



11 March 2010

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Dear Chris

### **Distribution Loss Factors 2010/2011**

Clause 3.6.3 of the National Electricity Rules (NER) requires Distribution Network Service Providers (DNSPs) to determine distribution loss factors (DLFs) to apply in the next financial year and provide these to AEMO for publication by 1 April in each year. Before providing the distribution loss factors to AEMO for publication, the DNSP is required to obtain the approval of the Australian Energy Regulator (AER) for the distribution loss factors. Accordingly, Jemena Electricity Networks (Vic) Ltd (JEN) 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	1.0054	1.0109	1.0272	1.0415	1.0479
Long sub transmission	1.0233	1.0288	1.0451	1.0594	1.0659

JEN has adopted the methodology published by the Essential Services Commission (ESC) in February 2007 for the determination of distribution loss factors. This methodology is based on the methodology jointly developed by the Victorian distribution businesses, having regard to the principles of clause 3.6.3 (h) of the NER and is consistent with the methodology used for the calculation of DLFs in previous years.

Attached for the AER's consideration and approval are:

- a. Attachment 1 – Distribution Loss Factors for JEN for the year 2010/2011:
  - A. Network Average DLFs for Customers and Embedded Generators
  - B. Site Specific DLFs for Large Customers
  - C. Site Specific DLFs for Large Embedded Generators

- b. Attachment 2 – Reconciliation of the network losses for the year 2008/09 in accordance with Clause 3.6.3(h)(2) of the NER.
- c. Attachment 3 – JEN's MSATS codes.
- d. Attachment 4 – The methodology paper published by the ESC – Guidance Paper: Calculation Methodology for Distribution Loss Factors for the Victorian Jurisdiction (14 February 2007).
- e. Attachment 5 – Certification report by an independent expert that the proposed DLFs have been determined in accordance with the published methodology.

Should you require further information or clarification on the matters discussed in this submission please contact Gabriel Wan on telephone (03) 8544 9615 or me on (03) 8544 9036.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Anton Murashev', with a stylized flourish at the end.

**Anton Murashev**  
**Manager Asset Regulation & Strategy**

## Attachment 1 – Jemena Electricity Networks DLFs 2010/11

### A. Network Average DLFs for Customers and Embedded Generators

#### Network DLFs for 2010/11 for AER's Approval

	DLF A	DLF B	DLF C	DLF D	DLF E
Short Sub-transmission	1.0054	1.0109	1.0272	1.0415	1.0479
Long Sub-transmission	1.0233	1.0288	1.0451	1.0594	1.0659

The 2008/2009 financial year data shown below was used in the process of calculating the 2010/2011 forward looking DLFs above:

#### Energy Procured in 2008/09 (MWh)

Energy obtained from transmission connections	4,726,172
Energy obtained from embedded generation and other distributors	- 165,900
Total Energy Procured	4,560,272

#### Energy Supplied in 2008/09 (MWh)

Total annual energy supplied	4,400,263
Less supply to other distributors	- 11,852
Net Energy Supplied (pa)	4,388,411

#### Net Metered Energy Supplied in 2008/09 (MWh)

	DLF A	DLF B	DLF C	DLF D	DLF E	Total
Short Subtransmission	373,963	0	824,588	1,088,008	1,925,306	4,211,865
Long Subtransmission	0	0	0	0	176,546	176,546

#### Calculated Losses in 2008/09 (MWh)

	DLF A	DLF B	DLF C	DLF D	DLF E	Total
Short Subtransmission	1975	0	22032	44698	91547	160,252
Long Subtransmission	0	0	0	0	11609	11,609

#### Network DLF based on data from 2008/09

	DLF A	DLF B	DLF C	DLF D	DLF E
Short Subtransmission	1.0052	1.0107	1.0271	1.0415	1.0480
Long Subtransmission	1.0235	1.0290	1.0455	1.0598	1.0663

**B. Site Specific DLFs for Large Customers**

**Qualified Customers Site Specific DLF for year 2010/11**

<b>NMI</b>	<b>DLF</b>
VDDD000495	1.0085
6001280255	1.0056
VDDD000244	1.0117
VDDD000134	1.0137
VDDD000136	1.0031

### C. Site Specific DLF2010-11 for Large Embedded Generators

Somerton Power Station (Connected to SMTS-SSS-ST-SMTS 66kV Loop)

Distribution Loss Factor for Somerton Power Station (SPS) for the Period it is Operating.

1. Average loop loss, as determined from PSSE load flows and historical load profile, for the period when the power station is operating  
= 0.763 MW<sup>1</sup>
2. ELL<sub>SPS operating period</sub> = Energy Loop Loss for SPS operating period  
= 0.763 MW \* 745 hr<sup>2</sup>  
= 568.44 MWh
3. ELC<sub>SPS operating period</sub> = Energy Loop Consumption (Sales) for SPS operating period  
= 80 MW<sup>1</sup> \* 0.80 \* 745hr  
= 47,680 MWh
4. ESO<sub>SPS operating period</sub> = Energy Sent Out by SPS for operating period  
= 120 MW<sup>1</sup> \* 745 hr  
= 89,400 MWh
5. DLF A<sub>SPS operating period</sub> = 1 + Losses / Magnitude of sales less generation for SPS operating period  
= 1 + ELL<sub>SPS operating period</sub> / (ELC<sub>SPS operating period</sub> - ESO<sub>SPS operating period</sub>)  
= 1 + 568.44 / (47,680 MWh - 89,400 MWh)  
= **0.9864**

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<sup>1</sup> The load flow studies were based on a loop demand equalling 80% of forecast maximum demand (80MW \* 0.80 = 64MW) for 2010/11 and an average generator output of 120 MW in year 2009.

<sup>2</sup> Assume generator total running hours for 2010/11 would be at similar levels as in year 2009.

## Attachment 2

### Reconciliation for year 2008/09

Qualified Site Specific Customers			
NMI	Metered Consumption (MWh)	Approved DLF	Calculated Purchase (MWh)
VDDD000495	173437	1.0059	174460
6001280255	134719	1.0043	135298
VDDD000244	64837	1.0124	65641
VDDD000134	76868	1.0143	77967
VDDD000136	60961	1.0034	61168

General Network Customers					
Network Level	Approved DLF Short Sub transmission	Approved DLF Long Sub transmission	Metered energy through network level (MWh)	General Network Customers Sales (MWh)	Calculated Purchase (MWh)
DLF A - SUB/T LINE	1.0054	1.0165	373963	4846	4872
DLF B - ZONE SUB	1.0106	1.0216	0	0	0
DLF C – HV	1.0267	1.0377	824588	682883	701116
DLF D - DIST Tx TERMINALS	1.0399	1.0509	1088008	1088008	1131419
DLF E – LV	1.0462	1.0573	2113704	2101852	2200918

Reconciliation	
Calculated Purchase based on approved DLF (MWh)	4,552,860
Net energy supplied (MWh)	4,388,411
Calculated overall losses based on approved DLF (MWh)	164,449
Measured overall losses (Top Down Loss) (MWh)	171,861
Reconciliation error (MWh)	7,412
Reconciliation error (%)	0.17

### Attachment 3 - Jemena Electricity Networks' MSATS Codes

Region	Code	Description
VIC	CAFP	Site Specific VDDD000136
VIC	CAGP	Site Specific VDDD000134
VIC	CAPA	Site Specific 6001280255
VIC	CFMC	Site Specific VDDD000244
VIC	CHBL	Lower voltage side of ZS, long feeder
VIC	CHBS	Lower voltage side of ZS, short feeder
VIC	CHCL	Distribution line from ZS, long feeder
VIC	CHCS	Distribution line from ZS, short feeder
VIC	CLDL	LV terminals Dist Trans, long feeder
VIC	CLDS	LV terminals Dist Trans, short feeder
VIC	CLEL	LV line from Dist Trans, long feeder
VIC	CLES	LV line from Dist Trans, short feeder
VIC	CSAL	Sub-transmission line, long feeder
VIC	CSAS	Sub-transmission line, short feeder
VIC	CSOG	Generation – Somerton Generator
VIC	CVPC	Site Specific VDDD000495

Note: NMIs (MSATS Codes) VDDD000316 (CLST), VDDD000286 (CHCA), VDDD000224 (CSPT) do not qualify for a site specific DLF for 2010/11.

**Attachment 4 – “Guidance Paper: Calculation Methodology for Distribution Loss Factors (DLFs) for the Victorian Jurisdiction (14 February 2007)”**

Attached as a separate file.



**Attachment 5 – Certification Report**

Attached as a separate file.