

## **STATEMENT OF POLICY - ELECTRICITY ACT 1994**

### **CHAPTER 5A – QUEENSLAND GAS SCHEME**

#### **Policy No. 13/03 - Loss Factors for Accredited Power Stations**

##### **PURPOSE**

This document forms part of a series of documents prepared by the regulator under the *Electricity Act 1994* (the Act) to establish administrative policies and procedures underpinning the operation of the Queensland Gas Scheme (the Scheme), as provided for in Chapter 5A of the Act.

This particular document establishes policies and procedures the regulator will adopt in exercising the powers to fix loss factors for accredited power stations under Part 3, Division 4 of Chapter 5A of the Act.

##### **APPLICATION OF POLICY**

This policy provides information to power stations regarding how loss factors will be fixed for various types of accredited power stations.

The policies and procedures outlined herein will be applied by the regulator and other officials carrying out regulatory functions relating to the process of fixing loss factors for accredited power stations.

In the event of any inconsistency between this policy and the relevant provisions of the Act and the *Electricity Regulation 2006* (the Regulation), the Act and the Regulation will prevail to the extent of the inconsistency.

##### **BACKGROUND**

Under the Scheme, eligible gas-fired power stations can earn tradeable Gas Electricity Certificates (GECs) and liable parties will have an obligation to surrender GECs to meet their annual GEC liability.

The Act provides a process for the accreditation of power stations producing eligible gas-fired electricity. Accredited generators will have the right to create GECs for each whole megawatt hour of eligible gas-fired electricity generated by the accredited power station that is not an auxiliary load.

The general intent is that GECs will be created for electricity that supports Queensland electricity load, and not for electricity that is 'lost in transit'. Hence, the loss factor is a key input into the formulae for calculating eligible gas-fired electricity under the Act. Loss factors for the baseline year are applied in calculating a power station's baseline representing pre-existing gas-fired generation. Only eligible gas-fired electricity above the baseline will earn GECs.

### Legislative Requirements

Section 135CR of the Act provides that the regulator must, for each financial year, during which a power station is accredited, fix a factor that represents the power station's estimated contribution during that year to electricity losses in the transmission grid or supply network through which it supplies electricity.

Section 135CS of the Act provides that the regulator must for each accredited power station, fix a factor that represents the power station's estimated contribution, during the baseline year, to electricity losses in the transmission grid or supply network through which it supplies electricity. The obligation to fix a loss factor does not apply if the power station's baseline for all of its baseline customers is zero.

These factors are known as the power station's annual loss factor and baseline loss factor, respectively.

In accordance with Sections 135CR(4) and 135CS(4) of the Act, loss factors are fixed by the regulator by an information notice given to the accredited generator. Annual loss factors will be fixed for each financial year. Until the annual loss factor takes effect, the last annual loss factor fixed for the power station continues to apply. Loss factors must also be notified by gazette notice.

Section 135CT of the Act provides some further guidance on the fixing of loss factors. It clarifies that:

- an annual or baseline loss factor may be fixed as one or more than one, if the overall effect of a power station's supply to a transmission grid or supply network is to reduce electricity losses in the grid;
- the regulator may apply a relevant loss factor for the power station decided under the National Electricity Rules;
- if a power station supplies electricity through a transmission grid and a supply network, its annual or baseline loss factor may consist of different components for each grid or network.

### **POLICY AND PROCEDURES**

The following establishes the process by which the regulator will calculate or fix loss factors in accordance with the legislative requirements.

#### Detailed Methodology

1. In fixing loss factors, Section 135CT(3) of the Act allows the regulator to consider losses in any transmission or supply network through which the power station supplies electricity.
2. The terms *transmission grid* and *supply network* are defined in Section 6 and Section 8 of the Act respectively. However, these definitions are quite broad and do not distinguish the typical voltage of electricity lines making up transmission grids or supply networks. Hence, if it is necessary to decide whether an electric line is part of a transmission grid or supply network, the definition of a transmission network in the National Electricity Rules will be taken into account.

## NEM Generators

3. If a power station is connected to the grid and supplies electricity into this grid, a transmission loss factor and a distribution network loss factor may be applied.

The following loss factors will be considered in determining the power station's loss factor. The loss factors to be applied are illustrated at Diagram A of this document.

1. Marginal Loss Factor (MLF)

This quantifies the marginal transmission network loss between the accredited power station and the Regional Reference Node (RRN) for the Region in which the power station is physically located. Both Regional Reference Node and Region are defined in the National Electricity Rules.

The Marginal Loss Factor will be applied to a power station connected to the transmission network.

Where applicable, the Marginal Loss Factor will be as published by NEMMCO for the relevant accredited power station.

Note that the MLF between the RRN and the relevant Transmission Node will not be applied.

2. Distribution Network Loss Factor (DNLF)

This quantifies the average distribution network loss between a customer (irrespective of the voltage level at which they may be connected to the distribution network) and the relevant transmission nodes (bulk supply points).

The Distribution Network Loss Factor will be applied to a power station connected to the transmission grid.

Where applicable, the Distribution Network Loss Factor will be calculated from data provided by the relevant distribution network companies operating in Queensland.

The DNLF will be calculated as follows.

$$\text{DNLF} = 1 \div (1 + \text{the average distribution network loss})$$

For example, if the average distribution network loss for a financial year is calculated to be 5%, then:

$$\text{DNLF} = 1 \div (1 + 0.05) = 0.9524$$

### 3. Distribution Loss Factor (DLF)

If a power station is connected to the supply network and supplies electricity into this network, a Distribution Loss Factor will be applied.

This quantifies the average distribution network loss between an accredited power station embedded in a supply network and its relevant transmission node (bulk supply point).

Where applicable, the Distribution Loss Factor will be as calculated by the relevant distribution network company and as used in the Connection Access Agreement for the accredited power station.

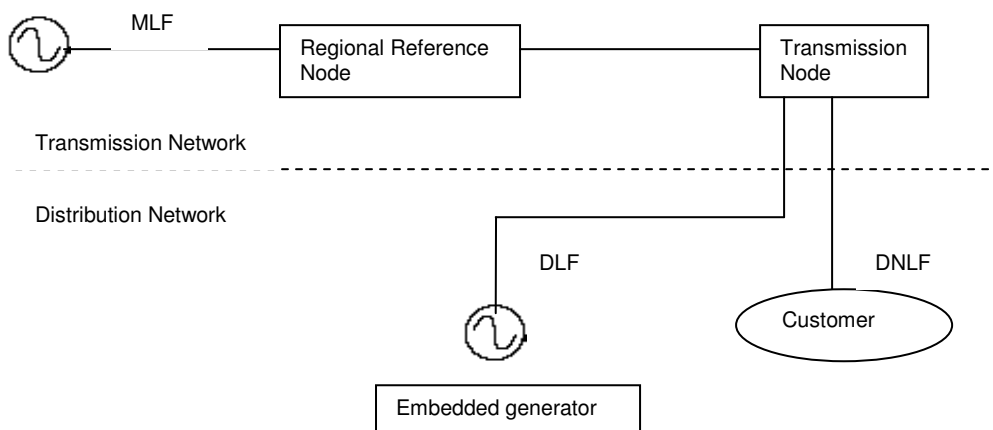
In summary,

$$\begin{aligned} \text{Loss Factor (NEM transmission connection)} &= \text{MLF} \times \text{DNLF} \\ \text{Loss Factor (NEM distribution connection)} &= \text{DLF} \end{aligned}$$

#### Other Loss Factors

The regulator may request relevant data to enable calculation of appropriate loss factors, for example, in the case of an isolated network or a connection of electric lines on a customer's site (eg. private electricity lines). Relevant loss factors applied under contractual arrangements may be considered if appropriate.

**Diagram A** - The following illustrates the various loss factors to be applied as discussed.



## RESPONSIBILITIES

The Director-General of the Department of Mines and Energy (and his delegates) as the regulator under the Act is responsible for fixing loss factors.

## REVIEW AND APPEAL RIGHTS

The review and appeal process against administrative decisions by the regulator is outlined in Chapter 10 of the Act. In summary, Chapter 10 outlines a two step process. Firstly, an internal review of the decision, which may incorporate the use of review panels, mediation or arbitration, and then a right of appeal to a district court.

Further appeal to the Court of Appeal from a decision of a District Court may only be made on a question of law.

Relevant appealable decisions are outlined in Schedule 1 of the Act.

## REFERENCES

*Electricity Act 1994*

*Electricity Regulation 2006*

## DOCUMENT MAINTENANCE

The regulator reserves the right to amend this policy.

### Version History

Title	Version No.	Approved	Date of Effect	Superseded Date
Loss Factors for Accredited Power Stations	1	04/01/05	04/01/05	17/11/06
Loss Factors for Accredited Power Stations	1.1	17/11/06	17/11/06	25/09/08
Loss Factors for Accredited Power Stations	1.2	25/09/08	25/09/08	