

# APPENDIX 5

## METHODOLOGY AND ASSUMPTIONS FOR ECONOMIC EVALUATIONS

Transmission System Code, Appendix 5

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## APPENDIX 5

### METHODOLOGY AND ASSUMPTIONS FOR ECONOMIC EVALUATIONS

A transmitter shall use the methodology set out in this Appendix to conduct any economic evaluation under this Code. This methodology consists of a discounted cash flow (DCF) calculation for the connection of load customer's new or modified facilities using the methodology set out below. As required by section 6.5.2, separate economic evaluations must be conducted for transformation connection facilities and line connection facilities.

|   |   |  |
|---|---|--|
| <u>Net Present Value ("NPV")</u>                    | = | Present Value ("PV") of Operating Cash Flow + PV of Capital Cost Allowance ("CCA") Tax Shield - PV of Capital, calculated over the economic evaluation period.   |
| 1. <u>PV of Operating Cash Flow</u>                 | = | PV of Net Operating Cash (before taxes) - PV of Taxes  |
| a) PV of Net Operating Cash                         | = | PV of (Annual Connection Revenue - Annual Connection Operating Maintenance & Administration ("OM&A") Costs).   |
| Annual Connection Revenue                           | = | The relevant annual connection rates revenue derived from that part of the customer's new load that exceeds the total normal operating capacity of any connection facility already serving that customer and which will be served by a new connection facility or modification |
| Annual Connection OM&A Costs                        | = | The relevant annual administrative costs associated with supply of the customer plus the relevant annual operating and maintenance costs associated with new or modified connection facilities of the transmitter.   |
| b)PV of Taxes                                       | = | PV of Municipal Taxes + PV of Capital Taxes + PV of Income Taxes (before Interest tax shield)  |
| Annual Municipal Taxes                              | = | (Municipal Tax Rate ) * (Assessed Value of Relevant Property)  |
| Annual Capital Taxes                                | = | (Capital Tax Rate ) * (Relevant Closing Undepreciated Capital Cost Balance)  |
| Relevant Closing Undepreciated Capital Cost Balance | = | That portion of the transmitter's Closing Undepreciated Capital Cost Balance attributed to the new or enhanced connection assets associated with the specific connection.  |
| Annual Income Taxes                                 | = | (Income Tax Rate) * (Net Annual Operating Cash - Annual Municipal Taxes - Annual Capital Taxes )   |

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- Net Annual Operating Cash = (Annual Connection Revenue - Annual Connection OM&A)
2. PV of CCA Tax Shield = [ (Income Tax Rate) \* (CCA Rate) \* (Total Annual Capital Expenditure) ] / [ CCA Rate + Discount Rate ]
- CCA Rate = Capital Cost Allowance Rate
- Total Annual Capital Expenditure = Sum of the total relevant Annual Capital Expenditures of the transmitter.
3. PV of Capital = PV of Annual Capital Expenditures
- Annual Capital Expenditures = The relevant annual capital expenditures of the transmitter based on fully allocated costing principles including capital for new connection facilities and/or modified connection facilities to accommodate the proposed new or upgraded customer connection and any transfer price paid to a customer for any facilities built under an alternative bid option and transferred to the transmitter.

Notes:

The Capital Tax Rate is a combination of the Federal Large Corporation Tax Rate and the Provincial Capital Tax Rate.

The Income Tax Rate is a combination of the Federal Income Tax Rate and the Provincial Income Tax Rate.

Land is not eligible for CCA.

The PV of CCA Tax Shield can also be calculated annually and present valued in the PV of Taxes calculation.

An adjustment is needed to account for the 1/2 year CCA rule.

For purposes of the calculations above, a transmitter shall ensure that the most up-to-date current and enacted future federal and provincial tax rates are being used.

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**Assumptions**

1. The economic evaluation period shall be determined as follows based on the risk classification of the proposed new or modified connection as determined by the transmitter in accordance with Appendix 4:

| <b><u>Risk Classification</u></b> | <b><u>Economic Evaluation Period</u></b> |
|-----------------------------------|--|
| High Risk                         | 5 years                                  |
| Medium-High Risk                  | 10 years                                 |
| Medium-Low Risk                   | 15 years                                 |
| Low Risk                          | 25 years                                 |

2. The discount rate to be used in the DCF calculation shall be based on the transmitter’s current deemed debt-to-equity ratio, debt and preference share costs and Board-approved rate of return on equity. 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 OM&A expenditures.
3. Capital costs shall be based on the minimum standard design required to supply the forecasted customer load except where the new or modified facility was previously planned by the transmitter, in which case the capital costs shall be limited to the cost of advancement as required by section 6.5.2.

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