.8 Access

Service locations requiring access to adjacent properties (mutual drives, narrow side setbacks, etc.) will require the completion of a registered easement from the property owner(s) involved.

The Customer will provide unimpeded and safe access (i.e. keys, entry codes, etc.) to EPLC or its agent at all times for the purpose of installing, removing, maintaining, operating or changing metering and distribution equipment.

3.2.9 Metering

3.2.9.1 General

The information below provides the Customer with the electrical service sizes available from EPLC, some general metering requirements and the voltage level available for each service size.

Appendix 5.8 of these Conditions of Service provides a listing of the electrical/electronic meters provided by EPLC for an electrical service application. It should be noted that this list is not all-inclusive and the meters listed can be changed periodically to meters from alternate manufacturers.

All metering installations will meet required E.S.A. and EPLC specifications. EPLC specifications will include metering location and other details. EPLC specifications will be obtained for standard services by way of a service layout and for non-standard services by way of a meeting with EPLC representatives as part of the early consultation process.

The location of indoor and outdoor meters shall be readily accessible at all times to authorized agents of EPLC. A space of 1.2 metres (4 feet) clear of all obstructions shall be provided in front of the meter and service panel.

The Customer shall grant properly authorized agents of EPLC reasonable access to the said premises for the purpose of reading, examining, preparing or removing their meters, wires, and other appliances and equipment of EPLC and for the inspection of all the Customer’s appliances, wiring and metering. The properly authorized EPLC agents shall comply with the Customer’s requirements for access.

3.2.9.2 Multi-Unit Buildings

Bulk metering (one metering installation for the building) is the EPLC preferred standard for multi-unit buildings (i.e.: small commercial strip plazas, condos and/or apartment buildings, etc.). In situations where the customer requests and EPLC or its agent approves individual metering for each unit the customer will be charged the difference between EPLC's total cost for the bulk meter installation and EPLC's total cost for the individual meter installations.

In multi-unit establishments where individual unit metering is used, the meters will be grouped at the service location either outside or inside in an electrical/meter room as per EPLC's specs. The customer will provide reading/maintenance access (i.e.: keys, entry codes, etc.).

In multi-unit establishments where individual unit metering is used, the service meter bases and disconnects must be clearly identified with unit numbers permanently fixed to the devices. Units shall be numbered and a floor plan shall be mounted in a suitable manner in each meter room, indicating the area to which each service box supplies power. The service will not be connected unless the numbers on the service box and those on the stores or units correspond and the plan is posted. The Owner shall inform EPLC or its agent if there are changes made in the unit numbers and make the appropriate changes to the meter bases and disconnects as detailed above.

3.2.9.3 Indoor Meter Locations

Residential meters will normally be located outside. However in some unique cases EPLC or its agent may approve or require inside residential meter locations.

EPLC will assess 3 phase services on an individual basis to determine whether an inside or outside meter location is appropriate.

Customers with inside meter locations will provide read/maintenance access (i.e.: keys, entry codes, etc.)

3.2.9.4 Test Block/Meter Cabinets

All Metering and Test Block/Meter Cabinets provided by the customer will meet EPLC specifications. All cabinets will include provisions for EPLC to install its standard metering lock once the service is energized. Care will be taken during the installation of all cabinets to ensure they are properly aligned and that doors and locking mechanisms operate properly. EPLC or its agent can refuse to energize a service until these conditions are satisfied.

3.2.9.5 Protective Meter Enclosures

EPLC or its agent may designate any new or existing meter location as a high risk for vandalism or tampering and require the installation of an approved lockable protective meter enclosure at customer's cost.

3.2.9.6 Single Phase Services

1 phase, 3 wire, 120/240 Volt, 0 -200 Amps

a) Outdoor Installation – Overhead or Underground

The customer will supply and install a standard E.S.A. and C.S.A. approved 4-jaw socket base.

Note: All underground services must have a 200 Amp "Jumbo" (11" X 7"), non-lug type socket base.

b) Indoor Installation (when permitted by EPLC)

The customer will supply and install a standard E.S.A. and C.S.A. approved, 4 jaw socket base as per (a) above, and will provide reading/maintenance access (i.e.: keys, entry codes, etc.).

Note: Unless specifically exempted by EPLC, all existing inside meter bases must be moved outside if any re-wiring is done to the service entrance/meter base or replacement of the inside meter base is necessary.

All round or S-base meter sockets must be upgraded to new styles if modifications are necessary for any reason.

1 phase, 3 wire 120/240 volt, 400 amps (or 600 amps if allowed by EPLC)

a) Outdoor Installation – Remote Meter

The customer will supply and install an E.S.A., C.S.A. and EPLC approved test block / meter cabinet located outside as per EPLC requirements, an appropriately sized CT cabinet located inside after the main disconnect, and 1" conduit between.

Note: All services with current transformers must have provisions for a test block in the remote meter enclosure.

Meter Cabinets: Services with conductors up to 250 MCM require a 30"x30"x12" CT cabinet with removable back panel.
Services with conductors larger than 250 MCM require a 36"x36"x12" CT cabinet with removable back panel.

b) Indoor Installation (when permitted by EPLC)

The customer will supply and install an E.S.A. and C.S.A. approved metering cabinet located as per EPLC requirements, and will provide reading/maintenance access (i.e.: keys, entry codes, etc.).

Meter Cabinets: Services with conductors up to 500 MCM require a 36”x36”x12” meter cabinet with removable back panel.

1 phase, 3 wire 120/240 volt – Central Metering

The customer will supply and install a service pole at a location on the property approved by EPLC or its agent. The customer will supply and mount on the pole a standard 100 Amp meter socket with 1” conduit extending to EPLC mounted doughnut type CTs. “Automatic Current Shorting” sockets will not be used.

3.2.9.7 Three Phase Services

3 phase, 3 wire, 120/208 volts, Network – Up to 100 amps max.

This configuration is typically used for apartments, condos and, in some cases, small commercial units. Each service utilizes 2 phases of a 3 phase, 4 wire, 120/208-volt main supply. The customer is required to supply and install a 5 jaw meter base on the load side of each disconnect and is subject to conditions detailed above in Multi-Unit Building metering comments.

3 phase, 4 wire, 120/208 volts – Up to 200 amps

EPLC will govern outside versus inside meter location.
The customer will supply and install an appropriately voltage rated 7 jaw meter base.

3 phase, 4 wire, 600/347 volts – Up to 200 amps

EPLC will govern outside versus inside meter location.
The customer will supply and install an appropriately voltage rated 7 jaw meter base behind the main disconnect.

3 phase, 4 wire, 120/208 volts – over 200 amps
3 phase, 4 wire, 600/347 volts – over 200 amps

Note: EPLC will treat three phase services larger than 200 Amp on an individual basis, in consultation with the customer.

a) P.T.’s (if required), C.T.’s and Meter mounted in Meter Cabinet

The customer is required to supply and install at their cost a metal metering cabinet measuring 48” X 48” X 12” with a removable panel on which EPLC will install its instrument style metering equipment.

b) P.T.’s (if required) and C.T.’s mounted in Meter Cabinet – Remote Meter

The customer is required to supply and install at their cost a metal metering cabinet measuring 36" X 36" X 12" with a removable panel on which EPLC will install its instrument style metering equipment. The customer will supply and install a 1 ¼ inch I.P.S. conduit from the inside metering cabinet to a customer supplied and installed, E.S.A., C.S.A. and EPLC approved test block / meter cabinet located as per EPLC requirements.

c) C.T.'s mounted in Main Switchgear, P.T.'s (if required) mounted in Switchgear Cabinet - Remote Meter

The customer will supply and install a 1 ¼ inch conduit from the switchgear metering cabinet to a customer supplied and installed, E.S.A., C.S.A. and EPLC approved test block / meter cabinet located as per EPLC requirements.

Note: (Main Switchgear Services – usually but not necessarily over 800 Amp)
If the customer uses a single main switchgear style service entrance, EPLC may request C.T.'s be mounted by the manufacturer at the time the switchgear is manufactured. Instrument transformers complete with all wiring and electric meters will be supplied and installed by EPLC unless otherwise arranged with the customer.

3 phase, 3 wire, 600 volt delta – all services

Note: This service classification will no longer be extended to new service installations. Any service upgrades will require the customer to upgrade to a 347/600 volt, three-phase four-wire service. The neutral must be brought in to the main service disconnect.

3.2.9.8 Primary Metering

EPLC, in consultation with the customer, will determine when primary metering is appropriate. All costs for primary metering and installation are the Customer's expense including the high voltage current and potential instrument transformers to current EPLC specifications. All high voltage installations on private property must be installed and inspected by the local Electrical Safety Authority and EPLC for municipal property.

The EPLC may elect to supply and install the potential and current transformers at a cost contribution to the customer. Temporary secondary side metering on the main service only for construction phase at the customer cost may be discussed with EPLC or its agent.

The customer is required to make provision for this equipment on the load side of the high voltage interrupting devices and, wherever possible, on the load side of the power fuses. The customer or his contractor is required to connect this equipment to his high voltage buswork.

The customer is required to supply and install a metal weatherproof test block/metering cabinet with a removable panel on which EPLC will install its metering equipment. The

customer is also required to supply and install a 1¼ inch conduit from the metering unit to the metering cabinet.

The Customer will provide unimpeded and safe access (i.e. keys, entry codes, etc.) to EPLC or its agent at all times for the purpose of installing, removing, maintaining, operating or changing metering and distribution equipment.

The location of the metering cabinet is subject to the approval of EPLC or its agent. If secondary metering is to be used, consult with EPLC or its agent regarding space and location requirements for the low voltage metering transformers and meters.

All high voltage installations must first be approved by the ESA before power is turned on to the customer. Contact ESA inspection office about their requirements.

Customer Responsibilities – Primary Metering – In addition to requirements detailed above and in Sec 3.2.6 (Supply of Equipment) the customer is generally required to supply and install the following unless EPLC specifies otherwise:

- Supply and install private electric substation complete with all grounding to the ESA requirements.
- Fault currents at the point of the EPLC supply are to be considered infinity for any calculations by the customer. EPLC fuse ratings at the pole, if any, are to be determined by EPLC.
- Hi-pot the high voltage cables complete with installed termination's on both ends to no more than 200% full load cable rating before EPLC will energize the service and supply EPLC with a complete copy of all Hi-pot test results. EPLC accepts no responsibility for any private cable installations or testing procedures.

EPLC Responsibilities – Primary Metering

- Supply and install an appropriate meter and metering wire.
- For installations that require a MIST interval meter, as per the EPLC load standard of 500 KVA or higher, EPLC will provide a dedicated telecommunications circuit, to read the meter, if a shared line (i.e. fax) is physically and practically not available. If a shared line is available, EPLC will modify, or pay the cost to modify, the customers telephone system as required.
- Supply and install the high voltage equipment and grounding at the take off pole with a cost contribution to the customer.

3.2.10 Inspection

Prior to a service being energized, EPLC requires notification from the Electrical Safety Authority (ESA) that the electrical installation within a building has been inspected and approved by the ESA.

Provision for metering shall be inspected and approved by EPLC or its agent prior to the service being energized.

All services are generally installed by EPLC or its agent, or by a Contractor approved by EPLC. In the latter case, all work done by the Customer shall be as specified by EPLC and subject to inspection by EPLC or its agent.

3.2.11 Service Request

A customer requesting a new service connection which **does not** require additional transformation should be aware that EPLC will require at least 6 – 8 weeks notice of the intention to proceed in advance of the requested in-service date.

A customer requesting a new service connection which **does** require additional transformation should be aware that EPLC will require at least 24 - 36 weeks notice of the intention to proceed in advance of the requested in-service date. This request is to ensure delivery of the required materials and labour scheduling.

3.3 General Service (50 – 2,999 kW)

All electrical service supplied to premises with a load demand greater than 50 kW but less than 1000 kW, excluding those classified as residential, street lighting, sentinel lighting, intermediate or large use, shall be classified as General Service (above 50 kW). For the purposes of these Conditions of Service, the premises for this class of customer is considered a structure or structures located on a parcel of land occupied by one customer and is predominantly used for medium size commercial, institutional or industrial purposes.

3.4 General Service (Above 3000 kW)

A General Service customer shall be any customer not designated as residential, street lighting, sentinel lighting and that has a monthly peak electrical demand in excess of 3000 kW for any twelve consecutive billing periods.

3.4.1 General Service (3,000 - 4,999 kW)

A customer is in this class when the customer’s individual load is greater than 3,000 kW but less than 4,999 kW. For the purposes of these Conditions of Service, the premises for this class of customer is considered a structure or structures located on a parcel of land occupied by one customer and is predominantly used for intermediate sized commercial, institutional or industrial purposes.

Overhead/Underground Primary – In addition requirements detailed in Sec 3.2.6 (Supply of Equipment) the customer is generally required to supply and install the following unless EPLC specifies otherwise:

1) A load break switch at the point of transition between the EPLC's equipment and customer equipment that is capable of isolating load from the EPLC system. This is normally installed within 30 metres (100 feet) of the EPLC's supply on the customer's pole where the customer then chooses to continue overhead or dip to an underground service to feed their particular substation.
2) Step-down facilities from the 27.6 kV primary voltage. The customer owned transformer(s) must comply with the Canadian Standards Association (CSA).

3.4.2 General Service (above 5,000 kW)

A customer is in this class when their individual load is greater than 5,000 kW. For the purposes of these Conditions of Service, the premises for this class of customer is predominantly used for large industrial or institutional purposes located on a parcel of land occupied by a single customer.

Overhead/Underground Primary – In addition requirements detailed in Sec 3.2.6 (Supply of Equipment) the customer is generally required to supply and install the following unless EPLC specifies otherwise:

1. A load break switch at the point of transition between EPLC's equipment and customer equipment that is capable of isolating load from the EPLC system. This is normally installed within 30 metres (100 feet) of the EPLC's supply on the customer's pole where the customer then chooses to continue overhead or dip to an underground service to feed their particular substation.
2. Customer owned, step-down transformer(s) facilities from the 27.6 kV primary voltage must comply with the Canadian Standards Association (CSA

3.5 Embedded Generation

An Embedded Generator is any unit that is, or may be, connected in parallel with the EPLC distribution system for the purposes of:

- Full displacement of the customer’s existing electric load,
- Partial displacement of the customer’s existing load,
- Retail sale of generated electricity over the EPL distribution system.

EPLC will provide new generation facilities non-discriminatory access to their system. For the right to connect to the distribution system, EPLC will collect from the generator costs reasonably incurred with making an offer to connect. Costs reasonably incurred include costs associated with:

- Preliminary review for connection requirements.
- Detailed study to determine connection requirements.
- Final proposal to the generator.

A generation facility requesting connection must provide appropriate generator equipment and protections to protect EPLC's equipment and assure safe, reliable energy delivery to others connected on EPLC's distribution system. Equipment and safe guard requirements vary according to location and generator-specific factors, including line loading, alternate line-switching configurations, transformer connections, and generator value of connection availability versus capital cost.

To assist potential applicants for connection, EPLC has provided, in Appendix 5.9 of these Conditions of Service, an "Embedded Generation Guideline and Interconnection Procedure and Requirements for Generators of Less Than 10 MVA". The guideline focuses on protections required to detect and isolate the generator from the EPLC distribution system when faults/disturbances occur on the distribution system, to protect the EPLC system and other customers on the distribution system. The Embedded Generator should consider these typical protection requirements when preparing the proposed protection package for review by EPLC or its agent; however**, this guide is not intended to take the place of a detailed final design**. A detailed final design should be stamped and signed by a registered professional engineer and should include consideration of proposed power and protective equipment, and local conditions, including existing and future equipment loading, and operating conditions.

If after a review of the above-mentioned guideline, and a generator wishes to proceed, the application form "Application to Connect an Embedded Generator", located in Appendix 5.10 of these Conditions of Service, must be completed and submitted, along with supporting documentation, to the EPLC Engineering and Asset Manager.

EPLC or its agent will provide the applicant with cost estimates for each phase of the process. EPLC will not proceed without written authorization and guarantee of payment from the applicant.

3.6 Embedded Market Participant

Embedded market participant means a market participant within the IESO control area whose facility is not directly connected to the IESO- controlled grid but is instead connected at the distribution level.

Wholesale Market Participant means a person that sells or purchases electricity or ancillary services through the IESO-administered markets.

EPLC shall enter into a Connection Agreement with a customer that is connected to EPLC's distribution system and is a wholesale market participant.

3.7 Embedded Distributor

An Embedded Distributor is any distributor, licensed by the OEB that is supplied by another licensed electrical distributor. EPLC is a licensed distributor embedded in the EPLC One distribution system.

EPLC shall make every reasonable effort to respond promptly to another distributor's request for connection to their system and agrees to comply with all the requirements of connection as identified in section 6.3 of the Distribution System Code.

A distributor seeking connection to the EPLC system must make this request in writing and EPLC or its agent will respond to the applicant in writing with estimated costs for each phase of the connection process.

The distributor seeking connection will be charged for all subsequent costs of consultations, preparation of estimates, system impact studies, design, costs of system modifications and of commissioning and testing necessary to connect/modify the distributors facilities to the EPLC distribution system.

3.8 Unmetered Connections

Application to connect an unmetered load to the EPLC distribution system can be made by calling the EPLC Customer Service Department to initiate the process for connection.

The customer shall provide detailed manufacturer information/documentation with regard to electrical demand/consumption of their proposed unmetered load as part of the application for connection process.

EPLC may require the customer to provide metering facilities for a specified load or group of devices. This determination will be made prior to connection and will be indicated to the customer at the time of receiving the Application to Connect.

3.8.1 Street Lighting

Street Lighting devices and associated equipment are owned and maintained by the Municipality in which they reside while EPLC owns the distribution system equipment for providing the electricity to street lighting system.

The following is the connection conditions for these devices:

The customer shall submit drawings and detailed manufacturer information prior to the connections to the distribution system being made; this information will be used to determine the billing requirements.

Prior to energization, EPLC will require verification of an ESA electrical inspection of the street light system if a party other than EPLC has installed the equipment.

The basic connection for Street Lighting systems is provided by EPLC at no up-front cost to the Municipality. The basic connection includes the following:

1) Supply of existing distribution transformation capacity. All additional transformation requirements will be considered as an expansion to the EPLC distribution system, and subject to the economic evaluation model process to determine customer contributed capital requirements.
2) The service voltage will be 120 volts, single phase, two wire and each application will be established through consultation with EPLC.
3) The service will be unmetered if the energy is being purchased from EPLC. Energy consumption will be based on the connected wattage and the calculated hours of use.

A variable connection charge will be required where the installation costs are beyond those of the basic connection. Payment of the variable connection cost by the Municipality may be required prior to connection of the service. The following conditions apply:

1) For each instance the method and location of supply will be established through consultation with EPLC or its agent.
2) The Municipality at their expense will install underground feeds. The Municipality is to install their services up to the most convenient point of service for EPLC. A circuit breaker can be installed at this point (e.g. pole) as required by code. All cable used for this purpose is to be installed in separate duct apart from secondary duct used for other purpose.
3) Where it is necessary to expand the main distribution system, EPLC or its agent will make an Offer to Connect. The offer will be fair and reasonable, based on the EPLC's design standards and Tariffs and Charges of these Conditions of Service.

3.8.2 Traffic Signals

These devices are owned and maintained by the Municipality in which they reside while EPLC owns the distribution system connection equipment for providing the electricity to the traffic signal.

Connection of traffic signals shall be according the same process and conditions for streetlight connections.

3.8.3 Sentinel Lights (Unmetered)

These devices are owned and maintained either by the property owner (customer), a retailer who is leasing the device to a customer, or by EPLC who is leasing the device to a customer. EPLC owns the distribution system connection equipment for providing the electricity to the sentinel light(s).

Connection of sentinel lights shall be according the same process and conditions for streetlight connections.

3.8.4 Miscellaneous Unmetered Connections

This category refers to connections such as cable TV power packs, bus shelters, telephone booths, outdoor advertising signs, etc.

These devices are owned and maintained either by the property owner (customer), or a retailer who is leasing the device to a customer. EPLC owns the distribution system connection equipment for providing the electricity to these miscellaneous unmetered loads.

Connection of these miscellaneous unmetered loads shall be according the same process and conditions for streetlight connections.

SECTION 4 GLOSSARY OF TERMS

A

Accounting Procedures Handbook: means the handbook approved by the OEB and in effect at the relevant time, which specifies the accounting records, accounting principles and accounting separation standards to be followed by EPLC.

Act: means the Ontario Energy Board Act, 1998, S.O. 1998, C. 15, Schedule B;

Affiliate Relationships Code: 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.

Ancillary Services: services necessary to maintain the reliability of the IESO-controlled grid; including frequency control, voltage control, reactive power and operating reserve services.

B

Board: means The Ontario Energy Board.

C

Code: means The Distribution System Code.

Competitive Retailer: is a person who retails electricity to consumers who do not take Standard Supply Service (“SSS”).

Complex Metering Installation: A metering installation where instrument transformers, test blocks, recorders, pulse duplicators and multiple meters may be employed.

Conditions of Service: The document developed by a distributor in accordance with subsection 2.3 of the DSC Code that describes the operating practices and connection rules for the distributor.

Connection: The process of installing and activating connection assets in order to distribute electricity to a customer.

Connection Agreement: 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.

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.

Consumer: A person who uses, for the person' s own consumption, electricity that the person did not generate.

Customer: A person that has contracted for or intends to contract for connection of a building. This includes developers of residential or commercial sub-divisions.

D

Demand Meter: A meter that measures a consumer' s peak usage during a specified period of time.

Disconnect/Collect Trip: is a visit to a customer's premises by an employee or agent of the distributor to demand payment of an outstanding amount or to shut off or limit distribution of electricity to the customer failing payment.

Disconnection: A deactivation of connection assets that results in cessation of distribution services to a consumer.

Distribute: To convey electricity at voltages of 50 kilovolts or less.

Distribution Losses: Energy losses that result from the interaction of intrinsic characteristics of the distribution network such as electrical resistance with network voltages and current flows.

Distribution Loss Factor: has the meaning described to it in the Retail Settlement Code.

Distribution Services: 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 *Ac*t.

Distribution System: 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.

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

Distributor: means a person who owns or operates a distribution system.

E

Electricity Act: The *Electricity Act, 1998*, S.O. 1998, c.15, Schedule A.

Energy Competition Act: means the *Energy Competition Act, 199*8, S.O. 1998, c. 15.

Electrical Safety Authority, ESA: The person or body designated under the *Electricity Act* regulations as the Electrical Safety Authority.
Embedded Distributor: A Distributor who is not a wholesale market participant and that is provided electricity by a host distributor.

Embedded Generator: A generator whose generation facility is not directly connected to the IESO-controlled grid but instead is connected to a distribution system.

Embedded Retail Generator: An embedded generator that settles through a distributor' s retail settlements system and is not a wholesale market participant.

Embedded Wholesale Consumer: A consumer who is a wholesale market participant whose facility is not directly connected to the IESO-controlled grid but is connected to a distribution system.

Embedded Wholesale Generator: An embedded generator that is a wholesale market Participant.

Emergency: 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.

Emergency Backup: A generation facility that has a transfer switch that isolates it from a distribution system.

Enhancement: A modification to an existing distribution system that is made for purposes of improving system operating characteristics such as reliability or power quality or for relieving system capacity constraints resulting, for example, from general load growth.

Expansion: 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.

F

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;

G

Generate: To produce electricity or provide ancillary services, other than ancillary services provided by a transmitter or distributor through the operation of a transmission or distribution system.

Generation Facility: A facility for generating electricity or providing ancillary services, other than ancillary services provided by a transmitter or distributor through the operation of a transmission or distribution system, and includes any structures, equipment or other things used for that purpose.
Generator: A person who owns or operates a generation facility.

Geographic distributor: The distributor that is licensed to service a load transfer customer and is responsible for connecting and billing the load transfer customer.

Good Utility Practice: 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.

H

Holiday: Saturday, Sunday, statutory holiday, or any day as defined in the Province of Ontario as a legal holiday.

Host Distributor: The Distributor who provides electricity to an embedded Distributor.

I

IESO: The Independent Electricity Market Operator established under the Electricity Act.

IESO-Controlled Grid: The transmission systems with respect to which, pursuant to agreements, the IESO has authority to direct operation.

Interval Meter: A meter that measures and records electricity use on an hourly or sub-hourly basis.

L

Load Transfer: A network supply point of one distributor that is supplied through the distribution network of another distributor and where this supply point is not considered a wholesale supply or bulk sale point.

Load Transfer Customer: A customer that is provided distribution services through a load transfer.

M

Market Rules: The rules made under section 32 of the *Electricity Ac*t.

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

Meter Service Provider (MSP): means any entity that performs metering services on behalf of a distributor.

Meter Installation: 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.

Metering Services: Installation, testing, reading and maintenance of meters.

MIST Meter: An interval meter from which data is obtained and validated within a designated settlement timeframe. MIST refers to “Metering Inside the Settlement Timeframe”.

MOST Meter: An interval meter from which data is only available outside of the designated settlement timeframe. MOST refers to “Metering Outside the Settlement Timeframe”.

O

Ontario Energy Board Act: The *Ontario Energy Board Act, 199*8, S.O. 1998, c.15, Schedule B.

Operational Demarcation Point: The physical location at which a distributor' s responsibility for operational control of distribution equipment including connection assets ends at the customer.

Ownership Demarcation Point: The physical location at which a distributor' s ownership of distribution equipment including connection assets ends at the customer.

P

Performance Standards: The performance targets for the distribution and connection activities of the distributor as established by the Board pursuant to the Act and in the Rate Handbook.

Physical Distributor: Means the distributor that provides physical delivery of electricity to a load transfer customer, but is not responsible for connecting and billing the load transfer customer directly.

Point of Connection: The point in a service where the customer accepts electrical energy from the Utility Circuits and beyond which the customer bears full responsibility for installation and maintenance.
Point of Supply: The connection point where electricity produced by the generator is injected into a distribution system.

R

Rate: means any rate, charge or other consideration, and includes a penalty for late payment.

Rate Handbook: The document approved by the Board that outlines the regulatory mechanisms that will be applied in the setting of distributor rates.

Regulations: The regulations made under the *Act or the Electricity Act.*

Retail:
a) to sell or offer to sell electricity to a consumer
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 consumer with respect to the sale or offering for sale of electricity.

Retail Settlement Code: 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 customer transfers among competitive retailers.

Retailer: A person who retails electricity.

S

Service Area: The area in which the distributor is authorized by its license to distribute electricity.

T

Total Losses: means the sum of distribution losses and unaccounted for energy.

Transmission System: A system for transmitting electricity, and includes any structures, equipment or other things used for that purpose.
Transmission System Code: 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.

Transmit: To convey electricity at voltages of more than 50 kilovolts.

Transmitter: A person who owns or operates a transmission system.
U

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

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

V

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;

W

Wholesale Buyer: means a person that purchases electricity or ancillary services in the IESO-administered markets or directly from a generator;

Wholesale Market Participant: means a person that sells or purchases electricity or ancillary services through the IESO-administered markets;

Wholesale Settlement Cost: means costs for both competitive and non-competitive services billed to a distributor by the IESO or a host distributor, or provided by an embedded retail generator or by a neighboring distributor;

Wholesale Supplier: means a person who sells electricity or ancillary services through the IESO-administered markets or directly to another person, other than a consumer.

SECTION 5 APPENDICES

APPENDIX 5.1 METHODOLOGY AND ASSUMPTIONS FOR AN ECONOMIC EVALUATION

DISCOUNTED 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	=	PV of Net Operating Cash (before taxes) - PV of Taxes
(a) PV of Net Operating Cash	=	PV of Net Operating Cash Discounted at the Company's discount rate for the customer revenue horizon. Mid-year discounting is applied. Incremental after tax weighted average cost of capital will be used in discounting.
Net (Wires) Operating Cash	=	(Annual(Wires) Revenues - Annual (Wires) O&M).
Annual (Wires) Revenue	=	Customer Additions * [Appropriate (Wires) Rates * Rate Determinant].
Annual (Wires) O&M	=	Customer Additions * Annual Marginal (Wires) O&M Cost/customer.
(b) PV of Taxes	=	PV of Municipal Taxes + PV of Capital Taxes + PV 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 = P V 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

DISCOUNTED CASH FLOW (DCF) METHODOLOGY (Con't.)

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:

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

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 5.2 Capital Contribution Policy

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1.0 Policy Statement

A *"Customer"* requesting a distribution system *"Expansion"* may be required to make a Capital Contribution towards the construction of the required assets when Essex Powerlines Corporation (EPLC) calculates a *"Shortfall"* amount of dollars between the discounted cash flow of the future revenue from the project minus the capital, on-going allowable rate of return on the capital invested and on-going maintenance costs. The period of time over which revenues and costs are to be included in the calculation will be determined by EPLC. An expansion deposit may also be collected as per the Distribution System Code.

2.0 According to Customer Class

EPLC Capital Contribution policy shall be applied to Customer Classes as outlined below:

2.1 Residential Single Service:

Overhead or Underground

- Capital Contribution is not collected from the Customer where the building to be connected lies along an existing main distribution system. A variable connection charge could apply.
- Capital Contribution is collected where an expansion to the main distribution system is required to connect the residential service.

2.2 General Service, (Below 50 kW):

Overhead or Underground

- Capital Contribution is not collected from the Customer where the building to be connected lies along an existing main distribution system. A variable connection charge could apply.
- Capital Contribution is collected where an expansion to the main distribution system is required to connect the general service.

2.3 General Service (Single building 50 kW – 999 kW):

Overhead and Underground

Primary cable and transformer will be considered as part of the expansion.

- Capital Contribution is collected from the Customer.

2.4 Subdivisions, multi-unit or townhouse complex/developments:

Overhead and Underground

Primary cable and transformer will be considered as part of the expansion

- Capital Contribution is collected from the Owner/Developer of the project.

2.5 General Service (1000 kW – 2000 kW):

Overhead and Underground
Primary cable and transformer will be considered as part of the expansion.

- Capital Contribution is collected from the Customer.

2.6 General Service (3000 to 4,999 kW):

Overhead and Underground
Customer will normally own and supply the transformer as specified by EPLC.
Primary cable will be considered as part of the expansion.

- Capital Contribution is collected from the Customer.

2.7 General Service (5000 kW and above):

Overhead and Underground
Customer will own and supply the transformer as specified by EPLC.
Primary cable will be considered as part of the expansion.

- Capital Contribution is collected from the Customer.

3.0 Upstream Costs

Upstream costs, relating to distribution feeders, substations, transformer station upgrades etc., will be included in the economic evaluation. EPLC will determine a fair and reasonable amount to be allocated to a project.

The objectives of the allocation will be according to the following:

a) Fairness
b) Saving the existing customers harmless
c) Saving the shareholders of EPLC harmless

Each year, an Upstream System Capital Improvement Cost (USCIC) (per kW) is established based on EPLC's historical overall system improvement expenditures. Since such expenditures can vary substantially from year to year, EPLC will use a rolling average of the historical figures, which are adjusted for inflation to reflect current costs, over a reasonable period of time (e.g. five to ten years).

The aggregated connected kW at the end of the *"Connection Horizon"* of the proposed expansion will be multiplied by the USCIC to obtain the upstream capital cost apportioned to the project. The upstream capital cost will be input into the economic evaluation. EPLC will apply the USCIC to connection projects so that all new customers pay their shares for the costs of the upstream system.

4.0 Payment and Settlement

At the beginning of the project, the customer may be required to pay EPLC for the "Shortfall" and an expansion deposit of the expansion costs to be incurred by EPLC for the

construction of additional assets needed to supply the average kW *"Demand"* forecasted by the Customer. This payment could be in the form of cash, certified cheque or other financial arrangements acceptable to EPLC. The forecasted average kW demand must be reasonable and will be subject to EPLC acceptance prior to their initiating the preliminary engineering design of the additional infrastructure.

Based on the Customer's forecasted average kW demand, EPLC will provide the Customer with an estimate of the Capital Contribution as calculated by the *"Economic Evaluation Model"*. For Customers who do not require a demand meter, kWh values will be used to run the Economic Evaluation Model.

Each year of the anniversary in-service date of the project, EPLC will determine the Capital Contribution amount by inputting the actual 12-months average of historical data for monthly demand, revenue and costs into the economic evaluation model. The period of these revenues and costs may be calculated over a maximum *"Study Period"* of 25 years and a maximum connection horizon of 5 years, however, EPLC may use shorter time periods where these time lines are inappropriate.

The settlement amount to be paid by EPLC to the Customer or the Customer to EPLC is determined by subtracting the Capital Contribution amount calculated by the economic evaluation model from the dollars paid at the beginning of the project. This settlement amount may be reviewed up to the connection horizon.

4.1 Capital Contribution Adjustments Related to Expansions

Over the remaining connection horizon period, after the above settlement, EPLC will annually review the Capital Contribution project. If the Customer's 12-months rolling average monthly demand decreases to less than 90% of the Incremental Demand used to determine the settlement amount or if forecasted customers are not connected to the expansion plant as planned, then the economic evaluation model will be used to re-calculate the "Shortfall" amount and the Capital Contribution will be adjusted.

4.2 Rebates Related to Expansions

Over the remaining connection horizon period, after the above settlement, EPLC will annually review the Capital Contribution project. If the customer's 12-months rolling average monthly demand is greater than 110% of the Incremental Demand used to determine the settlement amount or if unforecasted customers are connected to the expansion plant, then the economic evaluation model will be used to re-calculate the shortfall and the Capital Contribution will be adjusted as follows:
When the rolling average monthly demand becomes greater than 110% of the incremental demand, EPLC will adjust the Capital Contribution accordingly, and re-calculate the rebate to the Customer over the remaining connection horizon.

Where unforecasted customers are connected to the expansion plant, the unforecasted customers shall contribute their share and the first customer will be entitled to a rebate. In

this case EPLC would collect the Capital Contribution share from the unforecasted customer and rebate it to the first customer.

5.0 Connection Agreement and Take or Pay Scenario

General Service Customers with a 1000kW demand (i.e. 12-month average monthly demand) and greater shall enter into a Connection Agreement with EPLC prior to the connection of service.

In the instances where EPLC wants to remain harmless as a result of a Customer's high load forecast the Take or Pay clause will be added to the "Connection Agreement" document. The "Connection Agreement" will identify the specified level of distribution system capacity and the Customer is billed according to this contracted level or at a higher level if the Customer's monthly load level exceeds the contracted amount.

6.0 Alternative Bids

The Customer may seek alternatives bids on work if the following two conditions exist:
a) The project requires a Capital Contribution from the Customer; and
b) Construction work would not involve work with existing EPLC circuits.

EPLC will inform the Customer via the "Offer to Connect" document which items are eligible for alternative bids from contractors pre-qualified by EPLC.

7.0 Effective Date of the Capital Contribution Policy

This policy shall take effect for all connection agreements entered into after January 1, 2001.

8.0 Glossary of Terms

"Customer" means a person who has contracted for or intends to contract for connection of a building. This includes developers of residential or commercial sub-divisions.

"*Conditions of Service*" means the document developed by EPLC in accordance with subsection 2.4 of the Distribution System Code that describes the operating practices, the rights and obligations of the Customer, the rights of EPLC and the rules for connection.

"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.

"Economic Evaluation Model" means the analysis of the expansion project to determine if the future revenue from the Customer(s) will pay for the capital cost and on-going maintenance costs of the project.

"Expansion" means an addition to the 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.

"Shortfall" means the negative Net Present Value calculation of comparing the future revenue from the customer's project against the capital, the on-going maintenance and allowable rate of return costs. The period of these revenues and costs may be calculated over a maximum study period of 25 years and a maximum connection horizon of 5 years.

"Connection Horizon" means the number of years, to be used in the economic evaluation analysis, over which the project expansion and associated connection(s) are to be completed, and generating revenue to EPLC.

"Study Period" means the number of years, to be used in the economic evaluation analysis, over which the assets of the expansion project are expected to generate revenue to EPLC. The number of "Study Period" years will be determined by EPLC but will not exceed 25 years.

APPENDIX 5.3 Generic Customer Connection Agreement

This Connection Agreement is made this ____day of _____ , _____,

BETWEEN:

ESSEX POWERLINES CORPORATION (hereinafter called "EPLC") a corporation incorporated pursuant to the laws of the Province of Ontario and licensed by the Ontario Energy Board.

PARTY OF THE FIRST PART;

-and-

(Name of Customer)
(hereinafter called "Customer")

PARTY OF THE SECOND PART;

From time to time, EPLC and the Customer shall be individually referred to in this Agreement as "Party" and collectively as "Parties".

Whereas the Customer has applied to EPLC for connection service;

Whereas the Parties are willing to enter into a Connection Agreement for the delivery of power by EPLC to the Customer in accordance with EPLC's Conditions of Service and on the terms and conditions of this Agreement.

The Parties hereto mutually agree as follows:

1.0 Definitions

For the purpose of this agreement and the attached schedules, the following definitions apply:

"*Agreement*" means this agreement together with Schedule 'A', 'B' and 'C' hereto, as amended from time to time by the written agreement of the Parties.

"*Power*" means electrical power including electrical energy delivered by EPLC to supply the Customers internal load requirements.

"Connection" means the process of installing and activating connection assets in order to distribute electricity to a Customer.

"Ownership" means having the design authority and the replacement responsibility of the facilities.

"Operating Control" means the authority to perform, direct or authorize the operation of all devices under its control. Operating control is not synonymous with ownership. Operating Control is not synonymous with the actual execution of any switching operations.

"*Work Protection*" is the provision of a safe work environment for work. A guarantee that an isolated, or an isolated and de-energizing condition has been established for work.

"*Conditions of Service*" means the document developed by EPLC in accordance with the Distribution System Code that describes the operating practices and connection rules for EPLC.

"*Distribution System Code*" means the code, approved by the Ontario Energy Board, which establishes the obligations of EPLC with respect to the services and terms of service to be offered to customers and retailers and provides technical operating standards of distribution systems.

2.0 Term of Agreement

This Agreement shall commence on the date of execution and shall continue in force and effect in perpetuity, with the provision that the Customer or EPLC may terminate this Agreement by providing the other Party with written notice. Such notice will terminate this Agreement ninety days (90) following receipt of such notice.

This Agreement sets out the terms and conditions upon which EPLC has agreed to offer, and the Customer has agreed to accept connection service.

3.0 Conditions of Service

The EPLC "Conditions of Service" and this Agreement establish the operating practices and connection rules for EPLC and the Customer. The Parties hereby agree to be bound by, and act at all times in accordance with the Conditions of Service, and which hereby forms part of this Agreement.

4.0 Contact Information

Schedule 'A' of this Agreement details the specific Customer information required for connection to the EPLC distribution system and provides names, telephone numbers and address for any 'Notices' that may be required to be given by either Party to this Agreement.

Any formal written notice required by this Agreement shall be deemed given and received, when delivered to the Customer or to the EPLC business address or, where a facsimile number is provided and the notice is transmitted electronically to the appropriate number as identified in Schedule 'A'.

5.0 Billing, Rates & Charges

Power is delivered by EPLC to the Customer in accordance with this Agreement subject to the distribution rates and charges authorized from time to time by EPLC for the classification of service that is applicable to the Customer. Schedule 'B' of this Agreement contains the EPLC schedule of rates and charges that have been approved by the Ontario Energy Board.

EPLC shall provide, install and maintain a meter installation, as per EPLC's Conditions of Service, for the settlement and monthly billing purposes of the Customer. In the event of a metering malfunction affecting billing data for a portion of or all of a month, the best alternative data will be used for billing purposes as agreed upon by the Customer and EPLC.

6.0 Customer Financial Contributions

EPLC is committed to construct its distribution system infrastructure to accommodate the Customer's historical or forecasted load as identified in Schedule 'B'. The customer agrees that if their load decreases from the level of the Schedule 'B' profile that EPLC may, through written notice to the Customer, alter their commitment of distribution system capacity to the Customer's lesser historical level. If EPLC experiences a revenue shortfall due to the Customer's load decrease, EPLC may collect the revenue shortfall from the Customer as per EPLC's documented policy on capital contributions.

If EPLC is required to extend or upgrade the existing assets of its main distribution system in order to connect and/or to supply an increase in the Customer's load, EPLC will perform an economic evaluation of the expansion project to determine if a financial contribution is required from the Customer.

Such an economic evaluation, as per EPLC's Conditions of Service, will be based on the Customer's estimated load forecasts, to determine if the future revenue from the Customer will pay for the capital cost and on-going maintenance costs of the expansion project.

Over the subsequent five-year connection horizon, if the actual revenue shortfall is less/greater than the amount of the economic evaluation due to an inaccurate Customer load forecast, EPLC may initiate their documented collection/rebate policy on capital contributions.

7.0 Space and Access

The Customer agrees to provide suitable space for EPLC's meters, wires and where necessary poles, cables, transformers and all other required appliances and equipment on the said premises. The Customer also agrees that no one who is not an agent of EPLC shall be permitted to remove, inspect or tamper with the said equipment, including EPLC seals.

The location of indoor and outdoor meters shall be readily accessible at all times to authorized agents of EPLC. A space of 1.2 metres (4 feet) clear of all obstructions shall be provided in front of the meter and service panel.

The Customer shall grant properly authorized agents of EPLC reasonable access to the said premises for the purpose of reading, examining, preparing or removing their meters, wires, poles, cables, transformers and other appliances and equipment of EPLC and for the inspection of all the Customer's appliances and wiring. The properly authorized EPLC agents shall comply with the Customer's requirements for access.

To service the Customer, EPLC's underground and/or overhead plant may be located on the Customers property or, may cross over an adjacent private property to service the Customer. Therefore, the Customer must enter into a Landowner/EPLC Easement Agreement as explained in the EPLC's Conditions of Service. The Customer is responsible for registering the easement on title against their property. For adjacent properties, EPLC will obtain the necessary registered agreements and the Customer agrees to reimburse EPLC for all costs incurred with obtaining and registering the easement.

8.0 Liability

EPLC shall only be liable to the Customer and the Customer shall only be liable to EPLC for any damages, which arise directly out of the willful misconduct or negligence:

- Of EPLC in providing distribution services to the Customer;
- Of the Customer in being connected to EPLC's distribution system; or
- Of EPLC or Customer in meeting their respective obligations under the Distribution System Code, their licences and any other applicable law.

Despite the above, neither EPLC 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 notwithstanding the Customer financial contribution as per Section 6.0.

The Customer shall assume all risk, liability or obligation to:

c) All loss, damage or injury to property of the Customer or property of a third person on the lands of the customer.

d) All loss, damage or injury to any person or persons (including loss of life) on the Customer lands and premises, which loss, damage or injury shall have been due to power supplied by EPLC to the Customer, except to the degree that such loss, damage or injury shall have been due to the negligence or intentional acts of EPLC, its servants or agents.

9.0 Ownership of Equipment

Schedule ‘C’ of this Agreement includes a description of the electrical service connection that EPLC has agreed to supply to the Customer and a description of the service capacity that the Customer has installed.

All EPLC owned equipment, including the revenue metering equipment and instrument transformers shall continue to be vested in EPLC, unless the Parties have specified otherwise in Schedule ‘C’ to this Agreement.

All Customer equipment and facilities shall continue to be vested in the Customer, unless the Parties have specified otherwise in Schedule ‘C’ to this Agreement.

10.0 Responsibility for Equipment

Meters, wires, poles, cables, transformers and all other appliances and equipment of EPLC on the Customer premises shall be in the care and at the risk of the Customer and if destroyed or damaged by fire or any other cause whatsoever other than ordinary wear and tear, the Customer shall pay to EPLC the value of such meters, wires, poles, cables, transformers, appliances and equipment, or the cost of repairing or replacing same.

11.0 Operation of Equipment

All electrical and mechanical equipment such as motors and welders used by the Customer shall be subject to the reasonable approval of EPLC and the Customer shall so take and use electrical power as not to endanger the apparatus of EPLC.

EPLC will maintain operating control of the Customer owned main high voltage disconnect device ***(insert nomenclature)***. Any required operation of this device must be coordinated with EPLC by providing EPLC with (***LDC to identify***) working days notice for requests to operate this device. For the purpose of communicating between the Customer and EPLC, name, position & telephone numbers, (work & home) will be maintained in Schedule ‘A’ which will be reviewed annually for accuracy. In the case of an emergency threatening life, the primary disconnect device, may be operated without prior notification. Post operating notification is mandatory.

EPLC agrees to use reasonable diligence in providing a regular and uninterrupted supply of power, but does not guarantee a constant supply of power or the maintenance of unvaried frequency or voltage, and will not be liable in damages to the Customer by reason of any failure in respect thereof. It is the Customer’s responsibility to provide for the protection of his equipment from voltage variations, transient operations and single phasing.

The Customer shall operate their equipment so as to avoid unacceptable harmonics, voltage flicker or voltage level being subjected onto the EPLC electrical distribution system. If EPLC determines that the Customer’s equipment or operation is causing the above conditions, the Customer is responsible to correct these in a timely manner.

Where practical, it is recommended that the Customer choose equipment with the highest power factor and motors should be sized to match the load. Equipment performance characteristics shall be in accordance with EPLC’s Conditions of Service.

12.0 Maintenance

The responsibility for maintenance of equipment rests with the owner. EPLC and the Customer shall maintain their respective equipment in efficient condition with proper devices, according to the requirements and rules of the Electrical Safety Authority. If in the opinion of the Customer or EPLC, maintenance is not properly performed, the identifying Party will notify the other in writing.
The Customer shall inspect, test and monitor its facilities and equipment connected to EPLC’s distribution system to ensure and maintain compliance with EPLC’s Conditions of Service and this Agreement.

If the Customer electrical installation is found to be inadequate, the supply of power may be suspended until such time as maintenance requirements are complied with.

13.0 Work Protection

When work is to be done by the Customer on apparatus that can be isolated by devices under the control of the Customer, the procedures and protection will be in accordance with the Customer practices and the Occupational Health and Safety Act of Ontario.

When the Customer requires isolation from the EPLC supply or isolation of a device under EPLC control, the Customer will request that EPLC provide a Condition Guarantee.

14.0 Security Deposit

The Customer will be required to provide EPLC with an Account Security Deposit, in a form acceptable to EPLC, in the amount equal to 2.5 times the estimated average billing for the Customer's connection address. When billing history does not exist, an estimated deposit amount will be determined from the Customers projected load and comparisons to existing similar businesses.

A bank letter of credit may be provided in instances when the deposit exceeds $1,000.00. The Letter of Credit must stipulate that cancellation is only upon 90 days written notice by Registered Mail and the Letter of Credit must have no expire date.

The Account Security Deposit will receive interest, which will accrue on cash deposits on a monthly basis but is credited to the Customer's account only at the time the deposit is refunded or when applied to an outstanding account. The interest rate applied is equal to that applied on non-chequing, saving accounts at the bank used by EPLC.

Should the Account Security Deposit require adjustment, it will be the responsibility of EPLC to advise the Customer, and the appropriate action taken by the Party affected. If the Account Security Deposit has been identified to the Customer as insufficient, and notice of an adjustment forwarded to the Customer, such notice shall constitute, in effect, Notice of Termination of Contract if not resolved in 90 days from the date of Registered Notice. Schedule 'B' of this Agreement details the Account Security Deposit requirements.

15.0 Disconnection

EPLC has the right and/or obligation to disconnect the supply of electrical energy to the Customer for causes not limited to:

a) Overdue amounts payable to EPLC, provided that EPLC has given the Customer reasonable notice of the proposed disconnection,
b) In the case of a life threatening or immediately hazardous situation EPLC may be required to disconnect the service with little or no notice,
c) Electrical disturbance propagation caused by the Customers equipment that is not corrected by the Customer in a timely fashion,
d) Energy diversion, fraud or abuse on the part of the Customer.
e) If this agreement is terminated, the EPLC may, at its sole discretion, disconnect the service.

The Customer hereby expressly authorizes and empowers EPLC at EPLC's option to remove the meter, wires, poles, cables, transformers and all other appliances and equipment installed at EPLC's expense and discontinue the supply of power and terminate this agreement whenever any of the above related causes for disconnection cannot be resolved or upon violation by the Customer of any of the terms and conditions of this agreement.

16.0 Force Majeure

For the purposes of this Agreement, “Force Majeure” means any act of God, labour disturbance, act of a public enemy, war, insurrection, riot, fire, storm or flood, earthquake, or explosion; any curtailment, order, regulation, or restriction imposed by governmental, military or lawfully established civilian authorities; or any other cause beyond a Party’s reasonable control.

Subject to the items below, neither Party shall be held to have committed an event of default in respect of any obligation under this Agreement if prevented from performing that obligation, in whole or in part, because of a force majeure event.

If a force majeure event prevents a Party from performing any of its obligations under the Distribution System Code and this Agreement, that Party shall:

- 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 practicable;
- Not be entitled to suspend performance of any of its obligations under this Agreement to any greater extent or for any longer time than the force majeure event requires it to do;
- 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;
- Keep the other Party continually informed of its efforts; and
- Provide written notice to the other Party when it resumes performance of any obligations affected by the force majeure event.

Notwithstanding any of the foregoing, settlement of any strike, lockout, or labour dispute constituting a force majeure event shall be within the sole discretion of the Party to the Agreement involved in the strike, lockout, or labour dispute. The requirement that a Party must use its best efforts to remedy the cause of the force majeure event, mitigates its effects, and resume full performance under this Agreement and the Distribution System Code shall not apply to strikes, lockouts, or labour disputes.

17.0 Divisibility of Agreement

If any term, covenant or condition of this Agreement, shall, to any extent, be invalid or unenforceable, the remainder of this Agreement shall remain in full force and effect, subject to any necessary adjustments to delete any of the above said invalid or unenforceable provisions.

18.0 Dispute Resolution

Except where this Agreement states otherwise, the dispute resolution procedures set forth in the Agreement shall apply to all disputes arising between the Customer and EPLC regarding the Agreement and EPLC’s Conditions of Service and shall be the only means for resolving any such disputes.

For disputes involving electrical bills or meter read inaccuracies, the Customer is asked to refer first to the Customer’s retailer. If the Customer is receiving Standard Supply Service from EPLC, then the Customer must supply the complaint in written form addressed to the Manager of EPLC.

Disputes between the Customer and EPLC shall first be referred to a designated representative chosen by the Customer and a representative from EPLC department best able to deal with the complaint. Such designated representatives shall attempt in good faith to resolve the dispute in an expeditious manner. Any resolution of the dispute by the designated representatives shall be in writing, signed by authorized signing officers and shall bind the Parties and their respective successors and assigns.

If the designated parties cannot resolve the dispute, then the dispute can be referred to the Manager of EPLC. If the Customer still feels that the dispute cannot be resolved then the dispute can be referred to the Chairman of the Board of Directors of EPLC.

For disputes that cannot be resolved through the above process, the Customer and EPLC have the option of pursuing the complaint by agreeing to acquire the services of a mutually acceptable independent arbitrator.

The arbitrator must be chosen from a list of arbitrators approved by the OEB. The decision of the arbitrator will be considered binding on both Parties. Cost for this process is to be shared 50/50 between the Customer and EPLC.

19.0 Waiver

Failure by either Party to exercise any right or to enforce any remedy under this Agreement shall be limited to the particular instance. It shall not be deemed to waive any right or to limit the ability to enforce any remedy in other or similar instances, nor should it affect the validity of this Agreement.

20.0 Review and Revisions

Either Party may initiate a review or revisions by the Parties of this agreement at any time, however, both Parties, acting reasonably, must approve any changes hereto in writing.

21.0 Successor and Assigns

This Agreement and its attached schedules shall extend to and be binding upon and inure to the benefit of the Customer and EPLC, and to their respective successors and assigns. In the event of a successor or assign, the Customer or EPLC is required to give written notice to the other Party to this Agreement, identifying the name of the successor or assign and the date that the change comes into effect.

22.0 Acceptance of Agreement

Dated at _____ this _____ day of _____20__

We, the undersigned, agree to the above **Connection Agreement**

Name of Customer	**Essex Powerlines Corporation**
_____	_____
(Name of representative of Customer)	***(Name of representative of EPLC)***
Title _____	Title _____

SCHEDULE 'A' of Connection Agreement between
Essex Powerlines Corporation* and *(Name of Customer)

Contact Information:

Date
Account Number
Date Customer's Responsibility Commences
Name
Service Address
Mailing Address
Home Telephone Number
Business Telephone Number
Business Facsimile Number
Type of Business
SIC

Notices

Notice to EPLC:

Contact: Essex Powerlines Corporation
360 Fairview Avenue W.
Suite 218
Essex, Ontario, N8M 3G4

(Name), (Title)
Bus. Tel: (519) xxx-xxxx
Home Tel: (519) xxx-xxxx
Bus. Fax: (519) xxx-xxxx
Cell Phone: (519) xxx-xxxx

(Name), (Title)
Bus. Tel: (519) xxx-xxxx
Home Tel: (519) xxx-xxxx
Bus. Fax: (519) xxx-xxxx
Cell Phone: (519) xxx-xxxx

Notice to the Customer:

Contact: *(Name), (Title)*
Bus. Tel: (519) xxx-xxxx
Home Tel: (519) xxx-xxxx
Pager: (519) xxx-xxxx
Cell Phone: (519) xxx-xxxx
Bus. Fax: (519) xxx-xxxx

SCHEDULE 'B' of Connection Agreement between
Essex Powerlines Corporation* and *(Name of Customer)

Billing Rates & Charges

Classification of Service *(place approved OEB billing rates and charges for customer)*

Load Profile

(Name of Customer) monthly peak kW and energy load to be connected to the EPLC distribution system.

Please identify whether the following is **Historical data _____**. or **Forecasted data ____**.

	Net kWh	**Peak kW**
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

SCHEDULE 'C' of Connection Agreement between
Essex Powerlines Corporation* and *(Name of Customer)

Description of Service

(list specifics of electrical service.)
e.g. – supply voltage (include phase/wires), service capacity, type of metering, telecommunications circuit (if required), location of service on customer property and any other specifics pertinent to the service connection.

Note: The above detail will be in an "Offer to Connect", however, there may be times when a Connection Agreement may be initiated without a prior Offer to Connect (e.g. customer moving into an existing facility).

Ownership of Equipment

(list and identify the ownership of equipment for EPLC and the Customer.)

Operating Control

(identify who has operating control of key devices at interface with the Customer and EPLC.)

APPENDIX 5.4 DISCONNECT / RECONNECT OPERATING INSTRUCTION

The operating instruction is intended to co-ordinate the activities of Essex Powerlines Corporation (EPLC) or its agent's staff, the Electrical Safety Authority (ESA) Inspection Department, and the Contractor

The Contractor must contact EPLC Customer Service Department 72 hours (3 days) in advance for a service layout and make arrangements with EPLC, for the day the Contractor wishes to have the service disconnected (emergency repairs may alter the above notice).

Service disconnects/reconnects are to be done by the **Supply Authority (EPLC) Only**. Disconnects/Reconnects will be scheduled and carried out Monday to Friday (excluding Holidays) during the regular work hours. Any work outside these hours will be **billed to the Contractor.**

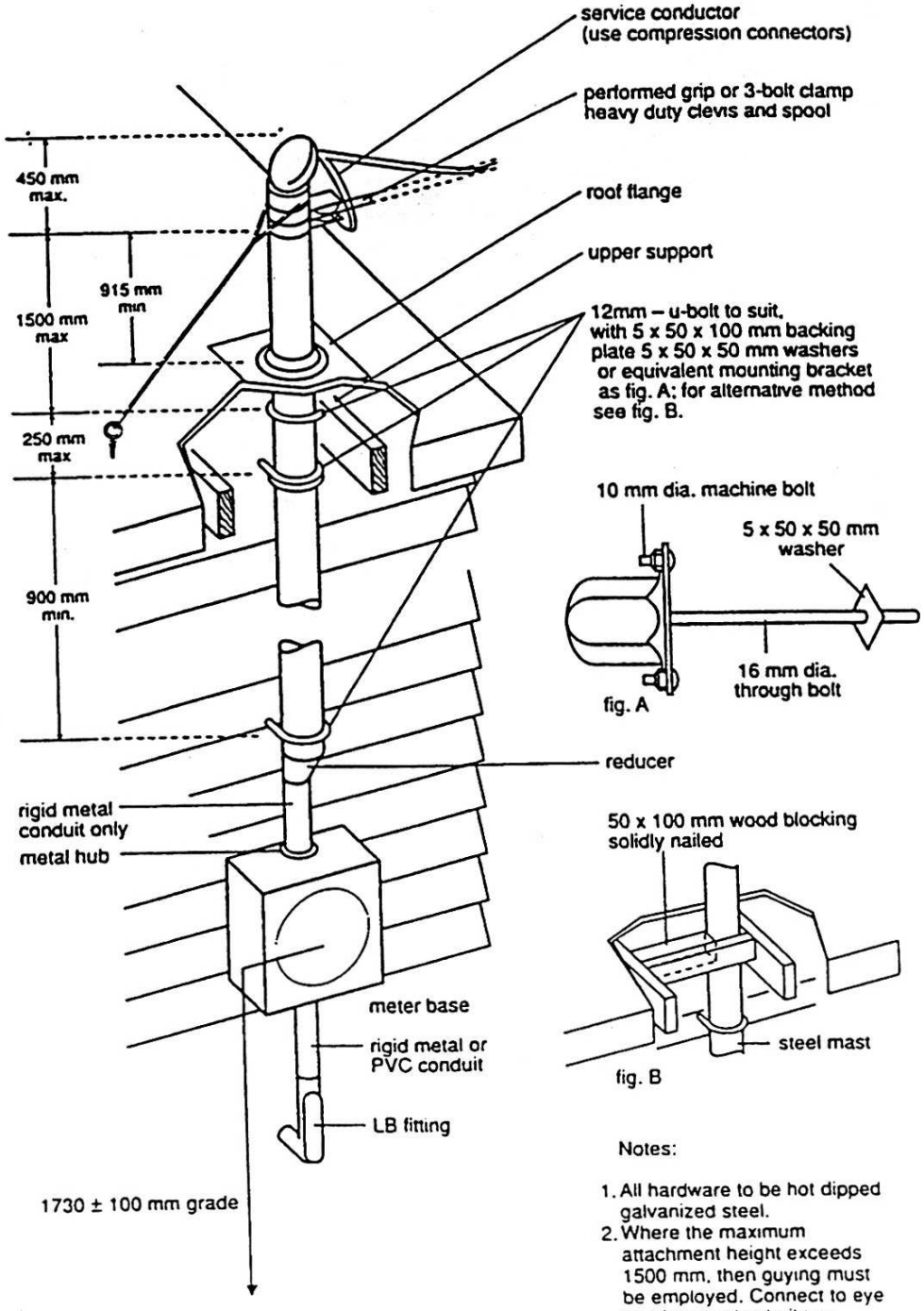
It is the responsibility of the Contractor to notify EPLC and the E.S.A. in the event of a cancellation or postponement of this work. This procedure does not allow for any connection of electrical services or equipment without authorization from the Electrical Safety Authority Inspection Department**.**.

APPENDIX 5.5 Service Mast Installation

SPECIFICATION 28

(See Rule 75-324(2) and 75-502)

SERVICE MAST INSTALLATION

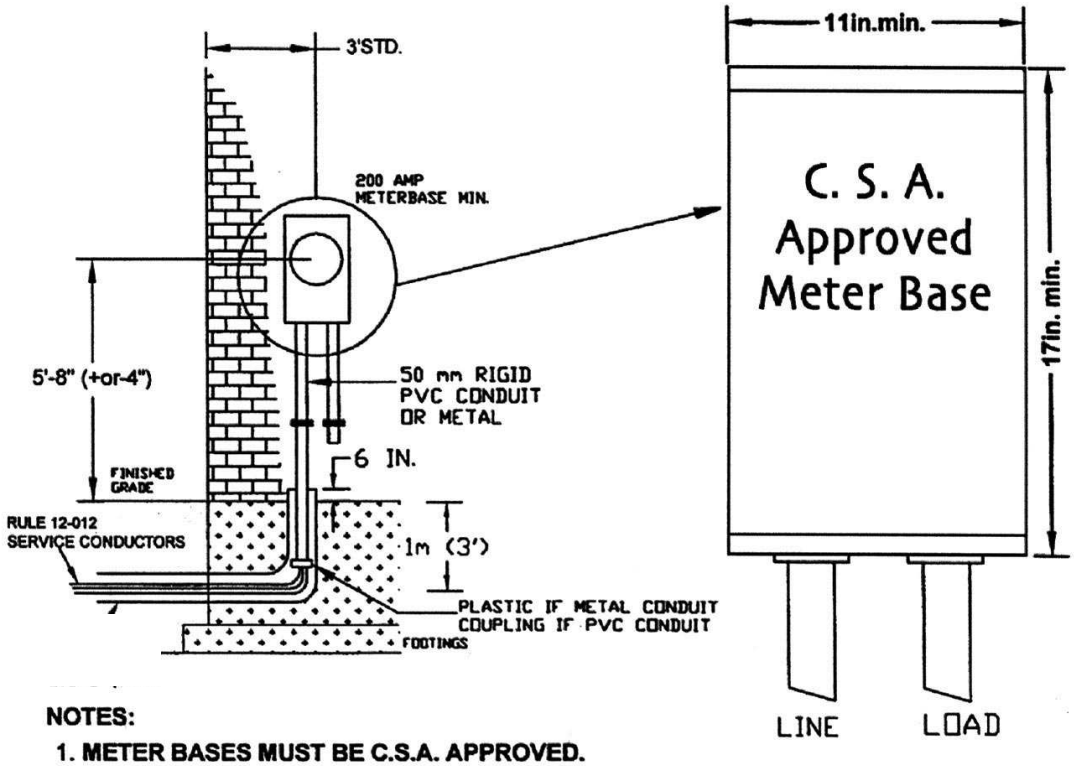


Notes:

1. All hardware to be hot dipped galvanized steel.
2. Where the maximum attachment height exceeds 1500 mm, then guying must be employed. Connect to eye bolt fastened to building structural member.
3. Compression connectors shall be used where required.

APPENDIX 5.6 Underground Service Installation

RULE 6-300 UNDERGROUND CUSTOMERS SERVICE
ONTARIO ELECTRICAL SAFETY AUTHORITY



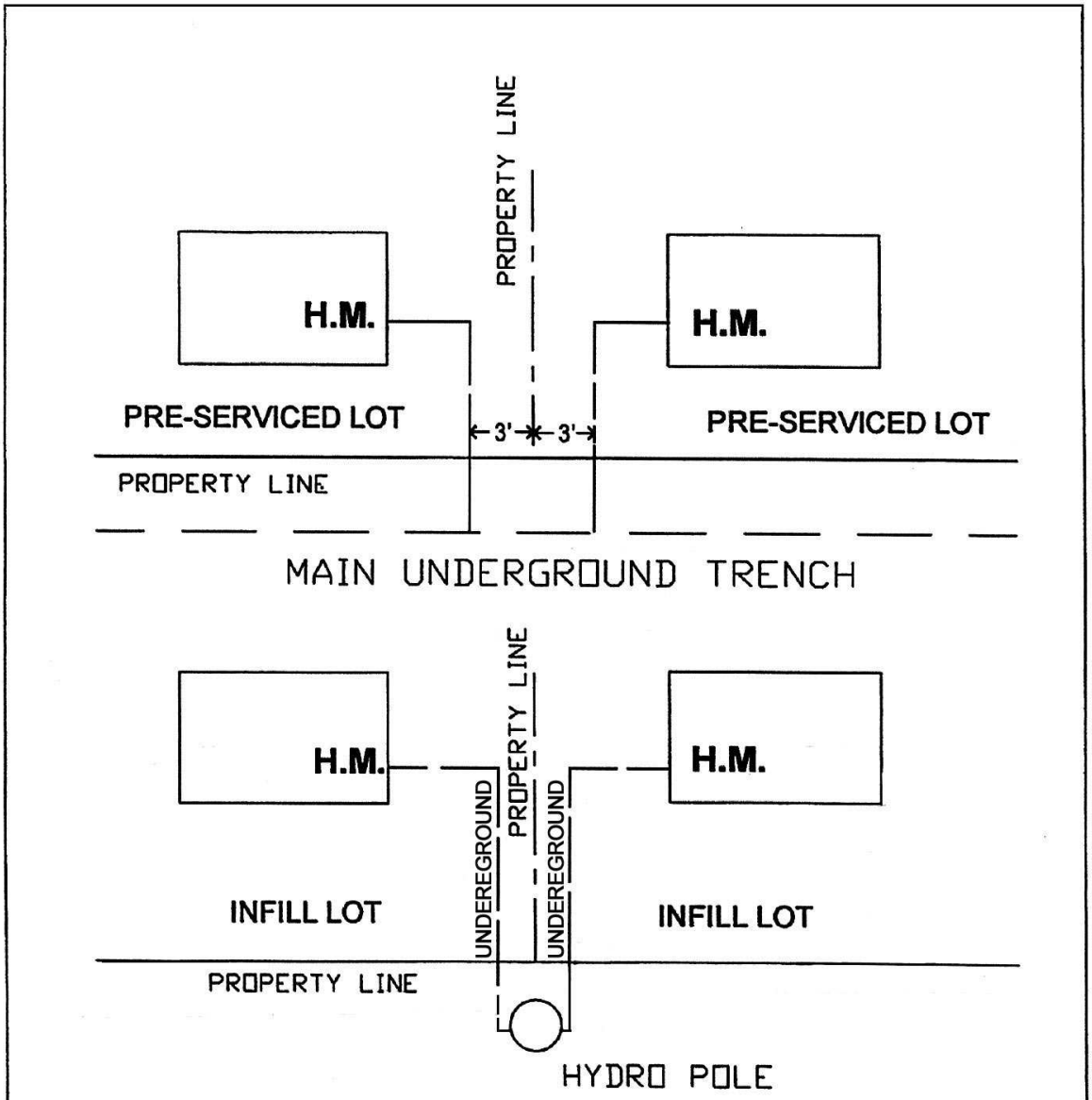
NOTES:

1. **METER BASES MUST BE C.S.A. APPROVED. (200AMP MIN. STD. SIZE) 11in. x 17in.**
2. THE METER BASE IS TO BE FASTENED TO THE HOUSE WALL BY MEANS OF 4 SCREWS; ONE SCREW IN EACH CORNER OF THE METER SOCKET
3. MAXIMUM SEPARATION BETWEEN THE ENTRANCE CONDUIT CLIPS SHALL BE 1m WITH THE FIRST CLIP AT A MAXIMUM OF 0.6m BELOW THE BOTTOM OF THE METER SOCKET.
4. IT IS THE RESPONSIBILITY OF THE ELECTRICIAN TO BE AWARE OF ANY CHANGES TO THE SERVICE REQUIREMENTS OF THE ELECTRICAL SAFETY AUTHORITY.

THE BUILDER/OWNER MUST PROVIDE ADEQUATE SAND FOR BACKFILL OF TRENCH IF CLEAN NATIVE SOIL IS NOT AVAILABLE.	ESSEX POWERLINES CORPORATION		
	STANDARD URD EL. SERVICE METER BASE CONNECTIONS		
	SIZE / FSCM NO.		REV DS
Revised June 1, 2001	SCALE NTS		SHEET PAGE 1

APPENDIX 5.6 Underground Service Installation

APPENDIX 5.7 Residential Service Location



THE HOME BUILDER/CONTRACTOR MUST CONTACT EPLC TO OBTAIN A SERVICE LAYOUT.
ALL HOUSE OR GARAGE ADDITIONS MUST NOT COVER OVER EXISTING
URD HYDRO CABLES THAT ARE NOT IN CONDUIT.

ALL NEW SERVICES MUST HAVE EL. METERS ACROSS FROM EACH OTHER IN PRE-SERVICED LOTS	ESSEX POWERLINES CORPORATION
	U.R.D. HYDRO SERVICES
	SIZE · FSCM NO. · REV DS
Revised: JUN 1, 2001	SCALE NTS · SHEET PAGE 1

APPENDIX 5.8 ELECTRICAL/ELECTRONIC METERS PROVIDED BY EPLC

EPLC may install regular or Smart Meters in all new installations or service upgrades as determined by EPLC

APPENDIX 5.9 Embedded Generation Information

ESSEX POWERLINES CORPORATION

EMBEDDED GENERATION GUIDELINE

AND INTERCONNECTION PROCEDURE

AND REQUIREMENTS

FOR GENERATORS OF LESS THAN 10 MVA

Issue Date: April 2001, Version 1.0

ESSEX POWERLINES CORPORATION

EMBEDDED GENERATION (EG) GUIDELINE

INTERCONNECTION PROCEDURE AND REQUIREMENTS

FOR GENERATORS LESS THAN 10 MVA

TABLE OF CONTENTS

1.0 INTRODUCTION

Customers of Essex Powerlines Corporation (EPLC) may choose to supply some or all of their electrical energy needs through the installation of an on-site, customer owned generation facility. EPLC will provide non-discriminatory access to their electrical distribution system for a generator and will make every effort to respond promptly to a generator's request for connection. For the purpose of this document, a generator that request connection to the EPLC distribution system will be referred to as an 'Embedded Generator' (EG).

An Embedded Generator is any unit that is, or may be, connected in parallel with the EPLC distribution system for the purposes of:

- Full displacement of the customer's existing electric load,
- Partial displacement of the customer's existing load,
- Retail sale of over capacity over the EPL distribution system.

This guideline outlines the typical technical requirements and procedural activities required of a prospective EG, of 10 MVA or less, to connect to the EPLC electrical distribution system to ensure safe and reliable distribution system operation. Generation facilities of 10 MVA 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 guideline also insures that EPLC and the EG comply with the requirements of the Ontario Energy Board (OEB) Distribution System Code (DSC), Section 6.2, the EPLC Conditions of Service and the Ontario Electrical Safety Code, Section 84. The DSC is available on the OEB web site at www.oeb.gov.on.ca.

The guideline focuses on protections required to detect and isolate the generator from the EPLC distribution system when faults/disturbances occur on the distribution system, to protect the EPLC system and other customers on the distribution system. The EG should consider these typical protection requirements when preparing the proposed protection package for EPLC's review; however**, this guide is not intended to take the place of a detailed final design**. A detailed final design should be stamped and signed by a registered professional engineer and should include consideration of proposed power and protective equipment, and local conditions, including existing and future equipment loading, and operating conditions.

2.0 ESSEX POWERLINES CORPORATION DISTRIBUTION SYSTEM

Hydro One Network (HO) owns the high voltage transmission system and transformation facilities that supplies power to EPLC at the 27.6/16 kilovolt levels, which in turn, EPLC distributes to various customers throughout their electrical distribution system. Because of this arrangement, an EG must also comply with HO requirements for connection, as an embedded generator could have a serious impact on the Hydro One system under fault conditions.

It is assumed that the embedded generating facility will be designed, constructed, owned and operated by a developer independent of Essex Powerlines Corporation. All embedded generator interconnection arrangements must be acceptable and approved by EPLC and, for some specific relay protection areas by HO.

An EG facility that includes a single generation unit or whose facility is comprised of multiple generation units whose net output is rated at 10 MVA or higher 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 market rules are available on the IESO web site at www.ieso.ca

3.0 EPLC UTILITY PRACTICES

The major elements of a utility connection for an EG facility include a circuit breaker 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 EG and EPLC operations. EPLC will have operating control of the circuit breaker at the interface between the EG and the EPLC distribution system.

Protection systems are required at the generation facility and these protection systems must be capable of automatically isolating the EG from the EPLC system. The EG should provide protection systems to cover the following conditions:

- Internal faults (i.e. faults within the EG),
- External faults (i.e. faults on the EPLC system to which the EG is connected),
- Certain abnormal system conditions that could result in EG islanding (e.g. conditions where the EG becomes separated from the EPLC 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 are to:

- Consider the health and safety of the general public and of Essex Powerlines Corporation employees in the performance of their duties,
- Preserve the security and reliability of the EPLC and Hydro One distribution systems,
- Preserve acceptable quality of the electrical supply to other EPLC customers, and
- Ensure operating flexibility during normal or emergency conditions.

Once a prospective EG customer decides to proceed with the installation of a generation facility, they will be responsible to reimburse the cost reasonably incurred by EPLC with making an offer to connect a generator. The amount that EPLC may charge a EG to construct the expansion to connect a generator to the EPLC distribution system shall not exceed the generator's share of the present value of the projected capital costs and on-going maintenance costs for the equipment. Projected revenue and avoided costs from the generator shall be assumed to be zero, unless otherwise determined by rates approved by

the OEB. The economic methodology and inputs that EPLC will follow are presented in EPLC's Contributed Capital Policy.

Costs that could be reasonably incurred by EPLC 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 EG on a single EPLC distribution feeder. If there is a second EG to be connected to the same feeder then total generation versus minimum feeder load must be considered and the protection package must be designed accordingly. If additional equipment protection is required for the EG already connected to the feeder, the second EG 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 EPLC system that sells energy and settles through the EPLC's settlement process, the EG must install a four-quadrant interval meter. EPLC will meter customers with generation that does not require a OEB licence, such as back-up capability or generation for load displacement, in the same manner as EPLC's other load customers.

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

4.0 EG INTERCONNECTION REQUIREMENTS AND PROCEDURE

A prospective EG should contact the Engineering & Asset Manager of EPLC for information and request the form "Application to Connect an Embedded Generator". As connection costs are to be paid by the generating facility, most applicants will want to determine the point of connection and expected costs prior to committing the project. This information can only be provided after a preliminary review is conducted by EPLC and HO staff based on the information included in the "Application to Connect an Embedded Generator".

The preliminary review includes a verification of the voltage and power ratings of the EG installation to confirm that they are compatible with those of the distribution system. The impact of the proposed connection on reliability, power quality and equipment and personnel safety will also be assessed. Once the preliminary review is completed and should the EG installation be pursued further, more detailed analysis, specifications and information will need to be provided by the EG.

Listed below are the recommended steps involved in proceeding to have an EG connect to the EPLC electrical distribution system. For an overview of this connection process, refer to Appendix # 1 for the 'Embedded Generator - Connection Process Flowchart'.

4.1 Initial Contact and EG Interconnection Application

1) Contact the EPLC Engineering & Asset Manager, to identify an interest in connecting a EG onto the EPLC electrical distribution system and obtain the form "Application to Connect an Embedded Generator", a copy of the EPLC Conditions of Service Manual and a copy of the EPLC cost recovery policy.

2) Provide EPLC with a written request for connection along with the completed application form, including the preliminary technical information (two copies) describing the proposed EG 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 line, easements, road allowances and power line that identifies the facility location.
   - 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 EG intends to purchase power from EPLC to supplement its EG 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 point of connection to the EPLC 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.
   - Proposed revenue-metering equipment (i.e. 4-quadrant interval metering).

3) Once EPLC has received the required information to begin an analysis, EPLC staff will proceed with a preliminary review of the EG connection requirements.

4.2 Preliminary Review for Connection Requirements

1) The applicant will be responsible to reimburse EPLC for all reasonable costs incurred in completing the preliminary review.

2) EPLC will review the application and its associated documents and if insufficient information has been provided, EPLC will advise the EG of its requirements and 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 EPLC system.
   - Determine the EG plant capacity limitations for the proposed connection.
   - Confirm that the voltage and power ratings of the EG installation are compatible with those of the EPLC distribution feeder. Where a mismatch between distribution line and EG capacity ratings is revealed, the feeder may require reconductoring or 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 EPLC feeder and the minimum feeder load, remote trip protection facilities between the transformer station (supply) and the EG may be required. EPLC and HO staff will determine if this requirement is necessary.
- The size of the generator and the EG transformer configuration will determine the feeder protection modifications and requirements at the supply station. This information will also help to determine any specific connection and equipment requirements, e.g. requirement for a remote trip protection scheme, voltage supervision, etc.
- Consult with HO on any possible relay protection modifications or additions.

2) EPLC will provide the applicant with a written response to the preliminary review for connection within 30 calendar days of starting the review. EPLC will also provide a preliminary cost estimate to the applicant for connecting the generator onto the distribution system. A more detailed estimate can only be provided after a detailed connection review is completed.

3) If the proposed EG finds the preliminary review acceptable, they must confirm in writing to EPLC its acceptance and request EPLC to proceed with a detailed review. The EG must commit to reimburse EPLC all reasonable costs incurred in completing the detailed review.

4.3 Detailed Study to Determine Connection Requirements

The complete detailed engineering package including relay settings must be submitted to EPLC before the detailed review can proceed. EPLC will provide the EG with an offer to connect unless other necessary information outside of EPLC's control is required before an offer to connect can be made.

1. The EG must provide EPLC with detailed technical information (two copies) describing the proposed EG facility. As a minimum, this would include the following information pertaining to the connection:

- Project construction and commissioning schedule.
- Site details, including power line to be constructed, transformer location, isolating switch location and connection location relative to the EPLC feeder circuit.
- Final single line diagrams showing voltage levels, transformer connections, isolating devices, safety interlocks, fusing and metering (statistical and revenue metering).
- Nameplate data for protective relays (provide descriptive bulletins), load interrupter switch, generator(s) (include auto/manual synchronization scheme), transformers, breakers and station service.
- Generator Specifications, including:
    a) Inertial constant in kWsec/kVA
    b) Maximum MVAr limit
    c) Neutral ground resistance in Ohms

d) Short circuit unsaturated reactance in per unit on the generator's MVA and kV base
e) Xd – Synchronous reactance in p.u.
f) X'd – Direct axis transient reactance in p.u.
g) X"d – Direct axis sub-transient reactance in p.u.
h) X2 – Negative sequence reactance in p.u.
i) X0 – Zero sequence reactance in p.u.

- Power transformer positive and zero sequence impedance's in per unit on the transformer rating base as measured between each pair of windings:
  - R1
  - X1
  - R0
  - X0
- Large motor specifications; in order to calculate voltage drops due to motor starting.
  a) Motor Type (synchronous, induction, etc.)
  b) Rating in HP or kW
  c) Power Factor
  d) Transient Reactance in p.u.
  e) Sub-transient Reactance in p.u.
- Relaying single line diagram showing complete protective relaying and tripping schemes.
- Provide settings for the various protective-relaying schemes.
- AC and DC elementary drawings for control and protection.
- Short circuit (fault) calculations and voltage drop study (including all appropriate reactance's for the generator(s) and transformer(s), relay settings, fuse selection and coordination study of the protection scheme). Short circuit calculations will be based on IEEE Standard #ANSI/IEEE C37.04.
- Electrical equipment Layouts.
- Station ground design and ground potential rise study.
- Phasing diagram showing all transformer connections.

3. EPLC staff in association with HO will review the detailed electrical package and determine the acceptability of the interface design as it affects the EPLC and HO systems and provide written comments to the EG.

4. It is recommended that the EG not begin procurement of electrical equipment until EPLC, the Electrical Safety Authority and HO have provided, in writing, the acceptability of the EG interface design.

5. Once the EG agrees to proceed with the construction of the generating facility, the EG must enter into various agreements with EPLC.

Note: EPLC will not provide any consulting services to an EG but only evaluate proposed generating facilities as to how it may impact on the EPLC distribution system.

4.4 Agreements

Before a generator installation begins operation, the EG applicant must enter into various agreements with EPLC. These agreements must clearly define the obligations and privileges of each party that need to be executed between the EG owner and EPLC. The EG may be required to enter into all or some of the following agreements:

Construction Agreement: this agreement between the EG and EPLC will detail the connection requirements and cost recovery terms.

Construction Agreement: In the event that the HO system requires modifications to connect the EG, this agreement will describe the obligations of EPLC and HO to complete the connection and cost recovery terms.

Customer Account Contract: in the event that the EG is also a load customer of EPLC, this contract describes the terms and applicable rates for firm power and backup power and conditions under which backup power is granted and revoked.

Connection 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 containing all necessary schematic diagrams for proper communication between EPLC and the EG.

Operations Agreement: (if required) this agreement between HO and EPLC will include provisions for safe and effective operation in presence of the EG's equipment connected to the EPLC system. This agreement may only be required if the EG affects other parties connected to the EPLC distribution system.

4.5 Commissioning

Prior to the EG facility being connected to the EPLC electrical distribution system, EPLC staff, or their delegate, will review and witness the EG's commissioning tests to the extent that is necessary to ensure acceptable security to the EPLC and HO distribution systems.

5.0 GENERAL RESPONSIBILITIES

5.1 Embedded Generator Responsibilities

- Design the generating facility electrical and protection package to meet the EPLC, HO 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 EPLC system. If objectionable harmonics or voltage flicker do occur, the EG will be responsible to modify the generating facility to correct the problem.

- EPLC operates its' system within CSA Standard C235 entitled "Preferred Voltage Levels for AC Systems, 0-50,000 volts", which recommends voltage variation limits on customer circuits. Any EG interconnected with the EPLC 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 a EG, when connected in parallel with the EPLC supply system, must not adversely affect the voltage, frequency or wave shape of the EPLC electrical distribution system.

- If a remote trip protection scheme and/or a voltage supervision scheme is utilized, HO will be required to modify equipment at HO owned transformer stations and therefore, the EG will be responsible to cover reasonable costs incurred.

- If a remote trip protection scheme is required, the EG must arrange for and pay the leased circuit costs on data communications circuits.

- Provide telephone communications inside the generating facility to allow for communication with EPLC staff.

- EPLC may require the installation of a 'Remote Terminal Unit' (RTU) which will provide data input to the EPLC Supervisory Control Assisted Data Acquisition (SCADA) system. EPLC will require the EG to allow for space, in their substation, for the RTU and provide an a.c. supply circuit for the unit. EPLC will arrange for a leased data circuit for the SCADA unit and pay the monthly charges for this leased circuit.

- The EG connected to the EPLC system must install its own meter in accordance with EPLC's metering requirements and provide EPLC with the technical details of the metering installation.

- The EG metering must be installed at the point of supply. If it is not practical to install the meter at the point of supply, EPLC will apply loss factors to the generation output in accordance with the loss factors applied for retail metering settlement.

- An EG'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 EG to forward a detailed electrical package to the Electrical Safety Authority for their review of the proposed generation facility.

- 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.).

- Advise EPLC staff of the timetable for commissioning tests of the generator(s) in order that EPLC, or its delegate, may review and witness the tests.

5.2 EPLC Responsibilities

- Identify and explain the EPLC cost recovery policy to the prospective EG.

- Review the EG electrical design package and determine if it meets the minimum requirements to permit connection to the EPLC system.

- Design and modify, as required, the EPLC facilities to incorporate the EG.

- Discuss and review with HO any relay protection modifications that may be required on the EPLC supply feeder(s).

- EPLC staff will be responsible to coordinate the parallel connection between the EG and the EPLC electrical distribution system.

- EPLC will initiate the preparation of agreements between the EG and EPLC.

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

Note: EPLC will not provide any consulting services to a EG but only evaluate proposed generation facilities to assess its' impact on the EPLC distribution system.

6.0 IMPORTANT TECHNICAL REQUIREMENTS FOR CONNECTION

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

- Provide a 3 phase, gang-operated, visible load break switch with provision for padlocking at the point of connection to the EPLC system and must be accessible to EPLC staff. EPLC will have operating control of this isolating point.

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

- Provide automatic tripping of generator(s) for all faults on the EG side of the connection point.

- Provide automatic tripping of generator(s) for phase and ground faults on the EPLC electrical distribution system.

- EPLC operates a three phase four wire system and therefore, the appropriate transformer connection between the EG and the EPLC system can be either;
  1. High Voltage wye-grounded and a Low Voltage delta;
  2. High Voltage delta and a Low Voltage wye-grounded; or
  3. High Voltage wye-grounded and a Low Voltage wye-grounded.

  The preferred transformer connection for generator units above 2 MW's is a High Voltage wye-grounded and a Low Voltage delta.

- Provide suitable transformer protection.

- Install protective relays to prevent the EG from delivering power to the EPLC feeder line when that line has become isolated or islanded from the rest of the EPLC system. (This will usually include over/under frequency relays and over/under voltage relays.)

- For EG load displacement projects with no power purchase by EPLC, 'Reverse Power Protection' will be required.

- Normal reclosing time of the EPLC supply station feeder breaker could be from 0.4 to 2.0 seconds. Short time delay for reclosing (ie, < 1.0 second) will increase the risk of EG damage and may emphasize the need for a remote trip protection and voltage supervision scheme since the EG islanding protection may be too slow.

- Remote trip may be required between the EG and the feeder circuit breaker because the EG is connected at a critical location on the distribution system. This feature will provide for isolation of the EG when certain faults or system disturbances are detected at the feeder circuit breaker location.

- Provide synchronizing facilities for each synchronous generator.

- Provide a ground potential rise study to satisfy EPLC and the Electrical Safety Authority for step/touch potential and to satisfy Communications Company for incoming voice/data circuit/personnel protection.

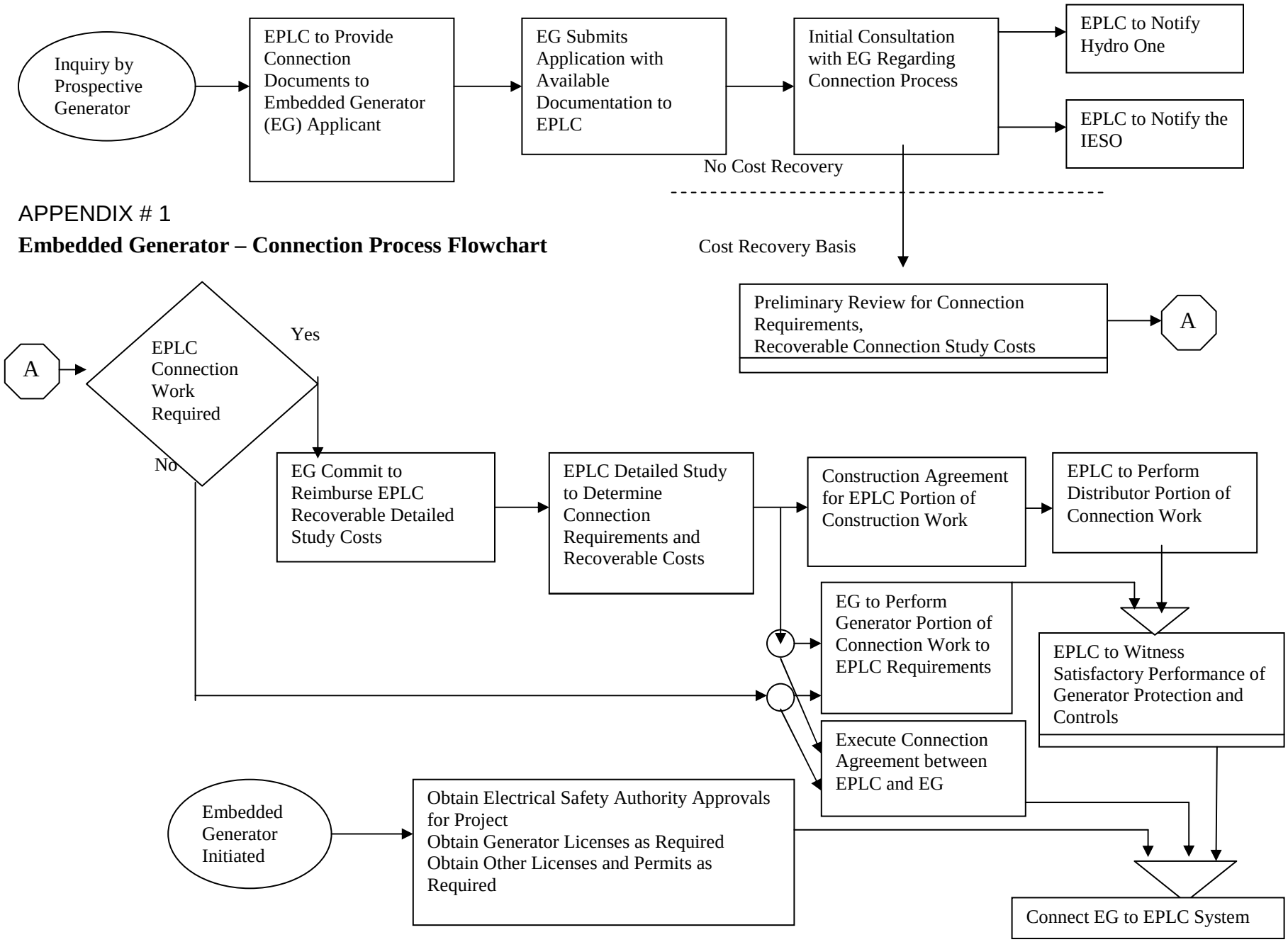
- The communication requirements for the EPLC metering equipment and possible remote trip circuit must be confirmed with EPLC before installation.

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

Note: Essex Powerlines Corporation 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 the Essex Powerlines Corporation.

APPENDIX # 1

Embedded Generator – Connection Process Flowchart



APPENDIX 5.10 Application to Connect Embedded Generator

ESSEX POWERLINES CORPORATION

APPLICATION TO CONNECT AN

EMBEDDED GENERATOR (EG)

Received by EPLC
Date_____.

Date _____.

1. Name of Applicant _____.

   Address _____.

   Telephone _____. Fax _____. E-mail _____.

2. Project Name _____.

   Project Location _____.

   Project Contact Name & Telephone No. _____.

3. Project Consultant(s) Name _____.

   Address _____.

   Telephone _____. Fax _____. E-mail _____.

4. Project Type: (e.g. Cogeneration, Combined Cycle, Hydraulic, etc.)

5. Construction Schedule:

   Projected Start-Up of Construction -
   Construction Power Requirement -
   Site Begins to Generate Power -
   Projected In-Service Date of EG -

6. With this application, please provide the following information:

- Site Plan with scaled map referencing the site relative to existing lot lines, easements, road allowances, etc.
- Preliminary single line diagram showing generator(s), transformer(s) and main isolating devices and proposed electrical connection point to the EPLC system (if known). Include as much information on the electrical protection scheme as is possible.
- Nameplate information on each generator, power transformer and motor in excess of 25% of the generator capacity. Information requirements are listed below.

Generator Specifications, including:
- Manufacturer
- Fuel type
- Rated MVA
- Rated MW
- Rated Voltage
- Rated Power Factor

Power Transformer specifications, including:
- Manufacturer
- Voltages and power rating(s)
- Winding configurations
- Specifications of connected neutral reactors or resistors, if installed

Large motor specifications:
- Motor Type (synchronous, induction, etc.)
- Rating in HP or kW
- Power Factor

7. Expected Monthly Peak and Energy Production and Consumption

Load Displacement Generators and Merchant/Load Displacement Generators (generator supplies on-site electrical loads not directly related to operation of generation equipment).

	Generator Output		**Site Sales**		**Site Purchases**	
	kWh	**Peak kW**	**kWh**	**Peak kW**	**kWh**	**Peak kW**
January						
February						
March						
April						
May						
June						
July						
August						
September						
October						
November						
December						

8. In addition to the above, please provide:

- Future site development plans;
- A brief description of the proposed plant design and operating characteristics;
- Provide a brief description of the proposed operating procedures and technical personnel to be employed by the generating facility;

AUTHORIZATION:

I request Essex Powerlines Corporation to proceed with a preliminary review of this embedded generation interconnection application and I agree to reimburse EPLC the cost associated with completing this review.

I have reviewed the EPLC document “Embedded Generation Guideline for Interconnection Requirements and Procedure, the requirements of the EPLC Conditions of Service Manual, the Distribution System Code and the Ontario Electrical Safety Code.

I further consent to Essex Powerlines Corporation providing information to the Independent Market Operator, Hydro One and other distributors as required.

_____ _____ .

Name: (please print) Signature:

_____ _____.

Date: Title: