2013/14 Loss Factor Report

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Document prepared by:

Western Power
ABN 18540492861

363 Wellington Street, Perth WA 6000

Prepared by:	Approved by:
Matthew Veryard	Mark McKinnon
Neil Gibbney	Revenue and Services Manager
	Access Arrangement

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1 Introduction

This report details the loss factors calculated for the 2013/14 financial year as required by section 2.27 of the Market Rules.

To comply with the obligations under section 2.27 of the Market Rules Western Power has:

- Recalculated all transmission loss factors;
- Recalculated all average distribution loss factors;
- Recalculated all individual distribution loss factors for customers with a CMD greater than 7,000 kVA;
- Recalculated all individual distribution loss factors for customers with a CMD between 1,000 and 7,000 kVA located greater than 10 km from the electrically closest substation;
- Recalculated the individual distribution loss factors for customers with a CMD between 1,000 and 7,000 kVA located less than 10 km from the electrically closest substation, where an individual distribution loss factor has been elected by the associated retailer; and
- Recalculated all individual distribution loss factors for distribution connected generation customers.

This year's report is the first to be calculated under the revised Market Rules and Market Procedure for determining Loss Factors. Details of the rule and procedure change can be found on the Independent Market Operator's website.

2 Basis for calculation

The following sections detail the methodology used by Western Power in calculating loss factors.

2.1 Transmission loss factors

Western Power has calculated the transmission loss factors in accordance with section 4.1 of the *Market procedure for determining loss factors* using the industry standard software package T-price.

2.2 Average distribution loss factors

Western Power has calculated the average distribution loss factors in accordance with section 4.2 of the *Market procedure for determining loss factors*.

Western Power has followed the detailed methodology historically used by Western Power to calculate the average distribution loss factors. The methodology includes:

- Determining losses within the zone substation transformers;
- Determining HV feeder losses;
- Determining distribution transformer losses; and
- Determining LV feeder losses (allowing separately for residential and commercial losses)

Western Power allocates the average distribution losses based on the usage of the various components of the network. An appropriate basis for this allocation is the reference services (offered in Western Power's access arrangement) and in accordance with the *Market procedure for determining loss factors* Western Power has determined an average loss factor for relevant reference services.

2.3 Individual distribution loss factors

Western Power calculates the individual distribution loss factors in accordance with section 4.2 of the *Market procedure for determining loss factors*.

Specifically, Western Power has calculated the individual distribution loss factors using the formula and methodology detailed in Schedule 4 of the Electricity Distribution Regulations 1997. Schedule 4 of the Electricity Distribution Regulations 1997 is reproduced below:

1.	To calculate the loss factor for a distribution connection which is an exit point a corporation must follow the following steps:
(a)	the corporation must determine the line losses assuming the distribution connection was not there and assuming feeder maximum load;
(b)	the corporation must determine the line losses assuming only the distribution connection was there and assuming feeder maximum load;
(c)	the corporation must determine the total line losses assuming all the distribution connections are there (including the distribution connection for which the loss factor is being determined) and assuming feeder maximum load;
(d)	the corporation must allocate a share of the total line losses calculated under step (c) to the distribution connection for which the loss factor is

being determined based on the ratio of the result of step (b) and the sum of the results of steps (a) and (b);

(e) the corporation must calculate the loss factor for the distribution connection by applying the following formula:

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

where —

A (in kW) is the share of the total line losses allocated to the distribution connection under step (d);

B (in kW) is the contract maximum demand for the distribution connection.

2. To calculate the loss factor for a distribution connection which is an entry point a corporation must follow the following steps:

(a) the corporation must determine the line losses assuming the distribution connection was not there and assuming feeder maximum load;

(b) the corporation must determine the total line losses assuming all the distribution connections are there (including the distribution connection for which the loss factor is being determined) and assuming feeder maximum load;

(c) the corporation must calculate the loss decrease or increase for the distribution connection for which the loss factor is being determined by subtracting the result of step (b) from the result of step (a);

(d) the corporation must calculate the loss factor for the distribution connection by applying the following formula:

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

where —

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

B (in kW) is the declared sent-out capacity for the distribution connection.

Note: For sites supplied from multiple feeders the distribution loss factor has been determined as if the load is evenly split across the feeders. The resultant distribution loss factor is the average of the calculated distribution loss factors.

3 Transmission Loss Factors

Western Power has calculated the following transmission loss factors for the 2013/14 financial year.

Table 1 - Transmission Loss Factors

Transmission Loss Factor			
TLF Code	**Description**	**Applied in 2012/13**	**To apply in 2013/14**
TAPA	Alcoa Pinjarra (Alcoa)	0.9964	0.9951
TAPL	Alcoa Pinjarra (Alinta)	0.9898	0.9905
TBLB	Bluewaters (BWP)	0.9987	0.9992
TBLS	Boulder (SCE)	1.2253	1.2002
TKRA	Karara Three Springs	NA	1.0409
TLWA	Landweir (Alinta)	1.0065	1.0112
TMBA	Mumbida Wind Farm	NA	1.0353
TMDP	Merredin Power Station (Nammarkin)	NA	1.0405
TMGS	Greenough River Solar Farm (Mungarra)	NA	1.0227
TMSK	Mason Road (KPP)	1.0199	1.0217
TOLA	Oakley (Alinta)	1.012	1.0131
TSAV	Transmission SWIN Average	1.0443	1.0434
TUAV	Transmission Urban Average	1.0383	1.0404
TWKG	West Kalgoorlie GTs	1.0782	1.1535
TWOJ	Worsley (Joint Venture)	0.9836	0.9846
TWOW	Worsley (Worsley)	0.9983	0.9886
WAFM	Australian Fused Materials	1.0217	1.0241
WAKW	Kwinana Alcoa	1.0199	1.0214
WALB	Albany	1.072	1.0699
WAMT	Amherst	1.034	1.0369
WAPM	Australian Paper Mills	1.0388	1.0407
WARK	Arkana	1.0383	1.0418
WBCH	Beechboro	1.0385	1.0419
WBDE	Baandee (WC)	1.1196	1.0969
WBDP	Binningup Desalination Plant	1.0097	1.0109
WBEC	Beckenham	1.0301	1.0301
WBEL	Belmont	1.0343	1.032
WBGM	Boddingtom Gold Mine	1.0076	1.0081
WBHK	Broken Hill Kwinana	1.0296	1.0236
WBIB	Bibra Lake	1.0289	1.0312
WBKF	Black Flag	1.2362	1.203
WBLD	Boulder	1.2325	1.1997
WBNP	Beenup	1.0302	1.027
WBNY	Bounty	1.1084	1.0913
WBOD	Boddington	1.0062	1.0068
WBPM	British Petroleum	1.0228	1.0246
WBSI	Marriott Road Barrack Silicon Smelter	1.0096	1.0121
WBSN	Busselton	1.0497	1.0497

Transmission Loss Factor			
TLF Code	**Description**	**Applied in 2012/13**	**To apply in 2013/14**
WBTN	Bridgetown	1.0135	1.0131
WBTY	Bentley	1.0314	1.0344
WBUH	Bunbury Harbour	1.0169	1.016
WBYF	Byford	1.0299	1.0319
WCAP	Capel	1.0381	1.0353
WCAR	Carrabin	1.2132	1.1873
WCBP	Mason Road CSBP	1.0238	1.0227
WCCL	Cockburn Cement Ltd	1.0239	1.0259
WCCT	Cockburn Cement	1.0255	1.0277
WCGW	Collgar Windfarm	1.0393	1.0146
WCKN	Clarkson	1.0367	1.0416
WCKT	Cook Street	1.0408	1.0452
WCLN	Clarence Street	1.0393	1.0402
WCLP	Coolup	1.0489	1.0464
WCOE	Collie	1.0247	1.0198
WCOL	Collier	1.0396	1.0401
WCPN	Chapman	1.0398	1.052
WCPS	Collie PWS	0.9949	0.9956
WCTE	Cottesloe	1.0377	1.0414
WCUN	Cunderdin	1.1076	1.1068
WCVE	Canning Vale	1.0284	1.0296
WDTN	Darlington	1.0367	1.0404
WDUR	Durlacher	1.037	1.0507
WEDD	Edmund Street	1.0375	1.0394
WEDG	Edgewater	1.0424	1.0454
WEMD	Emu Downs	0.9945	0.9937
WENB	Eneabba	1.027	1.0374
WFFD	Forrestfield	1.0359	1.039
WFRT	Forrest Ave	1.0422	1.047
WGGV	Golden Grove	1.0812	1.0732
WGNI	Glen Iris	1.0249	1.0261
WGNL	Gosnells	1.0291	1.0306
WGNN	Newgen Neerabup	1.0265	1.0379
WGTN	Geraldton	1.037	1.0507
WHAY	Hay Street	1.0406	1.0451
WHBK	Henley Brook	1.0382	1.0414
WHEP	Herdsman Parade	1.0438	1.0485
WHFS	Hadfields	1.0399	1.0432
WHIS	Mason Road Hismelt	1.0196	1.0226
WHZM	Hazelmere	1.0326	1.036
WJDP	Joondalup	1.0396	1.0424
WJTE	Joel Terrace	1.0403	1.0451
WKAT	Katanning	1.03	1.026

Transmission Loss Factor			
TLF Code	**Description**	**Applied in 2012/13**	**To apply in 2013/14**
WKDA	Kalamunda	1.0376	1.0412
WKDL	Kewdale	1.0335	1.0318
WKDN	Kondinin	1.079	1.062
WKDP	Kwinana Desalination Plant	1.02	1.0223
WKEL	Kellerberrin	1.1638	1.1067
WKEM	Kemerton PWS	1.0057	1.0079
WKMC	Cataby Kerr McGee	1.0244	1.0362
WKMK	Kerr McGee Kwinana	1.0177	1.0202
WKMM	Muchea Kerr McGee	1.0335	1.0368
WKND	Kwinana Donaldson Road (Western Energy)	1.0152	1.0204
WKOJ	Kojonup	1.031	1.0283
WKPS	Kwinana PWS	1.0164	1.0201
WLDE	Landsdale	1.0405	1.0443
WMAG	Manning Street	1.041	1.0447
WMBR	Mt Barker	1.0699	1.0666
WMCR	Medical Centre	1.0423	1.0465
WMDN	Maddington	1.0309	1.0305
WMED	Medina	1.0246	1.0274
WMER	Merredin 66kV	1.1229	1.0975
WMGA	Mungarra GTs	1.0181	1.0353
WMHA	Mandurah	1.027	1.0275
WMIL	Milligan Street	1.0412	1.0444
WMJP	Manjimup	1.02	1.0192
WMJX	Midland Junction	1.0335	1.0368
WMLG	Malaga	1.0363	1.0395
WMOR	Moora	1.0477	1.0539
WMOY	Morley	1.0406	1.0441
WMPS	Muja PWS	1	1
WMRR	Marriot Road	1.0084	1.0104
WMRV	Margaret River	1.0916	1.0851
WMSR	Mason Road	1.0193	1.0216
WMSS	Meadow Springs	1.0256	1.0269
WMUC	Muchea	1.0352	1.0386
WMUL	Mullaloo	1.0405	1.0436
WMUR	Murdoch	1.0264	1.0278
WMWR	Mundaring Weir	1.0532	1.0492
WMYR	Myaree	1.043	1.0451
WNBH	North Beach	1.0414	1.0448
WNED	Nedlands	1.0427	1.0471
WNFL	North Fremantle	1.0371	1.0403
WNGK	NewGen Kwinana	1.0209	1.0224
WNGN	Narrogin	1.0575	1.0494
WNOR	Northam	1.0662	1.0652

Transmission Loss Factor			
TLF Code	**Description**	**Applied in 2012/13**	**To apply in 2013/14**
WNPH	North Perth	1.0403	1.0453
WOCN	O'Connor	1.0412	1.0433
WOPK	Osborne Park	1.0415	1.0445
WPBY	Padbury	1.0418	1.0452
WPCY	Piccadilly	1.2362	1.2039
WPIC	Picton 66kv	1.0167	1.0157
WPJR	Pinjar	1.0295	1.0312
WPKS	Parkeston	1.2429	1.2012
WPLD	Parklands	1.0259	1.0263
WPNJ	Pinjarra	1.0179	1.0184
WRAN	Rangeway	1.0387	1.0511
WRGN	Regans	1.0304	1.0459
WROH	Rockingham	1.0255	1.0276
WRTN	Riverton	1.028	1.0291
WRVE	Rivervale	1.0341	1.0322
WSFT	South Fremantle 66kV	1.0246	1.0246
WSNR	Southern River	1.0276	1.0299
WSPA	Shenton Park	1.0414	1.0458
WSUM	Summer St	1.0414	1.0458
WSVY	Sawyers Valley	NA	1.046
WTLN	Tomlinson Street	1.0345	1.0333
WTSG	Three Springs	1.0384	1.0481
WTTS	Tate Street	1.0337	1.0341
WUNI	University	1.0426	1.0469
WVPA	Victoria Park	1.0352	1.0352
WWAG	Wagin	1.0485	1.0429
WWAI	Waikiki	1.0274	1.0287
WWCL	Western Collieries	0.9973	0.9956
WWDN	Wembley Downs	1.0433	1.0481
WWEB	WEB Grating	1.0352	1.0373
WWEL	Welshpool	1.0327	1.0317
WWGA	Wangara	1.0402	1.0439
WWGP	Wagerup	0.9898	0.9868
WWKT	West Kalgoorlie	1.2245	1.1819
WWLN	Willeton	1.027	1.0289
WWMG	Western Mining	1.0221	1.0237
WWNO	Wanneroo	1.0356	1.0385
WWNT	Wellington Street	1.0428	1.0468
WWSD	Westralian Sands	1.032	1.0298
WWUN	Wundowie	1.0703	1.0671
WWWF	Walkaway Windfarm	0.9444	0.956
WYCP	Yanchep	1.0348	1.0379
WYER	Yerbillon	1.2084	1.1929

Transmission Loss Factor			
TLF Code	**Description**	**Applied in 2012/13**	**To apply in 2013/14**
WYKE	Yokine	1.0404	1.0439
WYLN	Yilgarn	1.1446	1.1184

4 Average Distribution Loss Factors

Western Power has calculated the following average distribution loss factors for the 2013/14 financial year.

Table 2 - Average Distribution Loss Factors

Distribution Loss Factor			
DLF Code	**Description**	**Applied in 2012/13**	**To apply in 2013/14**
QRT1	A1 - Anytime Energy (Residential)	1.0709	1.0725
QRT2	A2 - Anytime Energy (Business)	1.0437	1.0444
QRT3	A3 - Time of Use Energy (Residential)	1.0709	1.0725
QRT4	A4 - Time of Use Energy (Business)	1.0437	1.0444
QRT5	A5 - High Voltage Metered Demand	1.0193	1.0195
QRT6	A6 - Low Voltage Metered Demand	1.0343	1.0347
QR7Z	A7 - High Voltage Contract Maximum Demand (Zone Substation Connected)	1.0055	1.0055
QZSC	Zone Substation Connections	1.0055	1.0055
QNLF	Transmission Connected (No DLF)	1.0000	1.0000
QNWM	Notional Wholesale Meter	-	1.0654
QAVG	Distribution System Wide Average Loss Factor	1.0506	1.0512

Notes:

- QR12 was reported for 2012/13 but has since been removed as it no longer represents a reference services.
- QRT9 and QR10 have been deleted as they are included in the calculations for the Notional Wholesale Meter.
- QNWM is new for 2013/14; previously QAVG was used as a proxy for the Notional Wholesale Meter. The value of QAVG is now being kept for references purposes only.

5 Individual Distribution Loss Factors

Western Power has calculated the following individual distribution loss factors for the 2013/14 financial year.

Table 3 - Individual Distribution Loss Factors

Distribution Loss Factor			
DLF Code	**Description**	**Applied in 2012/13**	**To apply in 2013/14**
QAAL	AIR LIQUIDE WA PTY LTD	1.0090	1.0091
QAAM	AMP CAPITAL INVESTORS LIMITED	1.0100	1.0100
QANF	ANDERSON WIND FARM	1.0541	1.0303
QAUS	BRICKWORKS BUILDING PRODUCTS PTY LTD	1.0544	1.0377
QAWF	ALBANY WINDFARM	0.9816	0.9835
QBGB	BGC (AUSTRALIA) PTY LTD	1.0117	1.0120
QBGC	BGC (AUSTRALIA) PTY LTD	1.0071	1.0077
QBGM	BGM MANAGEMENT COMPANY PTY LTD	1.0454	1.0488
QBGP	BGC (AUSTRALIA) PTY LTD	1.0057	1.0057
QBGQ	BGC (AUSTRALIA) PTY LTD	1.0192	1.0418
QBLB	BRICKWORKS BUILDING PRODUCTS PTY LTD	1.0072	1.0072
QBLC	AUSTRALBRICKS (WA) PTY LTD	1.0114	1.0121
QBLM	AUSTRALBRICKS (WA) PTY LTD	1.0061	1.0061
QBMA	ST BARBARA LIMITED	1.0773	1.0710
QBMB	ST BARBARA LIMITED	1.0215	1.0259
QBMC	ST BARBARA LIMITED	1.0213	1.0253
QBNB	BGC (AUSTRALIA) PTY LTD	1.0095	1.0095
QBOC	BOC GASES AUSTRALIA LIMITED	1.0082	1.0078
QBPA	BUNBURY PORT AUTHORITY	1.0062	1.0062
QBTF	NVESTA PROP & CWLTH SUPERANNUATION CORP	1.0057	1.0060
QBUR	BURSWOOD RESORT CASINO	1.0064	1.0066
QBWE	BROOKFIELD COMMERCIAL OPERATIONS PTY LTD	1.0071	1.0073
QCBC	COCKBURN CEMENT LIMITED	1.1245	1.1073
QCBH	CO-OPERATIVE BULK HANDLING LIMITED	1.0454	1.0488
QCEM	COCKBURN CEMENT LIMITED	1.0063	1.0062
QCPL	CENTRO MANDURAH	1.0065	1.0059
QCSG	CABLE SANDS (WA) PTY LTD	1.0604	1.0664
QCSW	CABLE SANDS (WA) PTY LTD	1.0087	1.0087
QCUR	CURTIN UNIVERSITY	1.0057	1.0057
QDCS	DEPARTMENT OF CORRECTIVE SERVICES	1.0266	1.0265
QDMS	DORAL MINERAL SANDS PTY LTD	1.1468	1.0536
QDOD	DEPARTMENT OF DEFENCE	1.0148	1.0158
QDWF	DENMARK WINDFARM	1.3084	1.3282
QFFM	WESTERN AREAS NL	1.1015	1.1162
QFIE	FLETCHER INTERNATIONAL EXPORTS PTY LTD	1.0610	1.0607
QFLM	LA MANCHA RESOURCES AUST PTY LTD	1.0347	1.0348
QFPA	FREMANTLE PORT AUTHORITY	1.0060	1.0061
QGES	APF MANAGEMENT AND PERRON INVESTMENTS PT	1.0069	1.0094

Distribution Loss Factor			
DLF Code	**Description**	**Applied in 2012/13**	**To apply in 2013/14**
QGLM	BRICKWORKS BUILDING PRODUCTS PTY LTD	1.0391	1.0413
QGRI	THE GRIFFIN COAL MINING CO PTY LTD	1.0529	1.0279
QHFM	HARVEY FRESH (1994) LTD	1.1467	1.1455
QHLG	WASTE GAS RESOURCES PTY LTD	1.0057	1.0053
QHMP	FMR INVESTMENTS PTY LTD	1.0468	1.0717
QHRO	HR OPERATIONS PTY LTD HYATT REGENCY PERT	1.0077	1.0082
QHVI	EG GREEN & SONS PTY LTD	1.1278	1.1354
QIRG	ILUKA RESOURCES LIMITED	1.0274	1.0320
QIRL	ILUKA RESOURCES LIMITED	-	1.1276
QJJM	HBJ MINERALS PTY LTD	1.0424	1.0426
QKBG	KANOWNA BELLE GOLD MINES LIMITED	1.1057	1.0932
QKEM	KEMERTON SILICA SAND PTY LTD	1.0411	1.0892
QKPS	VERVE ENERGY	1.2201	1.1984
QKUD	KUNDANA GOLD PTY LIMITED	1.0422	1.0177
QKWF	VERVE ENERGY	1.2292	1.2145
QLGA	LANDFILL GAS & POWER PTY LTD (Red Hill)	1.0256	1.0360
QLGB	LANDFILL GAS & POWER PTY LTD	1.0259	1.0327
QLGC	LANDFILL GAS & POWER PTY LTD	1.0216	1.0270
QLGD	LANDFILL GAS & POWER PTY LTD	1.0173	1.0199
QLJS	LEND LEASE PROPERTY MAN (AUSTRALIA) P/L	1.0095	1.0094
QMBW	MT BARKER POWER COMPANY	1.0323	1.0265
QMGS	COLONIAL FIRST STATE PROPERTY MANAGEMENT PTY LTD	1.0059	1.0060
QMIC	MILLENNIUM INORGANIC CHEMICALS LTD	1.0384	1.0313
QMID	BORAL BRICKS WESTERN AUSTRALIA PTY LTD	1.0171	1.0183
QMIE	BORAL BRICKS WESTERN AUSTRALIA PTY LTD	1.0226	1.0189
QNFM	NATIONAL FOODS AUSTRALIA PTY LTD	1.0089	1.0094
QPAG	PADDINGTON GOLD PTY LIMITED	1.0661	1.0605
QPEA	LANDFILL MANAGEMENT SYSTEMS	1.0130	1.0121
QPEB	A G L ENERGY SERVICES	1.0104	1.0228
QPED	LANDFILL MANAGEMENT SYSTEMS	1.0116	1.0108
QPHG	PEMBERTON HYDRO	1.0950	1.0670
QPTC	AMP CAPITAL INVESTORS LIMITED	1.0230	1.0195
QRCS	ROCKINGHAM CITY SHOPPING CENTRE	1.0091	1.0092
QRGP	INTEGRA MINING (RANDALLS GOLD PROJECT)	1.1130	1.1292
QRPH	ROYAL PERTH HOSPITAL	1.0058	1.0058
QRRA	DEPARTMENT OF DEFENCE	1.1017	1.1081
QSBC	LION-BEER SPIRITS & WINE PTY LTD	1.0119	1.0129
QSER	SERCO AUSTRALIA PTY LTD	-	1.0374
QSIT	SITA AUSTRALIA PTY LTD	1.0102	1.0113
QSMP	ST MARTINS PROPERTIES AUSTRALIA	1.0070	1.0070
QTAL	TALISON LITHIUM AUSTRALIA PTY LTD	1.0479	1.0744
QTCG	TESLA CORPORATION MANAGEMENT PTY LTD	0.9949	0.9931
QTCK	TESLA CORPORATION MANAGEMENT PTY LTD	1.0049	1.0049

Distribution Loss Factor			
DLF Code	**Description**	**Applied in 2012/13**	**To apply in 2013/14**
QTCL	TELSTRA	1.0067	1.0070
QTCN	TESLA CORPORATION MANAGEMENT PTY LTD	0.9539	0.9569
QTES	TESLA CORPORATION MANAGEMENT PTY LTD	1.0074	1.0021
QTMH	FOCUS OPERATIONS PTY LTD	1.0792	1.0876
QVEW	VERVE ENERGY	1.0059	1.0057
QWAC	WESTRALIA AIRPORTS CORPORATION PTY LTD	1.0148	1.0147
QWAN	WESTERN AREAS NL	1.0920	1.0806
QWCB	WATER CORPORATION	1.0081	1.0080
QWCD	WATER CORPORATION	1.0132	1.0125
QWCE	WATER CORPORATION	1.0066	1.0066
QWCF	WATER CORPORATION	1.0169	1.0167
QWCG	WATER CORPORATION	1.0102	1.0104
QWCS	WESTFIELD CAROUSEL SHOPPINGTOWN	1.0336	1.0333
QWCT	WATER CORPORATION	1.0127	1.0120
QWCW	WATER CORPORATION	1.0303	1.0395
QWGS	CPT CUSTODIAN PTY LTD	1.0140	1.0138
QWHF	WEST HILLS FARM	1.1086	1.0443
QWHS	WESTFIELD SHOPPINGTOWN CAROUSEL PTY LTD	1.0138	1.0138
QWMD	LAMINEX GROUP PTY LTD	1.0241	1.0202

6 Explanation for changes in loss factors

In accordance with clause 2.21(b)ii of the *Market procedure for determining loss factors* Western Power is required to provide an explanation for any changes of more than 0.025 in any transmission or distribution loss factors when compared to the previous year.

6.1 Transmission Loss Factors

The following transmission loss factors have changed by more than 0.025 when compared to the previous year:

Table 4 - Transmission Loss Factors changed by more than 0.025

TLF Code	Description	Applied in 2012/13	To apply in 2013/14	Change	Explanation
TBLS	Boulder (SCE)	1.2253	1.2002	-0.0251	Note 1
TWKG	West Kalgoorlie GTs	1.0782	1.1535	0.0753	Note 2
WBKF	Black Flag	1.2362	1.203	-0.0332	Note 1
WBLD	Boulder	1.2325	1.1997	-0.0328	Note 1
WCAR	Carrabin	1.2132	1.1873	-0.0259	Note 1
WKEL	Kellerberrin	1.1638	1.1067	-0.0571	Note 1
WMER	Merredin 66kV	1.1229	1.0975	-0.0254	Note 1
WPCY	Piccadilly	1.2362	1.2039	-0.0323	Note 1
WPKS	Parkeston	1.2429	1.2012	-0.0417	Note 1
WWKT	West Kalgoorlie	1.2245	1.1819	-0.0426	Note 1
WYLN	Yilgarn	1.1446	1.1184	-0.0262	Note 1

Loss factors for the transmission network are calculated based on half hour data for the whole system over the whole year. Individual transmission loss factors are not only affected by the quantity of usage at a node but also the time the usage occurs, and being a meshed network they are also affected by usage at other nearby nodes. In general, loss factors increase with demand at a node and decrease with increasing generation at a node. Loss factors can also be affected by changes in network configuration.

All significant changes to the loss factors for 2013/14 have been as a result of changes in either load or generation patterns at the node or at other nearby nodes during the preceding year.

Note 1 – Changes are a result of changes in load and generation electrically close to the 220kV transmission line from Muja to West Kalgoorlie. There has been an overall reduction of approximately 23% of energy transported over the line to Merredin Terminal resulting in generally lower loss factors.

Note 2 – The decreases in loss factors referred to in Note 1 have been offset by a more significant and localised effect due to a change in the running profile of the West Kalgoorlie GTs when compared to the previous year.

6.2 Average Distribution Loss Factors

No average distribution loss factors have changed by more than 0.025 when compared to the previous year.

6.3 Individual Distribution Loss Factors

The following individual distribution loss factors have changed by more than 0.025 when compared to the previous year:

Table 5 - Individual Distribution Loss Factors changed by more than 0.025

DLF Code	Description	Applied in 2012/13	To apply in 2013/14	Change
QDMS	DORAL MINERAL SANDS PTY LTD	1.1468	1.0536	-0.0931
QTAL	TALISON LITHIUM AUSTRALIA PTY LTD	1.0479	1.0744	0.0265
QGRI	THE GRIFFIN COAL MINING CO PTY LTD	1.0529	1.0279	-0.0250
QKEM	KEMERTON SILICA SAND PTY LTD	1.0411	1.0892	0.0481
QPHG	PEMBERTON HYDRO	1.0950	1.0670	-0.0279
QWHF	WEST HILLS FARM	1.1086	1.0443	-0.0643

The following table sets out the reasons for the changes in the individual distribution loss factors:

Table 6 – Reason for Individual Distribution Loss Factors change by more than 0.025

DLF Code	Reason for change in loss factor
QDMS	The impedances of a number of conductors have been revised downwards following field investigations of the feeder supplying the load since the previous loss factor was determined.
QTAL	The customer's maximum demand is much higher this year, which has lead to a higher loss factor.
QGRI	The feeder peak and customer's demand has fallen between the two years.
QKEM	The feeder peak has risen substantially between the two years.
QPHG	The feeder peak has fallen substantially between the two years.
QWHF	There is another generator on the same feeder, this has reduced the losses on the feeder and hence the loss factor for this facility.

Appendix A - Individual Distribution Loss Factors by NMI

The individual distribution loss factors calculated for the 2013/14 financial year are associated with the following NMIs.

Table 7 - Individual Distribution Loss Factors by NMI

NMI	DLF Code	Required or Optional
8001000107	QCSW	Optional
8001000110	QAAL	Required
8001000121	QTAL	Required
8001000122	QPEB	Required
8001000124	QLGB	Required
8001000125	QKEM	Required
8001000130	QCEM	Required
8001000158	QLGA	Required
8001000234	QLGD	Required
8001000268	QBOC	Required
8001000269	QJJM	Required
8001000270	QMID	Optional
8001000274	QBGP	Optional
8001000280	QWCB	Optional
8001000282	QWCE	Optional
8001000284	QWCW	Required
8001000286	QAAL	Required
8001000287	QFFM	Required
8001000300	QNFM	Optional
8001000325	QWMD	Required
8001000329	QBPA	Optional
8001000333	QDOD	Required
8001000345	QHVI	Required
8001000356	QTMH	Required
8001000359	QBMB	Required
8001000428	QCBC	Required
8001000449	QBLC	Optional
8001000451	QHMP	Required
8001000510	QPTC	Required
8001000511	QPTC	Required
8001000514	QMIE	Required

NMI	DLF Code	Required or Optional
8001000515	QMIE	Required
8001000519	QSMP	Optional
8001000520	QSMP	Optional
8001000521	QSBC	Optional
8001000527	QWCT	Optional
8001000528	QWCT	Optional
8001000529	QWCF	Required
8001000533	QWAC	Required
8001000534	QWAC	Required
8001000535	QCPL	Optional
8001000536	QCPL	Optional
8001000539	QFIE	Required
8001000541	QBWE	Optional
8001000542	QBWE	Optional
8001000546	QGES	Optional
8001000547	QGES	Optional
8001000612	QFPA	Optional
8001000613	QFPA	Optional
8001000652	QBUR	Required
8001000653	QBUR	Required
8001000661	QIRG	Required
8001000662	QIRG	Required
8001000665	QRPH	Optional
8001000666	QRPH	Optional
8001000667	QLJS	Optional
8001000668	QLJS	Optional
8001000669	QKUD	Required
8001000670	QKUD	Required
8001000673	QAAM	Required
8001000674	QAAM	Required
8001000677	QWGS	Required
8001000678	QWGS	Required
8001000681	QMGS	Required
8001000682	QMGS	Required
8001000687	QRCS	Required
8001000688	QRCS	Required
8001000691	QWHS	Required
8001000692	QWHS	Required
8001000693	QWCS	Required
8001000694	QWCS	Required
8001000703	QBTF	Optional
8001000704	QBTF	Optional
8001000706	QMIC	Required
8001000707	QAWF	Required

NMI	DLF Code	Required or Optional
8001000708	QAWF	Required
8001000716	QBMA	Required
8001000717	QBMA	Required
8001000738	QLGC	Required
8001000745	QPAG	Required
8001000780	QCBH	Required
8001000790	QWCG	Required
8001000791	QBLB	Optional
8001000824	QKBG	Required
8001000830	QBMC	Required
8001000831	QTCL	Optional
8001000846	QBLM	Optional
8001000863	QRRA	Required
8001000864	QBGC	Optional
8001000874	QPHG	Required
8001000878	QWAN	Required
8001000916	QPEA	Required
8001001009	QBMA	Required
8001002378	QVEW	Required
8001002460	QAUS	Required
8001003787	QBNB	Optional
8001006864	QSER	Required
8001008631	QDCS	Required
8001011455	QDMS	Required
8001011882	QGLM	Required
8001014748	QHFM	Required
8001016701	QKPS	Required
8001017256	QHRO	Optional
8001017284	QGRI	Required
8001018080	QPED	Required
8001019433	QHLG	Required
8001019750	QFPA	Optional
8001020053	QWCD	Required
8001020092	QBGM	Required
8002013336	QKWF	Required
8002013376	QCUR	Required
8002013377	QCUR	Required
8002013378	QCUR	Required
8002016408	QMBW	Required
8002016420	QTES	Required
8002016475	QAWF	Required
8002016499	QWHF	Required
8002016507	QTCG	Required
8002016508	QTCK	Required

NMI	DLF Code	Required or Optional
8002016509	QTCN	Required
8002016529	QDWF	Required
8002019353	QBGB	Optional
8002027600	QCSG	Required
8002034918	QFLM	Required
8002051925	QCUR	Required
8002055189	QSIT	Required
8002067264	QBGQ	Required
8002098108	QRGP	Required
8002114136	QIRL	Required
8002148204	QANF	Required

Note: Individual distribution loss factors have been assessed as either required or optional in accordance with section 3.2.5 of the *Market procedure for determining loss factors*.

The calculation of optional distribution loss factors is at the cost of the retailer.

Appendix B - Alternative Presentation of Average DLFs

The following table presents the average distribution loss factors based on network level and is included for information purposes only.

Table 8 - Average Distribution Loss Factors by Network Level – For Information Only

Network Level	Distribution Loss Factor	
	Applied in 2012/13	To apply in 2013/14
6.6kV/11kV/22kV/33kV Bus Connected	1.0055	1.0055
6.6kV/11kV/22kV/33kV Line Connected	1.0193	1.0195
LV Bus Connected	1.0343	1.0347
LV Line Connected (Commercial)	1.0437	1.0444
LV Line Connected (Streetlighting/UMS)	1.0506	1.0654
LV Line Connected (Residential)	1.0709	1.0725
Transmission Connected (No DLF)	1.0000	1.0000
Distribution System Wide Average Loss Factor	1.0506	1.0512

Note: Average distribution loss factors are presented in this format to enable comparison with distribution loss factors within the NEM. However, for purposes of the WA market the average distribution loss factors are as per section 4.