



**Review of ETSA Utilities proposed
Distribution Loss Factors
for 2011-2012**

**Prepared by Energeia
for
ETSA Utilities**

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Final



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1 Executive Summary

ETSA Utilities has commissioned Energeia Pty. Ltd. to carry out an independent review of its proposed distribution loss factors for the 2011-12 year, for the purpose of certifying to the Australian Energy Regulator (AER) that they have been prepared in conformity with the relevant provisions of the National Electricity Rules (the Rules).

In 2010-11, the AER assumed responsibility for approving ETSA Utilities distribution loss factors. Prior to that, the Essential Services Commission of South Australia (the Commission) reviewed ETSA Utilities' distribution loss factor calculations.

The AER has not established a distribution loss factor methodology for South Australia. Accordingly, in 2010-11, ETSA Utilities prepared a distribution loss factor methodology describing the processes it has historically followed. This methodology was submitted to the AER in 2010 and was made available to Energeia during the course of the independent review.

Energeia has reviewed ETSA Utilities' 2011-12 distribution loss factors and the associated calculations. On the basis of the material supplied to Energeia and discussions with ETSA Utilities personnel during the course of this review, Energeia is of the opinion that:

- The process employed by ETSA Utilities in preparing the proposed 2011-12 distribution loss factors is consistent with its historical approach;
- The methodology determined by ETSA Utilities meets the relevant requirements of clause 3.6.3 of the Rules;
- ETSA Utilities has followed its distribution loss factor methodology in preparing the proposed 2011-12 distribution loss factors; and
- The distribution loss factors proposed by ETSA Utilities for 2011-12 are reasonable.

This review of ETSA Utilities' distribution loss factor methodology and proposed distribution loss factors for 2011-12 was carried out by Mr. Harry Colebourn of Energeia Pty. Ltd. Mr. Colebourn has over 40 years experience in the electricity industry.

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2 Introduction

Clause 3.6.3 of the Rules sets out the requirements for the determination of distribution loss factors by a Distribution Network Service Provider and for the approval of those distribution loss factors by the AER.

ETSA Utilities commissioned Energeia Pty. Ltd. to carry out an independent review of its distribution loss factor methodology and proposed distribution loss factors for the 2011-12 year, for the purpose of certifying to the Australian Energy Regulator (AER) that they have been prepared in conformity with the relevant provisions of the Rules.

In the period from 2002 to 2009, the Essential Services Commission of South Australia (the Commission) reviewed ETSA Utilities' distribution loss factor calculations. The Commission provided the AER with an independent assurance that the methodology used by ETSA Utilities for calculating distribution loss factors is consistent with the historical approach for South Australia. Following changes to the jurisdictional regulatory responsibilities in South Australia, in 2010 ETSA Utilities engaged Energeia Pty. Ltd. to carry out this independent review.

The AER has not determined a distribution loss factor methodology for South Australia. Accordingly, in 2010 ETSA Utilities determined a distribution loss factor methodology containing the processes it had historically followed¹. Energeia reviewed this methodology in 2010 and in Energeia's opinion the methodology:

- Is consistent with the historical approach used for calculating distribution losses in South Australia; and
- Complies with the provisions of clause 3.6.3(h) of the Rules.

This methodology is unchanged and was followed by ETSA Utilities in determining distribution loss factors for 2011-12.

The following sections of this report review ETSA Utilities' 2011-12 distribution loss factor calculations to ensure:

- Consistency with the historical approach used for calculating distribution losses in South Australia;
- Compliance with the relevant requirements of clause 3.6.3 of the Rules;
- Consistency with ETSA Utilities' methodology for preparing distribution loss factors; and
- That the distribution loss factors proposed by ETSA Utilities for 2011-12 are reasonable.

¹ ETSA Utilities, Distribution loss factor methodology, March 2010.

3 Review of ETSA Utilities' distribution loss factors

In this section, Energeia has reviewed aspects of ETSA Utilities' distribution loss factor calculations for conformity with ETSA Utilities' methodology and to provide an assurance that the resulting distribution loss factors are reasonable.

This section is subdivided into the stages described in ETSA Utilities' distribution loss factor methodology.

3.1 Calculation of actual losses in the distribution network

The sources of the energy data used to derive ETSA Utilities' actual distribution network losses were reviewed, as follows:

- The aggregate energy input to ETSA Utilities' distribution network from the Electranet transmission connection points was confirmed to align with Electranet's records;
- A sample of embedded generator energy inputs to the network derived from the "NESS" system (that part of ETSA Utilities' billing system for interval meters) were demonstrated to align with the calculations;
- The embedded generator energy inputs were confirmed to have been adjusted by the appropriate distribution loss factor;
- The energy sales used in the calculations were confirmed to be in accordance with the 2009-10 tariff return output from ETSA Utilities' billing system.

ETSA Utilities' average historic losses, expressed as a percentage of the sales, has averaged 6.41% over the eleven years to 2009-10, which is typical for network with the configuration of ETSA Utilities. For example, Endeavour Energy's (formerly Integral Energy) more compact network had distribution losses for the three years to 2007-08 averaging 5.39%². In 2007-08, SP AusNet's losses averaged 7.05% and Powercor's 6.42%^{3, 4}.

Other comparative information for Ergon Energy and Essential Energy (formerly Country Energy) is withheld from publications by those organisations.

Energeia therefore believes that ETSA Utilities' calculation of the actual losses within its distribution network is reasonable.

3.2 Calculation of distribution loss factors for major customers and embedded generators

The distribution loss factors calculated by ETSA Utilities for site-specific distribution connections were calculated in accordance with ETSA Utilities' distribution loss factor methodology, determined in 2010.

² Integral Energy, Evaluation of Distribution Loss Factors 2009-2010, 2 March 2009. p.4.

³ SP AusNet, Reconciliation of Distribution Network Losses for FY 2007/08, 31 January 2009, p. 6.

⁴ Powercor, Proposed 2009-10 Distribution Loss Factors, 12 March 2009, p.5.

Two major customers (Pasminco Port Pirie Smelter and Mitsubishi Motors) have changed their supply arrangements and the distribution loss factors for these connections are no longer required.

As there have been no material changes to the loading or to the distribution network associated with the remaining major customer installations, their distribution loss factors have remained unchanged.

Two new site specific loss factors, for supply to the Edinburgh Park Hardened Army and the Desalination Plant, were calculated in accordance with the distribution loss factor methodology. A description of those calculations forms a confidential attachment to ETSA Utilities' 2011-12 distribution loss factor proposal.

Site specific distribution loss factors have been calculated for two new embedded generators, at Port Stanvac. The distribution loss factor for the existing embedded generator at Lonsdale has been recalculated. These distribution loss factors were calculated in accordance with the methodology and are also described in the confidential attachment.

3.3 Calculation of distribution loss factors for smaller customers and embedded generators

The distribution loss factors calculated by ETSA Utilities for non site-specific distribution connections were calculated in accordance with the established approach set out in the distribution loss factor methodology. Energeia has confirmed that no change to this approach has been made from earlier years.

Energeia has also compared the proposed distribution loss factors with the published 2010-11 distribution loss factors of a sample of similar organisations and confirms that the proposed distribution loss factors appear reasonable⁵.

3.4 Reconciliation of actual and forecast losses

ETSA Utilities' reconciliation of the losses occurring on the network with the losses arising from the application of distribution loss factors was reviewed. This calculation has been carried out in accordance with historical practice and the distribution loss factor methodology. The calculation is verified to be reasonable.

3.5 Proposed distribution loss factors for 2011-12

The losses arising from the proposed distribution loss factors for 2011-12 have been reconciled with the forecast network losses in the same year. The proposed loss factors have been determined by ETSA Utilities to target a closing balance in 2011-12 that is within approximately 0.14% of the energy inputs to the network.

Energeia is of the view that this forecast reconciliation meets the requirements of clause 3.6.3(h)(1) of the Rules, which requires the quantities to be as closely as is reasonably

⁵ Australian Energy Market Operator, Distribution Loss Factors for the 2010-11 Financial Year, July 2010.

practicable to equal, whilst avoiding year-on-year instability in the resulting distribution loss factors.

4 Compliance of ETSA Utilities' proposed distribution loss factors with the provisions of the Rules

Energeia has reviewed ETSA Utilities' approach to determining proposed distribution loss factor for 2011-12 with the provisions of clause 3.6.3 of the Rules.

A summary table with a detailed consideration of each Rules provision is included as an Attachment to the report.

Energeia is of the opinion that the process followed by ETSA Utilities in proposing its distribution loss factors for 2011-12 is compliant with the Rules.

5 Conclusions

As described in sections 3 and 4 of this document, Energeia has conducted an independent review of ETSA Utilities' 2011-12 distribution loss factors, the processes employed and the associated calculations.

ETSA Utilities' distribution loss factor methodology was reviewed by Energeia in 2010 and was assessed as meeting the requirements of clause 3.6.3 of the Rules. The methodology has not since been altered.

ETSA Utilities has followed this methodology in determining the proposed 2010-11 distribution loss factors.

Energeia has also compared ETSA Utilities' 2011-12 distribution loss factors with those of a sample of comparable utilities and concluded that they are reasonable.

On the basis of the material supplied to Energeia and discussions with ETSA Utilities personnel, Energeia is therefore of the opinion that:

- The process employed by ETSA Utilities in preparing the proposed 2011-12 distribution loss factors is consistent with its historical approach;
- The distribution loss factor methodology prepared by ETSA Utilities in 2010 meets the relevant requirements of clause 3.6.3 of the Rules;
- ETSA Utilities has followed its distribution loss factor methodology in preparing the proposed 2011-12 distribution loss factors; and
- The distribution loss factors proposed by ETSA Utilities for 2011-12 are reasonable.