



**UNITED ENERGY
Distribution**

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Mr Chris Pattas
General Manager
Australian Energy Regulator
PO Box 520
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Dear Mr Pattas

Distribution Loss Factors 2010/2011

Clause 3.6.3 of the National Electricity Rules requires Distribution Network Service Providers (DNSPs) to determine distribution loss factors (DLFs) to apply in the next financial year and to then provide these to AEMO for publication. Before submitting the information to AEMO, the DNSP is obliged to obtain the approval of the Australian Energy Regulator (AER) for the distribution loss factors. Accordingly, United Energy Distribution (UED) submits its DLFs for 2010/2011 for approval.

The average DLFs to apply in the financial year 2010/2011 are as follows:

Average DLFs	A	B	C	D	E
Short sub-transmission	1.0061	1.0139	1.0221	1.0490	1.0657
Long sub-transmission	1.0298	1.0376	1.0458	1.0727	1.0894

In order to calculate DLFs for the 2010/2011 financial year, UED has adopted the methodology published by the Essential Services Commission of Victoria in February 2007.

Full details of the forward-looking estimates are included in Attachment 1 together with MSATS codes in Attachment 3.

Clause 3.6.3(b) 2 of the National Electricity Rules sets out requirements for calculating site specific DLFs for certain large customers and embedded generators. The Rules specifically require distributors to calculate a site specific DLF for embedded generating units with actual generation of more than 10MW and end-users with a load of more than 40GWh per annum or demand of greater than 10MW. The site specific DLFs submitted for approval for these customers and generators are as follows:

NMI	Proposed DLF for 2010/11	Current DLF for 2009/10
VEEE0PD8AD	1.0143	1.0118
VEEE0TF39Q	1.0165	1.0138
VEEE0BG4Q3	1.0240	1.0229

NMI	Proposed DLF for 2010/11	Current DLF for 2009/10
VEEE0NDNEX	1.0246	1.0230
VEEE08KH3V	1.0092	1.0095
VEEE0C8AW1	1.0058	1.0070
6407649172	1.0134	1.0121

For the 2010/2011 financial year, UED forecasts that the total network energy loss, expressed as a percentage of sales, will be 5.59%, which is 0.05% lower than the actual top-down energy loss of 5.64% calculated for the 2008/2009 financial year. The forecast is based on:

- A reduction in energy sales while there is an increase in maximum demands, indicating that the load profile has become peakier;
- An increase in asset utilisation;
- Recent and impending network augmentations;
- The latest trends in distribution losses, and the results from reconciliation of the 2008/2009 year losses.

Clause 3.6.3h (2) of the National Electricity Rules requires a distributor to perform an *ex post* reconciliation between the total energy losses implied by the forward-looking DLFs for a financial year and the actual energy losses reported for the same period. As at the date of this correspondence, the reconciliation could not be undertaken for 2009/2010 because the necessary metering data was not available for the full financial year. Therefore, a reconciliation calculation was done for 2008/2009.

The results of the 2008/2009 calculation are as follows:

$$\sum_{i=1}^{i=N} ME_i \times DLF_i = TAGE = 8,265,257 MWh \quad \dots(1)$$

$$\sum_{i=1}^{i=N} ME_i + NEL = TNE = 8,264,410 MWh \quad \dots(2)$$

Where:

ME_i - The Metered Energy flowing out of distribution network connection point i over the financial year.¹

DLF_i - Forward looking Distribution Loss Factor for distribution connection point i .

$TAGE$ - Total Aadjusted Gross Energy.

NEL - Total Network Energy Loss calculated using a top-down approach (i.e. purchases minus sales).

¹ The National Electricity Rules define metered energy as a positive where flow is towards the transmission connection point, however this definition results in negative values for metered energy supplying customer loads from distribution connection points. To simplify the analysis, United Energy Distribution has defined metered energy out of a distribution connection point as being positive.

TNE - Total Transmission Network Energy flowing into the distribution network.

N - The Number of distribution network connection points.

Equation (1) represents the total adjusted gross energy (TAGE) flowing out from distribution connection points. It is the metered energy plus distribution losses recovered through the application of the DLFs.

Equation (2) represents all energy flowing from distribution connection points plus total measured top down energy losses. It is in effect the total energy flowing from transmission connection points into the distribution network (TNE).

If the output from equation (1) is subtracted from the results of equation (2), then the value obtained is -847MWh. The implication is that the actual distribution network energy losses were 847MWh lower than the value estimated through application of the 2008/2009 DLFs.

In February 2007, the Essential Services Commission published a methodology for the determination of distribution loss factors in accordance with clause 3.6.3(g) of the National Electricity Rules. This methodology is based on an approach developed jointly by the Victorian distribution businesses and is consistent with the methodology used for the calculation of DLFs in previous years. UED has used this methodology for the 2010/2011 DLFs and a copy is enclosed separately (see Attachment 4).

UED has obtained third party advice to the effect that the DLFs calculated for the 2010/2011 financial year were worked out in accordance with the methodology described in Attachment 4. The certification of loss factors is provided as a separate attachment (Attachment 5).

Should you require further information or clarification on the matters discussed in this submission, please contact me on (03) 8540 7818 or alternatively Gabriel Wan, Manager Network Planning and Development on (03) 8544 9615.

Yours sincerely

Andrew Schille
Regulatory Manager

Summary of UED Distribution Loss Factors and Supporting Information

2010-2011 DLF Submission to the AER

Company Name	United Energy Distribution
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Energy Procured (MWh)

Total annual energy obtained from transmission connections at the boundary	8,217,171
Energy obtained from embedded generation plus energy obtained from other distributors into the UED network	111,510
	-109,458
Total Energy Procured per annum	8,219,223

Energy Supplied (MWh)

Total annual energy supplied to UED customers including theft	7,783,974
Total Energy Supplied per annum	7,783,974

Net Metered Energy Supplied (MWh)

	DLF A	DLF B	DLF C	DLF D	DLF E	Total
Short Sub transmission	35,110	0	943,287	2,204,268	4,292,740	7,475,405
Long Sub transmission	0	0	0	47,214	261,355	308,569

Top-Down Calculated Annual Losses (MWh)

	DLF A	DLF B	DLF C	DLF D	DLF E	Total
Short Sub transmission	45,444	59,500	62,055	182,791	76,258	435,249
Long Sub transmission	9,201					

Forward-looking average DLF

	DLF A	DLF B	DLF C	DLF D	DLF E
Short Sub transmission	1.0061	1.0139	1.0221	1.0490	1.0657
Long Sub transmission	1.0298	1.0376	1.0458	1.0727	1.0894

20010-2011 DLF Submission to the AER

Site-specific Distribution Loss Factors (DLFs) for large customers/generators

NMI	Class	DLF
VEEE0PD8AD	C	1.0143
VEEE0TF39Q	C	1.0165
VEEE0BG4Q3	C	1.0240
VEEE0NDNEX	C	1.0246
VEEE08KH3V	C	1.0092
VEEE0C8AW1	A	1.0058
6407649172	C	1.0134

2008-2009 DLF Reconciliation

Reconciliation (MWh)

Net energy supplied	7,889,970
Actual energy losses	445,163
Calculated energy losses based on approved DLF	446,010
Reconciliation error	-847
Reconciliation error (%)	-0.01%

UED Market Settlement and Transfer Solution (MSATS) DLF codes

Region	MSATS Code	DLF	NMI	Description
VIC	MC05	1.0143	VEEE0PD8AD	Site Specific – load
VIC	MC06	1.0165	VEEE0TF39Q	Site Specific – load
VIC	MC02	1.0240	VEEE0BG4Q3	Site Specific – load
VIC	MC04	1.0246	VEEE0NDNEX	Site Specific – load
VIC	MC01	1.0092	VEEE08KH3V	Site Specific – load
VIC	MC03	1.0058	VEEE0C8AW1	Site Specific – load
VIC	MG01	1.0134	6407649172	Site Specific – generation
VIC	MSAL	1.0298	N/A	Sub transmission line – long line
VIC	MSAS	1.0061	N/A	Sub transmission line – short line
VIC	MHBL	1.0376	N/A	Zone substation – long line
VIC	MHBS	1.0139	N/A	Zone substation – short line
VIC	MHCL	1.0458	N/A	HV feeder line – long line
VIC	MHCS	1.0221	N/A	HV feeder line – short line
VIC	MLDL	1.0727	N/A	LV distribution substation – long line
VIC	MLDS	1.0490	N/A	LV distribution substation – short line
VIC	MLEL	1.0894	N/A	LV line – long line
VIC	MLES	1.0657	N/A	LV line – short line