



Kingston
Hydro

Conditions Of Service

Version 2.6 – July 20th, 2009

CONDITIONS OF SERVICE

This Conditions of Service document outlines the operating practices and the connection policies of Kingston Hydro. The document is intended to provide details that supplement Kingston Hydro's obligations under the *Electricity Act*, the *Ontario Energy Board Act* and its *Distribution License*.

Kingston Hydro will ensure that Customer/Consumers have ready access to this document. Changes will occur to this document from time to time. An up-to-date copy of this document including a list of recent revisions can be found at www.utilitieskingston.com/electric and is available in hard copy by contacting (613) 546-1181.

Kingston Hydro's Conditions of Service is revised periodically to reflect changes in electricity sector regulation and Kingston Hydro policies and procedures. Revisions of Kingston Hydro's Conditions of Service come into effect 30 days after the date of the revision listed in the "Table of Revisions" to allow for a customer review and comment in line with Distribution System Code guidelines.

Comments, suggestions, or questions regarding Kingston Hydro's Conditions of Service should be sent to:

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TABLE OF REVISIONS

Date	Version #	Description
07/10/09	2.3	<ul style="list-style-type: none"> • Addition of Fire Safety Notice provision (s.2.2.4) for customers being disconnected for non-payment • Re-numbering of section headers in s.2 for consistency
08/04/14	2.4	<ul style="list-style-type: none"> • Revisions necessary to reflect new OEB licensing requirements for Smart Sub-Metering entities and provincial legislation coming into force as of Dec. 31, 2007 • Extensive numbering and formatting revisions • Public Notice wording changes in s. 1.4 • Clarification of Complaint vs. Dispute Resolution Processes in s. 1.8.1 & s. 1.8.2 • Addition of 13800kV Service Availability • Addition of clauses and modification of Appendix A to clarify KEDL's policies regarding customer owned transformers • Insertion of language to clarify the difference between Connection Types in s. 3.4, 3.7, and 3.8 • Clarification of primary service availability in s. 3.8 • Modifications to Appendix B: Removal of references to expired Connection Cost Rebate Program; Clarification of Backup Generation and Battery Storage policies
08/12/28	2.5	<ul style="list-style-type: none"> • Modification of Public Review Policy for C of S. • Kingston Electricity Distribution Limited (Kingston Hydro) name changed to "Kingston Hydro" throughout C of S and appendices. • Corrected Fax number throughout C of S & related documents. • S. 3.2 - Harmonization of Rate Class definitions within C of S to those contained within Kingston Hydro's OEB issued Rate Order

- **S. 1.6.2 - Definition addition & Clarification of Maintenance Disconnect Policies. One free maintenance disconnect per year applies only to meter-pull disconnections**
- **s. 1.4 – update of effective date of ver. 2.5 of the C of S and addition of Customer/Consumer review/consultation procedure.**
- **s. 1.8 – update of dispute resolution procedures to reflect operational changes. Elimination of in-person customer service at 1211 John Counter due to customer service centre relocation, modification of personnel titles, modification of customer service hours of operation.**
- **Tables 5 & 6 – clarification of availability of non-standard service voltages and configurations in certain areas.**
- **Replace references to s. 3.0.4 with references to s. 3.4**
- **s. 2.8.9.1 - Elimination of option for Utilities Kingston staff to pick up payment at a customer's location for a fee.**
- **Inclusion of additional material and application forms within Appendix B – Kingston Hydro Guide for Distributed Generators.**
- **Replacement of all KEDL logos with Kingston Hydro Logos**
- **Addition of Appendix E – Smart Sub-Metering Information for Condominiums**
- **Edits for readability, clarification of some headings.**
- **S 2.1.1.2 & 2.1.1.3 – reference DSC s. 7 – Service Quality Requirements for customer response & offer timelines.**
- **S. 2.1.5 – Changes to reflect new Economic Evaluation and Capital Contribution model, new policy for cost responsibility for distribution system expansions beyond connection point to existing system.**
- **Revision of Appendix A to reflect clarifications**

made to Kingston Hydro's Economic Evaluation and Capital Contribution policies.

- Revisions to Appendix B to reflect changes to the Distribution System Code and Kingston Hydro policies regarding generator connections.

09/07/20

- Correction of typographical error – Demarcation Point description - Table 4, Pg. 45
- Removal of 'service layout fee' notes to service types in Table 4 – covered in revised s.2.13
- Expansion of pole and pad mount transformer availability for Large General Secondary Services – Table 7, Pg. 54.
- Correction of typographical errors – Pg. 41, s.2.10; 2.11.1
- Clarification of Primary and Secondary service connections – Pg. 41, s.2.10; s.3.2, Definitions
- Appendix D, Pg. 4 – correction of typographical error – “rated” to “rates”.
- S.2.8.3.1 – Addition of reference to OEB Distribution System Code for security deposit charge calculation methodology.
- S.2.8.3.3 – Clarification of timing of security deposit payments by customers.
- S.2.7.8.1 – Revision to application of Equal Payment Plan – start months changed to either June or July depending on month of scheduled meter read.
- S.2.1.1.6 – Re-numbering of section
- S.1.7.2 – Addition of Kingston Hydro right to access certain customer information for purposes of verifying identity or service responsibility.
- Addition of s.2.22 – Customer responsibility to operate equipment on customer side of demarcation point.
- Amalgamation and clarification of s.2.16 & 2.17 – General Services – Primary, Kingston Hydro &

Customer owned transformation.

- **S.2.18 – removal of reference to section 3 – replaced with reference to entire CofS.**
- **S.2.14.2.1 – Change reference to s.3.1 to s.2.14.1.1 to correspond with re-numbering done in CofS v2.5.**
- **S.2.14.1 – Correction of typographical error – Changed references residential service availability table from “Table 3” to “Table 5”**
- **S.2.13 – Moved “service layout fee” requirement to top-level of section 2.13 – Kingston Hydro requires a service layout and associated fee for all new service or service change requests.**
- **Addition of notification on “Appendix B – Kingston Hydro Guide for Distributed Generators” of pending major changes to connection processes, requirements, and cost responsibility flowing from the province’s implementation of the “Green Energy Act” and “Feed-in Tariff” program**

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INTRODUCTION, RIGHTS & COMPLAINT RESOLUTION

1.1. Identification of Distributor and Territory

Kingston Hydro (formerly Kingston Electricity Distribution Limited) was incorporated under the laws of the Province of Ontario. Founded in 2000 to meet the regulatory requirements of the Province of Ontario, Kingston Hydro is wholly owned by the City of Kingston.

Kingston Hydro is licensed by the Ontario Energy Board (OEB), to supply electricity to Customer/Consumers as described in the Distribution License (ED-1999-0221).

Kingston Hydro serves most electricity customers in the City of Kingston's centre, south of McAdoo's Lane to Lake Ontario and east of Cataraqui Creek to the Cataraqui River (including Barriefield and CFB Kingston). Maps of Kingston Hydro's service territory and distribution system are available at www.utilitieskingston.com/electric/generation

1.2. Related Codes and Governing Laws

These following statutes and Codes form the basis for Kingston Hydro operations and have been considered in formulating this document. The list is not exhaustive and other statutory requirements may also apply:

- Electricity Act
- Ontario Energy Board Act
- Distribution License (ED-1999-0221)
- Affiliate Relationships Code (ARC)
- Transmission System Code (TSC)
- Distribution System Code (DSC)
- Retail Settlement Code (RSC)
- Standard Supply Service Code (SSS)
- Ontario Electrical Safety Code
- Electricity Distribution Rates Handbook
- Applicable Canadian Standards Association (CSA) codes
- Business Corporations Act
- Electricity and Gas Inspection Act (Federal)
- Weights and Measures Act (Federal)
- Environmental Protection Act
- Electric Safety Association (ESA) Bulletins

When planning and designing electricity services, Customer/Consumers and their agents must refer to this Conditions of Service, all applicable Provincial and Canadian electrical codes, and Federal, Provincial, and Municipal laws, regulations, codes and bylaws to ensure that the electricity service is compliant with all applicable requirements. All electrical work done by both the customer and Kingston Hydro shall be conducted in accordance with the Ontario Occupational Health and Safety Act (OH&S), the Regulations for Construction Projects, the Electrical & Utility Safety Association (EUSA) Rulebook, and traffic requirements.

In the event of a conflict between this document and the Distribution License or any statutory requirement, the Distribution License or statutory or obligation shall prevail.

1.3. Interpretation

Unless otherwise defined in this document, words and phrases shall have the meaning ascribed to them in statutes or Codes, as the case may be. Headings are for convenience only and shall not affect the interpretation of this document. Words importing the singular include the plural and vice versa. A reference to a document or a provision of a document includes any amendment or supplement to, or any replacement of that document, or that provision of that document.

1.4. Amendments and Changes

The provisions of this Conditions of Service and any amendments made from time to time form part of any Contract made between Kingston Hydro and any connected Customer/Consumer, Retailer, or Generator, and this Conditions of Service supersedes all previous Conditions of Service, oral or written, of Kingston Hydro or any of its predecessor municipal electric utilities as of its effective date January 6th, 2009..

In the event of changes to this Conditions of Service, Kingston Hydro will issue notice by posting the revised version of the Conditions of Service to its website. The Customer/Consumer is solely responsible for contacting Kingston Hydro to obtain or to ensure that the Customer/Consumer has the current version of Kingston Hydro's Conditions of Service.

Kingston Hydro performs ongoing consultation with its Customers/Consumers with respect to its Conditions of Service. Comments, suggestions, questions, or expressions of concern should be sent in writing to the address listed in the header of this document, to the attention of the "Regulatory Analyst". Kingston Hydro's Conditions of Service is reviewed and amended at least once per year based on the feedback gathered through Customer/Consumer consultations, regulatory developments, and operational changes. Revisions are effective as of the date a version is issued.

The current version of the document is available for download free of charge at:

www.utilitieskingston.com/electric

1.5. Contact Information & Hours of Operation

Mail or in person:

Kingston Hydro c/o Utilities Kingston
1211 Counter Street
P.O. Box 790
Kingston Ontario
K7L 4X7

Business Hours 8:30 a.m. to 4:30 p.m, Monday to Friday.

General Inquiries: (613) 546-0000

24 hour Emergency Service: (613) 546-1181

Facsimile (613) 546-7816 Customer Inquiries

(613) 542-1463 Administrative Offices

e-mail info@utilitieskingston.com

Web Site www.utilitieskingston.com/electric

1.6. Customer Rights

1.6.1. Connection

The Customer/Consumer has the right to have a building connected to the distribution system if the building “lies along” any of the lines of the distribution system and the owner, occupant, or other person in charge of the building requests connection in writing.

1.6.2. Disconnection at Customer/Consumer’s request

The Customer/Consumer has the right to have their electric service disconnected for the purpose of maintenance of the service by means of a meter pull performed by staff authorized by Kingston Hydro. Sufficient notification must be provided to Kingston Hydro by the Customer/Consumer stating both the time and date of the disconnection request. There will be no charge for one disconnect per calendar year to facilitate maintenance to the Customer/Consumer’s electric service, provided it is performed during normal working hours. Disconnection for the purpose of connecting customer embedded generation may or may not be possible by means of a meter pull depending on the configuration of the customer embedded generator. Upgrades to the existing services are not considered maintenance under this section and are dealt with in Section 2 and 3 of this Conditions of Service.

1.6.3. Claims

Where the Customer/Consumer has incurred loss or damage, the Customer/Consumer has the right to submit a claim for damages.

The claim must be submitted in writing to the attention of the Clerk of the Municipality at City Hall, 216 Ontario Street, Kingston, Ontario. All claims must be

filed within ten (10) days of the occurrence. Claims must include copies of all receipts for repairs, replacements or estimate of damage.

The following claim process will be followed:

1. Claim is submitted in writing to the attention of the Clerk of the Municipality at City Hall, 216 Ontario Street, Kingston, Ontario. All claims must include copies of all receipts for repairs or replacements, or estimates.
2. The claim will be forwarded to the Insurance Broker for further investigation.
3. The Insurance Broker will notify the claimant of the status of their claim.

1.7. Distributor Rights

1.7.1. Liabilities

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

- of Kingston Hydro in providing distribution services to the Customer/Consumer;
 - of the Customer/Consumer in being connected to the distribution system;
- OR
- of Kingston Hydro or the Customer/Consumer in meeting their respective obligations under this Conditions of Service, their licenses and any other applicable law.

Notwithstanding the above, neither Kingston Hydro nor the Load 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 from any indirect, consequential, incidental or special damages, including but not limited to punitive or exemplary damages, whether any of the said liability, loss or damages arise in contract, tort or otherwise.

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

1.7.2. Access to Customer Property & Information

Kingston Hydro shall have access to Customer/Consumer's property in accordance with Section 40 of the Electricity Act. In some circumstances, Kingston Hydro may request information from a customer necessary to verify the customer's identity, address, and place of residence, including, in certain circumstances, residential or commercial leases for a serviced property.

1.7.3. Safety of Equipment

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

The Customer/Consumer shall not build, plant or maintain or cause to be built, planted or maintained, any structure, tree, shrub or landscaping that would or could, in the sole opinion of Kingston Hydro, obstruct the running of distribution lines, endanger the equipment, interfere with the proper and safe operation of the facilities or adversely affect compliance with any applicable legislation. If obstructions are found, the customer/consumer shall remove at their cost to the satisfaction of Kingston Hydro.

1.7.4. Underground Locates

Customer/Consumers, Developers, Contractors, etc. must request and receive locates for all underground facilities prior to excavating in the road allowance. Kingston Hydro will provide locates within five (5) days of the request.

1.7.5. Connects/Disconnects

Only employees, agents or contractors under authority of Kingston Hydro shall connect a Customer/Consumer's service to the electrical distribution system. Unauthorized connection by others shall be treated as theft of power and immediately disconnected.

Only employees, agents or contractors under authority of Kingston Hydro shall disconnect a Customer/Consumer's electrical service from the distribution system.

1.8. Disputes**1.8.1. Complaint Resolution Process**

The Customer/Consumer can contact the Customer Service Centre, open weekdays 8am to 5pm, in one of the following ways:

- By telephone: 613-546-0000
- By mail: 1211 Counter Street, P.O. Box 790 Kingston Ontario K7L 4X7
- By facsimile: 613-546-7816
- By e-mail: info@utilitieskingston.com

A Customer Service Representative (CSR) reviews complaints with the Customer/Consumer, investigates, then initiates a resolution. This may include issuing a service order to verify a reading or examination of equipment, providing a consumption history report, bill review, and consultation with a representative of Kingston Hydro. The CSR takes ownership of the complaint and follows up directly with the Customer/Consumer.

If the written complaint is not resolved at the CSR level, the Customer/Consumer's concern is then escalated as follows:

1. First Level Escalation Process: Senior CSR, Customer Service Centre for attention and resolution.
2. Second Level Escalation Process: Manager of the appropriate department at Utilities Kingston or Kingston Hydro.
3. Third Level Escalation Process: If resolution has not been achieved, depending on the nature of the complaint, the issue may be referred to the President and C.E.O. and be elevated to the Dispute Resolution Process outlined below
4. Copies of all documents will be kept in the Customer/Consumer's file.

1.8.2. Dispute Resolution Process

Complaints which have not been resolved to the satisfaction of all those involved will proceed to the Dispute Resolution Process.

The following process will then be followed:

1. The Customer/Consumer will be asked to document their dispute in writing and submit it to the office of the President and C.E.O. This may be accompanied by a phone call to the office of the President and C.E.O.
2. Once received, the dispute will be dated and contact will be made with the Customer/Consumer, at which time efforts will be made to resolve the dispute within ten (10) business days of receipt.
3. If resolution cannot be achieved, and the nature of the complaint involves policy issues, the dispute may be forwarded to the Board of Directors.
4. A written response shall be provided to the Customer/Consumer.
5. All disputes will be documented, including the results of the dispute and the time lines.

1.8.3. Complaint & Dispute Resolution Process for Retailers

The Retailer Service Agreement outlines how disputes between Kingston Hydro and the Retailer will be settled.

2. DISTRIBUTION ACTIVITIES (GENERAL)

2.1. *Connections - Process and Timing*

2.1.1. **Connection Process for Load Customer/Consumer**

Under the terms of the *Distribution System Code* (DSC) and the *Electricity Act*, Kingston Hydro has the obligation to either connect or to make an Offer to Connect any Customer/Consumer that lies in its service area.

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

2.1.1.1. **Request for New or Upgraded Service**

The Customer/Consumer or its authorized representative shall apply for new or upgraded electric services and/or temporary power services in writing, including the Request for Service Form (see Section 3 for specific details). The Customer/Consumer is required to provide Kingston Hydro with sufficient lead-time in order to ensure:

- the timely provision of supply to new and upgraded premises or,
- the availability of adequate capacity for additional loads to be connected in existing premises;
- system reliability and quality of service is not adversely impacted by additional embedded generation.

2.1.1.2. **Response to Request for Service**

Kingston Hydro shall make every reasonable effort to respond promptly to a Customer/Consumer's request for connection. Kingston Hydro shall respond to a Customer/Consumer's written request for a connection within timelines prescribed within the *Distribution System Code*, s. 7, *Service Quality Requirements*.

2.1.1.3. **Offer to Connect**

Once all information has been received, Kingston Hydro will make an Offer to Connect within timelines prescribed within the *Distribution System Code*, s. 7, *Service Quality Requirements*.

2.1.1.4. **Connection Denial**

Customer/Consumer may be refused Connection under the following circumstances:

1. Failure to pay for any outstanding fees or capital contributions.

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, the Province of Ontario or Municipal Bylaws.
5. Violation of conditions in Kingston Hydro's Distributor's License.
6. If, in the opinion of Kingston Hydro, 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 Kingston Hydro, 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 Kingston Hydro's 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. Kingston Hydro 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 Kingston Hydro. If an electrical connection does not meet the design requirements, connection will be refused.
12. If all requirements of the Offer to Connect are not fulfilled to the satisfaction of Kingston Hydro.
13. Violation of any conditions documented in this Conditions of Service.
14. Where the Customer/Consumer has not secured the appropriate licensing from the Ontario Energy Board and/or the Independent Electricity Market Operator.
15. If the Customer/Consumer has arrears with Kingston Hydro that have not been paid or cleared.

In the event that Kingston Hydro refuses to connect a building or facility, Kingston Hydro shall inform the person requesting the connection of the reason(s) in writing, for not connecting and, where Kingston Hydro is able to provide a remedy, make an Offer to Connect. If no remedy is possible, it is the responsibility of the Customer/Consumer to do so before a connection may be made.

2.1.1.5. Connection Agreement

Kingston Hydro, in its discretion, may require a Customer/Consumer, Embedded Generator, Embedded Distributor, or Smart Sub-Meterer to enter into a

Connection Agreement with Kingston Hydro including terms and conditions in addition to those expressed in this Conditions of Service. This will be identified in the Offer to Connect. If a Connection Agreement is not entered into once service has commenced, the provision of service by Kingston Hydro shall imply acceptance of Kingston Hydro's Conditions of Service and the terms of any applicable Connection Agreement or Offer to Connect delivered by Kingston Hydro to the customer.

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

The following can be made in lieu of cash deposits:

- an irrevocable letter of credit;
- a letter of guarantee, provided that it is issued with no expiration date by a Chartered Bank or a Trust Company or a Credit Union

Only after the Offer to Connect has been signed by both Parties will equipment be ordered and/or the work be scheduled for completion. Kingston Hydro shall make every reasonable effort to respond promptly to construct the necessary facilities to connect to the Customer/Consumer's facilities.

Where a Connection Agreement exists between Kingston Hydro and the Customer/Consumer, its contents shall take precedence over the provisions in this Conditions of Service except where such contents contravene relevant legislation and/or regulations.

Inspections Before Connections

In addition to meeting Kingston Hydro's requirements, all Customer/Consumer's electrical installations shall be inspected by and receive connection authorization from the Electrical Safety Authority (ESA), prior to the connection of a Customer/Consumer's service. Services that have been disconnected for the purposes of upgrade, change, or repair, or, services that have been altered subsequent to ESA approval must be re-inspected and approved by the ESA prior to reconnecting. Services that have been disconnected for a period of six months or longer shall also be re-inspected and approved by ESA prior to reconnection.

Customer/Consumer owned substations must be inspected by both the ESA and Kingston Hydro.

All facilities installed by the Customer/Consumer including but not limited to trenches, duct systems, transformer bases, transformer vaults and rooms, electrical generation facilities and provision for metering are subject to Kingston Hydro inspection and approval prior to installation of supply facilities.

Provision for metering shall be inspected and approved by Kingston Hydro prior to energization and must comply with Kingston Hydro Metering Requirements. For further information, please refer to Kingston Hydro's Metering Specifications document.

2.1.1.6. Connection

Upon receipt of final passed inspection from ESA, Kingston Hydro will connect the new service within timelines prescribed within the Distribution System Code, s. 7, Service Quality Requirements..

2.1.2. Connection Process of an Embedded Generator

Under the terms of the *Electricity Act*, Kingston Hydro has the obligation to permit connection of an Embedded Generator. Those interested in connecting Embedded Generation to Kingston Hydro's distribution system should read Kingston Hydro's "Guide for Embedded Generators" (Appendix B to this document, also available at www.utilitieskingston.com/electric/generation). This document outlines regulatory requirements of Kingston Hydro in respect to connection requests from embedded generators, and outlines our process for processing such requests. It also outlines the potential connection and settlement configurations available to embedded generators, as well as references to Kingston Hydro's obligations to generators under the Distribution System Code, Retail Settlement Code, and other relevant regulation or legislation.

2.1.3. Connection of an Embedded Distributor or Smart Sub-Meterer

Under the terms of the *Distribution System Code*, and the *Electricity Act*, Kingston Hydro has the obligation to permit connection of an Embedded Distributor or Smart Sub-Meterer.

2.1.3.1. Request to Connect an Embedded Distributor

Kingston Hydro shall make every reasonable effort to respond promptly to another Distributor's request for connection. Kingston Hydro shall provide an initial consultation with another Distributor regarding the connection process within thirty (30) calendar days of receiving a written request for connection.

2.1.3.2. Offer to Connect for an Embedded Distributor

A Final Offer to Connect Kingston Hydro to the Embedded Distributor's distribution system shall be made in writing within ninety (90) calendar days of receiving the written requests for connection, unless other necessary information outside the Distributor's control is required before the offer can be made. See Section 2.1.2 and Section 3 for specific details.

2.1.3.3. Request to Connect a Smart Sub-Meterer

2.1.3.4. Kingston Hydro shall process requests to connect a customer who chooses to smart sub-meterer. More information on smart sub-metering is

available in Appendix E to the Conditions of Service Licensing & Compliance of Embedded Distributors or Smart Sub Meterers

Kingston Hydro will not be obliged to connect an Embedded Distributor or Smart Sub Meterer in the case where the Embedded Distributor cannot demonstrate that it is currently licensed by the Ontario Energy Board and compliant with all other relevant legislation and regulations.

2.1.4. Connections that “Lies Along”

For the purpose of these Conditions, "lies along" means a Customer property or parcel of land that is directly adjacent to or abuts onto the public road allowance where Kingston Hydro has distribution facilities of the appropriate voltage and capacity and no further addition or expansion is required. The connection would not include plant required to connect the service such as switches, insulators, cable, etc.

Under the Electricity Act, Kingston Hydro has the obligation to connect a building or facility that “lies along” its distribution line provided that:

- The building can be connected to Kingston Electricity Distribution Limited’s distribution system without an expansion or enhancement and,
- The service installation meets the conditions listed in this Conditions of Service.

A connection that “lies along” a distribution line may be refused connection to that line should the distribution line not have sufficient capacity for the requested connection or in the opinion of Kingston Hydro, be considered unsafe. In the cases of insufficient capacity Kingston Hydro will provide alternate supply options to the Customer/Consumer, which may include an expansion of Kingston Hydro’s system (see section 2.1.2).

Any new service located along an existing distribution system shall be connected to the most convenient and closest point of connection as determined by Kingston Hydro. Alternate points of connection are possible but may incur a fee.

The location of the Customer/Consumer's service entrance equipment will be subject to the approval of Kingston Hydro and the Electrical Safety Authority.

In general, Kingston Hydro will, depending on Customer Class and type of service connection, recover costs associated with the installation of “Connection Assets” via a Basic Connection Fee or a Variable Connection Charge. Connection charges and connection types for Residential and General Service class Customer/Consumers are further described in Section 3.

2.1.5. Connections Requiring Distribution System Expansions

2.1.5.1. Expansion Process

Under the terms of the DSC, Kingston Hydro has the obligation to make an Offer to Connect any service that is in its service territory that “lies along” its distribution system.

As Kingston Hydro’s distribution system is close to capacity throughout its geographically limited service territory, many connections require distribution system system expansions upstream of the requested connection point. In addition, some customers request expansion of the distribution system beyond the requested connection point in order to service newly developed land or buildings.

In such a case, the Customer/Consumer is responsible for contributing towards the capital costs of system expansions or reinforcements necessary to service the additional load placed on Kingston Hydro’s system by the proposed connection which are not recoverable through the collection of regulated distribution rates over the reasonable projected life of the requested connection.

Appendix A, (Economic Evaluation Model for Distribution System Expansion), contains details on the methodology Kingston Hydro uses to calculate such “Capital Contributions”, and meets the intent and requirements of the DSC.

Connection fees outlined in Section 2.1 and Section 3 of this document will apply in addition to any Capital Contribution required from the Customer/Consumer.

For the purpose of an economic evaluation, expansion costs are considered to be the incremental costs associated with supplying additional system capacity for the proposed connection, plus any costs to expand Kingston Hydro’s distribution system beyond the requested point of connection to the existing distribution system.

2.1.5.2. Offer to Connect for Connections Requiring Expansions

An Offer to Connect will include all applicable charges and fees associated with connecting the new or upgraded load including connection cost as described in Section 2.1.0.1 and any capital contribution associated with system expansion.

As outlined in Appendix A, calculations of any capital contribution required will be based on the connection load projected by the Customer/Consumer. The Customer/Consumer is responsible for providing Kingston Hydro with an accurate prediction of their electrical loads. Kingston Hydro may evaluate such load predictions against historical precedence and comparator connections, and may, in its sole discretion, adjust the timeline, magnitude, or risk classification of load predictions for the purposes of the capital contribution calculations.

The Offer to Connect will be valid for a 6 month period. If the Customer/Consumer has not begun to construct their facilities within this period the Offer to Connect may be considered void at the discretion of Kingston Hydro.

A new submission by the Customer/Consumer will be required as described above. Kingston Hydro may charge for processing a second submission.

The Customer/Consumer may seek alternate bids when there is a capital contribution required for the connection, and where expansion work does not take place in the vicinity of existing Kingston Hydro electrical facilities and/or rights of way. If the Customer/Consumer proceeds with an alternate bid to undertake the work related to the expansion, Kingston Hydro will continue to be responsible for the maintenance and reliability of the system and will carry out planning, preliminary design, verification and inspection to ensure that the installed system meets Kingston Hydro's standards. The costs associated with these functions may be recovered from the Customer/Consumer. Where construction is required on the Municipal Right of Ways, the Developer and/or Contractor will be required to obtain municipal consent.

If special equipment is required or equipment delivery problems occur then longer lead times may be necessary. In the Offer to Connect, Kingston Hydro will notify the Customer/Consumer of any extended lead times.

In addition to any other requirements in these Conditions of Service, the supply of electricity is conditional upon Kingston Hydro being permitted and able to provide such a supply, obtaining the necessary apparatus and material, and constructing works to provide the service. Should Kingston Hydro not be permitted or able to do so, it is under no responsibility to the Customer whatsoever and the Customer releases Kingston Hydro from any liability in respect thereto. In such cases, an explanation will be provided in the Offer to Connect to the Customer/Consumer.

In cases where an expansion of Kingston Hydro's distribution system beyond the point of connection to the existing system is required, Kingston Hydro will require the customer/consumer to furnish an expansion deposit of up to 100% of the projected distribution revenues projected from the new connection. This expansion deposit will be returned as load promised by the customer is connected according to the schedule they submit to Kingston Hydro as part of the connection application process.

2.1.5.3. Acceptance of Offer to Connect for Connections Requiring Expansions

Upon acceptance of an Offer to Connect, Kingston Hydro will begin engineering and construction of the expansion required to service the new load. Final connection will only be completed when:

- The Customer/Consumer installed electrical system passes all relevant inspections (e.g. ESA, etc.);
- The Customer/Consumer signs the Connection Agreement, when required;
- The Customer/Consumer pays any outstanding capital contributions, fees, and/or expansion deposits. (as applicable).

2.1.5.4. Subdivision Connections

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.

In the circumstances of a subdivision development, ESA inspection may not be required for the expansion but Kingston Hydro may still inspect, and prove the system via appropriate tests as determined by Kingston Hydro at the cost of the Developer.

2.2. Relocation of Plant

If requested to relocate the distribution plant, Kingston Hydro will exercise its rights and discharge its obligations in accordance with existing acts, bylaws and regulations including the *Public Service Works on Highways Act (MTO&C clarification of October 1974)* for road authorities, formal agreements, easements and law. In the absence of existing agreements, Kingston Hydro is not obligated to relocate the plant.

If a Customer/Consumer requests the relocation of the Kingston Hydro plant, Kingston Hydro will, if possible, accommodate such a request if it will not result in degradation to system reliability.

All costs associated with the relocation shall be borne by the Customer/Consumer requesting the repositioning, unless an existing agreement is in place. Where such relocation of the Kingston Hydro plant will require replacement facilities on lands not owned by the Customer/Consumer requesting the transfer, it shall be the responsibility of the Customer/Consumer to complete negotiations, to the satisfaction of Kingston Hydro, with the landowner over whose lands the new facilities will reside, to the satisfaction of and at no cost to Kingston Hydro.

Where a new swimming pool is to be installed it will be necessary to relocate, at the Customer/Consumer's expense, any electrical conductors located directly above the area extending 3 metres horizontally from the pool edge as defined by the Ontario Electrical Safety Code. It is the Customer/Consumer's responsibility to contact Kingston Hydro and arrange for the service to be relocated where overhead service conductors are in place over an existing swimming pool.

2.3. Easements

The Customer/Consumer shall grant, at no cost to Kingston Hydro, easements as required to permit installation, operation, and maintenance of the distribution plant. Kingston Hydro shall determine the width and extent of the easement. The easement shall be registered on title prior to energizing of the service, re-arrangement and/or relocation of the distribution plant.

It shall be the responsibility of the Customer/Consumer to maintain the easement free of any permanent structure, (i.e. garages, sheds, fences, etc.), and to clear the easement of any trees, shrubs, buildings, etc. to allow access to Kingston Hydro's' plant at any time.

2.4. Contracts

Commercial Customer - All Customer/Consumers setting up a commercial account are required to complete a Commercial Account Application form.

Connection Agreements – All new general service and large users are required to complete a Connection Agreement prior to connecting to Kingston Hydro’s electrical system.

Embedded Distributor Agreements – Agreements with embedded distributors will be developed on an ‘as required’ basis and are not included in these Conditions of Service.

Embedded Generation Agreements – Agreements with embedded generators will be developed on an ‘as required’ basis and will be specific to each generation site.

Implied Contract - In all cases the taking and/or use of electricity from Kingston Hydro by any Person or Persons shall be deemed as acceptance of a binding contract with Kingston Hydro, including the acceptance of this Conditions of Service and all conditions and rates established by Kingston Hydro from time to time.

Meter Relocation Agreement - Customer/Consumers and/or Kingston Hydro may request that an indoor meter(s) be relocated to the outside of the premises through a cost sharing arrangement.

Retailer Agreements – All retailers operating in Kingston Hydro’s service area are required to enter into a separate retailer agreement with Kingston Hydro. These agreements are in accordance with the Retail Settlement Code and are not included in these Conditions of Service.

Special Contracts – Special contracts that are customized in accordance with the service requested by the Customer/Consumer include, but are not limited to the following examples:

- Construction sites
- Mobile facilities
- Special occasions

Subdivision Servicing Agreement - The Developer is required to enter into a Subdivision Servicing Agreement with Kingston Hydro.

2.5. Disconnection

2.5.1. Disconnection for Cause

Kingston Hydro reserves the right to disconnect the supply of electrical energy to a Customer/Consumer for causes including but not limited to:

- Contravention of the laws of Canada or the Province of Ontario;
- Adverse effect on the reliability and safety of the distribution system;

- Imposition of an unsafe worker situation beyond normal risks inherent in the operation of the distribution system;
- Contravention of the Ontario Electrical Safety Code;
- A material decrease in the efficiency of Kingston Hydro's distribution system;
- A materially adverse effect on the quality of distribution services received by an existing connection;
- Discriminatory access to distribution services;
- Inability of Kingston Hydro to perform planned inspections and maintenance;
- Failure of the Customer/Consumer to comply with a directive Kingston Hydro makes for purposes of meeting its license obligations;
- Overdue amounts payable to Kingston Hydro for the distribution or retail of electricity;
- Electrical disturbance propagation caused by Customer equipment that is not corrected in a reasonable amount of time;
- Any tampering with Kingston Hydro's distribution or metering equipment;
- Any other condition identified in this Conditions of Service document.

Kingston Hydro may disconnect the supply of electricity to a Customer/Consumer without notice in accordance with a court order, or for emergency, safety or system reliability reasons.

2.5.2. Disconnection for Unauthorized Use of Energy

Kingston Hydro reserves the right to disconnect the supply of electrical energy to a Customer for all unauthorized use of electricity including but not limited to energy diversion, fraud or abuse on the part of the Customer. Such service will not be reconnected until the Customer rectifies the condition and provides full payment of energy (estimated or actual), any costs for repair and inspection, and the disconnection and reconnection costs.

2.5.3. Disconnection for Non-Payment

Kingston Hydro reserves the right to disconnect a Customer/Consumer for non-payment of account. The Customer/Consumer will be provided with a minimum of seven (7) days notice of the pending disconnection.

If it is known by Kingston Hydro that disconnection of the electricity service will affect other tenants' service, then the owner and other tenants will be advised of the pending disconnection. The tenants will receive a minimum of seven (7) calendar days notice by way of posting notice of disconnects in a conspicuous place on the property such that all tenants receive notification. Alternatively, where practical and at the discretion of Kingston Hydro, they may be notified by way of registered or hand-delivered letter.

2.5.4. Fire & Public Safety Notice

Prior to disconnection of an electrical service for non-payment or other causes as stipulated in section 4.2 of the Distribution System Code as amended from time to time, Kingston Hydro shall provide Fire Safety and Public Safety notices to the customer as required by the Distribution System Code.

2.6. Conveyance of Electricity

2.6.1. Limitations on the Guaranty of Supply

Kingston Hydro will endeavor to supply our Customer/Consumer with uninterrupted power within the Voltage Guidelines referenced in Section 2.3.5, with Standard Voltage offerings. Kingston Hydro does not guarantee a constant power supply or assurance that voltages and frequency will be unvaried. Furthermore, we will not be liable for damages to the Customer/Consumer's equipment by reason of any failure in respect thereof.

Kingston Hydro will practice reasonable diligence in maintaining power levels but will not be responsible for any variations caused by external forces, such as operating contingencies, exceptionally high loads, or low voltage supply from the transmitter, host distributor, or an Embedded Generator. Kingston Hydro will not be held responsible for failure of any of its obligations as outlined in these Conditions of Service to supply power due to any events beyond the reasonable control of Kingston Hydro, including, without limitation, severe weather, flood, fire, lightning, other forces of nature, acts of animals, epidemic, quarantine restriction, war, sabotage, act of a public enemy, earthquake, insurrection, riot, civil disturbance, strike, restraint by court or public authority, or action or non-action by or inability to obtain authorization or approval from any governmental authority, or any combination of these causes ("Force Majeure").

Customers/Consumers requiring a higher degree of security, (i.e. uninterrupted supply of electricity), are responsible to provide their own back-up or standby facilities. A Customer/Consumer may require special protective equipment at their premises to minimize the effect of momentary power interruptions.

Customer/Consumer's requiring a three-phase supply should install protective apparatus to avoid damage to their equipment, which may be caused by the interruption of one phase, or non-simultaneous switching of phases of Kingston Hydro's supply.

Kingston Hydro will occasionally be required to interrupt the power supply to a Customer/Consumer, typically during emergency repairs, or while performing construction and maintenance duties. Power interruptions initiated by Kingston Hydro shall be based on practical and cost effective considerations as well as the extent of inconvenience to the Customer/Consumer. Kingston Hydro will attempt to provide the Customer/Consumer with reasonable advance notice of planned power interruptions, with the exception of an emergency situation.

Kingston Hydro shall have the right to access a property, in accordance with section 40 of the *Electricity Act*, and any successor acts thereto. Kingston Hydro may require a Customer/Consumer to provide emergency access to their premises in order to operate distribution equipment that is either owned by the Customer/Consumer or by Kingston Hydro which is normally under Kingston Hydro's operating control.

2.6.2. Power Quality

2.6.2.1. Power Quality Testing

In response to a Customer/Consumer is power quality concern, where the utilization of electric power adversely affects the performance of electrical equipment, Kingston Hydro will perform a preliminary investigative analysis to attempt to identify the underlying cause. Upon determination of the cause which resulted in the power quality concern, where it is deemed to be a system delivery issue and where industry standards are not met, Kingston Hydro will recommend and/or take appropriate mitigation measures. Kingston Hydro will take appropriate actions to control power disturbances found to be detrimental to the Customer/Consumers. If Kingston Hydro is unable to correct the problem without adversely affecting other Kingston Hydro Customer/Consumers, then it is not obligated to make the corrections. Kingston Hydro will use appropriate industry standards (such as IEC or IEEE standards) and good utility practice as a guideline.

If the power quality problem is on the Customer/Consumer's side, the Customer/Consumer will be responsible for rectification. The Customer/Consumer may be provided with the option to have Kingston Hydro pursue an investigation/rectification process, for a fee. The Customer/Consumer will not be charged for the initial verification, however, the Customer/Consumer will be charged for subsequent site visits when the problem is on the Customer/Consumer's side.

Kingston Hydro will perform tests on Customer/Consumer equipment at the Customer/Consumer's request. Customer/Consumers will be charged for all such requests; unless it is determined that Kingston Hydro's distribution system is adversely affecting the Customer/Consumer's equipment.

2.6.2.2. Power Quality Customer Obligations

- It is the responsibility of the Customer/Consumer to ensure that their electrical usage does not have an adverse effect on the distribution system. Customers/Consumers with large non-linear loads must install proper corrective measures, such as filtering and/or grounding techniques. Kingston Hydro follows the industry standard, IEEE 519. The harmonic voltage distortion limits are 3% on any individual frequency, and 5% on the total.

- It is the responsibility of the Customer/Consumer to ensure that their motor's starting current shall not exceed their associated supply circuit limitations. Reduced voltage starting may be required if satisfactory transformer fusing cannot be obtained due to excessive starting current, or a relatively long starting cycle. It should be noted that objectionable voltage flicker on the Customer/Consumer's secondary system may be experienced if the motor(s) are supplied from a transformer bank which also supplies lighting or other sensitive equipment in the building.
- A three phase Customer/Consumer shall ensure their load is balanced between the three phases within 15% of each phase, unless specific unbalancing is approved by Kingston Hydro.
- With respect to older services with ground fault detection for 3 phase, 3 wire, delta services: ground fault detection, (phase indication lights) is required on the load side of the revenue metering for each individual service. In event of bulk metering, ground fault detection would be required on the load side of the bulk metering.
- If Kingston Hydro determines that the Customer/Consumer's equipment is causing unacceptable power quality on Kingston Hydro's distribution system, the Customer/Consumer will be required to cease operation of the equipment until such time that the problem is rectified at the Customer/Consumer's cost. If the Customer/Consumer does not comply and remedy the situation within a reasonable time as defined by Kingston Hydro, Kingston Hydro may disconnect the supply of power.
- A Customer/Consumer is obligated to assist Kingston Hydro with power quality investigations by providing the required equipment information, relevant data and necessary access for the installation of monitoring equipment.

2.6.3. Notification for Interruptions

Kingston Hydro will attempt to provide affected Customer/Consumers with reasonable notice of any planned power interruptions. Kingston Hydro will endeavor to communicate outage information during unplanned and storm related outages. Depending on the outage duration and the number of Customer/Consumers affected, Kingston Hydro may issue a news release to advise the general public of the outage.

Notice may not be given when work is of an emergency nature involving the possibility of injury to a person(s) or damage to property or in response to a shortage of supply. Service interruption without prior notice may take place if an unsafe or hazardous condition is found to exist or if the use of electricity by apparatus, appliances, or other equipment is found to be unsafe or damaging to Kingston Hydro or the public.

Customer/Consumers who require an uninterrupted source of power for life support equipment must provide their own equipment for these purposes. Kingston Hydro will not be liable for interruption of service to these Customer/Consumers.

2.6.4. Emergency Service (Trouble Calls)

Kingston Hydro will exercise reasonable diligence and care to deliver a continuous supply of electrical energy to the Customer/Consumer. However, Kingston Hydro cannot guarantee a supply that is free from interruption. When power is interrupted, the Customer/Consumer should first ensure that failure is not due to blowing of fuses or open breakers within their internal power system. If there is a partial power failure, the Customer should obtain the services of an Electrical Contractor to carry out necessary repairs. If it then appears that Kingston Hydro's main source of supply has failed, the Customer should report these conditions immediately to Kingston Hydro's Emergency Call Centre at 613 546-1181.

Kingston Hydro will not be liable for Electrical Contractor costs incurred by the Customer/Consumer if the problem is found to be on Kingston Hydro's system unless the Customer/Consumer was instructed to contact an electrician by Kingston Hydro personnel.

Generally, Kingston Hydro will not perform work on the Customer/Consumer's service during emergency calls. In the unusual circumstances where work is performed, the Customer/Consumer will be charged the exact cost for the service call, work performed and any materials utilized.

Kingston Hydro operates a Call Centre 24 hours a day to provide emergency service to the Customer/Consumer. Kingston Hydro will initiate electricity service restoration efforts as rapidly as possible.

2.6.5. Electrical Disturbances

Kingston Hydro shall practice reasonable diligence to maintain voltages as described in the *Voltage Guidelines*, See Section 2.3.5. Typical voltage disturbances that can be expected on the distribution system are Capacitor Switching Transients, Voltage Sags caused by Faults on Adjacent Feeders, and Auto Re-closure Operations. It is the Customers/Consumer's responsibility to protect themselves from any external disturbance.

Customers/Consumers must ensure that their equipment does not cause any disturbances such as harmonics, spikes, or sags that might interfere with the operation of adjacent Customer/Consumer equipment. Examples of equipment that may cause disturbance may include; large motors, welders and variable speed drives. In planning the installation of such equipment, the Customer/Consumer must consult with Kingston Hydro.

Customer/Consumers who require an uninterrupted source of power supply or a supply free from disturbances are responsible for their own equipment for these purposes.

Some types of electronic equipment, such as video display terminals, can be affected by the close proximity of high electrical currents that may be present in transformer rooms. Kingston Hydro will assist in attempting to resolve any such difficulties at the Customer/Consumer's expense.

The utility will investigate the cause of any disturbance to an electrical supply. Customer/Consumers who are found to cause system disturbances will be responsible for resolution of the disturbance at their expense. Failure to do so may result in a disconnection from Kingston Hydro's distribution system.

2.6.6. Standard Voltage Offerings

The following Secondary voltages may be made available depending on the capacity requested and the type of distribution plant that "lies along":

- 120/240V, single phase
- 120/208V, three phase, 4 wire, in the Downtown Network Area;
- 347/600V, three phase 4 wire.

The following Primary Services may be made available depending on the type of distribution plant that 'lies along' and capacity requested:

- 2,400 /4,160V
- 13,800V
- 44,000V

The voltage of the plant which 'lies along' Kingston Hydro's distribution system will determine the preferred Secondary Voltage. The limit of supply capacity for any Customer/Consumer is governed by the Customer/Consumer load. Refer to Section 3 for General Information.

General guidelines for supply from street circuits are as follows:

- 120/240V, single phase up to 400A or 75kVA demand load;
- 347/600V, three phase, four wire up to 200A or 112.5kVA demand load;
- 120/208V, three phase four wire up to 400A or 112.5kVA demand load.

For Loads greater than that of the above, where the Customer/Consumer/Developer provides:

A pad on private property; Kingston Hydro will provide the following service from a pad-mount transformer supplied at 2400/4160V;

- At 120/240V, single phase, supply is available up to 100kVA,
- At 120/208V, three phase, four wire, supply is available for loads up to 500kVA
- At 347/600V, three-phase, four-wire, supply is available for loads up to 500kVA

When the Customer or Developer provides a transformer vault on private property:

- 120/208V or 347/600V, three phase, four wire supply is available for loads up to 750kVA demand load.

For loads greater than 750kVA, service shall be supplied at 13,800 or 44,000V.

Customer/Consumers or Developer shall be responsible for all requirements of this service.

The above is summarized in the following table “Available Voltages and Service Limitations”

Table 1 - Available Voltages and Service Limitations

Secondary Service			Pad-Mounted Transformers		Transformer Vault	
Maximum Service Size	Maximum Service Size	Maximum Service Capacity	Maximum Service Size	Maximum Service Capacity	Maximum Service Size	Maximum Service Capacity
120/240V Single Phase 3 wire	400A	75kVA	600A	100kVA	600A	100kVA
120/208V Three Phase 4 wire	400A	112.5kVA	1800A	500kVA	2600A	750kVA
347/600V Three Phase 4 wire	200A	112.5kVA	600A	500kVA	1000A	750kVA

Note: Not all Secondary voltages are available in all areas

2.6.7. Voltage Guidelines

Kingston Hydro maintains service voltage at the Customer/Consumer's service entrance within the guidelines of C.S.A. Standard CAN3-C235-87 (latest edition), which allows variations from nominal voltage of:

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

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

factors such as the location and nature of load or circuit involved, the extent and duration to which limits are exceeded with respect to voltage levels, etcetera.

**Table 2 - Recommended Voltage Variation Limits
For Circuits up to 1000 V, at Service Entrances**

Nominal System Voltages	Minimum	Voltage Variation Limited Application at Service Entrances Extreme Operating Conditions		Maximum
		Operating Conditions Minimum	Operating Conditions Maximum	
Single Phase 3-Conductor 120/240V	106/212V	110/220V	125/250V	127/254V
Three-Phase 4-Conductor 120/208V 347/600V	110/190V 306/530V	112/194V 318/550V	125/216V 360/625V	127/220V 367/635V
Three-Phase 3-Conductor 600V	530V	550V	625V	635V

2.6.8. Back-up Generators

Customer/Consumers with portable or permanently connected generation capability used for emergency back-up shall comply with all applicable criteria of Kingston Hydro and the Ontario Electrical Safety Code. In particular, the Customer/Consumer shall ensure that Customer/Consumer's emergency generation does not parallel with Kingston Hydro's system without a proper interface protection and cannot backfeed or adversely affect Kingston Hydro's system.

Customer/Consumers with permanently connected emergency generation equipment or other non-grid sources of electric supply shall notify Kingston Hydro regarding the presence of such equipment. Customer/Consumers must provide a disconnect device accessible to Kingston Hydro personnel at all times which will provide visible isolation and ground connections of such sources of supply from Kingston Hydro's system.

All those interested in having any type of generation at a site serviced by Kingston Hydro should read Appendix B – Kingston Hydro's Guide for Distributed Generators

2.7. Metering

2.7.1. General

Kingston Hydro will supply, install, own, and maintain all meters, instrument transformers, ancillary devices, and secondary wiring required for revenue

metering. Additional metering requirements are listed in the DSC and Kingston Hydro's *Metering Specifications* document available as Appendix C to this document. Metered Market Participants in the Independent Electricity System Operator ("IESO") administered wholesale market, must meet or exceed all IESO metering requirements.

Metering locations are subject to approval by Kingston Hydro and shall not be located in an environment which could be hazardous to the health or safety of Kingston Hydro personnel or equipment. Meters shall be located outside with limited exceptions at Kingston Hydro's discretion. For exceptions, metering facilities are to be located in an electrical room or contained in appropriate cabinets or protective housing.

Kingston Hydro will install metering equipment at the Customer/Consumer's supply voltage, provided there is a means of disconnection. The Customer/Consumer must provide a convenient, safe and sanitary location satisfactory to Kingston Hydro for the installation of meters, wires and ancillary equipment. Meters for new or upgraded residential services will be mounted outdoors on a meter socket approved by Kingston Hydro. No person, except those authorized by Kingston Hydro, may remove, connect, tamper, or otherwise interfere with meters, wires, seals, or ancillary equipment. The Customer/Consumer will be responsible for the care and safekeeping of Kingston Hydro meters, wires and ancillary equipment on the Customer/Consumer's premises. If any Kingston Hydro equipment installed on the Customer/Consumer's premises is lost, damaged, or destroyed, other than by ordinary wear and tear, tempest or lightning, the Customer/Consumer will be liable to pay to Kingston Hydro the value of such equipment, or at the option of Kingston Hydro, the cost of repairing the same.

Any compartments, cabinets, boxes, sockets, or other work-space provided for the installation of Kingston Hydro's metering equipment shall be for the exclusive use of Kingston Hydro only.

Where Kingston Hydro is not regularly provided access as described, or if equipment tampering or theft of electricity occurs, Kingston Hydro reserves the right to have the metering equipment moved to another suitable location at the cost of the Customer/Consumer.

All specifications pertaining to main switches and main switch locations, meter sockets and socket location, instrument transformer and metering cabinets, special enclosures, meter loops, barriers, doors, auxiliary connections, working space, metering of multi-unit sites and apartments, and Interval Metering are found in Kingston Hydro's *Metering Specifications* available as Appendix C to this document.

2.7.2. Current Transformer Boxes

Refer to Kingston Hydro's *Metering Specifications* available as Appendix C to this document or contact the Utilities Kingston's Meter Shop for current specifications at (613)546-1181.

2.7.3. Interval Metering

Refer to Kingston Hydro's Metering Specifications available as Appendix C to this document or contact the Utilities Kingston's Meter Shop for current specifications at (613)546-1181. .

2.7.4. Meter Reading

The Customer/Consumer must permit an authorized representative of Kingston Hydro ready and easy access at all reasonable hours to the meter for the purpose of reading. Such access must be unobstructed, safe, and sanitary. The Customer/Consumer may provide a key to Kingston Hydro for this purpose. Where access is not provided during Kingston Hydro's regular business hours, and necessitates a special read, a fee based on the actual cost of the meter read may be charged.

The meter must be read by a representative of Kingston Hydro, at minimum, once every six (6) months. Failure to provide access as described will result in an estimated reading being used for billing purposes and may lead to service interruption - See *Section 1.7.1* Distributor Rights - Section 40 of the *Electricity Act*.

If upon inspection of metering equipment, it is found that the Customer/Consumer has in any way tampered with the installation of this equipment, the supply of electricity may be disconnected until the Customer/Consumer relocates the meter to an outside location and reimburses Kingston Hydro for an estimated amount of all unmetered electricity.

2.7.5. Final Meter Reading

A minimum of five (5) business days' notification of a Customer/Consumer's request to terminate service is required. Final readings will be taken on the requested final day of service whenever possible. Final readings taken within seven (7) calendar days of the termination of service will be used without pro-ration; otherwise the final read will be calculated using a pro-rated amount between two actual readings. If access cannot be gained to the meter within a reasonable timeframe, the final reading will be estimated.

2.7.6. Faulty Registration of Meters

Metering electricity usage for the purpose of billing is governed by the federal *Electricity and Gas Inspection Act* and associate regulations under the jurisdiction of Measurement Canada, a division of Industry Canada. Kingston Hydro's revenue meters are required to comply with the accuracy specifications established by the regulations under the said Act. When a measurement dispute arises, the Customer/Consumer and/or Kingston Hydro may request intervention by Measurement Canada.

In the event of incorrect electricity usage registration, Kingston Hydro will determine the correction factors based on the specific cause of the metering error and the Customer/Consumer's electricity usage history. The Customer/Consumer shall pay

a reasonable sum for all of the energy supplied based on the reading of any meter formerly or subsequently installed on the premises by Kingston Hydro. Due regard shall be given to any change in the character of the installation and/or the demand.

When a billing error has resulted in over-billing and Measurement Canada is not involved, the Customer/Consumer will be credited with the erroneously paid amount for a period not exceeding six years.

When a billing error has resulted in under-billing and Measurement Canada is not involved, the Customer/Consumer will normally be charged with the amount erroneously not billed for a period not exceeding:

- Two years, in the instance of an individual residential Customer/Consumer who was not responsible for the error, or the duration of the defect for any proven cases of willful damage or power diversion;

Or

- The duration of the defect, for a non-residential Customer/Consumer.

In the instance of under-billing, the Customer/Consumer, upon request, will be permitted to re-pay the amount over a period of time mutually agreed upon by both Kingston Hydro and the Customer/Consumer, but no longer than the duration of the error.

In instances of over-billing, Kingston Hydro will refund the amount owed to the Customer/Consumer immediately upon the completion of the investigation.

In instances in which Measurement Canada is involved, Measurement Canada will act as an arbitrator and shall determine the appropriate time period for adjustment.

2.7.7. Meter Dispute Testing

Metering inaccuracy is an extremely rare occurrence. Most billing inquiries can be resolved between the Customer/Consumer and Kingston Hydro without resorting to the meter dispute test.

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

2.8. Tariffs and Charges

2.8.1. Service Connection

Kingston Hydro will charge a service connection fee as detailed in the Conditions of Service for new and upgraded service connections.

Where a Customer/Consumer or Developer proposes the development of a premise that requires Kingston Hydro to place orders for equipment for a specific project and

prior to actual construction, the Customer/Consumer or Developer is required to sign the necessary Connection Agreement and provide a suitable deposit prior to such equipment being ordered by Kingston Hydro.

The following can be made in lieu of cash deposits:

- an irrevocable letter of credit;
- a letter of guarantee, provided that it is issued with no expiration date, by either a Chartered Bank, a Trust Company, or a Credit Union.

2.8.2. Energy Supply

2.8.2.1. Standard Service Supply (SSS)

All existing Kingston Hydro Customer/Consumers are Standard Service Supply (SSS) Customer/Consumers until Kingston Hydro is informed of their transfer to a competitive electricity retailer.

The Service Transfer Request (STR) must be made by the Customer/Consumer or the Customer/Consumer's authorized retailer.

2.8.2.2. Retailer Supply

Customer/Consumers transferring from SSS to a retailer shall comply with the STR requirements as outlined S. 10 of the RSC.

2.8.2.3. Customer/Consumer Switching to Retailer

There are no physical Service Connection differences between SSS Customer/Consumers and third party retailers Customer/Consumers. Both Customer/Consumer energy supplies are delivered through the local Distributor with the same distribution requirements. Therefore, all service connections requirements applicable to the SSS Customer/Consumers are applicable to third party retailers' Customer/Consumers.

2.8.2.4. Wheeling of Energy

All Customer/Consumers considering delivery of electricity through the Distributor's distribution system are required to contact Kingston Hydro for technical requirements and applicable tariffs.

2.8.3. Security Deposits

2.8.3.1. General

Security Deposits provide a measure of security to Kingston Hydro for financial loss due to default of Customer/Consumer payments.

Security Deposits act to mitigate this financial impact, as the Utility must recover from all other Customer/Consumers, losses resulting from non-payment.

Security Deposits may be required at the time of application for service, at the time of the customer's annual review as outlined herein or as soon as the customer fails to meet the definition of good payment history.

Security Deposits shall not constitute payment of an outstanding account, in whole or in part, and will be held by Kingston Hydro and may be returned to the customer during its review or upon closure of an account as outlined below.

All security payments shall be calculated according to the prescribed methodology as outlined in the Ontario Energy Board's Distribution System Code as amended from time to time.

2.8.3.2. Calculation of Security Deposit

The maximum amount of the required Security Deposit will be based on 2.5 times the customer's average monthly bill for that service address during the most recent 12 months within the past two years. In circumstances where valid or appropriate consumption history is not available, Kingston Hydro will estimate the loads or average consumption using data from similar properties.

Notwithstanding section 2.4.3.2.1, for those customers who have received more than one disconnection notice in the past 12 months, Kingston Hydro may use the customer's highest actual monthly load for the most recent 12 months within the past two years.

2.8.3.3. Timing of Payment of Security Deposit

A Security Deposit, as required as set out below, shall be paid in equal instalments over four months; the first instalment is due either at the time of application for service or on the customer's first bill, and the remaining instalments will be applied to the customer's account in three equal amounts over the next three next three bills. A customer may, in its discretion, choose to pay the Security Deposit over a shorter period of time.

2.8.3.4. Waiver of Security Deposit

Kingston Hydro requires a Security Deposit from a customer unless the customer has a good payment history as follows:

- 1 year - residential customers
- 5 years – non-residential customers in a <50kW demand rate class
- 7 years – all other customers

The time period that makes up a good payment history will be the most recent period of time and some of the time must have occurred in the previous 24 months.

A customer is deemed to have a good payment history with Kingston Hydro unless during the relevant time period set out in 2.4.3.4.1, any of the following has occurred:

- the customer has received more than one disconnection notice from Kingston Hydro,
- more than one cheque given to Kingston Hydro was returned for insufficient funds,
- more than one pre-authorized payment to Kingston Hydro has been returned for insufficient funds
- a disconnect/collect trip has occurred.

If any of the foregoing occurred as a result of an error by Kingston Hydro, then the customer's good payment history shall not be affected.

Kingston Hydro shall not require a Security Deposit from a customer where that customer:

- provides a letter from another electricity distributor or gas distributor in Canada confirming the customer's good payment history for the period noted in 2.4.3.4.1 above; or
- a customer, other than a customer in a >5000 kW demand rate class provides a satisfactory credit check made at the customer's expense. A satisfactory credit check will be a credit check submitted with a FICO score of not less than 700.

Deposit waivers are voided immediately if at any time, the customer fails to meet the definition of a good payment history.

2.8.3.5. Review and Update of Security Deposits

Commencing February 1, 2005, Kingston Hydro will review every customer's Security Deposit once every calendar year to determine whether the entire amount of the Security Deposit is to be returned to the customer as the customer would now be exempt from the Security Deposit requirements noted above. If eligible, Kingston Hydro shall return the Security Deposit to the customer by way of a credit on the customer's account or otherwise.

Notwithstanding the foregoing, in the case of a customer in a >5000kW demand rate class, Kingston Hydro shall only return 50% of the Security Deposit held by Kingston Hydro.

As a result of the review, customers may be required to pay a Security Deposit or increase the amount of their Security Deposit. If required, Kingston Hydro shall charge the required increase in the Security Deposit on the customer's bill. Kingston Hydro may apply the full amount of the adjustment on the next bill to the customer.

2.8.3.6. Interest on Security Deposits

Interest shall accrue monthly on Security Deposits made by way of cash or cheque commencing upon receipt of the total deposit. The interest rate shall be

the Bank of Canada Prime Business Rate published on the Bank of Canada website less 2%, updated quarterly commencing August 1, 2004. Kingston Hydro shall pay out the interest by crediting the customer's account or otherwise on the earlier of:

- once every 12 months
- on return of the security deposit
- on applying the security deposit to the account
- on closure of the account

2.8.3.7. Return of Security Deposits upon Closure of an Account

Kingston Hydro shall return any Security Deposit within 6 weeks of the closure of an account subject to Kingston Hydro's right to use the Security Deposit to set off other amounts owing to Kingston Hydro.

The Security Deposit will normally be applied as a credit to the account or a cheque will be issued if the account has been finalized.

For the purposes of these Conditions of Service, closure of an account will be when the final bill has been processed.

2.8.3.8. Acceptable Forms of Security - Residential Customers

The form of payment of a Security Deposit for a residential customer shall be one of the following:

- cash,
- cheque.
- such other form that is acceptable to Kingston Hydro at the time of payment.

2.8.3.9. Acceptable Forms of Security – Non-Residential Customers

The form of payment of a security deposit for a non-residential customer shall be:

- cash,
- cheque,
- an automatically renewing, irrevocable letter of credit issued by a Chartered Bank; a Trust Company; or a Credit Union,
- such other form of security acceptable to Kingston Hydro

2.8.3.10. Limits on Amounts of Security Required

Where a non residential customer in any rate class other than a <50 kW demand rate class has a credit rating from a recognized credit rating agency, the

maximum amount of a Security Deposit which Kingston Hydro requires the non residential customer to pay shall be reduced in accordance with the following table:

Table 3 – Allowable Reduction in Security Deposits by Credit Rating

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

2.8.3.11. Enforcement Where Security Deposits are not Paid

In the event a Security Deposit is not paid by the due date, Kingston Hydro may use collection activities to enforce payment that include, but are not limited to, disconnection of service (see Section 2.2).

2.8.4. Billing

Kingston Hydro may, at its option, render bills to its Customer/Consumers on either a monthly, bi-monthly or quarterly basis. Bills for the use of electrical energy may be based on either a meter reading or an estimated reading, or a flat rate or estimated rate, as determined by Kingston Hydro.

The Customer/Consumer may dispute charges shown on the Customer/Consumer's bill or other matters by contacting and advising Kingston Hydro of the reason for the dispute.

Kingston Hydro will promptly investigate all disputes and advise the Customer/Consumer of the results.

2.8.5. Account Set-up Charge

When a Customer establishes a new account, a charge is applied to their first bill. This charge applies to both those Customers who are new to Kingston Hydro's distribution territory and those who have moved locations within Kingston Hydro's distribution territory.

2.8.6. Arrears Certificate

A charge is levied to provide a certificate of arrears per service address. This is typically provided to lawyers during a property purchase.

2.8.7. Payment Plans

Kingston Hydro shall offer the following payment plans:

2.8.7.1. Equal Payment Plan (EPP)

The Customer/Consumer's estimated yearly charges will be divided into 11 equal payments, with the 12th month being the 'settle-up' month. Throughout the 12-month period, the equal payment amount may be adjusted upwards or downwards, as actual billings warrant. Customers/Consumers shall be notified in advance on their monthly statement of any required adjustments.

The equal payment plan shall be reconciled annually. At that time, Customer/Consumers will receive notification on their monthly statement of the charge or credit for the difference between the monthly installments billed and the actual cost of the consumption that they used.

Upon request, the Customer/Consumer may opt out of this plan at any time, at which point, standard billing and collection timelines shall apply. Also, if monthly payments are not maintained, Customer/Consumers shall be removed from the plan.

This plan is available to Residential and small Commercial Customer/Consumers (<50kw) on Standard Supply Service only. In order to participate in the Equal Payment Plan, the Customer/Consumer must have a zero balance on their account.

Effective March 1, 2009, EPP start months will be either June or July, depending on the month of the customer's scheduled meter reads.

2.8.7.2. Pre-authorized Payment (PAP)

A pre-authorized bank debit of the net billed amount shall be withdrawn from the Customer/Consumer's bank account on the due date of the bill, according to the billing cycle.

If payments are not maintained or remain outstanding, the Customer/Consumer shall be automatically removed from the plan within thirty (30) days of the due date.

Upon request, the Customer/Consumer may opt out of this plan, at any time.

This plan is available to all Customer/Consumers, with the exception of those who currently have retailer-consolidated billing.

Further terms and conditions are provided on the payment plan application, which must be authorized and returned with a void cheque.

Customer/Consumers who default on their payments shall be required to restore payment by the next month's withdrawal date, in addition to the current monthly payment. If the Customer/Consumer cannot update their payments, the plan will be suspended until the balance is cleared. If a security deposit is not already

applied to the Customer/Consumer's account, a request will be initiated at that time.

2.8.8. Late Payment Charges & N.S.F. Cheques

Overdue accounts are subject to interest charges. Bills are payable in full by the due date; otherwise, Late Payment Charges will apply.

Where a payment has been made by the Customer/Consumer on or before the due date, Late Payment Charges will apply only to the amount outstanding at the due date.

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

Kingston Hydro shall not be liable for any damage on the Customer/Consumer's premises resulting from such discontinuance of service. A reconnection charge will apply where the service has been disconnected due to non-payment.

The Customer/Consumer will be required to pay additional charges for the processing of non-sufficient fund (N.S.F.) cheques.

2.8.9. Special Charges

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

2.8.9.1. Energy Deposit

As a guarantee of payment of energy bills, some Customers will be required to pay a deposit to Kingston Hydro.

2.8.9.2. Standby Capacity Charge

In some cases, it may be deemed reasonable for Kingston Hydro to charge for standby capacity.

2.8.9.3. Transfer Charge

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

2.9. Customer Information

A third party who is not a retailer may request historical usage information with the written authorization of the Customer/Consumer to provide their historical usage information.

Kingston Hydro will provide information appropriate for operational purposes that has been aggregated sufficiently, such that an individual's Customer/Consumer information cannot reasonably be identified, at no charge to another Distributor, a transmitter, the IESO or the

OEB. Kingston Hydro may charge a fee that has been approved by the OEB for all other requests for aggregated information.

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

Upon receiving an inquiry from a Customer/Consumer connected to its distribution system, Kingston Hydro will either respond to the inquiry if it deals with its own distribution services or provide the Customer/Consumer with contact information for the entity responsible for the item of inquiry, in accordance with Chapter 7 of the Retail Settlement Code.

An embedded distributor that receives electricity from Kingston Hydro shall provide load forecasts or any other information related to the embedded distributor's system load to Kingston Hydro, as determined and required by Kingston Hydro.

A Distributor shall not require information from another distributor unless it is required for the safe and reliable operation of either the Distributor's distribution system or to meet a Distributor's license obligations.

2.10. Service Connection Types Overview

This section defines Kingston Hydro's Customer Classes (also referred to as Distribution Rate Groups). Customer Classes determine distribution rates. It also makes reference to additional documentation defining the technical interfaces between Kingston Hydro and its Customer/Consumers, typical demarcation points, and connection charge methodology.

This section also defines Kingston Hydro's main Service Connection Type categories. Service Connection Types identify the physical interface requirements with the distribution network. The Service Connection Type also determines how requests for new or upgraded services from Customer/Consumers are processed, approved and financed.

Service Connection Types **do not necessarily correspond** to Customer Classes. For example, an apartment building may have a General Secondary Service Connection Type with individually metered apartment dwelling units that are billed according to Residential Class rates.

Service Connection Types may be referred to as either "Primary" or "Secondary". These distinctions are based on the nominal service voltage, regardless of the location of the service meter, as outlined in s.3.2 – Definitions.

This section also defines further aspects of Kingston Hydro's Customer Classes and Service Connection Types.

2.11. Customer Classes (Distribution Rate Groups)

A brief description of the Customer Classes taken from Kingston Hydro's OEB approved Rate Order is provided for clarification purposes. Please refer to the OEB Electricity Rates Handbook for further details regarding distribution rates.

2.11.1. Residential Class

This classification refers to an account taking electricity at 750 volts or less where the electricity is used exclusively in a separately metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triplex or quadruplex house, with a residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. All customers are single phase.

2.11.2. General Service < 50kW

This classification refers to a non-residential account taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than, 50kW.

2.11.3. General Service 50 to 4,999 kW

This classification refers to a non-residential account whose monthly average peak demand is equal to or greater than 50kW and less than 5,000 kW, or is forecast to be equal to or greater than 50 kW and less than 5,000 kW.

2.11.4. Large Use

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

2.11.5. Unmetered Scattered Load

This classification refers to an account taking electricity at 750 volts or less whose monthly average peak demand is less than, or is forecast to be less than, 50 kW and the consumption is unmetered. Such connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The customer will provide detailed manufacturer information/documentation with regard to electrical demand/consumption of the proposed unmetered load.

2.11.6. Standby Power

This classification refers to an account that has load Displacement Generation and requires Kingston Hydro to provide back-up service.

2.11.7. Street Lighting

This classification refers to an account for roadway lighting with a Municipality, Regional Municipality, Ministry of Transportation and private roadway lighting operation, controlled by photo cells. The consumption for these customers will be based on the calculated connected load times the required lighting times established in the approved OEB street lighting load shape template.

2.12. Reference Documents

The following stand-alone documents are considered appendices to this Conditions of Service, providing additional, detailed information targeted to Consumers/Customers interested in obtaining more detailed information than is available in this Conditions of Service. These documents shall be made available to Consumers/Customers or Embedded Generators upon request, or can be accessed online at www.utilitieskingston.com/electric

2.12.1. Appendix A – Economic Evaluation Model for Distribution System Expansion

As per the requirements of the DSC, this document contains Kingston Hydro's Capital Contribution policies and methodology for conducting Economic Evaluations of proposed connections which require an expansion of its distribution system.

2.12.2. Appendix B – Kingston Hydro Guide for Distributed Generators

This document contains information about Kingston Hydro's process for connecting all types of generation to its distribution system, including technical specifications, safety concerns, financial settlement options, and Kingston Hydro's process for connecting Embedded Generators, Load Displacement Facilities, Backup Generators, and all other types of generators in line with OEB regulations.

2.12.3. Appendix C – Kingston Hydro Metering Specifications

Additional information about Kingston Hydro's requirements and conventions for metering. Please contact Kingston Hydro for the latest specifications and requirements. Nothing contained in these specifications shall prejudice or supersede any regulation or requirement of the Ontario Electrical Safety Code for Customer/Consumer's owned equipment.

2.12.4. Appendix D – Sample Connection Agreements

This appendix contains examples of connection agreements typically executed between Kingston Hydro and some of its customers. It should be noted that these agreements may or may not be modified at the sole discretion of Kingston Hydro depending on the individual characteristics of a requested connection.

2.12.5. Appendix E – Smart Sub-Metering Information for Condominiums

This document contains information for new and existing condominium corporations in regards to their rights and obligations to effect smart metering of residences by 2010 as required by legislation in Ontario.

2.13. Typical Demarcation Points and Connection Charge Methodology

2.13.1. Basic Connection Charges

In general, Kingston Hydro defines a basic connection and recovers the cost of this basic connection as part of its revenue from rates. Basic Connection Charges are reviewed annually. A service layout fee will be charged to cover the cost of providing the connection documentation to the Customer/Consumer.

2.13.1.1. Residential

For residential services, the basic connection is defined as a 120/240V, single phase service up to 200A in size supplied with up to 30 metres of overhead cable.

Note: Over 200 amps will be treated as a Non-Residential Service.

The Basic Residential Allowance represents the maximum amount that Kingston Hydro will consider for recovery through revenue from rates. It is calculated as the actual cost to supply and install a 200A, 120/240V, single phase service including transformation capacity, standard meter and 30 metres of overhead cable. Any connection cost for residential Customer/Consumers exceeding the Basic Residential Allowance shall be recovered through a Variable Connection Charge.

2.13.1.2. Non-Residential

For non-residential services, the basic connection charge does not apply. The Basic Non-Residential Allowance is zero. The cost of connection is recovered solely through a Variable Connection Charge.

2.13.2. Variable Connection Charge

For all Customer/Consumer classes, a Variable Connection Charge is calculated as the costs associated with the installation of Connection Assets. This Variable Connection Charge is based on 100% of actual costs following completion of the work.

2.13.3. Demarcation Points

The “ownership demarcation point”, as defined by Electrical Distribution Safety Regulation (O.Reg 22/04) and the DSC, is the point where responsibility for electrical installation and inspection passes from Kingston Hydro to the Consumer/Customer. In most cases, this is analogous to the distribution system side of the Customer /Consumer’s dedicated revenue meter. On the distribution system side of the ownership demarcation point, electrical installations and equipment must be installed and inspected in accordance with the Electrical Distribution Safety Regulation (O.Reg 22/04). On the Customer/Consumer side of the ownership demarcation point electrical installations and equipment must be installed and inspected in accordance with the Ontario Electrical Safety Code.

Examples of ownership demarcation points for different customer classes are outlined in table below. The ownership demarcation point may vary from that in the table as per a separate written connection agreement between Kingston Hydro and the Customer/Consumer.

The “connection demarcation point” is the boundary between the Customer/Consumer’s service connection assets and distribution system assets. This is defined as the first point of isolation between the distribution system and connection assets which solely service a given customer.



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In some cases, Kingston Hydro is solely responsible for the maintenance and replacement of connection assets. In other cases, some portion of the costs for maintenance and replacement of specific components may be the responsibility of the Customer/Consumer. In these cases, the respective responsibilities of both Kingston Hydro and the Customer/Consumer shall be outlined in a Connection Agreement between the Customer/Consumer and Kingston Hydro.

Table 4 - Typical Demarcation Points and Connection Charge Methodology

Connection Type	Routing Method	Ownership Demarcation Point	Connection Charges Applicable at "time of hook-up"
Residential Service (Secondary) Up to 200 amps	Overhead Service from Overhead System	Connections at top of mast	Variable Connection Charge less Basic Residential Allowance (Typically, no charge up front for 120/240V services up to 200A with up to 30m of overhead cable)
	Underground Service from Overhead System	Connection of underground line to Kingston Hydro pole mast.	Variable Connection Charge less Basic Residential Allowance
	Underground Service from Underground System	Line side of main switch or exterior meter socket where applicable	Variable Connection Charge less Basic Residential Allowance
	Underground Service from Underground System (Subdivision Development)	Line side of main switch or exterior meter socket where applicable	Variable Connection Charge less Basic Residential Allowance Developer pays expansion costs. Exceptions the Basic Residential Allowance may apply.
General Secondary Service – Small	Overhead Service from Overhead System	Connections at top of mast	Variable Connection Charge
	Underground Service from Overhead System	Connection of underground line to Kingston Hydro pole mast.	Variable Connection Charge
	Underground Service from Underground System	Line side of main switch or exterior meter socket where applicable	Variable Connection Charge
General Secondary Service - Large	Underground Service from Pad Mount Transformer	Secondary Connections at load side of transformer	Variable Connection Charge
	Service from Vault Transformer	Secondary Connections at load side of transformer.	Variable Connection Charge
Primary Service	Overhead Supplied	First point of attachment on customer/consumer's property	Variable Connection Charge
	Underground Supplied	Primary termination at first point of isolation	Variable Connection Charge

Note: If the 'Variable Connection Charge' less than the 'Basic Residential Allowance' no connection charge is applicable

2.14. Residential Service Connections

Residential Secondary Service Connections that qualify to deduct the Basic Residential Allowance from the Variable Connection Charge and whose service requirements fall within the limits identified in the following table:

Table 5 - Residential Secondary Services

Phase & Wires	Supply Voltage	Max. Service Size	Max. Service Capacity	Standard Service Availability Areas
1phase 3wire	120/240V	200A	37.5kVA	All Areas except Downtown Network
	120/208V ¹	200A	33.3kVA	Downtown Network
3phase 4wire	120/208V ¹	200A	50kVA	Downtown Network

Notes:

1. Should non-standard service voltage or configurations be desired by the customer, they may request such a service. Additional costs and requirements may apply to such connections. Kingston Hydro reserves the right to refuse connection of a given service voltage or configuration where provision of such a service is not possible or a functionally equivalent service voltage or configuration is already available
2. Customers should check the ratings of electric heating appliances, motors and other equipment connected to a 208V supply voltage to ensure compatibility and proper operation.

2.14.1. Residential Service with One Supply and One Meter

This section applies to single family dwelling units (i.e. detached and semi-detached homes or freehold townhouses) receiving one supply that has one meter and whose service requirements fall within the limits identified in Table 5.

This section also applies to small apartment buildings with three or less dwelling units receiving one supply that has one meter (bulk-metered) and whose service requirements fall within the limits identified in Table 5.

Where electricity service is provided to combined residential and non-residential and the wiring does not provide for separate metering, residential rates will not normally be applicable for the purposes of billing.

2.14.1.1. Service Requirements

Kingston Hydro will provide one secondary electrical service per residential civic address.

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

Kingston Hydro may, at its discretion, provide additional electrical services to separate detached buildings sharing a common residential civic address (i.e. another residence, garage, shop, pool house, etc.). The classification of additional services shall be at the discretion of Kingston Hydro. Additional electrical services will be registered under separate Customer/Consumer accounts.

Residential connections will be offered services as indicated in Table 5. 120/208V is available in the downtown network only.

The Basic Residential Allowance covers the cost of supplying a 120/240V, 3 wire, overhead residential service up to 200A in size and up to 30 metres in length. Residential Customer/Consumers requesting services greater than 200A will not be eligible for the Basic Residential Allowance and will be serviced according to the General Secondary Service Connection requirements.

Kingston Hydro shall designate the point of supply.

The Customer/Consumer shall provide a meter socket as described in the Metering Specifications document.

The Meter Socket shall be located outside and be easily accessible. The Meter Socket shall be located within 1 metre of the front corner of the building. The mounting height above finished grade shall be 1.7 metres to the centre of the meter. The actual point of supply, location of the service entrance (i.e. overhead standpipe or underground riser conduit) and the Meter Socket will be established during the service layout process through consultation with Kingston Hydro. Failure to comply with the final service layout may result in relocation of the service at the customer/consumer's expense.

Where existing revenue metering is located inside a residence, the Customer/Consumer will be required to relocate the meter to the exterior of the building when upgrading the electrical service, working on service conductors within standpipes, or relocating the service entrance.

The routing of a service (i.e. overhead or underground) shall generally be determined by the type of distribution that "lies along". For example, an overhead service would typically be proposed in locations where the distribution is supplied overhead from a pole line. Similarly, an underground service would typically be proposed in locations where the distribution is supplied underground from a pad mount transformer. In some cases, underground service may be stipulated by Kingston Hydro.

2.14.1.2. Overhead Service

Kingston Hydro will provide up to 30m of overhead service conductor from the street line to the demarcation point as part of the basic connection. The Customer/Consumer shall pay the cost of services exceeding 30 m or standard cable size. In some circumstances the Customer/Consumer may be required to construct a private pole line.

2.14.1.3. Underground Service

Kingston Hydro will install secondary service conductors, to a maximum length of standard secondary conductors (voltage drop and ampacity characteristics), at the Customer/Consumer's expense from the street line to the demarcation point less the Basic Residential Allowance.

All road cuts and permits shall be coordinated and approved by Kingston Hydro in the case of underground services crossing a roadway.

Restrictions may apply to recently paved roads.

2.14.1.4. Servicing Costs

The Connection Charge methodology is summarized in Section 3.4.

Additional variable charges may apply for residential Customer/Consumers serviced from the downtown underground network.

The Basic Residential Allowance shall not apply to additional services installed at a civic address.

The Expansion Charge methodology is summarized in Appendix A.

Metering costs shall be applied in accordance with Metering Specifications.

2.14.1.5. Site Information

Prior to establishing service details, Kingston Hydro will require the following information from the Customer/Consumer:

- Civic address;
- Customer/Consumer billing information;
- Requested energization date;
- Amperage of the service;
- Completed "Request for Electrical Service"
- A site plan (may be requested).

2.14.1.6. Metering

Please refer to Appendix C – Kingston Hydro Metering Specifications or contact the Utilities Kingston Meter Shop at (613)546-1181.

2.14.1.7. Inspection

Kingston Hydro requires notification from ESA indicating that an inspection has been conducted and approved prior to energization.

The service entry components, including the Meter Socket, shall be inspected and approved by Kingston Hydro prior to energization.

2.14.2. Residential - Subdivision Developments

This section pertains to the supply of electrical energy to homes that are built as part of a subdivision development.

The Developer is required to enter into a Subdivision Agreement and provide up-front payment for the ordering of equipment and associated design and construction work for the installation of the proposed underground electrical distribution system. This amount will be paid concurrently with the signing of the Subdivision Servicing Agreement.

In case of conflict between the Subdivision Servicing Agreement and the terms herein, the Subdivision Servicing Agreement shall be binding. All design work including service locations and trench routes must be approved by Kingston Hydro.

2.14.2.1. Service Requirements

The distribution systems and services shall be underground.

The Customer/Consumer shall provide a meter socket(s) as described in the Metering Specifications document.

The Meter Socket shall be located outside and be easily accessible. The meter socket shall be located within 1 metre of the front corner of the building. The mounting height above finished grade shall be 1.7 metres to the centre of the meter. The actual point of supply, location of the service entrance (i.e. overhead standpipe or underground riser conduit) and the Meter Socket will be established during the service layout process through consultation with Kingston Hydro. Failure to comply with the final service layout may result in relocation of the service at the customer/consumer's expense.

The Developer is responsible for the supply and installation of the portion of the distribution system within the development property that benefits only the Developer. This portion of the distribution system may be installed entirely by the Developer. Where the Developer carries out the work, they shall warranty the work for a 1 year period commencing upon acceptance of the work by the Kingston Hydro.

Alternatively, the Developer may request Kingston Hydro to complete the portion of the distribution system within the development property that benefits only the Developer. Kingston Hydro will provide a cost estimate for this work.

When Kingston Hydro installs the secondary service conductors, they will be installed to a maximum length of standard secondary conductors (voltage drop and ampacity characteristics), at the Customer/Consumer's expense from the street line to the demarcation point less the Basic Residential Allowance.

Service Requirements for residential Customer/Consumers in subdivision developments shall generally be the same as those outlined in 2.14.1.1.

Kingston Hydro will own and operate the distribution system after installation regardless of who carries out the work.

2.14.2.2. Servicing Costs

Expansion costs shall be paid entirely by the Developer. The Expansion Charge methodology is summarized in Appendix A, (Economic Evaluation Model for Distribution System Expansion).

Costs within the development property that benefit only the Developer will be paid entirely by the Developer. Kingston Hydro will own and operate the distribution system after installation regardless of who carries out the work.

The Connection Charge methodology is summarized in Section 3.4.

Residential subdivisions involving creation of new lots, blocks and/or public road allowances are considered as expansions and will require a Subdivision Agreement between the distributor and the owner.

Metering costs shall be applied in accordance with the Appendix C – Kingston Hydro Metering Specifications.

2.14.2.3. Site Information

Prior to establishing service details, Kingston Hydro will require the following information from the Customer/Consumer:

- A site plan;
- Civic address;
- Customer/Consumer billing information
- Requested energization date
- Amperage of the service
- Completed "Request for Electrical Service" form
- Load summary sheet
- Engineering Plans
- Proposed Utility Service
- All subdivision engineering documents

2.14.2.4. Metering

Refer to Appendix C – Kingston Hydro Metering Specifications or contact the Utilities Kingston Meter Shop at (613)546-1181.

2.14.2.5. Inspection

Kingston Hydro requires notification from ESA indicating that an inspection has been conducted and approved prior to energization. The service entry components, including the meter socket shall be inspected and approved by Kingston Hydro prior to energization.

2.15. General Services – Secondary

This section applies to general secondary services where the Customer/Consumer's responsibility is limited to the facilities associated with the secondary service feed.

2.15.1. Service Requirements

Kingston Hydro will provide one secondary service per civic address.

In circumstances where two existing services are installed at a civic address and one service is set to be upgraded, the upgraded service will replace both of the existing services.

Kingston Hydro may, at its discretion, provide additional electrical services to separate detached buildings sharing a common civic address (i.e. a garage, shop etc.). The classification of additional services shall be at the discretion of Kingston Hydro. Additional electrical services will be registered under separate Customer/Consumer accounts.

Customer/Consumers requesting a general secondary service of the 'small transformation' will be offered secondary services with voltages, service size, capacity and availability as described in the following table.

Table 6 - General Services – Secondary

Phase & Wires	Supply Voltage	Max. Service Size	Max. Service Capacity	Availability of Service
1 Phase 3 Wire	120/240V	400A	75kVA	Generally, in All Areas except Downtown Network
	120/208V ₁	200A	33.3kVA	Downtown Network Only
3 Phase 4 Wire	120/208V ₁	400A	112.5kVA	Downtown Network Only
	347/600V	200A	112.5kVA	Industrial Park Areas Only

Notes:

1. Should non-standard service voltage or configurations be desired by the customer, they may request such a service. Additional costs and requirements may apply to such connections. Kingston Hydro reserves the right to refuse connection of a given service voltage or configuration where provision of such a service is not possible or a functionally equivalent service voltage or configuration is already available
2. Customers should check the ratings of electric heating appliances, motors and other equipment connected to a 208V supply voltage to ensure compatibility and proper operation.

Kingston Hydro shall designate the point of supply.

The Customer/Consumer shall provide a meter socket(s) as described in the Metering Specifications document.

The meter socket shall be located outside and be easily accessible. The meter socket shall be located within 1 metre of the front corner of the building. The mounting height above finished grade shall be 1.7 metres to the centre of the Meter Socket. The actual point of supply, location of the service entrance (i.e. overhead standpipe or underground riser conduit) and the meter socket will be established during the service layout process through consultation with Kingston Hydro. Failure to comply with the final service layout may result in relocation of the service at the Customer/Consumer's expense.

Where existing revenue metering is located inside a building, the Customer/Consumer will be required to relocate the meter to the exterior of the building when upgrading the electrical service, working on service conductors within standpipes, or relocating the service entrance.

The routing of a service (i.e. overhead or underground) shall generally be determined by the type of distribution that "lies along" or shall adhere to Municipal Development Standards. For example, an overhead service would typically be proposed in locations where the distribution network is supplied overhead from a pole line. Similarly, an underground service would typically be proposed in

locations where the distribution network is supplied underground from a pad mount transformer. In some cases, underground service may be stipulated by Kingston Hydro.

2.15.2. Overhead Service

Kingston Hydro shall designate the pole from which the service will be supplied and the location of the standpipe. In some circumstances the Customer/Consumer may be required to construct a private pole line.

2.15.3. Underground Service

Kingston Hydro will install secondary service conductors, to a maximum length of standard secondary conductors (voltage drop and capacity characteristics), at the Customer/Consumer's expense from the street line to the demarcation point.

All road cuts and permits shall be coordinated and approved by Kingston Hydro in the case of underground services crossing a roadway. Restrictions may apply to recently paved roads.

2.15.4. Servicing Costs

The Connection Charge methodology is summarized in s.2.13.

Additional variable charges may apply for Customer/Consumers serviced from the downtown underground network.

The Expansion Charge methodology is summarized in Appendix A, (Economic Evaluation Model for Distribution System Expansion).

Metering costs shall be applied in accordance with Appendix C (Kingston Hydro Metering Specifications).

2.15.5. Site Information

Prior to establishing service details, Kingston Hydro will require the following information from the Customer/Consumer:

- A site plan;
- Civic address;
- Customer/Consumer billing information;
- Requested energization date;
- Amperage of the service;
- Completed "Request for Electrical Service" form;
- Service entrance and metering equipment details prior to ordering;
- A load summary sheet for connections with monthly demand greater than 50kw.

2.15.6. Metering

Refer to Appendix C – Kingston Hydro Metering Specifications or contact the Utilities Kingston Meter Shop at (613)546-1181.

2.15.7. Inspection

Kingston Hydro requires notification from ESA indicating that an inspection has been conducted and approved prior to energization. The service entry components, including the meter socket shall be inspected and approved by Kingston Hydro prior to energization.

2.16. General Services – Primary

This section applies to general services where the Customer/Consumer is responsible for civil works and facilities associated with the transformer, primary feed and/or secondary feed. Either Kingston Hydro or the customer may own the transformer dedicated to the customer/consumer's electricity service. In all cases, customer-owned transformers and civil works must be compliant with all relevant safety regulations and legislation, and be installed in a manner consistent with good utility practice.

Primary services are typically reserved for apartments, commercial, industrial, and institutional developments upon customer request. Primary services may be fed from Kingston Hydro's 44 kV, 13.8 kV, or 4.16/2.4 kV networks. Determination of the appropriate network for servicing of a given customer shall be at the sole discretion of Kingston Hydro. Kingston Hydro shall designate the point of supply.

Table 7 - General Service Availability – Primary

Phase & Wires	Supply Voltage	Max. Service Size	Max. Service Capacity	Availability of Service
1 phase 3 wire	120/240V	600A	100 kVA	Pole and/or Pad Mount Transformer
3 phase 4 wire	120/208V ¹ 347/600V	1800A 600A	500 kVA 500 kVA	
1phase 3 wire	120/240V	600A	100 kVA	Vault or Pad Mount Transformers Consult Kingston Hydro for availability
3 phase 4 wire	120/208V ¹ 347/600V	2600A 1000A	750 kVA 750 kVA	
Notes:				
1. Customers should check the ratings of electric heating appliances, motors and other equipment connected to a 208V supply voltage to ensure compatibility.				

2.16.1. Site Information

Prior to establishing service details, Kingston Hydro will require the following information from the Customer/Consumer:

- A site plan;
- Civic address;
- Customer/consumer billing information;
- Requested energization date;
- Amperage of the service;
- Completed "Request for Electrical Service" form;
- Service entrance and metering equipment details prior to ordering;
- A load summary detailing the facility's projected monthly electricity consumption and peak demand over a 12 month period.

2.16.2. From Pad-Mounted Transformer

The decision to require a pad mount or vault transformer shall rest solely with Kingston Hydro, and under no circumstances are Customer/Consumers to be advised in this regard without consultation with Kingston Hydro.

The distribution system for secondary services from pad mount transformers shall be underground. In the case of vaults, the Customer/Consumer's secondary service entrance shall be located in a room adjacent to the transformer vault.

The Customer/Consumer shall provide conduit system on private property, service cable and transformer base complete with grounding, guard posts and/or protective barriers (where specified by Kingston Hydro) in accordance with the Distributor's standards.

Kingston Hydro will supply and install the transformer, connectors for the service cable, primary cable and all facilities on the road allowance.

The transformer shall be located on the Customer/Consumer's property in a location approved by Kingston Hydro and in general the location shall be:

- Within 3.0 metres of a driveway accessible to Kingston Hydro vehicles;
- Not less than 6.0 metres from a door, window or ventilation opening and 3.0 metres from combustible surfaces on a building in accordance with the Ontario Electrical Safety Code;
- In compliance with the City of Kingston's Zoning Bylaws.

2.16.3. From Transformer Vault

The Customer/Consumer shall provide conduit system on private property and transformer vault in accordance with Kingston Hydro's standards and the Ontario Building Code.

The transformer vault shall be located at grade level with direct access to a driveway accessible to Kingston Hydro vehicles.

Kingston Hydro will supply and install supply facilities including transformers, primary cable, fusing, switching and all facilities on the road allowance.

2.16.4. Servicing Costs

The Connection Charge methodology is summarized in Section 2.13.

Additional variable charges may apply for Customer/Consumers serviced from the downtown underground network.

Primary connections may require local or upstream expansion of the distribution system and as such all primary connections are subject to an economic evaluation by Kingston Hydro. (see Appendix A). A capital contribution may be required from the customer in addition to the variable connection charge.

Metering costs shall be applied in accordance with Kingston Hydro Metering Specifications.

2.16.5. Metering

The Customer/Consumer shall provide a meter socket(s) as described in the Metering Specifications.

The meter socket shall be located outside and be easily accessible. The meter socket shall be located within 1 metre of the front corner of the building. The mounting height above finished grade shall be 1.7 metres to the centre of the Meter Socket. The actual point of supply, location of the service entrance (i.e. overhead standpipe or underground riser conduit) and the meter socket will be established during the service layout process through consultation with Kingston Hydro. Failure to comply with the final service layout may result in relocation of the service at the Customer/Consumer's expense.

Where existing revenue metering is located inside a building, the Customer/Consumer will be required to relocate the meter to the exterior of the building when upgrading the electrical service, working on service conductors within standpipes, or relocating the service entrance.

2.16.6. Inspection

Kingston Hydro requires notification from ESA indicating that an inspection has been conducted and approved prior to energization. The service entry components, including the meter socket shall be inspected and approved by Kingston Hydro prior to energization.

2.17. Customer-owned Transformation

This section pertains to apartments, commercial, industrial, and institutional developments where a primary service is requested and the customer/consumer assumes full responsibility for transformation from 13.8kV or 44kV primary voltages, all associated civil works and secondary servicing.

In rare cases, primary service connections with customer-owned transformation can be made from 4.16/2.4kV voltages at the sole discretion of Kingston Hydro.

In all cases, customer-owned transformers and civil works must be compliant with all relevant safety regulations and legislation, and be installed and maintained in a manner consistent with good utility practice.

Refer to Table 7 for primary service limitations.

Services with Customer-owned transformation shall be subject to all requirements and specifications outlined in s.2.16.

2.17.1. Customer-owned Transformation Service Requirements

Kingston Hydro will provide one primary service per civic address.

The service voltage will be established by Kingston Hydro and depending upon the size of the service, location of the building and the type of distribution plant that “lies along” will be one of the following:

- 4.16/2.4kV overhead or underground;
- 13.8kV overhead or underground;
- 44kV overhead or underground.

Table 8 - Maximum Capacity Provided

Phase & Wires	Supply Voltage	Max. Service Size	Max. Service Capacity	Availability of Service
3 phase	4.16/2.4kV	130A	750 kVA	Consult Distributor. Limitations may exist in Downtown Network
	44kV	TBD	TBD	Consult Distributor

Services with Customer-owned transformation shall utilize primary metering.

The point of supply and meter arrangement will be established through consultation with Kingston Hydro for both new and upgraded electrical services. Failure to comply with the final service layout may result in relocation of the service at the Customer/Consumer’s expense.

Additional charges may apply for Customer/Consumers serviced from the downtown underground network.

Customer owned primary switchgear and distribution equipment forming part of the Customer/Consumers service entrance shall meet Kingston Hydro's standards and shall not be ordered without prior approval from Kingston Hydro in writing.

2.17.2. Customer/Consumer Owned Transformer Credits

In the case where a customer/consumer has a primary connection to Kingston Hydro's 44kV system, they will be entitled to a transformer ownership credit based on the monthly peak demand serviced by the transformer in accordance with Kingston Hydro's rate order from the Ontario Energy Board in effect at the time.

In all other cases, costs avoided by Kingston Hydro as a result of the customer/consumer owned transformer shall be accounted for in the connection's economic evaluation.

2.18. Embedded Generation

Kingston Hydro will provide a connection to its local distribution network where it is technically feasible, for the purpose of selling energy or for load displacement within the Customer/Consumer's premise.

The electrical service shall be in accordance with Kingston Hydro's Conditions of Service and the service requirements for Embedded Generation described below.

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

When an Embedded Generator is connected to Kingston Hydro's distribution system, the Customer shall provide an interface protection that minimizes the severity and extent of disturbances to Kingston Hydro's distribution system and the impact on other Customers. The interface protection shall be capable of automatically isolating the Embedded Generator(s) from Kingston Hydro's distribution system for the following situations:

- Internal faults within the generator;
- External faults in Kingston Hydro's distribution system;

Certain abnormal system conditions, such as over/under voltage, over/under frequency.

The Customer shall disconnect the Embedded Generator from Kingston Hydro's distribution system when:

- A remote trip or transfer trip is included in the interface protection, and

- The Customer affects changes in the normal feeder arrangements other than those agreed upon in the operating agreement between Kingston Hydro and the Customer.

The requirements for embedded generation are further described in the Appendix B (Kingston Hydro Guide for Distributed Generators)

Servicing requirements, servicing costs, metering requirements, site information and site inspection requirements will be assessed on an individual basis.

2.19. Embedded Market Participant

Under the “Market Rules for the Ontario Electricity Market”, Chapter 2, Section 1.2.1, “No persons shall participate in the IESO-administered markets or cause or permit electricity to be conveyed into, through or out of IESO-controlled grid unless that person has been authorized by the IESO to do so”.

All Embedded Market Participants, within the service jurisdiction of Kingston Hydro, once approved by the IESO are required to inform Kingston Hydro of their approved status in writing, 30 days prior to their participation in the Ontario Electricity market.

2.20. Embedded Distributor

All Embedded Distributors within the service jurisdiction of Kingston Hydro are required to inform Kingston Hydro of their status in writing 30 days prior to the supply of energy from Kingston Hydro. The terms and conditions applicable to the connection of an Embedded Distributor shall be included in the Supply Agreement with Kingston Hydro.

2.21. Unmetered and Miscellaneous Connections

This section applies to un-metered scattered loads, such as street lighting, traffic signals, pedestrian signals, telephone booths, bus shelters, billboards and cable TV amplifiers.

2.21.1. Service Requirements

Servicing requirements shall generally be similar to section 3.2 General Secondary Services – Small Transformation with the exception that the service may be un-metered.

2.21.2. Servicing Cost

The Customer/Consumer shall pay the full connection cost. The Connection Charge methodology is summarized in Section 3.4.

Variable charges may apply for Customer/Consumers serviced from the downtown underground network.

The Expansion Charge methodology is summarized in Appendix A, (Economic Evaluation Model for Distribution System Expansion).

Metering costs typically do not apply for this type of connection.

2.21.3. Site Information

Prior to establishing service details, Kingston Hydro will require the following information from the Customer/Consumer:

- A site plan
- civic address
- customer/consumer billing information
- requested energization date
- amperage of the service
- completed "Request for Electrical Service" form

2.21.4. Inspection

Kingston Hydro requires notification from ESA indicating that an inspection has been conducted and approved prior to energization. The service entry components shall be inspected and approved by Kingston Hydro prior to energization.

2.22. *Customer-Owned and/or Controlled Equipment Operation*

Kingston Hydro customers are responsible for operating, connecting, or disconnecting equipment or load devices on their side of the service demarcation point under their control in a manner that allows safe operation of the distribution system at all times. Kingston Hydro reserves the right to require customers to operate, connect, or disconnect such equipment at the customer's cost should such action be required to maintain or initiate safe operation of the distribution system, except where an agreement exists between Kingston Hydro and the customer specifically allowing Kingston Hydro operation of such equipment.

3. GLOSSARY OF TERMS

The Conditions of Service document may contain a variety of terms that should be defined in the context of this document. Where possible, glossary terms should reflect definitions in existing documents that apply to the distributor, such as this Code, the distributor's License and Standard Supply Service Code. The text of the Conditions of Service document should be used to expand on these definitions as applicable to the distributor.

3.1. *Sources for Definitions*

The Electricity Act, 1998, Schedule A, Section 2, Definitions – "A"

IESO Market Rules for the Ontario Electricity Market, Chapter 11, Definitions – "MR"

Transitional Distribution License, Part I, Definitions – "TDL"

Transitional Transmission License, Part I, Definitions – "TTL"

Ontario Energy Board Distribution System Code, Definitions – "DSC"

Ontario Energy Board Retail Settlement Code, Definitions – "RSC"

3.2. Definitions

“Accounting Procedures Handbook”

The handbook approved by the Board and in effect at the relevant time, which specifies the accounting records, accounting principles and accounting separation standards to be followed by Kingston Hydro (TDL, DSC).

“Affiliate Relationships Code”

The code, approved by the Board and in effect at the relevant time, which among other things, establishes the standards and conditions for the interaction between electricity distributors or transmitters and their respective affiliated companies (TDL, DSC).

“Ancillary Services”

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

“Apparent Power”

The total power measured in kilovolt Amperes (kVA).

“Bandwidth”

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

“Billing Demand”

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

“Board” or “OEB”

The Ontario Energy Board (A, TDL, DSC).

“Building”

A building, portion of a building, structure or facility.

“Complex Metering Installation”

A metering installation where instrument transformers, test blocks, recorders, pulse duplicators and multiple meters may be employed (DSC).

“Conditions of Service”

The document developed by a distributor in accordance with subsection 2.4 of the Code that describes the operating practices and connection rules for Kingston Hydro (DSC).

“Connection”

The process of installing and activating connection assets in order to distribute electricity to a Customer (DSC).

“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 (DSC).

“Connection Assets”

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

“Consumer”

A person who uses, for the person’s own consumption, electricity that the person did not generate (A, MR, TDL, DSC).

“Customer”

A person that has contracted for or intends to contract for connection of a building. This includes Developers of residential or commercial subdivisions; (DSC), as well as embedded generators and distributors.

“Demand”

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

“Demand Meter”

A meter that measures a Customer/Consumer’s peak usage during a specified period of time (DSC).

“Developer”

A person or persons owning property for which new or modified electrical services are to be installed.

“Disconnection”

A deactivation of connection assets that results in cessation of distribution services to a Customer/Consumer (DSC).

“Distribute”

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

“Distribution Losses”

Energy losses that result from the interaction of intrinsic characteristics of the distribution network such as electrical resistance with network voltages and current flows (DSC).

“Distribution Loss Factor”

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

“Distribution Services”

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

“Distribution System”

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 Customer/Consumer and the connection assets used to connect a Customer to the main distribution system (A, MR, TDL, and DSC).

“(DSC)”

The code, approved by the Board, and in effect at the relevant time, which, among other things, establishes the obligations of Kingston Hydro with respect to the services and terms of service to be offered to Customer/Consumer and retailers and provides minimum technical operating standards of distribution systems (TDL, DSC).

“Distributor”

A person who owns or operates a distribution system (A, MR, TDL, DSC).

“Duct Bank”

Two or more ducts that may be encased in concrete used for the purpose of containing and protecting underground electric cables.

“Dwelling Unit”

A suite operated as a housekeeping unit, used or intended to be used as a domicile by 1 or more persons and usually containing cooking, eating, living, sleeping and sanitary facilities.

“Electricity Act”

The Electricity Act, 1998, S.O. 1998, c.15, Schedule A (MR, TDL, DSC).

“Electrical Safety Authority” or “ESA”

The person or body designated under the Electricity Act regulations as the Electrical Safety Authority (A).

“Electric Service”

The Customer’s conductors and equipment for energy from Kingston Hydro.

“Embedded Distributor”

A distributor who is not a wholesale market participant and that is provided electricity by a host distributor (RSC, DSC).

“Embedded Generator” or “Embedded Generation Facility”

A generator whose generation facility is not directly connected to the IESO-controlled grid but instead is connected to a distribution system (DSC).

“Embedded Retail Generator”

An embedded generator that settles through a distributor’s retail settlements system and is not a wholesale market participant (DSC).

“Embedded Wholesale Customer/Consumer”

A Customer/Consumer who is a wholesale market participant whose facility is not directly connected to the IESO-controlled grid but is connected to a distribution system (DSC).

“Embedded Wholesale Generator”

An embedded generator that is a wholesale market participant (DSC).

“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 (DSC).

“Emergency Backup”

A generation facility that has a transfer switch that isolates it from a distribution system (DSC).

“Energy”

The product of power multiplied by time, usually expressed in kilowatt-hours (kWH).

“Energy Competition Act”

The Energy Competition Act, 1998, S.O. 1998, c. 15 (MR).

“Energy Diversion”

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

“Enhancement”

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

“Expansion”

Reinforcements, capital works system additions, or equipment upgrading necessary to service the additional load placed on Kingston Hydro’s system by proposed connections that would not otherwise be made as a system enhancement..

“Extreme Operating Conditions”

Extreme operating conditions as defined in the Canadian Standards Association (“CSA”) Standard CAN3-C235-87 (latest edition).

“Four-Quadrant Interval Meter”

Means an interval meter that records power injected into a distribution system and the amount of electricity consumed by the Customer (DSC).

“Freehold Townhouse”

Refers to a residential unit of a townhouse development that does not share common services with other townhouse units in the same townhouse development. An easement from adjacent townhouse units may be required for supply of utility services to individual units.

"General Service"

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

"Generate"

With respect to electricity, means to produce electricity or provide ancillary services, other than ancillary services provided by a transmitter or distributor through the operation of a transmission or distribution system (A, TDL, DSC).

"Generation Facility"

A facility for generating electricity or providing ancillary services, other than ancillary services provided by a transmitter or distributor through the operation of a transmission or distribution system, and includes any structures, equipment or other things used for that purpose (A, MR, TDL, DSC).

"Generator"

A person who owns or operates a generation facility (A, MR, TDL, DSC).

"Geographic Distributor"

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

"Good Utility Practice"

Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry in North America during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good practices, reliability, safety and expedition. Good utility practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in North America; (MR, DSC)

"Host Distributor"

The registered wholesale market participant distributor who provides electricity to an embedded distributor; (RSC, DSC).

"House Service"

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

"IEC"

International Electrotechnical Commission.

"IEEE"

Institute of Electrical and Electronics Engineers.

“IESO”

The Independent Electricity System Operator established under the Electricity Act; (A, TDL, DSC).

“IESO-controlled Grid”

The transmission systems with respect to which, pursuant to agreements, the IESO has authority to direct operation; (A, TDL, DSC).

“Interval Meter”

A meter that measures and records electricity use on an hourly or sub-hourly basis; (RSC, DSC).

“Large User”

A Customer with a monthly peak demand of 5000 kW or greater, regardless of whether the demand occurs in the peak or off-peak periods, averaged over 12 months.

“Load Factor”

The ratio of average demand for a designated time period (usually one month) to the maximum demand occurring in that period.

“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. (DSC).

“Load transfer Customer”

A Customer that is provided distribution services through a load transfer (DSC).

“Main Service”

Refers to Kingston Hydro’s incoming cables, bus duct, disconnecting and protective equipment for a Building or from which all other metered sub-services are taken.

“Market Rules”

The rules made under section 32 of the Electricity Act; (MR, TDL, DSC).

“Measurement Canada”

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

“Meter Service Provider”

Any entity that performs metering services on behalf of a distributor (DSC).

“Meter Installation”

The meter and, if so equipped, the instrument transformers, wiring, test links, fuses, lamps, loss of potential alarms, meters, data recorders, telecommunication equipment and spin-off data facilities installed to measure power past a meter point, provide remote access to the metered data and monitor the condition of the installed equipment (RSC, DSC).

“Meter Socket”

The mounting device for accommodating a socket type revenue meter.

“Metering Services”

Installation, testing, reading and maintenance of meters (DSC).

“MIST Meter”

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

“MOST Meter”

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

“Multiple Dwelling”

A building which contains more than one self-contained dwelling unit.

“Municipal Street Lighting”

All services supplied to street lighting equipment owned and operated for a municipal corporation.

“Non-Competitive Electricity Costs”

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

“Normal Operating Conditions”

Means the operating conditions comply with the standards set by the Canadian Standards Association (“CSA”) Standard CAN3-C235- 87 (latest edition).

“Ontario Energy Board Act”

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

“Connection Demarcation Point”

The “connection demarcation point” is the boundary between the Customer/Consumer’s service connection assets and distribution system assets. Generally speaking, this is defined as the first point of isolation between the rest of the distribution system and service connection assets which solely service a given customer.

“Ownership Demarcation Point”

The “ownership demarcation point”, as defined by Electrical Distribution Safety Regulation (O.Reg 22/04), is the point where responsibility for electrical installation and inspection passes from Kingston Hydro to the Consumer/Customer. In most cases, this is analogous to the distribution system side of the Customer /Consumer’s dedicated revenue meter.

“Performance Standards”

The performance targets for the distribution and connection activities of Kingston Hydro as established by the Board pursuant to the Ontario Energy Board Act and in the Rate Handbook; (DSC).

“Person”

Includes an individual, a corporation, sole proprietorship, partnership, unincorporated organization, unincorporated association, body corporate, and any other legal entity.

“Physical Distributor”

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

"Plaza"

Any Building containing two or more commercial business tenants.

“Point of Supply”

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

“Power Factor”

The ratio between Real Power and Apparent Power (i.e. kW/kVA).

"Primary Service"

Any service which is supplied with a nominal voltage greater than 750 volts, regardless of meter location.

"Private Property"

The property beyond the existing public street allowances.

“Primary Voltage”

When describing service voltages, this refers to the class of voltages greater than 750V (i.e. 4.16kV or 44kV). When describing transformation, this refers to the nominal voltage level as measured at the primary terminals of a step-down transformer. The voltage level measured across the primary terminals of a step-down transformer may be primary voltage class (i.e. 4.16kV) or secondary voltage class (i.e. 750V and under).

“Rate”

Any rate, charge or other consideration, and includes a penalty for late payment; (TDL, DSC).

“Rate Handbook”

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

"Reactive Power"

The power component which does not produce work but is necessary to allow some equipment to operate, and is measured in kilovolt Amperes Reactive (kVAR).

"Real Power"

The power component required to do real work, which is measured in kiloWatts (kW).

“Regulations”

The regulations made under the Ontario Energy Board Act or the Electricity Act;

"Residential Service"

This classification refers to an account taking electricity at 750 volts or less where the electricity is used exclusively in a separately metered living accommodation such as a single-dwelling unit consisting of a detached house or one unit of a semi-detached, duplex,

triplex or quadruplex house, with a residential zoning, separate dwellings within a town house complex or newly constructed apartment buildings or condominium complexes

“Retail”, with Respect to Electricity

a) to sell or offer to sell electricity to a Customer/Consumer

b) to act as agent or broker for a retailer with respect to the sale or offering for sale of electricity, or

c) to act or offer to act as an agent or broker for a Customer/Consumer with respect to the sale or offering for sale of electricity; (A, MR, TDL, DSC).

“Retail Settlement Code”

The code approved by the Board and in effect at the relevant time, which, among other things, establishes a distributor’s obligations and responsibilities associated with financial settlement among retailers and Customer/Consumers and provides for tracking and facilitating Customer/Consumers transfers among competitive retailers; (TDL, DSC).

“Retailer”

A person who retails electricity; (A, MR, TDL, DSC).

“Secondary Service”

Any service which is supplied with a nominal voltage less than 750 Volts.

“Secondary Voltage”

When describing service voltages, this refers to the voltage class of 750V and under. When describing transformation, this refers to the nominal voltage level as measured at the secondary terminals of a step-down transformer. The voltage level measured across the secondary terminals of a step-down transformer may be primary voltage class (i.e. 4.16 kV) or secondary voltage class (i.e. 750V and under).

“Service Agreement”

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

“Service Area” with Respect to a Distributor,

The area in which Kingston Hydro is authorized by its license to distribute electricity; (A, TDL, DSC).

“Service Date”

The date that the Customer and Kingston Hydro mutually agree upon to begin the supply of electricity.

“Single Family Home”

A permanent structure or structures located on a single parcel of land and approved by the Building Department as a dwelling and occupied for domestic or household purposes by a single customer/consumer.

“Standard Metering”

A 4 Jaw 240volt 100 or 200amp Socket Base Meter Approved and sealed by Industry Canada for revenue metering.

“Standard Supply Service Code”

The code approved by the Board and in effect at the relevant time, which, among other things, establishes the minimum conditions that a distributor must meet in carrying out its obligations to sell electricity under section 29 of the Electricity Act; (TDL).

"Sub-Service"

A separately metered service that is taken from the main building service.

"Supply Voltage"

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

"Temporary Service"

An electrical service granted temporarily for such purposes as construction, real estate sales, trailers, et cetera.

"Terminal Pole"

Refers to the Kingston Electricity Distributions Limited's (Kingston Hydro) distribution pole on which the service supply cables are terminated.

“Total Losses”

The sum of distribution losses and unaccounted for energy; (DSC).

Townhouse Development

A structure or complex of structures, each containing more than two residential units. Each unit should be occupied by at least one residential Customer/Consumer and have direct outside access at ground level. (see also Freehold Townhouse).

"Transformer Room"

An isolated enclosure built to applicable codes to house transformers and associated electrical equipment.

“Transmission System”

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

“Transmission System Code”

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

“Transmit”, with respect to electricity.

To convey electricity at voltages of more than 50 kilovolts; (A, TDL, DSC).

“Transmitter”

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

“Unaccounted for Energy”

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

“Unmetered Loads”

Electricity consumption that is not metered and is billed based on estimated usage; (DSC).

“Validating, Estimating and Editing (VEE)”

The process used to validate, estimate and edit raw metering data to produce final metering data or to replicate missing metering data for settlement purposes; (MR, DSC).

“Wheeling”

Refers to the process of delivering energy supplied by one party over a distribution system owned or controlled by another party. The party that controls the distribution system is entitled to charge the customer/consumer for the use of the transmission system.

“Wholesale Buyer”

A person that purchases electricity or ancillary services in the IESO-administered markets or directly from a generator; (TDL, DSC).

“Wholesale Market Participant”

A person that sells or purchases electricity or ancillary services through the IESO-administered markets; (RSC, DSC).

“Wholesale Settlement Cost”

Costs for both competitive and non-competitive electricity services billed to a distributor by the IESO or a host distributor, or provided by an embedded retail generator or by a neighboring distributor; (RSC, DSC).

“Wholesale Supplier”

A person who sells electricity or ancillary services through the IESO-administered markets or directly to another person, other than a Customer/Consumer; (TDL, DSC).

4. APPENDICES AVAILABLE UPON REQUEST OR ONLINE

The following appendices to Kingston Hydro’s Conditions of Service Document are available upon request or online at www.utilitieskingston.com/account/conditions:

Appendix A: Economic Evaluation Model for Distribution System Expansions

Appendix B: Kingston Hydro Guide for Distributed Generators

Appendix C: Kingston Hydro Metering Specifications

Appendix D: Sample Connection Agreements

Appendix E: Smart Sub Metering Information for Condominiums