

APPENDIX B

Methodology and Assumptions for An Economic Evaluation

Last Revised December 23, 2024

**APPENDIX B -
METHODOLOGY AND ASSUMPTIONS FOR AN OFFER TO CONNECT ECONOMIC
EVALUATION**

**B.1 COMMON ELEMENTS OF THE
DISCOUNTED CASH FLOW MODEL**

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

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

Revenue Forecasting

The common elements for any project will be as follows:

- (a) Total forecasted customer additions over the customer connection horizon, by class as specified below;
- (b) Customer revenue horizon as specified below;
- (c) Estimate of average energy and demand per added customer (by project) which reflects the mix of customers to be added – for various classes of customers, this should be carried out by class;
- (d) Customer additions, as reflected in the model for each year of the customer connection horizon; and
- (e) Rates from the approved rate schedules for the particular distributor reflecting the distribution (wires only) rates.

Capital Costs

Common elements will be as follows:

- (a) An estimate of all capital costs directly associated with the expansion to allow forecast customer additions.
- (b) For expansions to the distribution system, costs of the following elements, where applicable, should be included:
 - distribution stations;
 - distribution lines;
 - distribution transformers;
 - secondary busses;
 - services; and

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- land and land rights.

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

- (c) Estimate of incremental overheads applicable to distribution system expansion.
- (d) A per kilowatt enhancement cost estimate – the per kilowatt enhancement cost estimate shall be set annually and shall be based on a historical three to five year rolling average of actual enhancement costs incurred in system expansions.
 - (d.1) paragraph (d) shall cease to apply to a distributor as of the date on which the distributor's rates are set based on a cost of service application for the first time following the 2010 rate year.
- (e) For residential customers, the amount the cost of the basic connection referred to in section 3.1.4 of the Code.
- (f) For non-residential customers, if the distributor has chosen to recover the non-residential basic connection charge as part of its revenue requirement, a description of, and the amount for, the connection charges referred to in section 3.1.5 of the Code that have been factored into the economic evaluation.

Expense Forecasting

Common elements will be as follows:

- (a) Attributable incremental operating and maintenance expenditures - any incremental attributable costs directly associated with the addition of new customers to the system would be included in the operating and maintenance expenditures.
- (b) Income and capital taxes based on tax rates underpinning the existing rate schedules.
- (c) Municipal property taxes based on projected levels.

Specific Parameters/Assumptions

Specific parameters of the common elements include the following:

- (a) A customer connection horizon determined in accordance with the rules set out under "Customer Connection Horizon" below.

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- (b) A customer revenue horizon determined in accordance with the rules set out under “Customer Revenue Horizon” below.
- (c) A discount rate equal to the incremental after-tax cost of capital, based on the prospective capital mix, debt and preference share cost rates, and the latest approved rate of return on common equity.
- (d) Discounting to reflect the true timing of expenditures. Up-front capital expenditures will be discounted at the beginning of the project year and capital expended throughout the year will be mid-year discounted. The same approach to discounting will be used for revenues and operating and maintenance expenditures.¹

Rules for Determining the Customer Connection Horizon and the Customer Revenue Horizon

In this section:

“housing development” means a project to construct multiple residential accommodations on a piece of land that will be divided into multiple parcels and offered for sale, and that will be comprised predominantly of residential accommodations but may also include public buildings, industrial and commercial buildings or space appropriate for such buildings;

“qualifying housing development” means a housing development that meets the following criteria:

- (a) the developer for the housing development has requested a customer connection horizon that exceeds five (5) years;
- (b) the connection of the last residential customer in the housing development is forecast to occur more than five (5) years from the date of energization of the facilities;
- (c) the developer has provided the distributor with:
 - i. an approved plan of subdivision for the housing development; and
 - ii. evidence that the developer owns the land on which the housing development will be built or has written authorization to build the housing development on that land from the landowner; and
- (d) an initial offer to connect the housing development had not been accepted by the developer on or before November 18, 2024.

¹ For certain projects Capital Expenditures may be staged and can occur in any year of the connection horizon.

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Customer Connection Horizon

- (a) The customer connection horizon begins on the energization date of the facilities.
- (b) Subject to paragraph (c), the customer connection horizon for a qualifying housing development shall be based on the date on which the last residential customer is forecasted to connect to the expansion, provided that the customer connection horizon shall not exceed fifteen (15) years.
- (c) Where an expansion is being constructed to connect a qualifying housing development and one or more other customers, the customer connection horizon for all such customers shall be the longest customer connection horizon applicable to any one of them.
- (d) In all other cases, the customer connection horizon is five (5) years. A distributor may extend the customer connection horizon in appropriate cases for up to 15 years, in which case the distributor will provide the Board with an explanation for the extension.

Customer Revenue Horizon²

- (a) The maximum customer revenue horizon for a non-residential connection is twenty-five (25) years, calculated from the forecast in-service date of the first new customer connection.
- (b) Subject to paragraph (c), the customer revenue horizon is forty (40) years for the connection of any of the following:
 - i. A residential customer, calculated from the forecast in-service date of the new customer connection;
 - ii. A property as defined in the *Condominium Act*, a residential complex as defined in the *Residential Tenancies Act, 2006* or a property that includes one or more dwellings and that is owned or leased by a cooperative as defined in the *Co-operative Corporations Act*, whether bulk metered or suite metered (as defined in the *Energy Consumer Protection Act, 2010*), calculated from the forecast in-service date of the new building connection; and
 - iii. A housing development, calculated from the forecast in-service date of the first residential customer connection.

² For the economic evaluation of a specific project, revenues should be calculated based on the forecasted customer or load additions within the customer connection horizon. For example, if customer additions are forecasted in year 3, the economic evaluation model should account for incremental revenues from year 3 through year 25. This approach applies to paragraphs (a) through (c).

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(c) Where an initial offer to connect was accepted by the developer or other customer on or before November 18, 2024, the customer revenue horizon set out in paragraph (b) does not apply and the maximum customer revenue horizon is twenty-five (25) years, calculated from the forecast in-service date of the first new customer connection.

Transition to new Connection and Revenue Horizon Rules

Despite the coming into force of amendments to Part B.1 of Appendix B to the Distribution System Code on December 23, 2024, a distributor may continue to apply the provisions of Part B.1 as they existed immediately prior to that date in determining the connection or revenue horizon until and including March 2, 2025.

During this transition period, a distributor shall consistently apply either the provisions as they existed immediately before December 23, 2024 or the provisions as they were amended effective December 23, 2024.

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B.2 DISCOUNTED CASH FLOW (DCF) METHODOLOGY

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

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

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

2. <u>PV of Capital</u>	=	P V of Total Annual Capital Expenditures
a) PV of Total Annual Capital Expenditures		
Total Annual Capital Expenditures over the customer's revenue horizon discounted to time zero		
Total Annual Capital Expenditure	=	(for New Facilities and/or Reinforcement Investments + Customer Specific Capital + Overheads at the project level). This applies for implicated system elements at the utility side of the "Ownership Demarcation Line".

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

3. **PV of CCA Tax Shield**

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

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

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

or,

Calculated annually and present valued in the PV of Taxes calculation.

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

4. Discount Rate

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