

Appendix A to Kingston Hydro's Conditions of Service

Economic Evaluation Model & Capital Contribution Policy for New or Upgraded Connections

Version 2.6 – July 20th, 2009

Policy Statement

Connections of new customers and/or additional loads to Kingston Hydro's existing distribution system may create requirements to expand the distribution system. Customers responsible for contributing towards uneconomic expansion of the distribution system upstream of their connection point, and/or customers requesting physical extension of the distribution system must be responsible for the costs of providing additional capacity through distribution system expansions.

When the cost of electricity distribution system expansions necessary to make new connections or upgrade existing connections exceeds the Net Present Value (NPV) of the expected revenues generated by such new or expanded connections, Kingston Hydro may require a capital contribution from the customer to cover expected financial losses, thereby ensuring that existing customers will not bear the burden of subsidizing the connection of new customers.

Requiring capital contributions from customers when new or upgraded connections result in a financial loss to Kingston Hydro safeguards the financial and operational sustainability of the electricity distribution system while providing all customers who wish to connect to the electricity distribution system the opportunity to do so on a "user-pay" basis.

The amount of the capital contribution required from the customer for a given connection shall be calculated using the Economic Evaluation process described below.

Definitions

For further information, please refer to section 3 of the Distribution System Code

- **CAPITAL CONTRIBUTION**

An amount paid up front by a new or expanded customer when an economic evaluation determines that the forecasted revenue of the requested connection does not cover the expected cost of upgrading or expanding and maintaining the distribution system to allow for such a connection.

- **CONNECTION CHARGES**

Charges to a customer to cover the work required for connection of the electricity service or distribution system expansion to Kingston Hydro's existing distribution system. These charges can vary with the customer's projected rate class and/or connection voltage. These charges are not included in a customer's economic evaluation.

- **CONNECTION HORIZON**

A period of time, 1 to 5 years in length, over which the new customer is expected to connect all new load to Kingston Hydro's distribution system.

- **ECONOMIC EVALUATION**

A process by which the new customer's electrical loads are analyzed to determine the amount (if any) of their capital contribution. Kingston Hydro's Economic Evaluation is based on the new customer's specific electrical load forecast and revenue characteristics and a system modeling spreadsheet that is updated by Kingston Hydro annually.

- **EXPANSION**

New Kingston Hydro-owned distribution lines built to facilitate connection of new customer loads at the new customer's request, or upgrading of the upstream distribution system to allow for connection of new load.

- **EXPANSION DEPOSIT**

An amount that may be required of a new customer who requests connection to Hydro's distribution system to cover Kingston Hydro's risk in the case that projected load from the expansion is not brought on line within the connection horizon. A pro-rated portion of an expansion deposit is returned annually as loads are connected on schedule to Kingston Hydro's distribution system over the connection horizon.

- **NEW CUSTOMER**

A customer that requests a new service connection to Kingston Hydro's electricity distribution system, or an existing customer that is requesting a significant increase in the capacity of their existing service and/or an increase in their connection voltage and/or a significant increase in their consumption or demand for electricity.

- **REVENUE HORIZON**

A period of time, 5-25 years in length, over which a new customer is projected to pay rates to Kingston Hydro for electricity distribution. The length of the Revenue Horizon is relative to the risk classification of the connection. New customers whose business risk class is greater will be given shorter revenue horizons, while low-risk customers will have longer revenue horizons. The Revenue Horizon is used in the new customer's economic evaluation and/or calculation of the new customer's expansion deposit.

Scope & Applicability

New individual residential services and individual GS<50 customers whose connections do not require an upstream upgrading or expansion of Kingston Hydro's distribution system are not subject to an economic evaluation and will not be assessed a capital contribution. All other customers shall be subject to an economic evaluation to assess a capital contribution.

Calculation of Capital Contribution Amounts – the Economic Evaluation Process

In order to perform an Economic Evaluation, Kingston Hydro shall request an electrical load forecast from the customer to determine the appropriate distribution system connection voltage, the size in kVa of the new connection or upgrade, and the probable revenues over time from the new connection or upgrade. Such a load forecast shall include an indication of the probable electrical consumption and demand for the new or upgraded connection, as well as an indication of the electrical loads that will be drawn from the connection in each of the first five (5) years after the connection is made. At a minimum, the customer will be required to fill out the “Load Summary Form” available at:

www.utilitieskingston.com/electric/servicerequests.html

Submission of this completed form along with the initial “Service Request Form” filled out by the customer for any new or expanded service is appreciated and will result in quicker processing time for the economic evaluation.

Kingston Hydro may request additional information from the customer that may be necessary to determine load characteristics or the business risk affecting the cost or revenues for a given connection or upgrade. Kingston Hydro may modify the customer’s load forecast based on historical experience with similar connections or other information at its sole discretion.

Kingston Hydro will determine the time horizon over which the Economic Evaluation will occur. This revenue horizon may be between 5 and 25 years based on the risk profile of the customer.

Kingston Hydro will then employ a discounted cash flow model to calculate the Net Present Value of costs and revenues of the proposed connection or upgrade over the chosen revenue horizon. The weighted average cost of capital and electricity distribution rates to be employed by Kingston Hydro in this discounted cash flow model shall be that which is stipulated by the Ontario Energy Board at the time of the connection request. Upstream costs shall be determined based on the amount of system capacity required to meet the demands of the customer as measured in kVa. If an extension of the distribution system is necessary, actual costs for the extension will be used.

Kingston Hydro regularly reviews and calculates the per-kVa capital costs, operating costs, and maintenance costs of new or upgraded connections. Connection costs may be reduced by Kingston Hydro’s avoided costs in special cases where the customer is allowed by Kingston Hydro to own and maintain equipment related to the connection, such as a customer-owned transformer, if they are not eligible for credits specifically called for in Kingston Hydro’s rate order from the Ontario Energy Board.

There are two different methods for calculating connection revenues depending on the customer class. For larger demand customers (>50 kVa), the revenue stream is the sum of the variable demand charges corresponding to the load profile of the customer and the fixed monthly charge for the customer class. For energy only customers (<50 kVa), the revenue will be based upon the customer's estimated energy consumption multiplied by the appropriate distribution rates, plus the fixed monthly charge for the customer class.

The Economic Evaluation is completed by performing the following calculation:

$$\text{Capital Contribution} = \text{NPV of Upstream Expansion Costs} + \text{NPV of System Extension Costs} - \text{NPV of Connection Revenues}$$

If the Capital Contribution amount is greater than zero, the customer may be required to pay this amount to Kingston Hydro as a condition of connection to the distribution system. If the Capital Contribution amount is less than zero, no capital contribution is required from the customer.

Offer to connect

A customer's offer to connect will consist of the following components:

1. A Capital Contribution assessment, calculated and broken down as follows:

- The upstream expansion cost calculated through Kingston Hydro's system model. (average costs per kVa can vary based on customer specific risk factors and connection characteristics)

PLUS

- The value of the non-competitive works (as defined in the DSC) to be performed by Utilities Kingston on behalf of Kingston Hydro if a system extension is required.

PLUS

- *Either:* The value of all competitive works, as estimated by Kingston Hydro, that the customer wishes Kingston Hydro to perform
- *And/Or:* An agreement to transfer all competitive works undertaken by the customer to Kingston Hydro for \$1 plus additional costs related to ensuring that the customer-built facilities are built to Kingston Hydro standards and can be valued accurately for accounting purposes.

LESS

- The present value of future revenues to be generated from the new connection over a 5 to 25 year revenue horizon as calculated by Kingston Hydro.

2. An Expansion Deposit (if required)

- Maximum amount is the Present Value of all revenues projected from the expansion based on the rate class of the connections, projected loads, and the projected connection schedule provided by the developer.
- This expansion deposit shall be returned to the customer should all competitive works undertaken by the customer be up to Kingston Hydro's standards and should loads promised by the customer materialize on schedule. Refunds of the deposit shall be made annually based upon the pro-rated portion of total build-out load connected in the past year.

3. Connection Costs

- Connection Costs are those costs incurred to execute the physical connection of the expansion or new/expanded load to the distribution system at the point of connection

At a minimum, execution of a Connection Agreement (if required) and payment of any Capital Contribution assessment and any Expansion Deposit is required before Kingston Hydro can commence work to connect a new customer's electrical service.

Further Information

Customers have a right to review Kingston Hydro's economic evaluation for their connection, and Kingston Hydro may work with the customer to suggest ways to reduce the impact their connection or upgrade will have on the distribution system. In order to minimize the capital contribution that may be required, potential and existing customers are encouraged to investigate electricity conservation and demand management and distributed electricity generation options that can minimize the size in kVa of their proposed connection or upgrade. By minimizing the electricity demand required for a given connection, customers can improve their own bottom line while helping the environment and prolonging the life of the existing distribution system.