



ENTEGRUS[®]

CONDITIONS OF SERVICE

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Table of Contents

1	DEFINITION OF TERMS.....	2
2	INTRODUCTION	8
2.1	IDENTIFICATION OF DISTRIBUTOR AND TERRITORY	8
2.2	RELATED CODES AND GOVERNING LAWS	8
2.3	INTERPRETATIONS	9
2.4	AMENDMENTS AND CHARGES.....	10
2.5	CONTACT INFORMATION	10
2.6	CUSTOMER RIGHTS.....	10
2.7	DISTRIBUTOR RIGHTS.....	11
2.8	DISPUTES.....	13
2.9	FORCE MAJEURE.....	14
3	DISTRIBUTION ACTIVITIES (GENERAL).....	16
3.1	CONNECTIONS.....	16
3.2	DISCONNECTION	20
3.3	CONVEYANCE OF ELECTRICITY.....	23
3.4	TARIFFS AND CHARGES.....	32
3.5	CUSTOMER INFORMATION	39
4	CUSTOMER CLASS SPECIFIC	40
4.1	RESIDENTIAL	40
4.2	GENERAL SERVICE (LESS THAN 50KW) GENERAL.....	46
4.3	GENERAL SERVICE (EQUAL TO OR GREATER THAN 50 KW) GENERAL.....	48
4.4	EMBEDDED GENERATION.....	52
4.5	EMBEDDED MARKET PARTICIPANT	59
4.6	EMBEDDED DISTRIBUTOR.....	59
4.7	UNMETERED CONNECTIONS	60

1 DEFINITION OF TERMS

A

Affiliate Relationships Code (“ARC”):	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	the Ontario Energy Board
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C

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 Customer’s demarcation point.
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	The maximum amount of electrical energy that is being consumed at a given time.
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 Line	An overhead or underground line representing part of the Entegrus Distribution System.
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 Act.
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	A Person who owns or operates a Distribution System.

E

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

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.
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

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, or Generator 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.
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.

Interval Meter

A meter that measures and records electricity use on an hourly or sub-hourly basis. Sometimes also referred to as a “MIST meter” (MIST refers to “Metering Inside the Settlement Timeframe”)

J

K

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

N

O

CONDITIONS OF SERVICE



Transmission System

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

Transmit

To convey electricity at voltages of more than 50 kilovolts.

Transmitter

A Person who owns or operates a Transmission System.

U

V

W

X, Y, Z

2 INTRODUCTION

2.1 Identification of Distributor and Territory

2.1.1 Areas Serviced

2.1.1.1 The Entegrus Powerlines Inc. (“Entegrus”), service territory is defined in our Distributor’s licence (ED-2002-0563) granted by the Ontario Energy Board.

The communities serviced by EPI are: Blenheim, Bothwell, Chatham (including a portion of the Township of Raleigh known as the “Bloomfield Business Park”), Dresden, Dutton, Erieau, Merlin, Mount Brydges, Newbury, Parkhill, Ridgeway, Strathroy, Thamesville, Tilbury, Wallaceburg and Wheatley.

For specific service area details, please see Entegrus distribution licence with Date of Last Amendment of November 30, 2017 located at entegrus.com/regulatory.

2.2 Related Codes and Governing Laws

2.2.1 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 Entegrus operates and should be referred to if any questions arise.

- 1) Electricity Act, 1998
- 2) Ontario Energy Board (“OEB”) Act, 1998
- 3) Distribution Licence
- 4) Ontario Electrical Safety Code (“OESC”)
- 5) Affiliate Relationships Code (“ARC”)
- 6) Transmission System Code (“TSC”)
- 7) Distribution System Code (“DSC”)
- 8) Standard Supply Service Code (“SSS”)
- 9) Retail Settlement Code (“RSC”)
- 10) Electricity Distribution Rates Handbook (“EDR”)
- 11) Applicable CSA codes
- 12) Ontario Business Corporations Act (“OBCA”)

- 2.2.2 The above is not all-inclusive – other codes and laws may apply in special circumstances (i.e. by-laws, tax laws...)
- 2.2.3 In the event of a conflict between this document and the Distribution Licence or regulatory codes issued by the OEB, or the Electricity Act (“Act”), 1998, the provisions of the Act, the Distribution licence and associated codes shall prevail in the order indicated above.
- 2.2.4 If there is a disagreement between a Connection Agreement with a Customer and this Conditions of Service document, this document shall prevail unless otherwise stated in a specific Connection Agreement.
- 2.2.5 This Conditions of Service document replaces all previous Conditions of Service documents for Entegrus and its predecessor companies.

2.3 Interpretations

- 2.3.1 This 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 than this document can be considered the official policy of Entegrus and dispute resolution can be sought elsewhere (see below).
- 2.3.2 The term “Customer” shall refer to the Person requesting service from Entegrus.
- 2.3.3 Words referring to the singular include the plural and vice versa.
- 2.3.4 Words referring to gender include any gender.

2.4 Amendments and Charges

- 2.4.1 The provisions of this Conditions of Service and any amendments made from time to time form part of any Contract made between Entegrus and any connected Customer, Retailer, or Generator. This Conditions of Service supersedes all previous conditions of service, oral and written, of Entegrus or any of its predecessor municipal electric utilities as of its effective date.
- 2.4.2 Any material change that represents a significant alteration to Entegrus' Customer relationship (as judged by Entegrus) shall be advertised either through the mail, press, website.
- 2.4.3 Customers may be notified of changes to this document in their billing notices.
- 2.4.4 A current copy of this document is filed with the OEB as is required by the DSC
- 2.4.5 The Entegrus website (<http://entegrus.com>) can be referenced to view or download the latest version of this document.

2.5 Contact Information

Address (full):	Entegrus Powerlines Inc., 320 Queen St, Chatham, ON, N7M 5K2
Phone #:	519-352-6300
Emergency Phone #:	519-352-6300
Fax #:	519-352-9860
Email:	entegrus@entegrus.com
Web site:	www.entegrus.com
Business Hours:	8:00AM to 4:30PM Monday to Friday
Locate Request:	1-800-400-2255 or www.on1call.com

2.6 Customer Rights

2.6.1 Liability

- 2.6.1.1 The Customer shall only be liable to Entegrus and Entegrus shall only be liable to the Customer for any damages that arise directly out of the willful misconduct or negligence:

- 1) of Entegrus in providing Distribution Services to the Customer;

- 2) of the Customer in being connected to Entegrus' Distribution System;
or
- 3) of Entegrus or Customer in meeting their respective obligations under this Conditions of Service, their licences and any other applicable laws.
- 4) Notwithstanding the above, neither Entegrus 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 said liability, loss or damages arise in contract, tort or otherwise.

2.6.2 Third Parties

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

2.7 Distributor Rights

2.7.1 Safety of Equipment

- 2.7.1.1 Before entering a property to carry out an activity described in section 40 of the Electricity Act, Entegrus shall, in accordance with subsection 40(8) of the Electricity Act:
 - 1) Provide reasonable notice of the entry to the Customer of the property;
 - 2) In so far as is practicable, restore the property to its original condition;
 - 3) Provide compensation for any damages caused by the entry that cannot be repaired.
- 2.7.1.2 Where there is a possibility that unsafe conditions may be created by a planned power interruption, or there would be significant financial loss, Entegrus will cooperate with the Customer to resolve that condition. This work may involve isolation of the system and other work and is subject to fees (please see section 3.4)
- 2.7.1.3 Although it is the policy of Entegrus 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.

2.7.1.4 The Customer shall comply with all aspects of the OESC with respect to insuring that equipment is properly identified and connected for metering and operation purposes and will take whatever steps necessary to correct any deficiencies, or face possible disconnection of service.

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

2.7.1.6 The Customer shall not use or interfere with the facilities of Entegrus except in accordance with written agreement with Entegrus. The Customer must also grant Entegrus the right to seal any point where a Connection may be made on the line side of the metering equipment.

2.7.2 Operating Control

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

2.7.2.2 Unless an employee or agent of Entegrus, no Person shall remove, replace, alter, inspect or tamper with Entegrus' equipment.

2.7.2.3 Customers will be required to pay all cost of repairs or replacement of Entegrus' equipment that has been damaged or lost by the direct or indirect act or omission of the Customer or its agents.

2.7.2.4 The physical location of the delineation between Entegrus controlled facilities and Customer controlled facilities is referred to as the "Operational Demarcation Point". The demarcation point varies for each Customer, depending on the physical layout of the electrical service. Entegrus reserves the right to relocate the demarcation point at its discretion. Contact Entegrus for more details.

2.7.3 Repairs of Defective Equipment

2.7.3.1 The Customer will be required to repair or replace any equipment owned by the Customer what may affect the integrity or reliability of Entegrus' Distribution System. If the Customer does not take action within a reasonable time frame, Entegrus may disconnect the service to the Customer. Please see Section 3.2 for further details.

2.7.4 Repairs of Customer's Physical Structures

2.7.4.1 Depending on the ownership demarcation point, construction and maintenance of all civil works on private property owned by the Customer, including such items as transformer rooms, transformer pads, cable chambers, cable pull rooms and underground conduits, will be the responsibility of the Customer. All civil on private property must be inspected by Entegrus and the Electrical Safety Authority ("ESA").

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

2.8 Disputes

2.8.1 Billing Disputes

2.8.1.1 For disputes, involving electrical bills or meter read inaccuracies the Customer is asked to refer first to the Customer's Retailer. If a Customer is receiving default supply, the Customer is asked to contact Entegrus directly. The Retailer and Entegrus have procedures in place and people ready to handle requests of this nature.

2.8.2 Dispute Process – Local Resolution

2.8.2.1 Disputes include any apparent violation, of the clauses in this document or the supporting codes specified in Section 2.2, by Entegrus.

2.8.2.2 Depending on the severity and/or cause of the problem, it may be appropriate for the Customer to attempt to resolve the dispute directly with the Entegrus employee directly involved in the issue (depending on the circumstances of the problem). This may be a complaint about work being done in the field, the placement of new facilities or some other local issue.

2.8.2.3 Failing any remedy at this stage, the Customer will be referred to the Supervisor of the Department best able to deal with the situation. The

Customer may submit their complaint in written form or verbally as the case may be. Complaints submitted verbally, either via a personal meeting or a telephone call shall be recorded by the Supervisor for future reference. Complaints in written form will be answered in like manner and filed. Complaints submitted verbally may or may not be answered in writing depending on the severity of the problem and the details of the remedy. It is the intention of Entegrus that all disputes of this nature be resolved at this stage.

2.8.2.4 If the Supervisor cannot resolve the complaint, the dispute will be referred to the President of Entegrus.

2.8.2.5 The process shall proceed through the stages in the order given – Employee, Department, President. Each stage will only proceed once the earlier stages have been attempted.

2.8.2.6 Documentation including all correspondences, internal memos and reports will be duly filed by Entegrus. Copies of the contents of the file will be made available to the Customer upon request.

2.8.2.7 All responses to written inquiries or complaints will be completed within 10 business days of receipt.

2.8.3 Dispute Process – Third Party Arbitration

2.8.3.1 Disputes of this nature include complaints that have not been or cannot be resolved through the above processes. In these cases, the Customer has the option of pursuing the process by acquiring the services of a mutually acceptable independent arbitrator. The arbitrator must be chosen from a list of arbitrators approved by the OEB (as to Section 23 of Entegrus' Distribution Licence). 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 Entegrus.

2.9 Force Majeure

2.9.1 General

2.9.1.1 Entegrus shall not be responsible for any loss, damage, delay or non-performance caused by accidents, labour difficulties, acts of God, governmental action, or by any other cause which is unavoidable or beyond its reasonable control (an "Event of Force Majeure").

- 2.9.1.2 Entegrus will practice reasonable diligence in maintaining voltage levels, but is not responsible for variations in voltage from external forces such as operating contingencies, exceptionally high loads or low voltage supply from Entegrus' Transmitter or Host Distributor.
- 2.9.1.3 Any corresponding delay or failure in the performance of Entegrus' obligations under these Conditions of Service or pertaining to billing caused by the occurrence of an Event of Force Majeure, shall not excuse the Customer from payment to Entegrus for associated charges and fees levied for delivery of energy to the Customer's point of receipt.

3 DISTRIBUTION ACTIVITIES (GENERAL)

3.1 Connections

3.1.1 Building that Lies Along

- 3.1.1.1 Entegrus is obligated to supply Connection to any service lying along an existing Distribution Line. The term “lying along” is defined as being immediately adjacent to a Distribution Line capable of servicing the load without any further addition or Expansion to the system.
- 3.1.1.2 Any new service located along an existing Distribution Line shall be connected to the most convenient and closest point of Connection as determined by Entegrus. Alternate points of Connection are possible but may incur a fee.
- 3.1.1.3 Fees apply if the amount of work is considered beyond the standard amount of work and material allowed for in the DSC and corporate policy. Fees will include all extra labour, trucking, material, burdens and taxes associated with this extra work. See Section 3.4 for Tariffs and Charges.
- 3.1.1.4 Where the Customer requests a service upgrade to an existing building that has more than one service Connection onto the property, Entegrus will require that all services be consolidated into a single service Connection. This position is supported by the ESA and is consistent with the OESC.

3.1.2 Expansions / Offer to Connect

- 3.1.2.1 Under the terms of the DSC, Entegrus has the Obligation to make an Offer to Connect any service that is in its service territory that cannot be connected without an Expansion or Enhancement, or “lies along” its Distribution System.
- 3.1.2.2 The Expansion project will include all work up to the point whereby the new load is considered “lying along”. Additional connections fees apply from that point onwards see Section 3.1.1.
- 3.1.2.3 A project is considered an Expansion if it involves any of the following:
 - 1) The installation of a transformer.
 - 2) The upgrade of an existing transformer.
 - 3) The extension of pole line involving 3 or more poles.
 - 4) The re-conductoring of a primary system in order to accommodate new or incremental load.
 - 5) The replacement or upgrade of any other primary component (i.e. fuses, switches, poles, guys...) in order to accommodate the new load.

- 3.1.2.4 An Offer to Connect will be prepared detailing the extent and costs of the project as required by the DSC.
- 3.1.2.5 See Appendix V – Capital Contribution Policy for details on cost and assumptions made for the purposes of carrying out an Economic Evaluation as mandated by the DSC.
- 3.1.2.6 The Customer is to contact Entegrus (Engineering Department) to request a new service. The request should be in writing and include the following information:
 - a) Name of requestor,
 - b) Date of request,
 - c) Preferred voltage,
 - d) Expected number of new services,
 - e) Anticipated load of each service (both demand – kW, if applicable, and consumption – kWh).
- 3.1.2.7 Estimated schedule for new load to come on line over the next 5 years.
- 3.1.2.8 Note that preferred voltage levels may not be available in every area. In addition, Entegrus’ policy limits the transformation it will supply to 1000kVA, after which the Customer must provide their own transformation (i.e. substation). If there are any questions, a representative of Entegrus will consult the Customer.
- 3.1.2.9 For residential loads, assumptions are made about the average energy usage of each service. See Appendix VI for details.
- 3.1.2.10 Entegrus will apply the Discounted Cash Flow (“DCF”) method described in the Appendix B of the DSC to calculate any expected capital contribution that is required.
- 3.1.2.11 An Offer to Connect will be issued to the Customer and will include the details of the original request and the estimated quantities that were used in the calculation of any required capital contribution.
- 3.1.2.12 Upon acceptance of an Offer to Connect, Entegrus will begin construction of the Expansion required to service the new load. Final Connection will only be completed when:
 - 1) The Customer installed electrical system passes all relevant inspections (i.e. ESA),
 - 2) The Customer signs the Connection Agreement,
 - 3) The Customer pays any outstanding capital contributions and fees (as applicable).

- 3.1.2.13 Upon receipt of final passed inspection from ESA, Entegrus will connect the new service as quickly as possible.
- 3.1.2.14 In the case of a subdivision development ESA inspection may not be required but Entegrus may still prove the system via high potential test or other suitable test as determined by Entegrus, before the system is energized.
- 3.1.2.15 Subdivision Developments are considered an Expansion project and the work is limited up to the service-drop at the property line of each individual lot. Connection fees will be calculated on an individual basis as each new house is connected.

3.1.3 Connection Denial

- 3.1.3.1 A Customer may be refused Connection for the following reasons:
 - 1) Failure to pay for any outstanding fees or capital contributions previously agreed to.
 - 2) Failure of Customer installed electrical equipment to pass ESA inspection.
 - 3) Failure of Customer to sign the Connection Agreement.
 - 4) Contravention of the laws of Canada or the Province of Ontario.
 - 5) Violation of conditions in Entegrus' electrical distribution licence.
 - 6) If in the opinion of Entegrus, the Connection of the new load would have an adverse effect on the reliability or safety of the Distribution System.
 - 7) If in the opinion of Entegrus, the Connection of the new load would impose an unsafe worker situation beyond normal risks inherent in the operation of the Distribution System.
 - 8) If the Connection of the new load would result in a material decrease in the efficiency of Entegrus' electrical Distribution System.
 - 9) If the Connection of the new load would have an adverse effect on the quality of Distribution Services received by an existing Connection.
 - 10) If the Connection of the new load would result in discriminatory access to the Distribution Services.
 - 11) Entegrus shall ensure that all electrical connections to its system meet its design requirements, unless the electrical connections are separated by a protection device that has been approved by Entegrus.
 - 12) If all requirements of the Offer to Connect are not fulfilled to the satisfaction of Entegrus.
 - 13) Violation of any other conditions identified in the current Conditions of Service Document.
- 3.1.3.2 In the event that Entegrus refuses to connect a building or facility, Entegrus shall inform the Person requesting the Connection of the reason(s) for not

connecting and, where Entegrus is able to provide a remedy, make an offer to connect. If no remedy is possible, it is the responsibility of the Customer to do so before a Connection may be made.

3.1.4 Inspections Before Connection

- 3.1.4.1 For electrical services, which have sustained storm or fire damage, an approved Contractor who is registered in the ESA residential “Authorized Contractor Program” may reconnect these services as per rule 2-004 of the OESC.
- 3.1.4.2 An electrical service, which has been disconnected for a period of six months or longer, shall be inspected and approved by ESA prior to re-Connection.
- 3.1.4.3 Whenever a Builder transfers a Connection account from the Builder’s name to a new Home Owner, the Builder shall arrange with the ESA for a final inspection. Entegrus must receive acknowledgment from the ESA that the service has passed final inspection.
- 3.1.4.4 Customer owned substations must be inspected by both the ESA and Entegrus.
- 3.1.4.5 Transformer rooms shall be inspected and approved by Entegrus prior to the installation of equipment.
- 3.1.4.6 Provision for metering shall be inspected and approved by Entegrus prior to energization.
- 3.1.4.7 Entegrus 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 3.1.3.

3.1.5 Relocation of Plant

- 3.1.5.1 Entegrus will where feasible, accommodate Customer requests to relocate electrical plant such as poles and metal enclosed equipment. The Customer will be required to pay all of the costs incurred by the relocation.
- 3.1.5.2 In cases where the Customer is the Municipality, a Road Authority or other applicable public body, cost sharing is mandated.
- 3.1.5.3 As each case is unique, the Customer is advised to contact Entegrus for a detailed cost estimate for the relocation.

3.1.6 Easements

- 3.1.6.1 Easements are required for any situation in which Entegrus is required to locate distribution equipment on private property but not servicing that

property. In these cases, Entegrus will arrange for all survey and legal work and pay all associated cost.

3.1.6.2 In the case where a Customer may have a direct interest in the private property, all easement costs and arrangements will be the responsibility of the Customer and a condition of Connection. The latter situation is dependent on each individual circumstance and Entegrus will determine such conditions in conjunction with the Customer.

3.1.6.3 In order to receive permission to process an easement Entegrus requires that the Customer approve the request. See Appendix III for a copy of a grant of easement.

3.1.7 Contracts

3.1.7.1 Connection Agreements are required for all Customers. In the case of residential and General Service loads < 500kW the Connection Agreement is implied and is not an explicit document.

3.1.7.2 For other loads, different Connection Agreements apply as follows:

- a) Embedded Generators: If also a load Customer there are two Connection Agreements required, one covering the load portion the other covering the issues regarding the presence of an Embedded Generator.
- b) Embedded Distributor: A Distributor who receives electrical power through lines owned and operated by Entegrus.
- c) Customers classified as Large User: As the Customer electrical load exceeds certain criteria, more sophisticated metering, transformation and protection equipment are required. Connection Agreements although essentially the same for this class of Customers tend to become more detailed and technical as Customer load increases. As a result Connection Agreements may at times be specifically tailored to correspond to a Customer's unique situation.

3.2 Disconnection

3.2.1 Conditions for Disconnection

3.2.1.1 Entegrus reserves the right to disconnect a Customer under the following conditions:

- 1) Theft of power
- 2) Non-payment of account
- 3) The presence of a hazardous condition
- 4) Electrical disturbance caused by Customer plant or equipment

- 5) Failure to comply with requirements in the Conditions of Service
- 6) Failure to complete repairs on plant previously identified by Entegrus as a potential hazard or source of electrical disturbance.
- 7) Upon direction from a recognized governing authority, e.g. IESO, Police.

3.2.2 Procedure for Disconnection

3.2.2.1 Disconnection Due to Unpaid Bill

- 1) The Customer shall pay Entegrus by the Due Date. The Due Date is 16 days from the date the bill was issued to the Customer. If the bill is sent by mail, Entegrus will add 3 days, providing a total of 19 days from the date of bill issuance to the Due Date.
- 2) Where the total amount owing has not been paid by Due Date, the Customer shall pay an interest charge of 1.5% per month (19.56% per annum) and shall be applied on the outstanding amount from the bill date.
- 3) If payment of the bill is not received by the Due Date, a Disconnection Notice will be issued and will provide 10 days (13 days, if mailed) before disconnection of service may occur.
- 4) The Customer shall not be reconnected unless the Customer has paid all outstanding arrears, which could include an additional deposit and any applicable reconnection fees. Please see Section 3.4.3.1 for more information on the application of deposit. Please see Entegrus' most recent published rates for more information on reconnection fees.
- 5) The Disconnection of a service does not alleviate the Customer of the liability of arrears or any subsequent Utility Bills.
- 6) Once disconnected, Entegrus will continue its efforts to collect all amounts owing which may include third party collection agencies.
- 7) If terms of reconnection are met, the service will be reconnected within 2 business days.

3.2.2.2 Disconnection Due to Safety or Technical Problem

- 1) In the case of a life threatening or immediately hazardous situation Entegrus may be required to disconnect the service with little or no warning.
- 2) If the condition is an immediate hazard to the public, Disconnection will take place immediately. The Customer will be notified as per the following procedure.
 - Entegrus will issue a letter to the Customer immediately upon discovering the problem. Such things may be discovered during

routine maintenance inspections. A copy of this letter may also be sent to the local representatives of the ESA.

- Receipt of the letter will be confirmed by telephone or direct contact (i.e. site visit)
- Depending on the severity of the problem, as determined by Entegrus, the Customer may be asked to fix the problem within the following 24 hours. In extreme cases, power may be disconnected within minutes of notification.
- Where the severity of the problem is less, Entegrus will make every effort to contact the Customer either directly or by phone and develop a schedule for repairs that can best accommodate the concerns of both parties.
- If Entegrus has not been notified in writing that the problem has been fixed by the due date a Disconnection will be scheduled for the following day.
- On the Disconnection day, a letter will be issued re-iterating the problem and the previously agreed upon date.
- Once disconnected, the Customer must contact Entegrus in writing requesting reconnection of service.
- Reconnection of the service may incur a fee if scheduled after hours or during a Holiday or weekend.
- Entegrus requires that the service and repair work be certified by ESA.

3.2.2.3 Disconnection to Correct a System Problem

- 1) Entegrus may schedule outages in order to: perform routine maintenance, construct new plant, or to correct problems discovered during the course of its activities.
- 2) In the event that such a planned outage is required Entegrus will notify all affected Customers in writing and hand delivered at least 3 business days before the scheduled time.
- 3) A rain date may also be stipulated in the letter.
- 4) In the event of weather resulting in the outage being moved to the rain date, on the day of the outage, Entegrus will endeavour to phone all affected Customers to re-iterate the plan described in the original note.
- 5) If the nature of the problem does not allow for the time to hand deliver notices then Entegrus will at least attempt to contact all affected Customers by telephone.

- 6) Entegrus will work with Customers who have special needs (i.e. life support equipment) in order to modify the schedule to allow time for such Customers to make alternate arrangements for power.
- 7) Entegrus will also work with local businesses to schedule outages at other times in order to minimize the economic impact to their businesses.
- 8) Not all situations can be accommodated; in these cases, Entegrus may not be able to alter its plans.

3.3 Conveyance of Electricity

3.3.1 Limitations on the Guaranty of Supply

3.3.1.1 A Customer shall provide free and unfettered access to Entegrus plant and equipment that is on the Customer's property as to the "Powers of Entry" described in section 40 of the Electricity Act.

3.3.1.2 Entegrus will make every effort to maintain the flow of electricity through its lines. Except for the following situations, the Customer should expect to receive trouble free supply of electricity:

- 1) During the operation of protective equipment to prevent damage to electrical plant during an electrical storm, equipment failure (due to natural age or manufacturer's defect, interruption of the system due to foreign interference of any kind (e.g. animal, vehicle accident...))
- 2) The Disconnection of power, due to the discovery of a safety violation that poses an immediate threat to life or further damage to equipment.
- 3) A planned outage to correct some problem or for the construction and integration of new lines into the system.
- 4) A power quality problem originating with another Customer.
- 5) The loss of supply from Entegrus' energy supplier (i.e. Hydro One).

3.3.1.3 Entegrus will maintain its systems to industry norms and attempt in all cases to minimize the impact to Customers for any type of disturbance whether planned or Emergency.

3.3.1.4 Refer to Section 2.7 for other details related to the guarantee of supply.

3.3.2 Power Quality

3.3.2.1 Entegrus endeavors and intends to supply electrical power at the quality equal to or greater than the standard provided by the industry.

3.3.2.2 As a result, Entegrus routinely maintains statistics on the performance of its system and catalogues the root cause of each outage or power quality

problem. Such information is factored into annual capital and maintenance budget allocations.

3.3.2.3 Entegrus is obligated to supply power within the limits specified by CSA CAN3-C235 (Appendix I). Should service voltage fall outside these limits Entegrus will, at its expense, correct the problem.

3.3.2.4 If a Customer is experiencing power quality related problems resulting in the mis-operation of their equipment, the Customer may request Entegrus to perform an investigation of the matter.

3.3.2.5 Entegrus maintains trained personnel and equipment to investigate and isolate of the source of power quality problems. A report is prepared for the Customer detailing the result of the investigation and recommendations on the next steps to correct the problem.

3.3.2.6 If the problem originates with an Entegrus owned piece of equipment, or due to an Entegrus practice, Entegrus will move to correct the situation as soon as possible.

3.3.2.7 If after an investigation shows the source of a power quality problem originates with the Customer, the Customer must correct the problem at their own expense.

3.3.2.8 If one Customer's use of electricity injects power quality problems that affect another Customer (or Customers), the interfering Customer must correct the problem as soon as possible or face a possible Disconnection, as stipulated in Section 3.2.

3.3.3 Electrical Disturbances

3.3.3.1 Refer to Section 3.2.2.2 for guidelines related to the discovery of an electrical disturbance caused by Customer owned facilities.

3.3.3.2 In the event that the source of the disturbance originates with Entegrus, Entegrus will notify all Customers affected and correct the problem without further delay. In the event an outage is required, Entegrus will follow the procedure outlined in Section 3.2.2.3.

3.3.3.3 See Section 3.3 for more details.

3.3.4 Standard Voltage Offerings

3.3.4.1 Not all voltage offerings are available in every area. Due to the nature and history of the supply in differing areas some voltages are unavailable. The following lists the areas along with the voltages available to Customers requesting service (list shows secondary and primary voltage offerings):

Town/Area	Secondary Voltages Available			Primary Voltages Available	
Blenheim	120/240	120/208	347/600	4,160	27,600
Bothwell	120/240	120/208	347/600	8,000	
Chatham (including Bloomfield Business Park)	120/240	120/208	347/600	4,160	27,600
Dresden	120/240	120/208	347/600		27,600
Dutton	120/240	120/208	347/600	8,000	
Erieau	120/240	120/208	347/600	8,000	
Merlin	120/240	120/208	347/600	8,000	27,600
Strathroy	120/240	120/208	347/600	4,160	27,600
Thamesville	120/240	120/208	347/600	4,160	
Tilbury	120/240	120/208	347/600		27,600
Mount Brydges	120/240	120/208	247/600	8,000	27,600
Newbury	120/240	120/208	247/600	8,000	
Parkhill	120/240	120/208	247/600	8,000	27,600
Ridgetown	120/240	120/208	347/600	4,160	27,600
Wallaceburg	120/240	120/208	347/600		27,600
Wheatley	120/240	120/208	347/600	4,160	27,600

3.3.5 Voltage Guidelines

- 3.3.5.1 Entegrus will supply power at a voltage within the guidelines specified in CAN-C235 (see Appendix I).
- 3.3.5.2 If voltage varies beyond these limits then Entegrus will make every effort to correct the situation as soon as possible after identifying the problem.
- 3.3.5.3 If the source of the problem is another Customer, Entegrus will contact that Customer and follow the procedure outlined in Section 3.2.2.2.

3.3.6 Back-up Generators

- 3.3.6.1 Customers with portable or permanently connected Emergency generation capability shall comply with all applicable criteria of the OESC and in particular, shall ensure that Customer Emergency generation does not back feed on the Distributor's system.
- 3.3.6.2 Customers with permanently connected Emergency generation equipment shall notify Entegrus regarding the presence of such equipment and comply with any other requirements that Entegrus has regarding Customers with backup generation.

3.3.7 Metering

- 3.3.7.1 General

- 1) Entegrus will provide and install revenue meters at the Customer's expense.
- 2) Entegrus will maintain revenue meters, instrument transformers, test switches and all interconnecting wiring.

3.3.7.2 The Customer shall provide at his expense:

- 1) Space acceptable to Entegrus, as outlined further in this section, for the installation of revenue metering equipment.
- 2) Facilities for attachment, including meter socket and/or lockable metal enclosure as outlined in Appendix IV.
- 3) Installation of Entegrus supplied instrument transformers, when mounting is in switchgear, and conduit for instrument transformer leads, where required.
- 4) Meters shall be directly accessible by Entegrus staff.
- 5) If an electrical room is to be located above main floor level, a stairway built in accordance with the Ontario Building Code shall be installed. Ladders are not acceptable.
- 6) For commercial and industrial (3 phase) services the Customer's main switch shall be installed before the line side of the metering; and have provisions for padlocking the switch handle in the open position; and the switch cover or door in the closed position.
- 7) In the case of individual metering, a metered service for common load such as sump pumps, laundry rooms, hallway lighting, fire alarms, outside lighting, heating systems, etc., is required.

3.3.7.3 Outside Meters

- 1) All meters are required to be located outside unless subject to 2.3.7.4.
- 2) Normal meter locations will be a maximum of 3m from the front corner of the dwelling unless otherwise approved by Entegrus.
- 3) If a fence is constructed to enclose the property, the meter is not to be enclosed within the fenced area.
- 4) Outdoor metering shall be mounted such that the midpoint of the meter is 1.7m [+/- 100 mm] above finished grade.

3.3.7.4 Indoor Meters

- 1) Individual metering shall be grouped in common electrical rooms that have direct outdoor access. All doors shall be clearly and permanently labelled "Electrical Room". The Customer shall supply a key to the electrical room to Entegrus at no charge.

- 2) If less than three individual meters are grouped, the meters must be located outside.
- 3) If the building is a high-rise structure where a single metering room is not feasible and one or more of the electrical rooms are to be located above the main floor level, they shall be directly accessible from a hallway, which is open to the public. The door shall be clearly and permanently labelled.

3.3.7.5 Environmental Conditions

- 1) The Customer shall provide a clear safe working space of not less than 1.2m (48") in front of the installation from the floor to ceiling with a minimum ceiling height of 2.1m (84") for the full width of the installation, to insure the safety of Entegrus or other authorized employee(s) who may be required to work on the installation.
- 2) Where excessive vibration may affect or damage metering equipment, adequate shock-absorbing mounting shall be provided and installed by the Customer, at the Customer's expense.

3.3.7.6 Bulk Metering

- 1) Bulk metering is at the discretion of the Customer.
- 2) In the case of strip malls: each separate store, shop, or industrial unit located in a shopping plaza or industrial mall must be metered individually.
- 3) An existing condominium, office or apartment building may self-declare for multi-unit metering via a written application to Entegrus, subject to the following:
 - The Customer supplying and installing meter sockets and associated wiring, grouped in meter rooms, according to the requirements of Entegrus and ESA,
 - The metered voltage is 120/240 volts single-phase,
 - For Commercial and Industrial installations in excess of 600 amp where two or more services are taken, the Customer may be required to provide metering accuracy, current transformers and potential transformers on the main secondary bus. Suitable conduit and wall space should be provided for supplementary monitoring meters.
 - Any building which has common load such as sump pumps, laundry rooms, hallway lighting, fire alarms, outside lighting, heating systems, etc. a separate metered service is required.

- 4) Consistent with Ontario Reg 442/07, new condominiums, offices and apartment buildings require multi-unit metering.

3.3.7.7 Metal Enclosed Switchgear

- 5) The following Regulations apply to the installation of instrument transformers and metering equipment within metal enclosed switchgear.
- 6) Entegrus will provide the following revenue metering equipment as required:
 - Colour coded secondary wiring
 - Revenue meters
 - Instrument Transformers
- 7) The Customer shall:
 - Consult with Entegrus regarding the metering equipment to be provided which may include:
 - i. Potential transformers
 - ii. Potential transformer fuse holders and fuses
 - iii. Current transformers
 - Submit two copies of the manufacturer's switchboard drawings, for approval, dimensioned to show provision for and arrangement of Entegrus metering equipment.
 - Provide complete shipping instructions for instrument transformers for projects where the switchboard manufacturer will be installing equipment provided by Entegrus.
 - Install instrument transformer cabinet, metering cabinet and conduit.

3.3.7.8 Switchgear Connected to a WYE Source

- 1) Where a WYE source neutral Connection is to be used or grounded, the Customer shall provide a conductor sized to the requirements of the OESC from the instrument transformer compartment to the neutral Connection. The conductor shall terminate in the instrument transformer compartment on a 25mm x 6mm (1" x ¼") bus bar.

3.3.7.9 Current Transformer Boxes

- 1) Provisions shall be made for the installation of Instrument transformers, to Entegrus requirements, in a separate switchgear compartment on the load side of an isolating device designed to permit ready removal or replacement of equipment. The compartment door shall have provisions for an Entegrus padlock.

- 2) See Appendix IV for details and specifications related to Current Transformer Boxes.

3.3.7.10 Interval Metering

- 1) Effective August 21, 2014, Interval Metering is mandatory for any new Customer that is forecast by Entegrus to have a monthly average peak demand during a calendar year of over 50 kW (consistent with Section 5.1.3(a) of the DSC).
- 2) Existing customers who connected prior to August 21, 2014 and are currently not subject to Interval Metering, and who are forecast by Entegrus to have a monthly average peak demand during a calendar year of over 50 kW, shall have Interval Metering installed by August 21, 2020 (consistent with Section 5.1.3(b) of the DSCR).
- 3) The Customer, at their expense, must have an analog phone line installed in the meter base, equipped with a RJ-11 plug (female connector) with an adequate length of lead left to plug into the meter. The Customer-installed line may be shared with a fax line provided the Customer installs an appropriate line sharing device (i.e. STICK) to switch between the Fax & MODEM line. Prior to the actual installation the Customer must provide Entegrus' Metering Department with the phone number.
- 4) Installations using a line sharing device are done with the understanding that there will be no inhibited access to the meter by Entegrus or its' contractors. Should this condition arise, the Customer will be required to supply a dedicated phone line of a data grade standard.
- 5) The Customer, at their expense, must have a network Connection installed in the meter base, equipped with a RJ-45 plug (female connector) with an adequate length of lead left to plug into the meter.
- 6) Access to metering data is available to the Customer upon request (a monthly fee may apply).

3.3.7.11 Meter Reading

- 1) A Customer shall provide free and unfettered access to Entegrus plant and equipment that is on the Customer's property.
- 2) All meter readers carry identification and proof as to their status as an Entegrus meter reader. A Customer may ask for proof of identification as an official meter reader at any time.
- 3) Reading is normally done on a monthly basis.

3.3.7.12 Final Meter Reading

- 1) The Customer should contact a representative of Entegrus to arrange for a final meter read under any of the following circumstances:
 - When moving,
 - When switching responsibility of payment of the electric bill from one Person to another.
 - When cancelling the account.
- 2) The final meter read will be used as the basis of the calculation of an interim bill. The bill will cover electricity usage up to and including the day of the move or cancellation of the account.

3.3.7.13 Faulty Registration of Meters

- 1) If the Customer suspects their meter is faulty in recording electrical usage, they may request an investigation.
- 2) The Customer should contact a representative of Entegrus and explain the problem. Entegrus will re-read the meter. If the second meter read reveals any obvious abnormality the meter will be replaced and the Customer's bill recalculated based on estimated values.
- 3) If the second meter read does not reveal any problems the Customer will be notified of such. The Customer has 2 options in these cases:
 - the Customer may request a Meter Dispute Test (see section 3.3.7.14) performed by Entegrus crews, or,
 - the Customer may petition Measurement Canada to independently test the meter. Entegrus consults closely with Measurement Canada in these matters and will make every effort to settle the issue as soon as possible.

3.3.7.14 Meter Dispute Testing

- 1) Entegrus reserves the right to decide to test meters. The decision to test a meter will be based solely on the evidence on hand.
- 2) The test procedure involves the timing of meter, in the field, under known loads and in some cases involves the installation of check-meters in parallel with the existing meters.
- 3) The results of these tests are final and will become the position of Entegrus on the matter.
- 4) The Customer may always request that Measurement Canada perform tests and act as an independent third party. A Measurement Canada result is binding on both parties.

3.3.7.15 Process to Upgrade to Interval Metering

- 1) All requests for meter upgrade to Interval Metering must be in writing.
- 2) When the Customer chooses to use a third party (i.e. Consultant – Energy Provider etc.). The Customer must issue a letter of authorization authorizing the third party to act on his behalf.
- 3) Entegrus will only begin work after receiving a letter of authorization from the Customer or his agent.
- 4) The following details the pricing schedule for Interval Metering upgrade work:
 - Meter Price plus burden and administration & handling
 - Material Price (i.e. transient surge suppression) plus 10% mark-up for administration & handling
 - Hourly labour rate plus burden and mark-up for administration & handling
 - All installations outside Chatham will have additional 2 man-hours & 1 additional truck hour.
 - Any installation delays caused by the Customer (1/2 hour or greater) will be charged extra.
 - An additional charge may apply for existing meters becoming redundant.
 - The cost includes the meter, labour to program and install, test and perform initial update of Customer account and applicable taxes.
 - An Estimate will be provided to the Customer. Actual costs will be invoiced.
- 5) Customer Responsibilities
 - See Metering Section 3.3.7.10 3) to 6)
 - Should installation delays occur that are deemed the Customer's responsibility (i.e. phone lines are improperly installed), as per a pre-established schedule, extra charges may apply.
 - Upon acceptance of a quote, the Customer will establish a method of payment, before any work proceeds. The method of payment will either be a purchase order, or a letter of authorization on company letterhead to apply charges to their energy bill.
 - Prior to activation of the new installation, the Customer will be required to sign an access agreement.
- 6) Meter Programming
 - All quantities programmed will be in 5 (five) minute intervals.
 - Two channels will be used for interval programming, measuring **kWh & kVARh**

- Three levels of password protection will be used, which includes Maintenance (MASTER), Billing (local laptop downloads) and Read Only Access (Energy Providers).
- 7) There is no guarantee of any specific number of days stored in memory.

3.4 Tariffs and Charges

3.4.1 Service Connection

3.4.1.1 New services shall incur a Connection fee based upon their location (i.e. “along-side” or Expansion) and class (i.e. residential, commercial, development...).

3.4.1.2 Along-side Servicing

1) Residential - Overhead

- Installation and supply of transformation and 30 meters of overhead wire at no cost, as per the DSC.
- Fee includes all other cost including secondary wire from the closest point of Connection on adjacent pole line, service pole (if required) and metering cost.
- No Labour or trucking charge as this is provided under a standard Connection as defined by the OEB in the DSC.

2) Residential – Underground – Non Subdivision Lot

- As in 1 above.

3) Residential – Underground – Subdivision Lot

- As in 1 above

4) Residential – Overhead to Underground Upgrade

- All costs to remove the old system of wires and install the new underground distribution, either from the nearest transformer or from the existing service pole.
- Cost and work to reconfigure the service entrance are the responsibility of the Customer.

5) Commercial/Industrial – Overhead

- Fee includes all costs to connect the service from the nearest point of Connection on the adjacent pole line.

6) Commercial/Industrial – Underground

- Fee includes all costs to connect the service from the nearest transformer or secondary bus, including a service pole (if required) and any civil work to trench and install the secondary cable.

- 7) Commercial/Industrial – Overhead to Underground Upgrade
 - All costs to remove the old system of wires and install underground either from the nearest transformer or from an existing service pole.
 - Cost and work to reconfigure the service entrance are the responsibility of the Customer.

3.4.1.3 New Services Connected Through an Expansion

- 1) As mandated by the DSC the DCF model will be applied to the project. Refer to Section 3.1.2 for more details.
- 2) Any money shortfall as calculated using the DSC model must be collected from the Customer before the service can be energized.
- 3) Entegrus will detail in writing all assumptions, and values used in the DCF calculation in an Offer to Connect. Any capital contribution required of the Customer will be clearly identified.
- 4) If a capital contribution is required, the Customer may have a choice to solicit alternate bids for part or all of the work.
- 5) If the Customer chooses to exercise the right to have work performed by others, Entegrus must inspect and approve all work before the system is energized. All inspection and engineering work is chargeable to the Customer. In some cases, ESA may be required to inspect the installation before final Connection and energization.
- 6) Consult Entegrus Engineering department to discuss and review the particulars of each project.

3.4.2 Energy Supply

3.4.2.1 Default Supply

- 1) Entegrus provides Standard Supply Service arrangements for Customers who do not wish to purchase power through a Licenced Retailer.
- 2) A Customer will be a default Customer, that is receive power, through the SSS. No extra paperwork or notification is necessary. The act of requesting service and being connected constitutes an implied contract. This Conditions of Service document serves as the implied Customer contract.

3.4.2.2 Supply Through a Retailer

- 1) Entegrus can also make provisions to process bills for those Customers who purchase power through an electrical Retailer.

- 2) In this case, the Customer must arrange separately with a licenced Retailer of their choosing. Each Retailer will require a Customer to sign a binding agreement that specifies the conditions and rates for the supply of power. The Customer will give the Retailer the authority to contact Entegrus and begin the process of updating the billing records to reflect the new rates and conditions of the agreement.
- 3) The Retailer communicates this information to Entegrus as specified by the OEB, to ensure security and confidentiality of the information.
- 4) Upon completion of all transactions, Entegrus will immediately begin using the new rates and conditions for all subsequent billing. Entegrus will Generate all bills and manage the account as to the rules detailed in this document and its own internal policies and the Retail Settlement Code.

3.4.2.3 Wheeling of Power

- 1) The wheeling of power to and from Customers embedded within the service territory of Entegrus is permissible under the DSC. Special rates and charges will apply and depends upon each individual circumstance. The following lists the items that will be considered in determining all wheeling charges:
 - The distance of the Customer from the point of Connection to Entegrus' transmission supply.
 - The layout and composition of the circuits from the transmission Connection point to the Customer.
 - The amount of power being wheeled.
 - The purpose the power is fulfilling (e.g. Retail sale, peak shaving, voltage support...)
- 2) Refer to Entegrus' most recent published Tariff of Rates and Charges for a list of Rates and Charges approved by the OEB for the Entegrus Service Area.

3.4.3 Deposits

3.4.3.1 Security Deposit Policy

- 1) The purpose of the security deposit requirements is to protect Entegrus from financial loss.
- 2) A Security deposit may be required as a condition of service and will be assessed on or before the date the Customer becomes responsible for the account.

- 3) If a New Customer Agreement form agreement is in place prior to the Customer becoming responsible for the account, the Customer will be eligible to make instalment payments up to 6 months.
- 4) Entegrus shall not issue a Disconnection notice to a residential Customer for non-payment unless it has first applied any security deposit held on account for the Customer against any amounts owing at that time. Entegrus may request this deposit be repaid as applicable.

3.4.3.2 Which Customers are required to pay a Security Deposit?

- 1) Any new Customer that does not have an acceptable payment history with Entegrus or cannot provide a reference letter stating that they had at minimum 24 months of good payment history from another electric or gas Distributor in Canada.
- 2) Any existing Customer that has unacceptable payment history. An unacceptable payment history is described in the following sections:
 - When more than 1 Disconnection notice has been issued in a twenty-four month period.
 - When a Disconnection/collection trip has occurred.
 - When more than 1 cheque has been returned due to insufficient funds in a twenty-four month period.
 - When more than 1 automatic withdrawal has been returned due to insufficient funds in a twenty-four month period.
 - When information from the Customer's previous Distributor indicates an unpaid final bill or a poor payment history.
 - When the Customer has declared personal bankruptcy.
 - When the Customer operating a business has declared bankruptcy in another Business.
 - When an active Customer, who has an unacceptable payment history, opens an additional account, a security deposit will be required for the additional account.

3.4.3.3 Which Customers are not required to pay a Security Deposit?

- 1) A Customer with no prior payment history and is able to provide a letter of reference of a good payment history in the last 24 months from another electricity or gas Distributor in Canada
- 2) A Residential Customer who has maintained an acceptable payment history for 1 year.
- 3) A Customer who is in the < 50 kW demand class who has maintained an acceptable payment history for 5 years.

- 4) A Customer who is in any other rate class who has maintained an acceptable payment history for 7 years.
- 5) Customers who have been qualified as an eligible low-income Customer and provides a waiver from an approved agency.

3.4.3.4 Deposit Policy – Commercial/Industrial Customers

- 1) All new Commercial/Industrial accounts, with expected loads of greater than 50kW, must provide security as described in Section 3.4.3.7. When billing history does not exist a similar type of business will be used. A new Customer will only be connected with electrical service when the security requirements are met.
- 2) An acceptable payment history with Entegrus with one account may eliminate the need for a deposit for an additional account, when both accounts are simultaneously active, and in the same name.
- 3) Any current Commercial/Industrial accounts that develop an unacceptable payment history as described in Section 3.4.3.2 must provide security as described in Section 3.4.3.7. Entegrus will 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.
- 4) Entegrus will promptly return any remaining amount of the security deposit to the Customer. Entegrus will not pay any portion of a Customer's security deposit to a competitive Retailer. Where a change is made from Distributor consolidated billing to split billing, Entegrus may retain a portion of the security deposit amount that reflects the non-payment risk associated with the new billing option.

3.4.3.5 Calculations for Security Deposits

- 1) Bi-monthly billed Customers are based on average bill times 1.75 as a maximum.
- 2) Monthly-billed Customers are based on average monthly bill times 2.5 over the most recent 12 consecutive months within the past 2 years.
- 3) When a Customer has been issued more than one Disconnection notice in a relevant 12 months period, their deposit is based on the actual highest or estimated load for the most recent 12 consecutive months within the past 2 years.
- 4) Entegrus will annually review the security deposit, where it is determined that a higher deposit is required, Entegrus will place this amount in the deposit- required field and will be billed on the Customer's next bill.

3.4.3.6 Reductions to Security Deposits

- 1) If a Customer signs up for automatic withdrawal they will be eligible for a reduction in the security deposit as follows;
 - Bi-monthly billed Customers are based on average bill times 1.25 as a maximum.
 - Monthly-billed Customers are based on average monthly bill times 2 as a maximum.
- 2) Non-residential Customer in a class other than < 50 kW can obtain a credit rating from a recognized credit rating agency and the deposit shall be reduced in accordance with the following table (Using Standard and Poor's Rating Terminology):

Credit Rating	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%

3.4.3.7 Types of security (one of the following options will be accepted)

- 1) Cash deposit.
- 2) An irrevocable letter of credit may be provided in instances when the deposit exceeds \$1,000 from an approved banking institution. The Letter of Credit must stipulate that cancellation is only allowed upon 90 days written notice by registered mail and the letter of credit must have no expiry date.
- 3) A bond in favour of Entegrus Powerlines Inc.

3.4.3.8 Deposit Interest

- 1) In instances where a cash deposit is provided, interest will begin to accrue when the full deposit has been paid. Interest will be accrued on a monthly basis and will be credited to the Customer's account once a year, or at the time the deposit is refunded or when the final bill is produced.
- 2) The interest rate applied is Bank of Canada's Prime Business Rate less 2% updated quarterly.

3.4.3.9 Refunding the Security Deposit

- 1) For residential Customers, who have an acceptable payment history for 1 year, the deposit will be refunded at the Customer's written request.
- 2) For Customers with a demand less than 50 kW, who have an acceptable payment history for five 5 continuous years, the deposit will be refunded at the Customer's written request.
- 3) For Customers in any other rate class, who have an acceptable payment history for 7 continuous years, the deposit will be refunded at the Customer's written request.
- 4) For Customers in the Large User rate class who have had an acceptable payment history for 7 years, 50% of the deposit will be refunded upon the Customer's written request.
- 5) For Customers who chose to discontinue service, the deposit will be applied to their final bill and any credit amount will be sent to Customer within 6 weeks.

3.4.4 Billing

3.4.4.1 Customers are billed on a monthly basis.

3.4.4.2 The exact dates and schedules of each bill are dependent on the location of the service and may change from time to time to account for holidays or other circumstances. Entegrus produces these schedules and they are available upon request.

3.4.4.3 All other Customers are billed on a monthly basis with schedules that vary from year to year as above.

3.4.5 Payments and Late Payment Charges

3.4.5.1 Under normal circumstances, bills can be paid in a variety of ways.

- 1) By mail by cash (although not recommended), cheque, or money order;
- 2) Via direct withdrawal from a bank account;
- 3) Internet or telephone banking, from most major financial institutions;
- 4) Most major credit cards via phone or online.

3.4.5.2 Payments can also be budgeted to equalize each payment. The budget amount is recalculated on an annual basis in order to reduce the amount of credit or debit that naturally accumulates throughout the year. Contact Entegrus for more details.

3.4.5.3 Late payment charges are as specified in Entegrus' most recent published rates, and are also detailed in Section 3.2.2.1.

3.5 Customer Information

3.5.1 General

3.5.1.1 Section 11 of the RSC specifies the rights of consumers and retailers to access current and historical usage information and related data and the obligations of Distributors in providing access to such information.

- 1) Upon written authorization by the Customer, Entegrus shall make available the following information to the Customer or the Customer's Retailer:
- 2) The Entegrus meter number for the meter or meters located at the Consumer's service address;
- 3) The Customer's service address;
- 4) The Customer's account number;
- 5) The date of the most recent meter reading;
- 6) The date of the previous meter reading;
- 7) Multiplied kilowatt-hours recorded at the time of the most recent meter reading;
- 8) Multiplied kilowatt-hours recorded at the time of the previous meter reading;
- 9) Multiplied kW for the billing period (if Demand Metered);
- 10) Multiplied kVA for the billing period (if available);
- 11) Usage (kWhs/h) for each hour during the billing period for interval-metered consumers;
- 12) An indicator of the read type (e.g., Distributor read, Consumer read, Distributor estimate, etc.); and
- 13) Average distribution loss factor for the billing period.

3.5.1.2 Data can be made available via Entegrus' EBT provider. Contact Entegrus for more information.

4 CUSTOMER CLASS SPECIFIC

4.1 Residential

4.1.1 Customers in this class include:

- 1) All services supplied to single-family dwelling units for domestic or household purposes,
- 2) Multi-unit residential establishments with 6 or less units.
- 3) If a service supplies a combination of residential and commercial load and wiring does not permit separate metering, the classification of this Customer will be determined individually by Entegrus.

4.1.2 The Customer or his representative shall consult with Entegrus' Engineering Department, concerning the availability of supply, the voltage of supply, service location, metering and any other details, such as significant loads such as electric heat, air conditioning, heat pump, etc. These requirements are separate from and in addition to those of ESA.

4.1.3 See Section 3.4.1 for details related to Connection fees

4.1.4 The location of the service entrance point and metering shall be established through consultation with Entegrus for both new and upgraded electrical services. Failing to comply may result in relocation of the service at the Customer's expense.

4.1.5 Electric service will then be provided to houses, row houses, semi-detached dwellings and other residential Customers (excluding apartments and non-residential Customers 2 to 5 days after receipt by Entegrus of a "Connection Authorization" from ESA. For the purpose of this specification, row housing consists of separately heated, serviced and metered dwelling units that are freehold properties (i.e.: land is owned by an individual Customer of each unit) and front on a municipal street. House and/or lot numbers must be visible on house or a sign posted on the lot in order to be energized.

- 1) Each meter base in a semi-detached or duplex building shall be permanently identified with municipal number or unit number.
- 2) The Customer or his representative must secure an application for inspection whenever electric wiring is to be done. Entegrus shall not connect electrical service until the wiring has been inspected and approved.
- 3) All Customer equipment and appliances must be certified by CSA, ESA or other official standards agency and be operated so that the electrical service to other Customers will not be adversely affected.

- 4) All permanent services for dwellings shall have a minimum service capacity of 100 A., with a maximum capacity of 400 A. Supply requirements for service entrances rated over 200 A will be determined upon application to the Engineering Department.
- 5) Supply for all services other than to apartments or commercial buildings will normally be 120/240 V, single phase, three wire, 60 Hz, up to a maximum of 400 A.
- 6) If the distance from the property line to the service entrance is in excess of 60m, Entegrus may require that the service be designed and installed for primary voltage. In such a case, the Customer shall bear the cost as described in section 3.4.
- 7) There shall be only one Delivery Point to a property. 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
- 8) All new services and/or upgraded services shall be grounded and bonded as to OESC rules.

4.1.6 Temporary Services

- 4.1.6.1 Residential Temporary services are normally metered services provided for a fee during the initial construction period. Subject to the requirements of Entegrus, supply will be connected after receipt of a 'Connection Authorization' from ESA and the installation/removal fee.
- 4.1.6.2 Meter bases shall be securely mounted on minimum 152mm diameter poles or alternative if approved by Entegrus so that the midpoint of the meter is 1.7 m (+ 100 mm) from finished grade.
- 4.1.6.3 In the case of temporary overhead services, the Customer shall leave 760 mm of cable at the masthead for Connection purposes.
- 4.1.6.4 In the case of temporary underground services, the Customer is required to supply and install the cable from the service location to the Point of Supply. The Customer will be required to install the cable along a route approved by Entegrus.

4.1.7 Service Entrance/Meter Location Changes

- 4.1.7.1 Entegrus shall be consulted for advice in situations involving changes in the metering facilities and/or locations. Service changes, whether an upgrade or if the stack is being removed for renovations, Entegrus will require the meter to be moved outside at the Customer's expense.

- 4.1.7.2 Where a service upgrade necessitates that the existing underground service cable be changed, the Customer will be required to provide a trench (to the satisfaction of Entegrus) from the meter base to the point of Connection as per Section 4.1.8).
- 4.1.7.3 Where a service is being upgraded from a 60Amp to a 100Amp service, the 1" conduit and existing meter base must also be upgraded to 1-1/4" conduit and an approved meter base.
- 4.1.7.4 Where a Customer is upgrading a service entrance only, and has a round meter base, the entire service must be upgraded including the attachment point, to the required amperage.
- 4.1.8 Overhead Services
 - 4.1.8.1 The Customer shall supply all service entrance equipment including provision for the attachment of Entegrus' supply conductors.
 - 4.1.8.2 The service mast must be of sufficient height so that after road or ground construction is completed the service wire is at the minimum clearance as required by CSA standards. Entegrus may request an increase of the mast height to meet the requirements arising from special circumstances.
 - 4.1.8.3 The mast must be located within 3 metres of the face of the building and adjacent to Distribution Lines, unless otherwise approved by Entegrus.
 - 4.1.8.4 The Customer will be required to pay the additional cost of service cable in excess of 30 meters over private property.
 - 4.1.8.5 If the distance from Entegrus' pole to the point of attachment exceeds 40 meters, the Customer may be required to provide an additional pole(s) or support(s) for the service cable.
- 4.1.9 Underground Services
 - 4.1.9.1 This section pertains to servicing of electricity in underground residential subdivisions
 - 4.1.9.2 Entegrus or its representative shall install the service wires from Entegrus' right-of-way to the meter base on each dwelling unit in the Customer installed duct
 - 4.1.9.3 Each individual property shall have its own meter base. Entegrus must approve all service locations and trench routes.
 - 4.1.9.4 Where a builder or developer is able to develop an additional lot in an existing underground subdivision, he will be required to pay the actual costs involved for Entegrus to provide a service to this new lot.

- 4.1.9.5 Underground Services to Individual Residence (other than above)
- 4.1.9.6 The Customer shall pay a Connection fee as described in Section 2.4.
- 4.1.9.7 The cost referred to, above, shall not cover the cost of trenching (from the meter base to the street line), back filling or duct for the service wires. The Customer will be required to supply and install a 4 inch approved duct (e.g. DBII) at a depth of 1 meter below finished grade from the point of Connection, to the location of the meter base, as per Entegrus' standard drawing. A ¼" polypropylene rope is to be pulled through the duct to allow Entegrus crews to pull through the service cable, at a later time.
- 4.1.9.8 Entegrus shall provide and install the cable from the point of Connection (i.e. underground service drop or service pole) to the meter socket. If the cable cannot be installed in the duct because of a duct collapse or other obstruction the Customer is responsible to remedy the problem and reschedule with Entegrus crews to install the service cable. Entegrus may choose to charge actual labour and trucking cost for each subsequent visit.
- 4.1.9.9 Entegrus will provide an approved diagram detailing the servicing details, such as trench route including start and end points. Entegrus must approve any deviation from this route.
- 4.1.9.10 It is the responsibility of the Customer or his contractor to obtain clearance from all of the Utilities (including Entegrus) before digging.
- 4.1.9.11 The Customer will assure the provision for the service entrance and meter meets with Entegrus' approval. Metering must meet the requirements of Clause 2.3.7 and be located within 3 metres of the face of the building and adjacent to the Distribution Lines, or as approved by Entegrus.
- 4.1.9.12 Where there are other services to be installed (e.g. Gas, Bell, and TV) these shall be coordinated to avoid conflict with Entegrus' underground cables. Entegrus' installation will not normally commence until all grading has been completed.
 - 1) The Customer shall provide unimpeded access for Entegrus to install the service or conductors, as the case may be. The main service panel shall be safely accessible to Entegrus' staff prior to energization.
 - 2) The Customer shall ensure that any intended tree planting will not take place over underground electrical plant.

4.1.10 Metering

- 4.1.10.1 Entegrus will normally meter the electric supply at the utilization voltage.

- 4.1.10.2 All new and upgraded underground services must use a C.S.A. or ESA approved meter socket.
- 4.1.10.3 The meter must be outside and located within 3.0 meters of the face of the building.
- 4.1.10.4 The meter socket shall be installed outdoors and so that the midpoint of the meter is 1.7m (+ 100 mm) above finished grade.
- 4.1.10.5 Where the service size exceeds 200 A, metering facilities shall be provided and installed as required on Entegrus' standard drawing. Entegrus must approve the location and installation of the equipment.
- 4.1.10.6 The Customer shall assure that the meter is readily accessible to Entegrus at all times and allow for the possibility of future fence installation, shrub planting, etc.
- 4.1.10.7 The Customer shall ensure that meters located adjacent to narrow driveways, or other areas deemed hazardous, be physically protected to the satisfaction of Entegrus.
- 4.1.11 Land Development
 - 4.1.11.1 All work within the limits of the Development shall be according to Entegrus specification on Subdivision Electrical Distribution, please contact Entegrus for the current specification.
 - 4.1.11.2 All engineering and design work for electrical distribution facilities within and servicing the development will be done by Entegrus. The cost for this work will be included in the DCF model as part of the overall capital cost of the project.
 - 4.1.11.3 Property drawings for the Development must be submitted to the Engineering department of Entegrus and 3 weeks allowed for engineering design to be completed. The drawings are to be submitted in electronic form compatible with Entegrus' CAD system.
 - 4.1.11.4 The Developer will have the opportunity to review the drawings and request revisions as necessary.
 - 4.1.11.5 The Developer must approve the electrical distribution supply plan in writing before construction is to begin.
 - 4.1.11.6 Telephone and Cable
 - 1) It is the responsibility of the Developer to coordinate the design and construction of the Electrical Distribution System with that for telephone and cable TV systems.

4.1.11.7 Costs

- 1) The Developer shall be responsible for all costs as detailed in the Offer to Connect (section 3.1.2).
- 2) Included in the calculation of any capital contribution using the DCF model will be Entegrus' costs for design, consultation, approvals, inspections, switching, termination and splicing of primary cable and energization of the Electrical Plant and any legal services required by Entegrus including the preparation and registration of all agreements, notices and easements.

4.1.11.8 Commencement of Construction

- 1) Installation of sewer and water facilities, including lateral connections, and gravel road bases, curb bases or curbs and the first layer of asphalt must be completed before work to install the electrical system can commence.
- 2) All portions of the lands involved with the Electrical Plant must be graded to within plus or minus fifteen centimetres of final grade before work can begin.
- 3) As per the DSC, all electrical contractors, whether contracted with the Developer or Entegrus, must be pre-approved by Entegrus and certified as qualified in good standing as to the current Entegrus requirements (see Appendix IVI).

4.1.11.9 Inspection

- 1) The contractor shall request inspection and obtain Entegrus' approval before covering up, or burying any portion of the Electrical Plant.
- 2) The Developer shall give written notice of ten (10) working days to Entegrus whenever its contractors initially commence work involving the Electrical Plant, for the purpose of allowing examination by Entegrus of the construction methods being employed. Twenty-four (24) hours written notice shall be given when further portions of the work commence.
- 3) The Developer shall notify Entegrus upon completion of the Electrical Plant to allow inspection and acceptance by Entegrus.

4.1.11.10 Transformation

- 1) All transformers whether single phase or three phase will be above ground, Minipad or Padmount.

4.1.11.11 Street Lights

- 1) All streetlights unless on private property are owned by the Municipality and maintained by Entegrus.
- 2) The Developer is responsible for all actual costs relating to street light design and installation within the Land Development as well as on adjacent streets directly servicing the Subdivision. The Municipality is the final arbitrator on this issue and determine what is and is not the Developers responsibility. See 4.7.1.4 for further information.

4.2 General Service (Less than 50kW) General

4.2.1.1 This section pertains to services defined as follows:

- 1) Multi-unit residential establishments such as apartment buildings supplied through one service (bulk-metered),
- 2) All other services other than those classified as residential, street lighting, or large use.

4.2.1.2 See Section 3.4.1 for details related to Connection fees

4.2.1.3 The Customer shall consult with Entegrus' Engineering Department concerning the availability of supply, the voltage of supply, service location, metering and any other details, such as significant loads due to electric heat, air conditioning, heat pump, etc.

4.2.1.4 The location of the service entrance point and metering shall be established through consultation with Entegrus for both new and upgraded electrical services. Failing to comply may result in relocation of the service at the Customer's expense.

4.2.1.5 Electric service will be provided 5 to 10 working days after receipt by Entegrus of a "Connection Authorization" from ESA.

4.2.1.6 Municipal and/or lot numbers must be visible on the building or a sign posted on the lot in order to be energized.

4.2.1.7 Entegrus shall not connect electrical service until the wiring has been inspected and approved.

4.2.2 Service Information

4.2.2.1 A metered secondary service for signs or other such services can be provided. This service will incur a Connection fee. This type of service is considered a General Service.

4.2.2.2 The service voltage will be established by Entegrus depending upon the location of the building and will be one of the following:

- 1) 120/240 Volts, 1 Phase, 3 Wire
 - 2) 120/208 Volts, 3 Phase, 4 Wire
 - 3) 347/600 Volts, 3 Phase, 4 Wire
- 4.2.2.3 Transformation to other voltages will be supplied, installed and maintained by the Customer.
- 4.2.3 Overhead Service
- 4.2.3.1 The Customer will be responsible for all servicing cost as specified in Section 3.4.
 - 4.2.3.2 Services in excess of 30 metres in length may require the Customer to construct a private pole line.
 - 4.2.3.3 The Customer will provide a rigid service mast or other acceptable method, to ESA requirements, with all clevises and insulators and of sufficient height to maintain proper minimum clearances in accordance with the Ontario Electrical Safety Code between Entegrus service conductors and finished grade.
 - 4.2.3.4 The Customer's main switch and the overhead service conductors will be of compatible capacity and the service size will not exceed 400 amps.
- 4.2.4 Underground Service
- 4.2.4.1 The Customer will supply and install service conductors from the service entrance to the delivery point. Installation will require ESA approval.
 - 4.2.4.2 The Customer's main switch and the underground service conductors will be of compatible capacity and will not exceed 600 amps.
- 4.2.5 Metering
- 4.2.5.1 The Customer will make provision acceptable to Entegrus for revenue metering equipment as per Section 3.3.7
 - 4.2.5.2 Each meter base shall be permanently identified with municipal number or unit number.
 - 4.2.5.3 Any building that has common loads such as sump pumps, laundry rooms, hallway lighting, fire alarms, outside lighting, heating systems etc., require a separately metered service.
 - 4.2.5.4 All metering costs incurred by Entegrus are the responsibility of the Customer.

4.3 General Service (Equal to or Greater than 50 kW) General

- 4.3.1.1 Customers in this class include all Customers with a gross load of greater than 50kW including: GS>50 kW and Large use Customers. Customers are assigned to these individual rate classes consistent rules described in Section 2.5 of the DSC, as relating to gross load demand, and the rate classifications set out in the Entegrus Tariff of Rates and Charges.
 - 4.3.1.2 See Section 3.4.1 for details related to Connection fees
 - 4.3.1.3 This section also deals with the different conditions that will apply in the cases of multiple industrial buildings, office buildings, and shopping malls and plazas.
 - 4.3.1.4 The Customer shall consult with Entegrus' Engineering Department concerning the availability of supply, the voltage of supply, service location, metering and any other details, such as significant loads due to electric heat, air conditioning, heat pump, etc. The Customer will be required to sign a Connection Agreement (see Appendix V) before Entegrus will proceed with the project. Depending on equipment needed this may be required 12-15 weeks before the service is connected.
 - 4.3.1.5 The location of the service entrance point and metering shall be established through consultation with Entegrus for both new and upgraded electrical services. Failing to comply may result in relocation of the service at the Customer's expense.
 - 4.3.1.6 Electric service will then be provided 5 to 10 days after receipt by Entegrus of a "Connection Authorization" from ESA.
 - 4.3.1.7 Municipal and/or lot numbers must be visible on the building or a sign posted on the lot in order to be energized.
 - 4.3.1.8 The Customer's motors and appliances must be certified by CSA, ESA or other official standards body and be operated so that the electrical service to other Customers will not be adversely affected.
- 4.3.2 Service Information
- 4.3.2.1 Entegrus will supply and install transformers up to 1000 kVA.
 - 4.3.2.2 Only one service per property is permitted
 - 4.3.2.3 A metered secondary service for signs or other such services can be provided.
 - 4.3.2.4 The service voltage will be established by Entegrus depending upon the location of the building and will be one of the following:
 - 1) 120/240 Volts, 1 Phase, 3 Wire

- 2) 120/208 Volts, 3 Phase, 4 Wire
- 3) 347/600 Volts, 3 Phase, 4 Wire
- 4.3.2.5 Transformation for other voltages will be supplied, installed and maintained by the Customer.
- 4.3.2.6 Primary supplies to Customer owned substations are 16,000/27,600 Volts, 3 Phase, 4 Wire.
- 4.3.2.7 Transformation up to 1000 kVA capacity can be supplied and installed by Entegrus. The cost of the transformer including installation and burdens will be factored into the DCF calculation (see section 3.1.2). Entegrus will maintain the installation.
- 4.3.2.8 Transformer installations of larger than 1000 kVA capacity must be supplied and installed by the Customer. This cost is not factored into the DCF calculation and must be maintained by the Customer in accordance with standard industry practices.
- 4.3.3 Overhead Service
 - 4.3.3.1 At the Customer's expense, Entegrus will install up to 30 meters of service conductor from the street-line to the delivery point. Beyond this length, the Customer may need to install a private pole line. The Customer will provide a rigid service mast or other acceptable method, to ESA requirements, with all clevises and insulators and of sufficient height to maintain proper minimum clearances in accordance with the OESC between Entegrus service conductors and finished grade.
 - 4.3.3.2 The Customer's main switch and the overhead service conductors will be of compatible capacity and the service size will not exceed 400 amps. The maximum capacity of a secondary overhead service will be,
 - 1) 300kVA for a 347/600 Volts 3 Phase service
 - 2) 100kVA for a 120/208 Volts 3 Phase service
 - 3) 75kVA for a 120/240 Volts 1 Phase service
- 4.3.4 Primary Service
 - 4.3.4.1 At the Customer's expense, Entegrus will install up to 30 meters of primary service conductor from the street-line to the delivery point. Beyond this length, the Customer may need to install a private pole line.
 - 4.3.4.2 Where a private pole line is to be constructed by the Customer this will be constructed to ESA requirements.

4.3.5 Underground Service

4.3.5.1 An underground secondary service will be provided to buildings with a total electrical requirement of not greater than:

- 1) 300kVA for a 347/600 Volts 3 Phase service
- 2) 225kVA for a 120/208 Volts 3 Phase service
- 3) 75kVA for a 120/240 Volts 1 Phase service.

4.3.5.2 The Customer will supply, install and maintain service conductors from the service entrance to the delivery point. Installation will require ESA approval.

4.3.5.3 The Customer's main switch and the underground service conductors will be of compatible capacity and will not exceed 600 amps.

4.3.5.4 An underground primary service to a transformer pad will be required when service load exceeds that, which can be provided by overhead transformers listed in 4.3.5.1.

4.3.5.5 If a Padmount transformer is required, the Customer will be required to supply, install and maintain the following:

- 1) A transformer support pad including grounding to Entegrus' Specifications (consult the Engineering Department for a copy of this specification).
- 2) Location of transformer support pad to be in accordance with Section 26-02 of Ontario Electrical Code and Entegrus requirements.
- 3) Supply and install secondary wiring including transformer terminations.
- 4) Supply and install four 4" PVC Type II ducts encased in 30 MPA concrete from transformer pad to supply point.
- 5) Install fish lines (¼" polypropylene rope) and cap ends of ducts.
- 6) Entegrus will install primary cable and terminations.
- 7) Entegrus will supply and install a transformer up to 1000 kVA and make primary and secondary connections in the transformer.

4.3.6 Site Information

4.3.6.1 Prior to the preparation of a design for the service to a building the following information will be provided by the Customer to Entegrus:

- 1) A grading plan and site plan, to scale, showing the building in relation to existing and proposed property lines, other buildings, streets and driveways, and the location of other services, gas, telephone, water and cable TV,
- 2) Requested energization date,
- 3) Amperage of service,

- 4) Preferred secondary voltage,
- 5) Preferred location of service entrance,
- 6) Preferred location of transformer pad and routing of primary conductors (where applicable),
- 7) Estimated initial kilowatt demand and ultimate maximum demand,
- 8) Single line diagram showing the provision for metering facilities and a listing of all significant loads such as the kW demand per unit, heating, cooling, elevators, etc.
- 9) The number of units.

4.3.6.2 See section 3.1.2 for more details on what may be required to properly calculate a possible capital contribution requirement.

4.3.7 Substation Information

4.3.7.1 Where a Customer owned substation is to be provided the Customer will be required to provide the following:

- 1) All details of the transformer switching and protection including rating/capacity, primary and secondary voltages, impedance and protection characteristics.
- 2) A site plan of the transformer station showing the equipment layout proposed primary connections, grounding and fence details.
- 3) Both ESA and Entegrus must inspect Customer owned substations. The Customer will provide a pre-service inspection report to Entegrus. A qualified independent and qualified testing firm will perform the test and prepare the certified report.
- 4) A Connection Agreement will be required and signed by Entegrus and the Customer.

4.3.8 Metering

4.3.8.1 The Customer will make provision acceptable to Entegrus for revenue metering equipment as per Section 3.3.7.

4.3.8.2 Each meter base shall be permanently identified with municipal number or unit number.

4.3.8.3 Any building that has common loads such as sump pumps, laundry rooms, hallway lighting, fire alarms, outside lighting, heating systems etc., a metered service is required.

- 4.3.8.4 Primary metering is required for loads greater than 3MW and will be 3-element metering. Other metering configurations are available at additional cost.

4.4 Embedded Generation

4.4.1 The Generator Classifications

Generator Classification	Rating (as set in the DSC)
Micro	≤ 10 kW
Small	a) ≤ 500 kW, connected on Distribution System voltage < 15 kV b) ≤ 1 MW connected, on Distribution System voltage ≥ 15kV
Mid-Sized	a) ≤ 10 MW but > 500 kW connected on Distribution System voltage < 15 kV b) > 1 MW but ≤ 10 MW, connected on Distribution System voltage ≥ 15 kV
Large	> 10 MW

4.4.2 Connection and Operating Agreements

- 4.4.2.1 Entegrus will enter into a Connection Agreement with all existing Customers who have an embedded Generation Facility connected to Entegrus' Distribution System and also with all new Customers prior to connecting a new Generation Facility. Customers may also be required to enter into an operating agreement. Refer to the References in Appendices I - V of this Conditions of Service document.
- 4.4.2.2 For micro, small, mid-sized, and large embedded generation facilities, the Connection Agreement will be in the form set out on Entegrus' website.
- 4.4.2.3 Where Entegrus does not have a Connection Agreement with an existing Customer that has a Generation Facility connected to Entegrus' Distribution System, the Customer shall be deemed to have accepted and agreed to be bound by all of the Connection Agreement terms and conditions set out on Entegrus' website and the terms of any operating schedule delivered to it from time to time by Entegrus.

4.4.2.4 Entegrus has created an Embedded Generation Connection Overview which contains the following information:

- 1) the process for having a Generation Facility connected to Entegrus' Distribution System, including any form necessary for the application;
- 2) information regarding any approvals from the ESA, the IESO, OEB, or a Transmitter that are required before Entegrus will connect a Generation Facility to its Distribution System;
- 3) the technical requirements for being connected to Entegrus' Distribution System including the metering requirements; and
- 4) the standard contractual terms and conditions for being connected to Entegrus' Distribution System.
- 5) The Embedded Generation Connection Overview is posted on the Entegrus website at www.entegrus.com.

4.4.2.5 Subject to all applicable laws, and in accordance with the DSC, Entegrus will make all reasonable efforts in accordance with the provisions of Section 4.4 Embedded Generation of this COS document to promptly connect to its Distribution System a Generation Facility, which is the subject of an application for Connection.

4.4.2.6 The Customer will make provision acceptable to Entegrus for revenue metering equipment as per Section 3.3.7.10 3) to 9)

4.4.3 Connection of Micro-Generation Facilities

4.4.3.1 A Customer who wishes to connect a micro-embedded Generation Facility to Entegrus' Distribution System shall submit an application to Entegrus providing the following information:

- 1) the name-plate rated capacity of each unit of the proposed Generation Facility and the total name-plate rated capacity of the proposed Generation Facility at the Connection point;
- 2) the fuel type of the proposed Generation Facility;
- 3) the type of technology to be used; and
- 4) the location of the proposed Generation Facility including address and account number where available.

4.4.3.2 Where the proposed micro-embedded Generation Facility is:

- 1) located at an existing Customer Connection and a site assessment is not required, Entegrus will, within 15 days of receiving the application, make an Offer to Connect or provide reasons for refusing to connect the proposed Generation Facility;

- 2) located at an existing Customer Connection and a site assessment is required, Entegrus will, within 30 days of receiving the application, make an Offer to Connect or provide reasons for refusing to connect the proposed Generation Facility; or
 - 3) located other than at an existing Customer Connection, Entegrus will, within 60 days of receiving the application, make an Offer to Connect or provide reasons for refusing to connect the proposed Generation Facility.
- 4.4.3.3 Entegrus will give the applicant at least 30 days to accept the Offer to Connect and will not revoke the offer until this time period has expired. Entegrus will not charge the Customer for the preparation of the Offer to Connect.
- 4.4.3.4 Entegrus will make any necessary metering changes and connect the applicant's micro- embedded Generation Facility to its Distribution System within five (5) business days, or at such later date as agreed to by the applicant and Entegrus, of the applicant completing the following:
- 1) provide Entegrus with a copy of the Authorization to Connect from the ESA;
 - 2) enter into a Connection Agreement with Entegrus;
 - 3) and pay Entegrus for the costs of any necessary changes.
- 4.4.4 Connection of Small, Mid-Sized and Large Generation Facilities
- 4.4.4.1 A Customer who is considering applying for the Connection of a mid-size to large Generation Facility to Entegrus' Distribution System must consult with Entegrus staff beforehand to arrange for a preliminary meeting. The following initial information is required and must be submitted prior to the preliminary meeting:
- 1) the nameplate rated capacity of each unit of the proposed Generation Facility and the total nameplate rated capacity of the Generation Facility at the Connection point;
 - 2) the fuel type of the proposed Generation Facility;
 - 3) the type of technology to be used; and
 - 4) the location of the proposed Generation Facility including address and, where available, Entegrus account number.
- 4.4.4.2 At the preliminary meeting, Entegrus will discuss the basic feasibility of the proposed Connection including discussing the location of its existing distribution facilities in relation to the proposed Generation Facility and providing an estimate of the time and costs necessary to complete the Connection. Entegrus will not charge for its preparation for, and attendance at, the preliminary meeting.

- 4.4.4.3 A Customer who wishes to apply for the Connection of a Generation Facility to the Entegrus Distribution System shall submit an application, pay their impact assessment costs and provide the following information:
- 1) any of the initial set of information which has not yet been provided to Entegrus;
 - 2) a single line diagram of the proposed Connection, signed and stamped by a Professional Engineer licenced within the Province of Ontario; and
 - 3) a preliminary design of the proposed interface protection, signed and stamped by a Professional Engineer licenced within the Province of Ontario.
- 4.4.4.4 For a small embedded Generation Facility, where Connection to Entegrus' Distribution System is deemed to have an impact on the Distribution System, Entegrus will advise the Customer of the costs to conduct any required impact assessment.
- 4.4.4.5 For a mid-sized embedded Generation Facility, Entegrus will provide the Customer with its impact assessment of the proposed Generation Facility within 120 days of receipt of the application (as Hydro One is involved in all impact assessments).
- 4.4.4.6 For a large embedded Generation Facility, Entegrus will provide the Customer with its impact assessment of the proposed Generation Facility within 120 days of receipt of the application.
- 4.4.4.7 The impact assessment will describe the impact of the proposed Generation Facility on Entegrus' Distribution System and any of its Customers including:
- 1) any voltage impacts, impacts on current loading settings and impacts on fault currents;
 - 2) the Connection feasibility;
 - 3) the need for any line or equipment upgrades;
 - 4) the need for Transmission System protection modifications; and
 - 5) any metering requirements.
- 4.4.4.8 The Customer shall submit any material revisions to the design, planned equipment or plans for the proposed Generation Facility and Connection with Entegrus. Entegrus will then prepare a new impact assessment within the relevant time period as set out above.
- 4.4.4.9 In the case of an application for the Connection of a mid-sized or large embedded Generation Facility, after receiving from Entegrus the impact assessment the applicant shall pay Entegrus for the cost of preparing a detailed cost estimate of the proposed Connection and enter into an

agreement with Entegrus on the scope of the project. Entegrus will then provide the applicant with a detailed cost estimate and an Offer to Connect by the later of 90 days after the receipt of payment from the applicant and 30 days after the receipt of comments from a Transmitter or other Distributor that may have been advised under the following clause.

- 4.4.4.10 For a proposed large or mid-sized embedded Generation Facility, within 10 days of receiving payment from the applicant for preparing a detailed cost estimate, Entegrus will advise any Transmitter or Distributor whose transmission or Distribution System is directly connected to Entegrus' Distribution System that it is preparing a detailed cost estimate.
- 4.4.4.11 With respect to the paragraph above, when the detailed cost estimate involves a proposed small embedded Generation Facility Entegrus will use its discretion in advising the impacted Transmitter or Distributor.
- 4.4.4.12 After the applicant has entered into a Connection cost agreement and provided the detailed engineering drawings with respect to the proposal, Entegrus will conduct a design review to determine if the detailed engineering plans are acceptable.
- 4.4.4.13 Entegrus has the right to witness the commissioning and testing of the Connection of the Generation Facility to its Distribution System. After the applicant has:
 - 1) informed Entegrus that it has received all necessary approvals;
 - 2) entered into the appropriate Connection Agreement, and, where applicable an operating agreement;
 - 3) Entegrus has received the Authorization to Connect from ESA, and
 - 4) Entegrus has issued the Connection order.
- 4.4.4.14 Entegrus will act to connect the Generation Facility to its Distribution System according to the process laid out in Appendix F.1 of the Distribution System Code and the procedures laid out in this COS document.
- 4.4.5 Technical Requirements for Generators
 - 4.4.5.1 The Customer shall ensure that the Connection of its Generation Facility to the Distribution System does not materially adversely affect the safety, reliability and efficiency of the Distribution System. New or significantly modified generation facilities shall meet the technical requirements specified in Appendix F.2 of the DSC and Entegrus' Technical Interconnect Requirements in force at the time of Connection.
 - 4.4.5.2 The Customer with an embedded Generation Facility connected to Entegrus' Distribution System (other than a micro-embedded Generation Facility) shall

reimburse Entegrus for any damage to the Distribution System or increased operating costs that may result from the Connection of a Generation Facility.

- 4.4.5.3 Entegrus may determine that equipment that was deemed to be in compliance with the technical requirements of the DSC as noted in the immediately preceding paragraph is not in actual compliance with the technical requirements due to any of the following conditions:
- 1) a material deterioration of the reliability of the distribution system resulting from the performance of the Generator's equipment; or
 - 2) a material negative impact on the quality of power of an existing or a new Customer resulting from the performance of the Generator's equipment; or
 - 3) a material increase in Generator capacity at the site where the equipment deemed compliant is located.
- 4.4.5.4 In such a case, Entegrus will provide the Customer with rules and procedures for requiring such equipment to be brought into actual compliance. The Customer shall then bring its equipment into actual compliance with the technical requirements and within a reasonable time period specified by Entegrus.
- 4.4.5.5 When a Customer with an embedded Generation Facility is connected to Entegrus' Distribution System, the Customer shall provide an interface protection that is capable of automatically isolating the Generation Facility from the Distribution System under the following situations:
- 1) internal faults within the Generator;
 - 2) external faults in Entegrus' Distribution System;
 - 3) abnormal system conditions, not limited to open phase and islanding, over/under voltage, over/under frequency.
- 4.4.5.6 The Customer shall disconnect the embedded Generation Facility from the Distribution System when:
- 1) at the request of Entegrus where a remote trip or transfer trip is included in the interface protection; and
 - 2) the Customer affects changes in the normal Connection arrangements other than those agreed upon in the operating agreement between Entegrus and the Customer.

4.4.6 Metering for Embedded Generation

- 4.4.6.1 The Embedded Generator shall consult with Entegrus for all metering installations on Embedded Generators. The Embedded Generator shall pay all costs associated with such metering.
- 4.4.6.2 The Embedded Generator, if applicable, must provide Entegrus with a single line diagram of all associated connected load at the facility, for the purpose of ensuring that all metering and rates are applied correctly.
- 4.4.6.3 Embedded generation facilities that receive energy, such as for station use of back-up supply will be placed in the appropriate Rate class and billed for the energy consumed.
- 4.4.6.4 The Embedded Generator must have a meter or a metering installation in accordance with the DSC and Entegrus' Metering Standards installed. Refer to the References in Section 3.3.7.10 3) to 6) of this document.

4.4.7 Net Metering Program for an Embedded Generation Facility

- 4.4.7.1 As a way to encourage conservation, Entegrus has established a Net Metering policy for eligible Customers wishing to participate in the Net Metering program. Eligible Customers with specific generation facilities may reduce their net energy costs by exporting surplus generated energy back onto the utility Distribution System for credit against the energy the Customer consumes from the Distribution System.
- 4.4.7.2 Participation in the Net Metering Program is available to all Entegrus Customers with a Generator that meet all of the following conditions:
 - 1) The electricity is generated primarily for the Customer's own use;
 - 2) The electricity generated is conveyed to the Customer's own consumption point without reliance on Entegrus' Distribution System;
 - 3) The maximum cumulative output capacity of the Generator does not exceed 500 kW; and
 - 4) The electricity is solely generated from a renewable energy source (such as wind, drop in water elevation, solar radiation, agricultural bio-mass, or any combination thereof).
- 4.4.7.3 In order to participate in the Net Metering program, the Customer will be required to meet all the parallel generation requirements for connecting micro-generation facilities (10 kW or less) or other generation facilities (greater than 10 kW and less than 500 kW), as applicable to the Generator size, as found in Section 4.4 Embedded Generation of this document.

4.4.7.4 The Customer must have a bi-directional revenue meter that records energy flow in both directions.

4.4.8 IESO Feed-In Tariff (FIT) Program for an Embedded Generation Facility

4.4.8.1 In conjunction with the IESO Feed-In Tariff (FIT) Program, Entegrus has established its policy to encourage and promote greater use of renewable energy sources such as wind, solar, photovoltaic (PV), renewable biomass, biogas, bio-fuel, landfill gas, or drop in water elevation for generating electricity. Renewable energy electricity generation projects with a capacity of 10 MW or less that meet the program's requirements may be connected to Entegrus' Distribution System in order to export electricity.

4.4.8.2 Output from the generating facility shall be metered as follows:

- 1) for Generators of 10 kW or less and connected to the line side of the meter, a bi-directional kWh meter must be installed to measure energy consumed and energy exported; and
- 2) for all Generators, an Interval Meter must be installed, Refer to the References in Section 3.3.7.10 3) to 6) of this document.

4.4.8.3 The Generator will be solely responsible for any costs associated with the Connection to the Distribution System and any required metering installation.

4.5 Embedded Market Participant

4.5.1.1 A Customer who is also an embedded market participant will be treated in terms of Connection and servicing as a General Service or Large Use Customer as appropriate. A special Connection Agreement for embedded market participants is required.

4.5.1.2 See the relevant sections that pertain to General Service or Large Use Customer requirements,

4.5.1.3 Consult Entegrus for specific details and sample Connection Agreements in each case.

4.6 Embedded Distributor

4.6.1.1 A Customer who is also an embedded Distributor will be treated in terms of Connection and servicing as a General Service or Large Use Customer. A special Connection Agreement for embedded Distributor is required.

4.6.1.2 See the relevant sections that pertain to General Service or Large Use connections for the associated Customer requirements.

- 4.6.1.3 An embedded Distributor or a Distributor that extends an Entegrus feeder may be required to install reclosers and /or other protective devices as determined by Entegrus. The criteria for deciding whether such a device is required will depend on the extent of the feeder extension and its relative exposure to possible outages generated by storms, tree contact, significant Customer load, etc.
- 4.6.1.4 The need for reclosers or other protective devices will be determined by Entegrus for the purposes of minimizing risk to existing Entegrus Customers.
- 4.6.1.5 Entegrus is to be consulted for specific details and sample Connection Agreements in each case.

4.7 Unmetered Connections

- 4.7.1 All unmetered connection load customers must file descriptions of their load requirements, including the nature of the device and the associated amperage, prior to installation. In the event that the device is replaced, changed or modified, the customer is to notify Entegrus 30 business days prior to the change occurring. In the event that the unmetered load requirements are complex, Entegrus will: (a) require that a meter be installed, or, alternatively, (b) initiate a customer specific cost allocation study, for which the cost will be borne by the customer.

4.7.2 Street Lighting

- 4.7.2.1 Customers in this class include services supplied to street lighting equipment owned by or operated by a municipal corporation.

- 4.7.2.2 General:

This section outlines the street light requirements within the boundaries and Service Area of the Municipality and the jurisdiction of Entegrus. In all respects, lighting levels shall be as per ANSI/IES RP-8 2005, unless qualified in the following statements.

- 1) The respective Municipality owns all Streetlights, on public right-of-ways. Entegrus is the designated agent, of the Municipality, to install and maintain streetlights, except where identified in this document.
- 2) The policy outlines the requirements of new installations only. Existing street light systems will be maintained as is by Entegrus.
- 3) Street light installations in subdivisions or other developments are the responsibility of the Developer. The design of new street lighting systems is at the discretion of the Municipality and Entegrus.

- 4) The Municipality via a Municipality designated contractor maintains some street lighting, because of its unique design or awkward placement. In such situations, all maintenance and redesign must meet ESA inspection before re-energizing.
- 5) Any Developer installed street lighting must meet the requirements of this policy, Subdivision Electrical Distribution Design and Installation Specification (see Appendix V), per ANSI/IES RP-8 2005 and the Ontario Electrical Code.
- 6) Street Light load, if not metered, is calculated using standard loss values published by manufacturers. Entegrus keeps a list and count of all streetlights and their types and sizes, and uses these values in the calculation of Unmetered street light load.
- 7) Refer to Entegrus' most recent published rates for more information.

4.7.2.3 Metering

- 1) Some streetlights are metered (i.e. King St Chatham) where unknown loads can be used. In such cases, metering shall be as to Section 3.3.7.

4.7.2.4 Subdivisions, Residential Areas

- 1) The Developer is responsible to pay for all actual costs relating to the installation of streetlights in a residential subdivision.
- 2) The Developer will pay for any additional lighting required on adjacent roads leading to the development, that in the opinion of the Municipality are required for safe traffic flow to and from the development.
- 3) The Developer is required to submit a subdivision plan detailing the street light design, including, the type, make, spacing, and wattage of each light to Entegrus. The lighting design must be as to ANSI/IES RP-8. Entegrus will either approve the design or alter the design based on standard street light policy and engineering principles.
- 4) The standard street light arrangement in a residential subdivision non-arterial road way is:
 - 25ft spun aluminum poles, complete with 6' davit and 15-degree tilt.
 - Light type and level determined by application and design.
 - Streetlight sensitive control.
 - 6' Elliptical brackets – may vary depending on set back from curb.
 - Poles shall be placed to provide lighting levels as defined in ANSI/IES RP-8. This standard translates to a pole spacing of approximately 150'

- 5) Where the road is classified as an arterial road the design will be altered as follows:
 - 30' spun aluminum poles, complete with 6' davit and 15-degree tilt. Approved suppliers.
 - Light type and level determined by application and design.
 - Streetlight sensitive control.
 - Streetlight sensitive control.
 - 6' Elliptical brackets – may vary depending on set back from curb.
- 6) Ornamental lights may be used at the discretion of the Developer.
 - Any additional cost for the ornamental lights must be solely borne by the Developer.
 - All lights must be equipped with a streetlight sensitive control.
 - The Municipality and Entegrus wish to minimize the variety of lights installed throughout the system in order to simplify stocking requirements and minimize maintenance cost.
 - Ornamental lights are also approved based on their maintenance record, on sound engineering design, and usage history among other municipalities.
 - New designs or proposals must be submitted and approved in writing by both the Municipality and Entegrus before installation. A spare pole and fixture is required in this case.

4.7.2.5 Commercial Areas

- 1) Standard lighting in these areas consists of:
 - 35' spun aluminum pole with a 250 watt HPS luminaire.
 - Lights may be installed staggered on both sides of the road, only on one side, or in a boulevard depending on the street right-of-way width, required lighting levels as per ANSI/IES RP-8 1983, and the streetscape theme desired by the Municipality.
 - Street light brackets are to be limited to no more than 10' in size. Longer brackets increase stress on the pole requiring more complicated anchoring requirements at the base of the pole.
- 2) Ornamental lights will be installed at the discretion of the Municipality.
 - The Municipality and Entegrus shall approve new designs prior to installation.

4.7.2.6 See Appendix IV for ANSI RP-8, Recommended Maintained Luminance Values for Roadways

4.7.3 Traffic Signals

4.7.3.1 This section pertains to the supply of electrical energy for traffic signals and crosswalks.

4.7.3.2 Refer to Entegrus' most recent published rates for more information.

4.7.3.3 These are devices owned and maintained by the respective Municipality.

4.7.3.4 See Section 3.4.1 for details related to Connection fees

4.7.3.5 Service Information

- 1) The service voltage will be 120/240 volts, one phase, three wire.
- 2) The method and location of supply will vary and will be established for each application through consultation with Entegrus staff.
- 3) The service will be metered as per Section 3.3.7.
- 4) Underground servicing will be supplied and installed by the Customer to Entegrus' requirements.

4.7.4 Bus Shelters

4.7.4.1 This section pertains to the supply of electrical energy for illuminated bus shelters.

4.7.4.2 Refer to Entegrus' most recent published rates for more information.

4.7.4.3 See Section 3.4.1 for details related to Connection fees

4.7.4.4 Service Information

- 1) The nominal service voltage will be 120 volts, single phase, and two wire.
- 2) The service location will be established through consultation with Entegrus staff for each application.
- 3) The method of supply, overhead or underground, will be as shown in Entegrus' drawing.
- 4) The service will be Unmetered. Energy consumption will be based on the connected wattage utilized twenty-four hours per day.

4.7.5 Fire Pump Services

4.7.5.1 This section pertains to the supply of electrical energy for fire pumps where a separate service has been deemed necessary to be used under Emergency conditions involving a fire.

4.7.5.2 Refer to Entegrus' most recent published rates for more information.

4.7.5.3 The service will be metered as per Section 3.3.7.

4.7.5.4 See Section 3.4.1 for details related to Connection fees.

4.7.5.5 Service Information

- 1) The service voltage, details of service entry and metering will be established through consultation with Entegrus staff.
- 2) Where a large motor is to be installed, reduced voltage starting may be required.

4.7.6 Billboards

4.7.6.1 This section pertains to the supply of electrical energy for the illumination of billboards for which service from an adjacent structure is not readily available.

4.7.6.2 Refer to Entegrus' most recent published rates for more information.

4.7.6.3 Service Information

- 1) The nominal service voltage will be 120/240 volts, single phase, three wire.
- 2) The method and location of supply will vary and will be established for each application through consultation with Entegrus staff.
- 3) The service will be metered as per Section 3.3.7.
- 4) Underground servicing will be supplied and installed by the Customer to Entegrus' requirements.

4.7.7 Other Small Services

4.7.7.1 This section pertains to the supply of electrical energy for telephone booths, cable TV, amplifiers, and similar small, Unmetered loads.

4.7.7.2 Refer to Entegrus' most recent published rates for more information.

4.7.7.3 See Section 3.4.1 for details related to Connection fees

4.7.7.4 Service Information

- 1) The service voltage will be 120 volts, single phase, and two wire.
- 2) The method and location of supply will vary and will be established for each application through consultation with Entegrus staff.
- 3) The service will be Unmetered. Energy consumption will be based on the connected wattage and the calculated hours of use.
- 4) Entegrus will provide an overhead service Connection funded by the Customer.
- 5) Underground servicing will be supplied and installed by the Customer to Entegrus' requirements.

4.7.8 Temporary Services (Construction Power)

4.7.8.1 This section pertains to the supply of electrical energy on a temporary basis to facilitate construction work. This includes pole mounted service equipment, trailers, cranes and similar applications.

4.7.8.2 Refer to Entegrus' most recent published rates for more information.

4.7.8.3 Such services would be in place for a period of less than one year, longer periods would be permitted at the discretion of Entegrus and subject to re-inspection and approval by ESA.

4.7.8.4 Service Information

4.7.8.5 At the discretion of Entegrus one temporary service may be provided for a construction project subject to the requirements of the OESC.

4.7.8.6 The nominal service voltage will be one of the following:

- 1) 120/240 volts, 1 phase, 3 wire (Max. 400 Amps)
- 2) 120/208 volts, 3 phase, 4 wire (Max. 400 Amps)
- 3) 347/600 volts, 3 phase, 4 wire (Max. 400 Amps)

4.7.8.7 The location of the service entrance point and details of metering will be established through consultation with Entegrus. Failure to comply may result in modifications at the Customer's expense.

4.7.8.8 The Customer will pay the total cost of the installation and removal of a temporary service. For most variations a fixed charge will apply. Refer to Entegrus' most recent published rates for more information.

4.7.8.9 Overhead Service

- 1) Entegrus will install up to 30 meters of secondary overhead conductor from the delivery point to the service entrance. For distances in excess of 30 meters, the Customer will be required to construct a private pole line.
- 2) The Customer will provide a rigid service mast, to ESA requirements, of sufficient height to maintain proper minimum clearances in accordance with the OESC.
- 3) Pole mounted services require a weatherproof cabinet of a size sufficient to house the service and meter equipment. The cabinet shall have provision for padlocking.
- 4) Entegrus, at the Customer's expense, may provide overhead primary service for large projects. For distances in excess of 30 meters from the delivery point, a private pole line would be required.
- 5) Private pole lines must be built to OESC standards and inspected.

4.7.8.10 Underground Service

- 1) There are areas within the Entegrus service territory where only an underground system has been installed. It will be necessary to consult with Entegrus staff to establish the method and cost of obtaining temporary construction service from such a system.
- 2) Due to the wide variation in these services, the Customer will pay all costs attributable by Entegrus.

4.7.8.11 Site Information

The Customer will provide the following information to Entegrus:

- Requested energization and removal dates.
- Amperage of service.
- Preferred voltage.
- Preferred point of service entrance.
- Estimated kilowatt demand.
- A listing of all significant loads such as large motors.
- Name, telephone number, address to send billing.
- A site plan showing the location of the delivery point relative to lot lines and the street.

4.7.8.12 Metering

- 1) The service will be metered as per Section 3.3.7.
- 2) The location allocated by the Customer, for Entegrus metering equipment, shall be directly accessible to Entegrus staff and shall be subject to satisfactory environmental conditions some of which are:
 - Safe and adequate working space. Not less than 1.2m (48") clear space in front of the equipment and a minimum ceiling height of 2.1 m (84")
 - Protected against, the adverse effects of moving machinery, vibration, dust, moisture or fumes.

Appendix I: CSA Standard Voltage Requirements CAN3-C235

Recommended Voltage Variation Limits for Circuits up to 1000 V, at Service Entrance				
Nominal System Voltages	Voltage Variation Limited Application at Service Entrance			
	Extreme Operating Conditions			
		Normal Operating Conditions		
Single Phase				
120/240	106/212	110/220	125/250	127/254
240	212	220	250	254
480	424	440	500	508
600	530	550	625	635
Three Phase 4 Conductor				
120/208Y	110/190	112/194	125/216	127/220
240/416Y	220/380	224/388	250/432	254/440
277/480Y	245/424	254/440	288/500	293/508
347/600Y	306/530	318/550	360/625	367/635
Three Phase 3 Conductor				
240	212	220	250	254
480	424	440	500	508
600	530	550	625	635

APPENDIX II: Grant of Easement

Grant of Easement

Between _____ herein call the GRANTOR

And

Entegrus Powerlines Inc. herein referred to as Entegrus

Witnesseth:

1. The Grantor is the owner of said property.
2. Entegrus is about to, or has erected, a line for the distribution of electric power on or under this land.
3. The Grantor hereby **agrees** to grant, transfer, and convey in perpetuity to Entegrus its successors and assigns, the rights and easement:
 - (a) To erect, maintain, operate, repair, replace, relocate, reconstruct and remove at any time and from time to time in, over, along and upon or under the land as shown on the sketch attached and electrical Distribution Line or lines consisting of _____ and associated material and equipment (all or any of which works are herein called the "line");
 - (b) To cut and remove, or to clear and keep clear any trees, brush and other obstructions and materials for a distance of 1 metre on each side of the centre line of the said line, and subject to payment of compensation therefore, to cut and remove all leaning and decayed trees located at a greater distance from the said centre line whose condition renders them liable to fall and come into contact with any above ground line;
 - (c) To enter on and to pass at any and all times in, over, along and upon the lands of the Grantor for the servants, agents, contractors and sub-contractors of Entegrus with or without vehicles, supplies, machinery and equipment for all purposes necessary or convenient to the exercise and enjoyment of the rights and easement hereby to be granted subject to payment by Entegrus of compensation for any property damage sustained by the Grantor caused by the exercise of this right of entry and passageway;
 - (d) To remove, relocate and reconstruct the line on the strip, subject to payment from Hydro for any damage caused thereby.
4. The Grantor covenants and agrees not to erect any buildings, structures, or other obstructions of any nature whatever or pile materials of any kind within the limits of the easement boundaries except fences, or change in grade of the strip without consent from Entegrus.
5. The Grantor covenants with Entegrus that he has the right to convey the said rights and easement over or under the said land to Entegrus, and that Entegrus shall quietly possess and enjoy the said rights and easement, and that he will execute such further assurances of the said rights and easement as may be requisite.
6. All covenants herein contained shall be construed to be several as well as joint and wherever the singular or masculine are used this Agreement for an Easement, the same shall be construed a meaning the plural or the feminine or neuter where the context of the parties hereto so require.

CONDITIONS OF SERVICE



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7. The burden and benefit of this Agreement of Easement shall run with the land and shall extend to, be binding on and ensure to the benefit of the parties hereto and their respective heirs, executors, administrators, successors, and assigns. All costs to survey, and register this easement shall be the responsibility of Entegrus. The Grantor is not responsible for any cost whatsoever related to agreeing to grant this easement.
 8. Entegrus agrees to indemnify the Grantor for any injuries, damage to property, or monetary loss incurred or caused by Entegrus while operating, repairing or replacing electrical distribution equipment identified in 3(a) located on the easement.

Grantor: _____

Date: _____

APPENDIX III: Metering and Cabinet Specification

Voltage	Phases	Wires	Service Size and Details		Cabinet Sizes (W X H X D)		
120/240	1	3	0 - 100 Amp - 4 Jaw Socket		191 (7 ½")	235 (9 ¼")	92 (3 5/8")
			200 Amp – 4 Jaw Socket		305 (12")	432 (17")	133 (5 ¼")
120/208	2	3	0 - 100 Amp - 5 Jaw Socket with 5'th jaw in 9'oclock position		191 (7 ½")	235 (9 ¼")	92 (3 5/8")
	3	4	200 Amp - 7 Jaw Socket		305 (12")	432 (17")	133 (5 ¼")
347/600	3	4	0 - 100 Amp - 7 Jaw Socket		305 (12")	432 (17")	133 (5 ¼")
	3	4	200 Amp - 7 Jaw Socket				
120/240	1	3	200 – 800 ⁽¹⁾	CT/PT Cabinet ⁽²⁾	915 (36")	915 (36")	305 (12")
				Meter Socket ⁽¹⁾	191 (7 ½")	235 (9 ¼")	92 (3 5/8")
120/208	3	4	200 – 800	CT/PT Cabinet ⁽²⁾	915 (36")	915 (36")	305 (12")
			400 – 800	Meter Cabinet ⁽³⁾	457 (18")	559 (22")	305 (12")
			800+	Consult Entegrus Powerlines			
347/600	3	4	200 – 800	CT/PT Cabinet ⁽²⁾	915 (36")	915 (36")	305 (12")
				Meter Cabinet ⁽³⁾	457 (18")	559 (22")	305 (12")
			800+	Consult Entegrus Powerlines			

1 (1)Outdoor meter sockets, (Microelectric Cat #CLV-4) are required on 1 phase 240 volt services over 200 amps. This socket will be connected to the switchboard instrument transformer compartment or 36" X 36" X 12" cabinet (c/w removable back-plate) via a minimum ¾" conduit.

(2)All meter cabinets shall have removable back-plates and provision for locking.

(3)Outdoor remote meter cabinets are required on 3 phase 208 and 600 volt services over 200 amps. The pad-lockable cabinets shall be waterproof with removable back-plate, and meter viewing window. This cabinet will be connected to the switchboard instrument transformer compartment via a minimum 1 ¼" conduit.

Preferred Supplier: Specialty welding, Hydel Meter Enclosure cat. #74820585., Other units to be approved by Entegrus Powerlines.

All underground 100-200 amp services, with a self-contained meter require a 12"x17"x5 ¼" meter cabinet.

For indoor installations, the minimum distance from the floor to bottom of cabinet or center of socket shall be 0.6m. The maximum distance from the floor to top or center of socket shall be 1.9m.

APPENDIX IV: ANSI RP-8, Recommended Maintained Luminance Values for Roadways

Road and Area Classification		Average Luminance Values (cd/m ²)	Luminance Uniformity		Veiling Luminance Ratio (maximum)
		L _{avg}	L _{avg} to L _{min}	L _{max} to L _{min}	L _v to L _{avg}
Expressway	Commercial	1.0	3 to 1	5 to 1	0.3 to 1
	Intermediate	0.8	3 to 1	5 to 1	
	Residential	0.6	3.5 to 1	6 to 1	
Major	Commercial	1.2	3 to 1	5 to 1	0.3 to 1
	Intermediate	0.9	3 to 1	5 to 1	
	Residential	0.6	3.5 to 1	6 to 1	
Collector	Commercial	0.8	3 to 1	5 to 1	0.4 to 1
	Intermediate	0.6	3.5 to 1	6 to 1	
	Residential	0.4	4 to 1	8 to 1	
Local	Commercial	0.6	6 to 1	10 to 1	0.4 to 1
	Intermediate	0.5	6 to 1	10 to 1	
	Residential	0.3	6 to 1	10 to 1	

APPENDIX V: Capital Contribution Policy

1. Overview

- 1.1. The Entegrus Powerlines Economic Evaluation Model is used by Entegrus for cases where Entegrus must construct new facilities to its main Distribution System or increase the capacity of existing Distribution System facilities in order to be able to connect a specific Customer or group of Customers. The economic evaluation determines if the future revenue from the Customer(s) will pay for the capital cost and on-going maintenance costs of the Expansion project.
- 1.2. The Entegrus Powerlines Conditions of Service policy section 3.1 defines when an Expansion occurs requiring an economic evaluation.
- 1.3. The methodology and assumptions are consistent with the Distribution System Code revised by the Ontario Energy Board (OEB) on June 13, 2013. All of Chapter 3, Connections and Expansions Subsection 6.2.3 of Section 6.2, Responsibilities to Generators came into force on September 29, 2000. These provisions do not apply to projects that are the subject of an agreement entered into prior to November 1, 2000.
- 1.4. Key Assumptions Used in the Model Customer Connection Horizon:
 - 1.4.1. A maximum Customer Connection horizon of five (5) years will be used. Five (5) years will be typical for most evaluations. Only Customers connected in the first five years are considered in the evaluation.
 - 1.4.2. Customer Revenue Horizon: A maximum Customer revenue horizon of twenty-five (25) years will be used calculated from the in-service date of the new Customer(s).
 - 1.4.3. Revenue: Revenue per year is calculated by considering the number of Customer connections for fixed monthly charges, the average energy (monthly kWh) for kWh based charges and the average demand consistent with the Customer Connection
 - 1.4.4. Capital Costs: The capital cost of the new facilities or capacity Expansion of existing facilities includes those costs which connect and serve new load to a specific Customer or group of Customers. Specific types of Incremental costs for Expansion are defined in 1.4.4.1 and are realised in the Economic Evaluation when costs are reasonably certain to have been excluded from Entegrus' most recently approved Cost of Service.
 - 1.4.4.1. For expansions to the Distribution System, costs of the following elements, where applicable should be included
 - 1) Distribution stations;
 - 2) Distribution Lines;
 - 3) Distribution transformers;
 - 4) Secondary busses;
 - 5) Services;
 - 6) Land and land rights
 - 1.4.4.2. Estimate of incremental overheads related to the system Expansion

- 1.4.4.3. For residential Customers, costs related to basic connections as per section 3.1.4 of the DSC
 - 1.4.4.4. For non-residential Customers, distributors have the choice of including or not in their revenue requirement the costs related to residential basic Connection charges
 - 1.4.4.5. Expenses: Attributable incremental operating and maintenance expenditures associated with the addition of new Customers are included in the economic evaluation along with income, capital and municipal property (where applicable) taxes.
- 1.5. Economic Evaluation
- 1.5.1. The economic evaluation will result in a Net Present Value over the Revenue Horizon period. If the Net Present Value (per Section 6: Methodology and Assumptions for an Offer to Connect Economic Evaluation) over the Revenue Horizon period including the effect of taxes is positive, no capital contribution will be required from the Customer. If the Net Present Value over the Revenue Horizon period including the effect of taxes is negative, a capital contribution will be required from the Customer. Entegrus will still require the Customer to post security until, at a minimum, electricity starts to be consumed. No rebates will be made until the Customer begins to use electricity.
 - 1.5.2. In some cases, load guarantees and/or other financial arrangements may be required to ensure that facilities are not constructed that are not used to the extent originally contemplated in the economic evaluation.
 - 1.5.3. After the economic evaluation has been completed, Entegrus will make an “Offer to Connect”.
 - 1.5.4. An Offer to Connect from Entegrus will include the following information:
 - 1.5.4.1. A description of the material and labour required to build the Expansion required to connect the Customer.
 - 1.5.4.2. An estimate (or fixed price) of the amount that will be charged to the Customer in order to construct the Distribution System Expansion necessary to make the Connection.
 - 1.5.4.3. A description and estimate (or fixed price) of the Connection charges that would apply to the Offer.
 - 1.5.4.4. 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.
 - 1.5.4.5. 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.
 - 1.5.4.6. Reference to the Conditions of Service and information on how the party requesting the Connection may obtain a copy.
 - 1.5.4.7. Security, load guarantee or other financial requirements.

- 1.5.5. Entegrus will specify the costs attributable to engineering design, materials, labour, equipment and administrative activities.
- 1.5.6. A Customer has the choice to obtain an “alternative bid” from contractors pre-qualified by Entegrus if the Offer to connect meets the following conditions:
 - 1.5.6.1. The project requires a capital contribution from the Customer.
 - 1.5.6.2. The construction work does not involve existing circuits.
- 1.5.7. If a Customer utilizes an “alternative bid”,
 - 1.5.7.1. The Customer shall pay the contractor’s costs and be responsible for the construction of the Expansion.
 - 1.5.7.2. The Customer shall be responsible for administering the contract. Administering the contract includes acquisition of all required permissions, permits and easements.
 - 1.5.7.3. Entegrus reserves the right to inspect and approve all aspects of the constructed facilities 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.
 - 1.5.7.4. Entegrus may charge a Customer for additional design, engineering or installation of facilities required to complete the project, for inspection or approval of the work performed by the contractor hired by the Customer and for any other costs incurred by Entegrus as a result of the Expansion project.
- 1.5.8. Examples
 - 1.5.8.1. Each project will be considered on an individual basis. The requirements for a specific project will be outlined in Entegrus Powerlines Offer to Connect. The examples given below outline the treatment for a typical project in each category. In every case, the governing rules are Chapter 3, Connections and Expansions and Subsection 6.2.3 of Section 6.2, Responsibilities to Generators contained in the Distribution System Code published by the Ontario Energy Board.

2. Residential Subdivisions

- 2.1. A residential subdivision is considered an Expansion and will require a specific economic evaluation including costs to upgrade existing plants required to service the new growth. This model includes all costs to service a development.
- 2.2. The economic model takes all costs and revenues into account and produces an amount that Entegrus can invest in the project. Effectively, the economic model tells Entegrus how much it can contribute for a given revenue stream. The average monthly kWh use per residential Customer is shown in Schedule I.

- 2.3. The developer will be required to pay the capital contribution if required prior to Connection of the subdivision.
- 2.4. In the case of a residential or townhouse development, all revenue from new electrical load is initially assumed to be zero. At the end of the 1st year of service, Entegrus will tabulate all new load added during that period and rebate the Customer/Developer the appropriate amount as calculated via the economic evaluation model, plus simple interest. The same applies to the 2nd, 3rd, 4th and 5th years after the project has been serviced. At the end of each of those years, a rebate may be forthcoming based on the actual load added in that year.
- 2.5. Any load added after 5 years is not eligible for rebate as per OEB Regulations.

3. Industrial Subdivisions

- 3.1. The developer of an industrial subdivision will pay the full initial costs of providing electrical services to the subdivision. In certain instances, external costs may also be applicable. This is in order to ensure that Entegrus does not take the risk of servicing industrial subdivisions for which the timing and type of eventual load Customers is unknown. Entegrus will apply the economic evaluation model to each new load Customer in the industrial subdivision. The initial costs of providing electrical services to the subdivision will be included on a per usable hectare basis along with other costs to service the Customer (ie. padmount or pole mount transformer) when the economic evaluation is completed for the Customer.
- 3.2. For instance, if the Customer's lot is 1 hectare in a 25 hectare subdivision, a capital amount of 1/25th of the initial costs of providing electrical services to the subdivision will be included along with other items in the economic calculation for the Customer. If the net present value is still positive, the developer will be entitled to a rebate on a per hectare basis (1/25th of cost in this example) after the Customer begins to use electricity.
- 3.3. The Customer may be required to accept a "take or pay" contract in order to guarantee revenue from the new load. Details of this type of offer will be explained in the Offer to Connect.

4. Padmount Transformation

- 4.1. Entegrus will supply overhead transformation to residential Customers where existing plant is available. Any other requirements to upgrade or add transformers will be considered an Expansion.
- 4.2. The economic evaluation formula will be applied for each three-phase padmount transformer installation. In certain instances, external costs may also be applicable. The expected loading information supplied by the Customer will be considered. However, Entegrus will also assess the supplied information against the actual loading of similar existing Customers. Entegrus must ensure that it uses realistic load figures because it affects the revenue projections.

- 4.3. If the economic evaluation formula indicates that a rebate is required, it will not be issued until the Customer begins to use electricity. The timing and/or the amount of any rebate may also be affected by any load guarantees or other financial arrangements outlined in Entegrus Offer to Connect. Any rebates will be issued to the Person who made the initial payment.

5. Pole Mount Transformer Installations

- 5.1. The economic evaluation formula will be applied for each pole mount transformer installation. In certain instances, external costs may also be applicable. The expected loading information supplied by the Customer will be considered. However, Entegrus will also assess the supplied information against the actual loading of similar existing Customers. Entegrus must ensure that it uses realistic load figures because it affects the revenue projections.
- 5.2. If the economic evaluation formula indicates that a rebate is required, it will not be issued until the Customer begins to use electricity. The timing and/or the amount of any rebate may also be affected by any load guarantees or other financial arrangements outlined in Entegrus Offer to Connect. Any rebates will be issued to the Person who made the initial payment.

6. Methodology and Assumptions for an Offer to Connect Economic Evaluation

PV of Operating Cash Flow	=	PV of Net Operating Cash (before taxes) – PV of Taxes
PV of Net Operating Cash Flow	=	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
PV of Taxes	=	PV of Municipal Taxes + PV of Income Taxes (before Interest tax shield)
Annual Municipal Tax	=	Municipal Tax Rate * (Total Capital Cost)
<i>Note: Above is discounted, using mid-year discounting, over the Customer revenue horizon.</i>		
PV of Capital	=	PV of Total Annual Capital Expenditures
PV of Net Operating Cash	=	Total Annual Capital Expenditures over the Customer's revenue horizon discounted to time zero

CONDITIONS OF SERVICE



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

PV of CCA Tax Shield = PV of the CCA Tax Shield on [Total Annual Capital]

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

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

OR

Calculated annually and present valued in the PV of Taxes calculation

Note: An adjustment is added to account for the ½ year CCA rule.

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