

## SCHEDULE 13

### ENERGY LOSS FACTOR FORMULA

#### 1. Introduction

Where not otherwise determined by the regulator, the energy loss factor for a connection point is the factor established by the network provider applying the steps.

#### 2. Transfer energy losses

(1) The energy loss factor for a connection point that is a point at which electricity is transferred between different owned and operated electricity networks or between transmission and distribution systems within an electricity network is a factor established by the network provider for specific transfer locations.

(2) The factor applying to each specific location during a financial year is to be derived from simulations of forecast network load and generation conditions for multiple energy usage periods reflecting actual conditions experienced in the preceding 12 months and anticipated changes to demand and generation location and output.

#### 3. Network energy losses

The energy loss factor for connection points within a commonly owned and operated transmission or distribution system is the factor established by the network provider applying the following steps, depending upon whether an exit or an entry point is involved.

#### 4. Exit point energy loss factor

To calculate the energy loss factor to apply during a financial year for a connection which is an exit point, the network provider must –

- (a) measure the line losses assuming the connection point was not there and assuming feeder maximum load;
- (b) measure the line losses assuming only the connection point was there;
- (c) measure the total line losses assuming all the connections are there (including the connection point for which the energy loss factor is being established) and assuming feeder maximum load;
- (d) allocate a share of the total line losses calculated under step (c) to the connection point for which the energy loss factor is being established based on the ratio of the result of step (b) and the sum of the results of steps (a) and (b);
- (e) calculate the loss factor for the connection point by applying the following formula –

$$1 + \frac{A}{B}$$

where–

A (in kW or kVA) is the share of the total line losses allocated to the connection point under step (d); and

B (in the same units as for A) is the contract maximum demand for the exit connection point.

## **5. Entry point energy loss factor**

To calculate the energy loss factor to apply during a financial year for a connection which is an entry point, the network provider must –

- (a) measure the line losses assuming the connection point was not there and assuming feeder maximum load;
- (b) measure the total line losses assuming all the connections are there (including the connection point for which the energy loss factor is being established) and assuming feeder maximum load;
- (c) calculate the loss decrease (increase) for the connection point for which the energy loss factor is being established by subtracting the result of step (b) from the result of step (a); and
- (d) calculate the loss factor for the connection point by applying the following formula –

$$1 + \frac{A}{B}$$

where–

A (in kW or kVA) is the loss decrease (increase) calculated for the connection point under step (c); and

B (in the same units as for A) is the declared sent out capacity for the entry connection point.