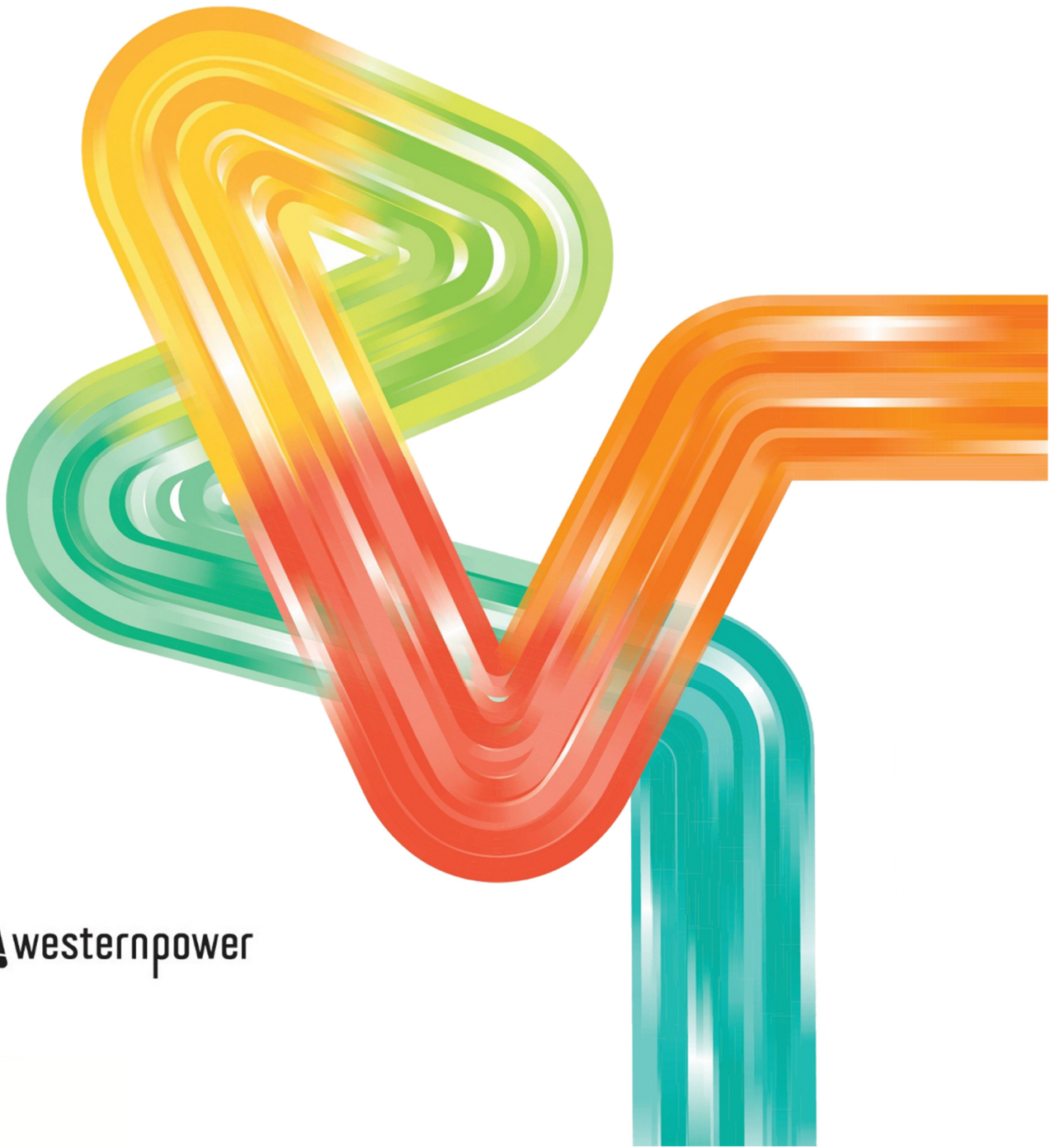


2018/19 Loss Factor Report

Public
June 2018



Contents

| | |
|--|-----------|
| 1. Introduction | 1 |
| 2. Basis for Calculation | 2 |
| 2.1 Transmission loss factors..... | 2 |
| 2.2 Average distribution loss factors | 2 |
| 2.3 Individual distribution loss factors..... | 2 |
| 3. Transmission Loss Factors | 4 |
| 4. Average Distribution Loss Factors | 10 |
| 5. Individual Distribution Loss Factors | 11 |
| 6. Explanation for Changes in Loss Factors..... | 19 |
| 6.1 Transmission loss factors..... | 19 |
| 6.2 Individual distribution loss factors..... | 20 |
| Appendix A Individual Transmission Loss Factors by NMI..... | 20 |
| Appendix B Individual Distribution Loss Factors by NMI..... | 24 |
| Appendix C Extinct Loss Factor Codes | 32 |
| Appendix D Alternative Presentation of Average DLFs | 34 |

1. Introduction

This report details the loss factors calculated for the 2018/19 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.
- Recalculated all individual distribution loss factors for distribution connected generation customers.

2. Basis for Calculation

Western Power calculates loss factors in accordance with the Market procedure for determining loss factors. The following sections provide further detail on 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 software package T-price.

2.2 Average distribution loss factors

The methodology calculates the average distribution loss factors by:

- Determining losses within the zone substation transformers.
- Determining HV feeder losses.
- Determining distribution transformer losses.
- 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*.

The methodology used to calculate the individual distribution loss factors uses the formulae and methodology detailed in Schedule 4 of the Electricity Distribution Regulations 1997.¹ 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;

¹ 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.

- (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:

$$LF_{Exit} = 1 + \frac{A}{B}$$

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:

$$LF_{Entry} = 1 + \frac{A}{B}$$

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.

3. Transmission Loss Factors

Western Power has calculated the following transmission loss factors for the 2018/19 financial year.

Table 1 - Transmission Loss Factors

| TLF Code | Description | Applied in 2017/18 | To apply in 2018/19 |
|----------|------------------------------|--------------------|---------------------|
| TAPA | Alcoa Pinjarra (Alcoa) | 0.9985 | 0.9736 |
| TAPL | Alcoa Pinjarra (Alinta) | 0.9946 | 0.9747 |
| TBLB | Bluewaters | 0.9992 | 1.0004 |
| TBLS | Boulder (SCE) | 1.1549 | 1.1679 |
| TKRA | Karara Three Springs | 1.0436 | 1.0479 |
| TLWA | Lanwehr (Alinta) | 1.0126 | 1.0135 |
| TMBA | Mumbida Wind Farm | 0.9668 | 0.9573 |
| TMDP | Merredin Power Station | 0.9997 | 0.9997 |
| TMGS | Greenough River Solar Farm | 1.0141 | 1.0031 |
| TMSK | Mason Road (KPP) | 1.0246 | 1.0343 |
| TOLA | Oakley (Alinta) | 1.0132 | 1.0164 |
| TSAV | Transmission SWIN Average | 1.0386 | 1.0346 |
| TUAV | Transmission Urban Average | 1.0384 | 1.0429 |
| TWKG | West Kalgoorlie GTs | 1.1339 | 1.1172 |
| TWOJ | Worsley (Joint Venture) | 0.9856 | 0.9721 |
| TWOW | Worsley (Worsley) | 1.0054 | 0.9725 |
| WAFM | Australian Fused Materials | 1.0267 | 1.0355 |
| WAKW | Kwinana Alcoa | 1.0243 | 1.0350 |
| WALB | Albany | 1.0988 | 1.0535 |
| WAMT | Amherst | 1.0365 | 1.0461 |
| WAPM | Australian Paper Mills | 1.0392 | 1.0496 |
| WARK | Arkana | 1.0393 | 1.0441 |
| WBCH | Beechboro | 1.0399 | 1.0447 |
| WBCT | Balcatta | 1.0406 | 1.0457 |
| WBDE | Baandee (WC) | 1.0479 | 1.0676 |
| WBDP | Binningup Desalination Plant | 1.0159 | 1.0173 |
| WBEC | Beckenham | 1.0327 | 1.0327 |
| WBEL | Belmont | 1.0320 | 1.0336 |

| | | | |
|-------|---------------------------------------|--------|--------|
| WBGGM | Boddington Gold Mine | 1.0091 | 1.0106 |
| WBHK | Broken Hill Kwinana | 1.0258 | 1.0397 |
| WBIB | Bibra Lake | 1.0317 | 1.0431 |
| WBKF | Black Flag | 1.1643 | 1.1849 |
| WBLD | Boulder | 1.1451 | 1.1692 |
| WBNP | Beenup | 1.0298 | 1.0277 |
| WBNY | Bounty | 1.0753 | 1.0850 |
| WBOD | Boddington | 1.0085 | 1.0097 |
| WBPM | British Petroleum | 1.0384 | 1.0423 |
| WBSI | Marriott Road Barrack Silicon Smelter | 1.0153 | 1.0152 |
| WBSN | Busselton | 1.0561 | 1.0509 |
| WBTN | Bridgetown | 1.0134 | 1.0116 |
| WBTY | Bentley | 1.0340 | 1.0373 |
| WBUH | Bunbury Harbour | 1.0193 | 1.0080 |
| WBYF | Byford | 1.0329 | 1.0360 |
| WCAP | Capel | 1.0407 | 1.0289 |
| WCAR | Carrabin | 1.0510 | 1.1144 |
| WCBP | Mason Road CSBP | 1.0237 | 1.0351 |
| WCCL | Cockburn Cement Ltd | 1.0272 | 1.0342 |
| WCCT | Cockburn Cement | 1.0284 | 1.0351 |
| WCGW | Collgar Windfarm | 0.9912 | 1.0060 |
| WCKN | Clarkson | 1.0391 | 1.0467 |
| WCKT | Cook Street | 1.0416 | 1.0460 |
| WCLN | Clarence Street | 1.0380 | 1.0385 |
| WCLP | Coolup | 1.0555 | 1.0184 |
| WCOE | Collie | 1.0215 | 1.0187 |
| WCOL | Collier | 1.0383 | 1.0390 |
| WCPN | Chapman | 1.0272 | 1.0151 |
| WCPS | Collie PWS | 0.9959 | 0.9974 |
| WCTE | Cottesloe | 1.0400 | 1.0474 |
| WCUN | Cunderdin | 1.0963 | 1.1041 |
| WCVE | Canning Vale | 1.0295 | 1.0311 |
| WDTN | Darlington | 1.0407 | 1.0452 |

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|------|---|--------|--------|
| WDUR | Durlacher | 1.0237 | 1.0104 |
| WEDD | Edmund Street | 1.0374 | 1.0474 |
| WEDG | Edgewater | 1.0430 | 1.0495 |
| WEMD | Emu Downs | 1.0151 | 1.0270 |
| WENB | Eneabba | 1.0340 | 1.0384 |
| WFFD | Forrestfield | 1.0398 | 1.0442 |
| WFRT | Forrest Ave | 1.0437 | 1.0477 |
| WGGV | Golden Grove | 1.0601 | 1.0661 |
| WGNI | Glen Iris | 1.0266 | 1.0301 |
| WGNL | Gosnells | 1.0306 | 1.0317 |
| WGNN | Newgen Neerabup | 1.0355 | 1.0372 |
| WGTN | Geraldton | 1.0237 | 1.0104 |
| WHAY | Hay Street | 1.0415 | 1.0456 |
| WHBK | Henley Brook | 1.0385 | 1.0474 |
| WHEP | Herdsmen Parade | 1.0473 | 1.0754 |
| WHFS | Hadfields | 1.0416 | 1.0459 |
| WHIS | Tianqi Lithium | | 1.0340 |
| WHZM | Hazelmere | 1.0350 | 1.0395 |
| WJDP | Joondalup | 1.0402 | 1.0467 |
| WJTE | Joel Terrace | 1.0410 | 1.0457 |
| WKAT | Katanning | 1.0702 | 1.0520 |
| WKDA | Kalamunda | 1.0415 | 1.0460 |
| WKDL | Kewdale | 1.0314 | 1.0327 |
| WKDN | Kondinin | 1.0382 | 1.0445 |
| WKDP | Kwinana Desalination Plant | 1.0241 | 1.0350 |
| WKEL | Kellerberrin | 1.0526 | 1.0794 |
| WKEM | Kemerton PWS | 1.0099 | 1.0108 |
| WKMC | Cataby Kerr McGee | 1.0346 | 1.0413 |
| WKMK | Kerr McGee Kwinana | 1.0221 | 1.0320 |
| WKMM | Muchea Kerr McGee | 1.0361 | 1.0454 |
| WKND | Kwinana Donaldson Road (Western Energy) | 1.0176 | 1.0323 |
| WKOJ | Kojonup | 1.0368 | 1.0281 |
| WKPS | Kwinana PWS | 1.0205 | 1.0301 |

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|------|------------------|--------|--------|
| WLDE | Landsdale | 1.0419 | 1.0467 |
| WMAG | Manning Street | 1.0427 | 1.0472 |
| WMBR | Mt Barker | 1.0783 | 1.0597 |
| WMCR | Medical Centre | 1.0456 | 1.0521 |
| WMDN | Maddington | 1.0299 | 1.0313 |
| WMDY | Munday | 1.0387 | 1.0434 |
| WMED | Medina | 1.0299 | 1.0385 |
| WMER | Merredin 66kV | 1.0479 | 1.0612 |
| WMGA | Mungarra GTs | 1.0118 | 0.9957 |
| WMHA | Mandurah | 1.0299 | 1.0243 |
| WMIL | Milligan Street | 1.0424 | 1.0459 |
| WMJP | Manjimup | 1.0198 | 1.0183 |
| WMJX | Midland Junction | 1.0358 | 1.0402 |
| WMLG | Malaga | 1.0371 | 1.0419 |
| WMOR | Moora | 1.0496 | 1.0550 |
| WMOY | Morley | 1.0424 | 1.0463 |
| WMPS | Muja PWS | 1.0000 | 1.0000 |
| WMRR | Marriot Road | 1.0133 | 1.0131 |
| WMRV | Margaret River | 1.1048 | 1.0996 |
| WMSR | Mason Road | 1.0243 | 1.0340 |
| WMSS | Meadow Springs | 1.0293 | 1.0241 |
| WMUC | Muchea | 1.0371 | 1.0470 |
| WMUL | Mullaloo | 1.0415 | 1.0476 |
| WMUR | Murdoch | 1.0285 | 1.0291 |
| WMWR | Mundaring Weir | 1.0572 | 1.0572 |
| WMYR | Myaree | 1.0445 | 1.0543 |
| WNBH | North Beach | 1.0424 | 1.0475 |
| WNED | Nedlands | 1.0458 | 1.0501 |
| WNFL | North Fremantle | 1.0371 | 1.0759 |
| WNGK | NewGen Kwinana | 1.0221 | 1.0247 |
| WNGN | Narrogin | 1.0254 | 1.0272 |
| WNOR | Northam | 1.0586 | 1.0643 |
| WNOW | Nowgerup | 1.0357 | 1.0449 |

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|------|------------------------|--------|--------|
| WNPH | North Perth | 1.0419 | 1.0462 |
| WOCN | O'Connor | 1.0412 | 1.0526 |
| WOPK | Osborne Park | 1.0420 | 1.0462 |
| WPBY | Padbury | 1.0427 | 1.0485 |
| WPCY | Piccadilly | 1.1507 | 1.1691 |
| WPIC | Picton 66kv | 1.0197 | 1.0065 |
| WPJR | Pinjar | 1.0322 | 1.0322 |
| WPKS | Parkeston | 1.1529 | 1.1686 |
| WPLD | Parklands | 1.0272 | 1.0222 |
| WPNJ | Pinjarra | 1.0194 | 1.0100 |
| WRAN | Rangeway | 1.0252 | 1.0137 |
| WRGN | Regans | 1.0357 | 1.0431 |
| WROH | Rockingham | 1.0300 | 1.0385 |
| WRTN | Riverton | 1.0298 | 1.0307 |
| WRVE | Rivervale | 1.0319 | 1.0335 |
| WSFT | South Fremantle 66kV | 1.0246 | 1.0246 |
| WSNR | Southern River | 1.0299 | 1.0305 |
| WSPA | Shenton Park | 1.0439 | 1.0512 |
| WSRD | Sutherland | 1.0449 | 1.0475 |
| WSUM | Summer St | 1.0420 | 1.0465 |
| WSVY | Sawyers Valley | 1.0450 | 1.0499 |
| WTLN | Tomlinson Street | 1.0352 | 1.0352 |
| WTSG | Three Springs | 1.0384 | 1.0418 |
| WTST | Three Springs Terminal | 1.0499 | 1.0499 |
| WTTS | Tate Street | 1.0319 | 1.0326 |
| WUNI | University | 1.0467 | 1.0747 |
| WVPA | Victoria Park | 1.0352 | 1.0352 |
| WWAG | Wagin | 1.0754 | 1.0575 |
| WWAI | Waikiki | 1.0315 | 1.0387 |
| WWCL | Western Collieries | 0.9984 | 0.9900 |
| WWDN | Wembley Downs | 1.0468 | 1.0514 |
| WWEL | Welshpool | 1.0313 | 1.0328 |
| WWGA | Wangara | 1.0415 | 1.0469 |

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|------|-------------------|--------|--------|
| WWGP | Wagerup | 0.9968 | 0.9701 |
| WWKT | West Kalgoorlie | 1.1495 | 1.1654 |
| WWLN | Willetton | 1.0289 | 1.0317 |
| WWMG | Western Mining | 1.0264 | 1.0354 |
| WWNO | Wanneroo | 1.0376 | 1.0447 |
| WWNT | Wellington Street | 1.0429 | 1.0467 |
| WWSD | Westralian Sands | 1.0369 | 1.0234 |
| WWUN | Wundowie | 1.0754 | 1.0846 |
| WWWF | Walkaway Windfarm | 0.9487 | 0.9475 |
| WYCP | Yanchep | 1.0378 | 1.0467 |
| WYER | Yerbillon | 1.0525 | 1.1138 |
| WYKE | Yokine | 1.0420 | 1.0461 |
| WYLN | Yilgarn | 1.0795 | 1.0948 |

4. Average Distribution Loss Factors

Western Power has calculated the following average distribution loss factors for the 2018/19 financial year.

Table 2 - Average Distribution Loss Factors

| DLF Code | Description | Applied in 2017/18 | To apply in 2018/19 |
|----------|---|--------------------|---------------------|
| QRT1 | A1 - Anytime Energy (Residential) | 1.0482 | 1.0646 |
| QRT2 | A2 - Anytime Energy (Business) | 1.0405 | 1.0498 |
| QRT3 | A3 - Time of Use Energy (Residential) | 1.0482 | 1.0646 |
| QRT4 | A4 - Time of Use Energy (Business) | 1.0405 | 1.0498 |
| QRT5 | A5 - High Voltage Metered Demand | 1.0193 | 1.0203 |
| QRT6 | A6 - Low Voltage Metered Demand | 1.0379 | 1.0437 |
| 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 | 1.0473 | 1.0574 |
| QAVG | Distribution System Wide Average Loss Factor | 1.0403 | 1.0472 |
| QR13 | C1 – Anytime Energy (Residential) Bi-directional | 1.0482 | 1.0646 |
| QR14 | C2 – Anytime Energy (Business) Bi-directional | 1.0405 | 1.0498 |
| QR15 | C3 – Time of Use Energy (Residential) Bi-directional | 1.0482 | 1.0646 |
| QR16 | C4 – Time of Use Energy (Business) Bi-directional | 1.0405 | 1.0498 |

5. Individual Distribution Loss Factors

Western Power has calculated the following individual distribution loss factors for the 2018/19 financial year.

Table 3 - Individual Distribution Loss Factors

| DLF Code | Description | Applied in 2017/18 | To apply in 2018/19 |
|----------|--|--------------------|---------------------|
| QAAL | AIR LIQUIDE AUSTRALIA LIMITED | 1.0089 | 1.009 |
| QAHU | OAHU MANAGEMENT PTY LTD C/- HAWAIIAN PTY LTD | | 1.0067 |
| QAMC | ORORA LIMITED | 1.0076 | 1.0068 |
| QAMP | AMP CAPITAL INVESTORS LIMITED | | 1.0099 |
| QANF | ANDERSON WIND FARM | 1.0615 | 1.0238 |
| QAPI | AUSTRALASIAN PROPERTY INVESTMENTS LTD | | 1.0147 |
| QARG | ARGENT (BULLANT) PTY LTD | 1.0062 | 1.0359 |
| QAWF | ALBANY WIND FARM | 0.9725 | 0.9857 |
| QBBW | BREMER BAY WINDFARM | 1.3675 | 1.3544 |
| QBFO | BROOKFIELD (CITY SQUARE LOT 1 TO 7) PTY LTD | | 1.0092 |
| QBGB | BGC (AUSTRALIA) PTY LTD | 1.0083 | 1.0109 |
| QBGC | BGC (AUSTRALIA) PTY LTD | 1.0074 | 1.007 |
| QBGM | BGM MANAGEMENT COMPANY PTY LTD | 1.0552 | 1.0542 |
| QBGP | BGC (AUSTRALIA) PTY LTD | 1.0057 | 1.0057 |
| QBGQ | BGC AUSTRALIA PTY LTD | 1.031 | 1.0264 |
| QBLB | BRICKWORKS BUILDING PRODUCTS PTY LTD | 1.0072 | 1.0072 |
| QBMA | HANKING GOLD MINING PTY LTD | 1.0073 | 1.0739 |
| QBMB | HANKING GOLD MINING PTY LTD | 1.0132 | 1.0108 |
| QBMC | HANKING GOLD MINING PTY LTD | 1.0129 | 1.0114 |

| | | | |
|------|--|--------|--------|
| QBNB | BGC (AUSTRALIA) PTY LTD | 1.0175 | 1.0118 |
| QBOC | BOC Limited | 1.0061 | 1.0061 |
| QBPA | SOUTHERN PORTS AUTHORITY PORT OF BUNBURY | 1.0062 | 1.0062 |
| QBTF | INVESTA NOMINEES PTY LTD | | 1.0057 |
| QBUL | CO OPERATIVE BULK HANDLING LTD | 1.0205 | 1.0158 |
| QBUR | BURSWOOD RESORT CASINO | 1.0074 | 1.0063 |
| QBUS | BURSWOOD NOMINEES LIMITED | | 1.0062 |
| QBWE | BROOKFIELD COMMERCIAL OPERATIONS PTY LTD | | 1.007 |
| QCAS | CASTELLI NOMINEES PTY LTD | 1.0406 | 1.0074 |
| QCBC | COCKBURN CEMENT LIMITED | 1.0999 | 1.0789 |
| QCBH | CO OPERATIVE BULK HANDLING LTD | 1.0535 | 1.0502 |
| QCBK | CO OPERATIVE BULK HANDLING LTD | | 1.0064 |
| QCEB | CEBAS PTY LTD | 1.0058 | 1.0058 |
| QCEM | COCKBURN CEMENT LIMITED | 1.0063 | 1.0062 |
| QCEN | CHALLENGER LISTED INVESTMENTS LIMITED | | 1.0077 |
| QCMA | CRISTAL MINING AUSTRALIA LIMITED | 1.0382 | 1.0573 |
| QCMT | COCKBURN CEMENT LIMITED | | 1.0125 |
| QCPC | CALARDU PERTH CITY WEST & G HARVEY | | 1.0072 |
| QCPU | CBUS PROPERTY PTY LTD | | 1.0066 |
| QCSW | CABLE SANDS (WA) PTY LTD | | 1.0087 |
| QCTE | A RICHARDS PTY LTD | 1.0141 | 1.0084 |
| QDCS | DEPARTMENT OF CORRECTIVE SERVICES | 1.0235 | 1.0245 |
| QDER | DEPT OF ENVIRONMENT REGULATION | 1.0144 | 1.0081 |
| QDOD | DEPARTMENT OF DEFENCE | 1.0111 | 1.0134 |

| | | | |
|------|--|--------|--------|
| QDPL | DONHAD PTY LTD | 1.0186 | 1.017 |
| QDSX | DEXUS WHOLESALE PROPERTY LIMITED | | 1.008 |
| QDTO | DATO HOLDINGS PTY LTD | | 1.0071 |
| QDVC | DAVID JONES LIMITED | | 1.0064 |
| QDWF | DENMARK COMMUNITY WINDFARM LTD | 1.2166 | 1.3616 |
| QDWL | DARWILL PTY LTD | | 1.0088 |
| QDXE | DEXUS WHOLESALE PROPERTY LIMITED | | 1.0077 |
| QERD | EVERGREEN REALTY PTY LTD | | 1.0061 |
| QESJ | THE TRUSTEE FOR ESJAY NO 2 UNIT TRUST | | 1.0156 |
| QFFM | WESTERN AREAS LTD | 1.1304 | 1.1214 |
| QFIE | FLETCHER INTERNATIONAL EXPORTS PTY LTD | 1.0783 | 1.0524 |
| QFLM | LA MANCHA RESOURCES AUST PTY LTD | 1.0203 | 1.0384 |
| QFPA | FREMANTLE PORT AUTHORITY | 1.0061 | 1.0111 |
| QFUJ | FUJITSU AUSTRALIA LIMITED | | 1.0065 |
| QFUR | FURMANITE AUSTRALIA PTY LTD | 1.0121 | 1.0056 |
| QGDI | GDI No.44 Pty Ltd | | 1.0101 |
| QGRI | GRIFFIN COAL | 1.0358 | 1.0344 |
| QGTS | VICINITY CUSTODIAN PTY LTD | | 1.0085 |
| QHEL | HEALTH SCOPE PTY LTD | | 1.0112 |
| QHLG | WASTE GAS RESOURCES PTY LTD | 1.005 | 0.9996 |
| QHMP | FMR INVESTMENTS PTY LTD | 1.0384 | 1.0595 |
| QHVI | EG GREEN & SONS PTY LTD | 1.1353 | 1.1207 |
| QIPW | AMCOR FLEXIBLES AUSTRALASIA | | 1.0088 |
| QIRL | ILUKA RESOURCES LIMITED | 1.1017 | 1.0684 |

| | | | |
|------|---|--------|--------|
| QISP | ISPT PTY LTD | | 1.0088 |
| QISU | ISPT PTY LTD | | 1.0062 |
| QJAN | JANDAKOT AIRPORT HOLDINGS | 1.0096 | 1.0101 |
| QJOE | JOE WHITE MALTINGS PTY LTD | | 1.0069 |
| QKBG | KANOWNA BELLE GOLD MINES LIMITED | 1.0691 | 1.0853 |
| QKEM | KEMERTON SILICA SAND PTY LTD | 1.0739 | 1.1461 |
| QKEY | KEYSBROOK LEUCOXENE PTD LTD | 1.0214 | 1.0264 |
| QKUD | NORTHERN STAR (KANOWNA) LIMITED | 1.0095 | 1.0444 |
| QKWF | SYNERGY | 1.0853 | 1.0769 |
| QLES | LEND LEASE PROPERTY MAN (AUSTRALIA) P/L | | 1.0083 |
| QLGA | LANDFILL GAS & POWER PTY LTD | 1.0072 | 1.0119 |
| QLGC | LANDFILL GAS & POWER PTY LTD | 1.0238 | 1.0091 |
| QLGD | LANDFILL GAS & POWER PTY LTD | 1.0122 | 1.0121 |
| QLGE | LEGION ENERGY PTY LTD | | 1.007 |
| QLHT | HAWAIIAN INVESTMENTS PTY LTD | | 1.006 |
| QLJS | LEND LEASE PROPERTY MAN (AUSTRALIA) P/L | 1.0093 | 1.0095 |
| QLMR | EVOLUTION MINING (MUNGARRI) PTY LTD | 1.0698 | 1.0743 |
| QLNL | LEND LEASE PROPERTY MANAGEMENT PTY LTD | | 1.0086 |
| QLPG | FAR EAST HARBOUR TOWN PTY LTD | | 1.0099 |
| QLPM | LEND LEASE PROPERTIES AUST PTY LTD | | 1.0088 |
| QLSP | LEND LEASE PROPERTY MANAGEMENT (AUS) P/L | | 1.0151 |
| QMBW | MT BARKER POWER COMPANY | 1.0294 | 1.0224 |
| QMEE | AMP CAPITAL INVESTORS LIMITED | | 1.01 |
| QMGS | VICINITY CENTRES PM PTY LTD (MIDLAND GATE SHP CNTR) | | 1.0059 |

| | | | |
|------|---|--------|--------|
| QMIC | CRISTAL PIGMENT AUSTRALIA LIMITED (CPA) | 1.0353 | 1.0278 |
| QMIL | MILNE AGRIGROUP PTY LTD | | 1.0077 |
| QMIR | MIRVAC Real Estate Pty Ltd | | 1.0072 |
| QMMP | MRS MACS PTY LIMITED | | 1.0094 |
| QMRV | MURDOCH UNIVERSITY | | 1.0061 |
| QMTC | METCASH TRADING LIMITED | | 1.0079 |
| QMYR | MYER PTY LTD | | 1.0066 |
| QNEW | NEWMONT POWER PTY LTD | 1.0509 | 1.0551 |
| QPAG | PADDINGTON GOLD PTY LIMITED | 1.0661 | 1.0565 |
| QPAN | PAN PACIFIC PERTH | 1.0077 | 1.008 |
| QPEA | LANDFILL MANAGEMENT SYSTEMS | 1.0027 | 1.0021 |
| QPEB | AGL ENERG SERVICES | 0.9975 | 0.9928 |
| QPED | LANDFILL MANAGEMENT SYSTEMS | 1.0094 | 1.0037 |
| QPER | PERPETUAL TRUSTEE COMPANY LIMITED | | 1.0073 |
| QPMP | PMP LIMITED | | 1.0088 |
| QPTC | AMP CAPITAL INVESTORS LIMITED | | 1.0197 |
| QPWQ | PWQ Pty Ltd | | 1.0066 |
| QRCS | VICINITY CENTRES PM PTY LTD (ROCKINGHAM SHP CNTR) | | 1.0095 |
| QROC | RENDEZVOUS HOTELS PTY LTD | | 1.0103 |
| QRPH | METROPOLITAN HEALTH SERVICE | | 1.0058 |
| QRRR | DEPARTMENT OF DEFENCE | 1.1302 | 1.1347 |
| QPLA | PLANTATION ENERGY AUSTRALIA PTY LTD | | 1.0366 |
| QSAD | SCENTRE SHOPPING CENTRE MANAGEMENT (WA) | | 1.0083 |
| QSER | SERCO AUSTRALIA PTY LTD | 1.0261 | 1.0235 |

| | | | |
|------|---|--------|--------|
| QSGJ | ST JOHN OF GOD HEALTH CARE - SUBIACO | | 1.0064 |
| QSIM | SIMS GROUP AUSTRALIA HOLDINGS LTD | 1.0067 | 1.0072 |
| QSIT | SITA AUSTRALIA PTY LTD | 1.0116 | 1.0102 |
| QSJG | ST JOHN OF GOD HEALTH CARE INCORPORATED | | 1.012 |
| QSJM | ST JOHN OF GOD HEALTH CARE INCORPORATED | | 1.0091 |
| QSJO | ST JOHN OF GOD HEALTH CARE INCORPORATED | | 1.0081 |
| QSMH | FREMANTLE HOSPITAL CAMPUS | | 1.0083 |
| QSMP | ST MARTINS PROPERTIES AUSTRALIA | 1.0068 | 1.0069 |
| QSMR | SOUTH METROPOLITAN REGIONAL COUNCIL | | 1.0177 |
| QSPM | STOCKLAND PROPERTY MANAGEMENT PTY LTD | | 1.0184 |
| QSPD | SPOTLESS FACILITY SERVICES PTY LTD | | 1.0068 |
| QSPT | SPOTLESS FACILITY SERVICES PTY LTD | | 1.0059 |
| QTAL | TALISON LITHIUM AUSTRALIA PTY LTD | 1.0615 | 1.0912 |
| QTCG | TESLA GERALDTON PTY LTD | 1.0044 | 0.9922 |
| QTCK | TESLA KEMERTON PTY LTD | 1.0055 | 1.0001 |
| QTCL | TELSTRA CORPORATION LIMITED | 1.007 | 1.0071 |
| QTCN | TESLA NORTHAM PTY LTD | 0.9551 | 0.9943 |
| QTES | Tesla Corporation Management Pty Ltd | 1.0043 | 0.9982 |
| QTIF | LEGION ENERGY PTY LTD | | 1.0092 |
| QTMH | FOCUS OPERATIONS PTY LTD | 1.0186 | 1.0139 |
| QVIC | VICINITY CUSTODIAN PTY LTD | | 1.0072 |
| QVID | VICINITY CUSTODIAN PTY LTD | | 1.0183 |
| QVPL | VININDEX PTY LTD | | 1.009 |
| QVVM | V&V WALSH MEAT PROCESSORS & EXPORTERS | | 1.0134 |

| | | | |
|------|---|--------|--------|
| QWAC | Perth Airport Pty Ltd | 1.0086 | 1.0088 |
| QWAN | WESTERN AREAS LTD | 1.1004 | 1.1089 |
| QWBE | WESBEAM PTY LTD | 1.0103 | 1.0138 |
| QWCB | WATER CORPORATION | 1.0082 | 1.0083 |
| QWCD | WATER CORPORATION | 1.0148 | 1.0146 |
| QWCE | WATER CORPORATION | 1.0056 | 1.0059 |
| QWCF | WATER CORPORATION | 1.0135 | 1.0169 |
| QWCI | WATER CORPORATION | 1.0071 | 1.0071 |
| QWCJ | WATER CORPORATION | 1.0058 | 1.007 |
| QWCK | WATER CORPORATION | 1.0105 | 1.0122 |
| QWCL | WATER CORPORATION | 1.0071 | 1.0072 |
| QWCM | WATER CORPORATION | 1.0121 | 1.0122 |
| QWCN | WATER CORPORATION | 1.0055 | 1.1166 |
| QWCO | WATER CORPORATION | 1.0055 | 1.0345 |
| QWCT | WATER CORPORATION | 1.016 | 1.0104 |
| QWCW | WATER CORPORATION | 1.0303 | 1.0231 |
| QWFL | WESFARMERS LPG PTY LTD | 1.0072 | 1.0069 |
| QWGS | Vicinity Centres PM Pty Ltd | | 1.0115 |
| QWHF | WEST HILLS FARM P/L | 1.1457 | 1.0244 |
| QWHS | SCENTRE SHOPPING CENTRE MANAGEMENT (WA) | 1.0128 | 1.014 |
| QWMD | FLETCHER BUILDING (AUSTRALIA) PTY LTD | 1.0197 | 1.0241 |
| QWMI | GOLD CORPORATION | | 1.0131 |
| QWSI | VICINITY CUSTODIAN PTY LTD | | 1.0373 |
| QYTE | YT INTERNATIONAL PTY LTD | | 1.0098 |

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.

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.

6.1 Transmission loss factors

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.

Table 4 is a list of the transmission loss factors that moved by more than 0.025 in 2017/18. Exact reasons for the movements are difficult to determine. The changes to Coolup are due to lower load in the area. Albany's loss factor is heavily influenced by the behaviour of wind farms connected to the substation and has been a little volatile historically. Wagerup and Worsley loss factors have been affected by the operations of surrounding customers, with Worsley returning to its longer term average. Also returning to its longer term averages are Carrabin, Kellerberrin and Yerbillon. Three substations; Herdsman Parade, North Fremantle and University have been or are in the process of being decommissioned.

Table 4 - Transmission Loss Factors changed by more than 0.025

| TLF Code | Description | Applied in 2017/18 | To apply in 2018/19 | Change |
|-------------|-------------------|--------------------|---------------------|--------|
| TWOW | Worsley (Worsley) | 1.0054 | 0.9725 | -3.29% |
| WALB | Albany | 1.0988 | 1.0535 | -4.53% |
| WCAR | Carrabin | 1.0510 | 1.1144 | 6.34% |
| WCLP | Coolup | 1.0555 | 1.0184 | -3.71% |
| WHEP | Herdsman Parade | 1.0473 | 1.0754 | 2.81% |
| WKEL | Kellerberrin | 1.0526 | 1.0794 | 2.68% |
| WNFL | North Fremantle | 1.0371 | 1.0759 | 3.88% |
| WUNI | University | 1.0467 | 1.0747 | 2.80% |
| WWGP | Wagerup | 0.9968 | 0.9701 | -2.67% |
| WYER | Yerbillon | 1.0525 | 1.1138 | 6.13% |

6.2 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 2017/18 | To apply in 2018/19 | Change |
|----------|-----------------------------------|--------------------|---------------------|---------|
| QARG | ARGENT (BULLANT) PTY LTD | 1.0062 | 1.0359 | 2.95% |
| QAWF | ALBANY WIND FARM | 0.9425 | 0.9857 | 4.59% |
| QBMA | TIANYE SXO GOLD MINING PTY LTD | 1.0073 | 1.0739 | 6.61% |
| QDWF | DENMARK COMMUNITY WINDFARM LTD | 1.2166 | 1.3616 | 11.92% |
| QKEM | KEMERTON SILICA SAND PTY LTD | 1.0739 | 1.1461 | 6.72% |
| QKUD | NORTHERN STAR (KANOWNA) LIMITED | 1.0095 | 1.0444 | 3.46% |
| QTAL | TALISON LITHIUM AUSTRALIA PTY LTD | 1.0615 | 1.0912 | 2.80% |
| QTCN | TESLA NORTHAM PTY LTD | 0.9551 | 0.9943 | 4.10% |
| QWCN | WATER CORPORATION | 1.0055 | 1.1166 | 11.05% |
| QWCO | WATER CORPORATION | 1.0055 | 1.0345 | 2.89% |
| QWPL | WESPINE INDUSTRIES PTY LTD | 1.0275 | 1.1377 | 10.72% |
| QANF | ANDERSON WIND FARM | 1.0615 | 1.0238 | -3.55% |
| QCAS | CASTELLI NOMINEES PTY LTD | 1.0406 | 1.0074 | -3.19% |
| QIRL | ILUKA RESOURCES LIMITED | 1.1017 | 1.0684 | -3.02% |
| QWHF | WEST HILLS FARM P/L | 1.1457 | 1.0244 | -10.59% |

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 |
|----------|---|
| QARG | Lower consumption of other HV customers on same feeder |
| QAWF | Higher wind farm output than last year at feeder peak. |
| QBMA | Higher feeder peak this year |
| QDWF | Feeder peak significantly higher than last year (more than 50% increase) |
| QKEM | The feeder supplying the customer has been reconfigured. |
| QKUD | Lower consumption of other HV customers on same feeder |
| QTAL | Minor feeder reconfiguration |
| QTCN | Lower consumption of HV customers on same feeder |
| QWCN | New DLF calculation, previously incorrectly based on default substation DLF |

| DLF Code | Reason for Change in Loss Factor |
|----------|--|
| QWCO | HV customers consumption lower than previous year |
| QWPL | Higher feeder peak and lower consumption of HV customers on same feeder |
| QANF | Significant decrease in total PPG output at time of peak compared to previous year |
| QCAS | Network reconfiguration, connected to different feeder to previous year |
| QIRL | Feeder peak significantly lower than previous year |
| QWHF | Significant decrease in total PPG output at time of peak compared to previous year |

Appendix A

Individual Transmission Loss Factors by NMI

A.1 Individual Transmission Loss Factors by NMI

The following NMIs are for customers connected directly to the transmission system along with the transmission loss factor code Western Power has assigned.

Table 7 - Transmission Loss Factors by NMI

| NMI | TLF Code |
|------------|----------|
| 8001000109 | WHIS |
| 8001000116 | WBHK |
| 8001000118 | WKMK |
| 8001000126 | WWMG |
| 8001000127 | WWMG |
| 8001000128 | WWMG |
| 8001000129 | WCCL |
| 8001000279 | WPKS |
| 8001000291 | WAFM |
| 8001000347 | WEDG |
| 8001000499 | TMSK |
| 8001000500 | TMSK |
| 8001000616 | WKMM |
| 8001000640 | WWCL |
| 8001000641 | WWCL |
| 8001000646 | WGGV |
| 8001000659 | WKMC |
| 8001000732 | TAPA |
| 8001000733 | WAKW |
| 8001000736 | WCBP |
| 8001000741 | TBLS |
| 8001000743 | TWOW |
| 8001000744 | TWOJ |
| 8001000764 | WSUM |
| 8001000776 | WWSD |
| 8001000954 | TAPA |
| 8001001007 | WWGP |

| NMI | TLF Code |
|------------|----------|
| 8001001211 | WWWF |
| 8001001212 | WWWF |
| 8001016070 | WBEC |
| 8001018020 | WKEM |
| 8001018021 | WKEM |
| 8001018932 | TAPL |
| 8001019478 | TWOW |
| 8001019484 | WEMD |
| 8001019485 | WEMD |
| 8001019487 | WKDP |
| 8001019590 | TOLA |
| 8001019784 | TLWA |
| 8001019785 | TLWA |
| 8001019790 | WPLD |
| 8001019791 | WGNI |
| 8002013337 | TBLB |
| 8002013343 | WNGK |
| 8002013364 | WMPS |
| 8002013365 | WKPS |
| 8002013366 | WCPS |
| 8002013368 | WPJR |
| 8002013369 | WKPS |
| 8002013370 | WGTN |
| 8002013371 | TWKG |
| 8002013372 | WMGA |
| 8002013375 | WBGGM |
| 8002013379 | WKMK |
| 8002013796 | TBLB |
| 8002014313 | WPKS |
| 8002015326 | WGNN |
| 8002016124 | WKND |
| 8002016403 | WCGW |

| NMI | TLF Code |
|------------|----------|
| 8002016404 | WCGW |
| 8002016407 | TWOW |
| 8002016415 | WBSI |
| 8002016416 | WBSI |
| 8002016417 | WBSI |
| 8002016491 | TKRA |
| 8002016504 | WKPS |
| 8002016505 | WKPS |
| 8002016506 | TMGS |
| 8002016510 | TMDP |
| 8002016519 | TMBA |
| 8002016571 | WNOW |
| 8002016585 | WSRD |
| 8002112635 | WBDP |

Appendix B

Individual Distribution Loss Factors by NMI

B.1 Individual Distribution loss factors by NMI

The individual distribution loss factors calculated for the 2018/19 financial year are associated with the following NMIs.

Table 8 - Individual Distribution Loss Factors by NMI

| NMI | DLF Code | Required or Optional ² |
|------------|----------|-----------------------------------|
| 8002227767 | QAAL | Required |
| 8002227231 | QAAL | Optional |
| 8001000286 | QAAL | Optional |
| 8001002905 | QAHU | Optional |
| 8001000365 | QAMC | Optional |
| 8001000548 | QAMP | Optional |
| 8001000549 | QAMP | Optional |
| 8002188795 | QAMP | Optional |
| 8002188797 | QAMP | Optional |
| 8002148204 | QANF | Required |
| 8001000713 | QAPI | Optional |
| 8001000714 | QAPI | Optional |
| 8001000493 | QARG | Required |
| 8001000707 | QAWF | Required |
| 8001000708 | QAWF | Required |
| 8002050443 | QBFO | Optional |
| 8002095398 | QBFO | Optional |
| 8002019353 | QBGB | Optional |
| 8001000864 | QBGC | Optional |
| 8001020092 | QBGM | Required |
| 8001000274 | QBGP | Optional |
| 8002067264 | QBGQ | Required |
| 8001000791 | QBLB | Optional |
| 8001001009 | QBMA | Required |
| 8001000359 | QBMB | Required |

² 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.

| | | |
|------------|------|----------|
| 8001000830 | QBMC | Required |
| 8001003787 | QBNB | Required |
| 8002206185 | QBOC | Optional |
| 8001000329 | QBPA | Required |
| 8001000703 | QBTF | Optional |
| 8001000704 | QBTF | Optional |
| 8001009577 | QBUL | Required |
| 8001000652 | QBUR | Optional |
| 8001000653 | QBUR | Optional |
| 8002250697 | QBUS | Optional |
| 8001000541 | QBWE | Optional |
| 8001000542 | QBWE | Optional |
| 8001790061 | QCAS | Required |
| 8001000428 | QCBC | Required |
| 8001000780 | QCBH | Required |
| 8001000432 | QCBK | Optional |
| 8002002527 | QCEB | Optional |
| 8001000130 | QCEM | Required |
| 8001003155 | QCEN | Optional |
| 8002166160 | QCMA | Required |
| 8001000421 | QCMT | Optional |
| 8001000117 | QCMT | Optional |
| 8001000598 | QCPC | Optional |
| 8001000599 | QCPC | Optional |
| 8002073940 | QCPU | Optional |
| 8002016087 | QCPU | Optional |
| 8001000107 | QCSW | Optional |
| 8001012464 | QCTE | Required |
| 8001008631 | QDCS | Required |
| 8002049183 | QDER | Required |
| 8001000333 | QDOD | Optional |
| 8001000420 | QDPL | Optional |
| 8001011671 | QDSX | Optional |

| | | |
|------------|------|----------|
| 8001010862 | QDTO | Optional |
| 8001000561 | QDVC | Optional |
| 8001000562 | QDVC | Optional |
| 8002016529 | QDWF | Required |
| 8001000366 | QDWL | Optional |
| 8001013234 | QDXE | Optional |
| 8001000579 | QERD | Optional |
| 8001000580 | QERD | Optional |
| 8002006139 | QESJ | Optional |
| 8001000287 | QFFM | Required |
| 8001000539 | QFIE | Required |
| 8002034918 | QFLM | Required |
| 8001000612 | QFPA | Optional |
| 8001019750 | QFPA | Optional |
| 8001000613 | QFPA | Optional |
| 8002081338 | QFUJ | Optional |
| 8002221497 | QFUR | Required |
| 8001000577 | QGDI | Optional |
| 8001000578 | QGDI | Optional |
| 8001017284 | QGRI | Required |
| 8001000756 | QGTS | Optional |
| 8001014469 | QHEL | Optional |
| 8001019433 | QHLG | Required |
| 8001000451 | QHMP | Required |
| 8001000345 | QHVI | Required |
| 8001000636 | QIPW | Optional |
| 8001000637 | QIPW | Optional |
| 8002114136 | QIRL | Required |
| 8002027039 | QISP | Optional |
| 8002027040 | QISP | Optional |
| 8001008755 | QISU | Optional |
| 8002035499 | QJAN | Optional |
| 8002141398 | QJAN | Optional |

| | | |
|------------|------|----------|
| 8001000792 | QJOE | Optional |
| 8001000824 | QKBG | Required |
| 8001000125 | QKEM | Required |
| 8002247735 | QKEY | Required |
| 8001000669 | QKUD | Required |
| 8001000670 | QKUD | Required |
| 8002013336 | QKWF | Required |
| 8002183852 | QLES | Optional |
| 8002008582 | QLES | Optional |
| 8001000158 | QLGA | Required |
| 8001000738 | QLGC | Required |
| 8001000234 | QLGD | Required |
| 8001002178 | QLGE | Optional |
| 8001002551 | QLHT | Optional |
| 8001000668 | QLJS | Optional |
| 8001000667 | QLJS | Optional |
| 8002191360 | QLMR | Required |
| 8001000781 | QLNL | Optional |
| 8001005378 | QLPG | Optional |
| 8001020102 | QLPM | Optional |
| 8001011208 | QLSP | Optional |
| 8002016408 | QMBW | Required |
| 8001000673 | QMEE | Optional |
| 8001000674 | QMEE | Optional |
| 8001000681 | QMGS | Optional |
| 8001000682 | QMGS | Optional |
| 8001000706 | QMIC | Required |
| 8001014755 | QMIL | Optional |
| 8001000565 | QMIR | Optional |
| 8001000566 | QMIR | Optional |
| 8001000438 | QMMP | Optional |
| 8001000516 | QMRY | Optional |
| 8001000517 | QMRY | Optional |

| | | |
|------------|------|----------|
| 8001000697 | QMTC | Optional |
| 8001000698 | QMTC | Optional |
| 8001000543 | QMYR | Optional |
| 8001000545 | QMYR | Optional |
| 8001000544 | QMYR | Optional |
| 8001000998 | QNEW | Required |
| 8001000745 | QPAG | Required |
| 8001000689 | QPAN | Optional |
| 8001000690 | QPAN | Optional |
| 8001000916 | QPEA | Required |
| 8001000122 | QPEB | Required |
| 8001018080 | QPED | Required |
| 8001000573 | QPER | Optional |
| 8001000574 | QPER | Optional |
| 8001000874 | QPHG | Required |
| 8001000875 | QPMP | Optional |
| 8001000510 | QPTC | Optional |
| 8001000511 | QPTC | Optional |
| 8001000559 | QPWQ | Optional |
| 8001000560 | QPWQ | Optional |
| 8001000687 | QRCS | Optional |
| 8001000688 | QRCS | Optional |
| 8001000847 | QROC | Optional |
| 8001000665 | QRPH | Optional |
| 8001000666 | QRPH | Optional |
| 8001000863 | QRRR | Required |
| 8002057792 | QPLA | Required |
| 8001000695 | QSAD | Optional |
| 8001000696 | QSAD | Optional |
| 8001006864 | QSER | Required |
| 8002214497 | QSGJ | Optional |
| 8002203581 | QSIM | Optional |
| 8002055189 | QSIT | Required |

| | | |
|------------|------|----------|
| 8001000860 | QSJG | Optional |
| 8001001128 | QSJG | Optional |
| 8002174244 | QSJM | Optional |
| 8001000789 | QSJO | Optional |
| 8001000506 | QSMH | Optional |
| 8001000507 | QSMH | Optional |
| 8001000520 | QSMP | Optional |
| 8001000519 | QSMP | Optional |
| 8001014850 | QSMR | Optional |
| 8001014079 | QSPM | Optional |
| 8001000592 | QSPO | Optional |
| 8001000591 | QSPO | Optional |
| 8001017512 | QSPT | Optional |
| 8001000121 | QTAL | Required |
| 8002016507 | QTCG | Required |
| 8002016508 | QTCK | Required |
| 8001000831 | QTCL | Optional |
| 8002016509 | QTCN | Required |
| 8002016420 | QTES | Required |
| 8001001110 | QTIF | Optional |
| 8001000356 | QTMH | Required |
| 8001006380 | QVIC | Optional |
| 8001000535 | QVIC | Optional |
| 8001000536 | QVIC | Optional |
| 8001000675 | QVID | Optional |
| 8001000676 | QVID | Optional |
| 8001000304 | QVPL | Optional |
| 8002119358 | QVVM | Optional |
| 8001000533 | QWAC | Optional |
| 8001000534 | QWAC | Optional |
| 8001000878 | QWAN | Required |
| 8001000650 | QWBE | Optional |
| 8001000651 | QWBE | Optional |

| | | |
|------------|------|----------|
| 8001000280 | QWCB | Optional |
| 8001020053 | QWCD | Required |
| 8001000282 | QWCE | Optional |
| 8001000529 | QWCF | Optional |
| 8001000530 | QWCF | Optional |
| 8001008047 | QWCI | Optional |
| 8002109233 | QWCJ | Optional |
| 8001000623 | QWCK | Optional |
| 8001000624 | QWCK | Optional |
| 8002256973 | QWCL | Optional |
| 8001006363 | QWCM | Optional |
| 8001000614 | QWCN | Optional |
| 8001000615 | QWCN | Optional |
| 8001000357 | QWCO | Required |
| 8001000527 | QWCT | Optional |
| 8001000528 | QWCT | Optional |
| 8001000284 | QWCW | Required |
| 8001000829 | QWFL | Optional |
| 8001000677 | QWGS | Optional |
| 8001000678 | QWGS | Optional |
| 8002016499 | QWHF | Required |
| 8001000692 | QWHS | Optional |
| 8001000691 | QWHS | Optional |
| 8001000325 | QWMD | Required |
| 8001010802 | QWMI | Optional |
| 8001017152 | QWSI | Optional |
| 8001000575 | QYTE | Optional |
| 8001000576 | QYTE | Optional |
| 8002016475 | QZSC | Required |

Appendix C

Extinct Loss Factor Codes

C.1 Extinct Loss Factor Codes

The following loss factor codes have not been recalculated for the 2018/19 financial year.

Table 9 - Individual Distribution Loss Factors by NMI

| Loss Factor Code | Reason not calculated |
|------------------|---------------------------------------|
| QAUS | Customer tariff is no longer eligible |
| QBLM | Associated NMI is no longer active |
| QBRA | Not requested by retailer |
| QGES | Not requested by retailer |
| QGLM | Customer tariff is no longer eligible |
| QGRA | Not requested by retailer |
| QHFM | Not requested by retailer |
| QHRO | Not requested by retailer |
| QPGO | Moved back to average DLF |
| QVEW | Associated NMI is no longer active |
| QWCG | Customer tariff is no longer eligible |

Appendix D

Alternative Presentation of Average DLFs

D.1 Alternative Presentation of Average DLFs

To enable comparison with distribution loss factors within the NEM the following table presents the average distribution loss factors based on network level. However, for the purposes of the WA market the average distribution loss factors are as per section 2.2.

Table 10 - Average Distribution Loss Factors by Network Level – For Information Only

| Network Level | DLF Applied in 2017/18 | DLF to Apply in 2018/19 |
|--|------------------------|-------------------------|
| 6.6kV/11kV/22kV/33kV Bus Connected | 1.0055 | 1.0055 |
| 6.6kV/11kV/22kV/33kV Line Connected | 1.0193 | 1.0199 |
| LV Bus Connected | 1.0379 | 1.0433 |
| LV Line Connected (Commercial) | 1.0405 | 1.0494 |
| LV Line Connected (Streetlighting/UMS) | 1.0473 | 1.0571 |
| LV Line Connected (Residential) | 1.0482 | 1.0642 |
| Transmission Connected (No DLF) | 1.0000 | 1.0000 |
| Distribution System Wide Average Loss Factor | 1.0403 | 1.0472 |