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9 March, 2012

Mr Chris Pattas
General Manager Network Regulation South
Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

email: AERInquiry@aer.gov.au

Dear Mr Pattas

Proposed 2012-13 Distribution Loss Factors

Powercor Australia has completed a review of its proposed Distribution Loss Factors (*DLF's*) for 2012-13 taking into account clause 3.6.3 of the National Electricity Rules including:-

- Site specific *DLF's* for end users with load of more than 40 GWh or a demand of more than 10MW;
- Site specific *DLF's* for generators over 10MW;

The 2012-13 loss factors are based on forecast sales and demand data with estimated losses derived from an average top down loss of 6.94% (average of last 5 years) of sales.

The proposed *DLF's* set out in the attached have been calculated in accordance with the Victorian Essential Services Commission's "Guidance Paper, Calculation Methodology for Distribution Loss Factors (DLFs) for the Victorian Jurisdiction", 14 February 2007. For large embedded generators, Powercor has published its own methodology paper and consulted through the usual AEMO processes (see Appendix A).

The actual top down losses for 2010-11 have been calculated to be 7.34% of sales. See attached reconciliation for 2010-11.

Powercor Australia has identified eighteen end use customers and four generators that qualify for site specific *DLF's* as set out in this submission. The site specific loss factors for these connection points have been calculated taking into account the characteristics of their specific supply arrangements and their electricity consumption characteristics. The information set out in relation to site specific customers and generators should be treated confidentially as it provides sensitive information.

Please also find attached a report from Parsons Brinkerhoff Australia Pty Limited (*PB*) who have reviewed and certified the proposed *DLF's*. The report states that *PB* is satisfied that the proposed *DLF's* meet the requirements of clause 3.6.3 of the National Electricity Rules and are consistent with the methodology developed by the Victorian Essential

Services Commission and the methodology developed by Powercor for large embedded generation.

Please give me a call on telephone 9683 4469 if you require further information or wish to discuss any aspect of this submission.

Yours Sincerely

[signed]

Matthew Serpell
Manager Network Pricing

Company Name: Powercor Australia Ltd

Forecast Energy Procured 2012-13 (MWh)

| | |
|---|-------------------|
| Energy obtained from transmission connections | 10,769,205 |
| Energy obtained from embedded generation | 723,873 |
| Energy obtained from ETSA | 6,863 |
| Total Energy Procured 2012-13 | 11,499,941 |

| | |
|---|-------------------|
| Forecast Energy Supplied 2012-13 (MWh) | 10,753,638 |
| Forecast Losses 2012-13 | 746,303 |
| Forecast Losses 2012/13 as % of Forecast Sales | 6.94% |

Forecast Energy Supplied 2012-13 (MWh)

| | DLF A | DLF B | DLF C | DLF D | DLF E | Total |
|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Short Subtrans. | 1,038,402 | 30,946 | 817,231 | 851,751 | 3,000,404 | 5,738,733 |
| Long Subtrans. | 184,370 | 0 | 577,486 | 614,738 | 3,638,312 | 5,014,905 |

Forecast Annual Distribution Losses 2012-13 (MWh)

| | DLF A | DLF B | DLF C | DLF D | DLF E | Total |
|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Short Subtrans. | 23,070 | 28,723 | 117,185 | 102,327 | 26,449 | 297,753 |
| Long Subtrans. | 155,369 | 30,657 | 125,076 | 109,217 | 28,230 | 448,549 |

Powercor 2012-2013 DLF Proposal cont.

Network Average DLFs for General Customers

| | DLF A | DLF B | DLF C | DLF D | DLF E |
|------------------------------|---------|---------|--------|--------|--------|
| Approved 2011/12 DLFs | | | | | |
| Short Subtrans. | 1.0047 | 1.0112 | 1.0360 | 1.0612 | 1.0695 |
| Long Subtrans. | 1.0332 | 1.0397 | 1.0645 | 1.0897 | 1.0980 |
| Proposed 2012/13 DLFs | | | | | |
| Short Subtrans. | 1.0044 | 1.0108 | 1.0372 | 1.0633 | 1.0715 |
| Long Subtrans. | 1.0323 | 1.0387 | 1.0651 | 1.0912 | 1.0994 |
| % Difference | | | | | |
| Short Subtrans. | -0.030% | -0.040% | 0.116% | 0.198% | 0.187% |
| Long Subtrans. | -0.087% | -0.096% | 0.056% | 0.138% | 0.128% |
| DLFCodes | | | | | |
| Short Subtrans. | KAS | KBS | KCS | KDS | KES |
| Long Subtrans. | KAL | KBL | KCL | KDL | KEL |

Definitions: DLF A is the distribution loss factor to be applied to a second tier customer or pool customer connected to either a 66kV or a 22kV subtransmission line.

DLF B is the distribution loss factor to be applied to a second tier customer or pool customer connected to the lower voltage side of a zone substation

DLF C is the distribution loss factor to be applied to a second tier customer or pool customer connected to a distribution line at voltages of 22kV, 11kV or 6.6kV.

DLF D is the distribution loss factor to be applied to a second tier customer or pool customer connected to the lower voltage terminals of a distribution transformer.

DLF E is the distribution loss factor to be applied to a second tier customer or pool customer connected to low voltage lines of 240/415 V

Powercor 2012-2013 DLF Proposal cont.

**Site-Specific Distribution Loss Factors (DLF) for Large Customers
(Customers with demand > 10 MW or annual energy consumption > 40 GWh)**

| No | NMI Number | DLF 2011-12 | Proposed DLF 2012-13 | % Diff. | DLF Code |
|----|------------|-------------|----------------------|---------|----------|
| 1 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 2 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 3 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 4 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 5 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 6 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 7 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 8 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 9 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 10 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 11 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 12 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 13 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 14 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 15 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 16 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 17 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 18 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 19 | ██████████ | ██████ | ██████ | ██████ | ████ |

Notes:

1. Customer reverts back to general DLF 'C' long due to annual consumption falling below 40 GWh.

**Site-Specific Distribution Loss Factors (DLF) for Large Embedded Generators
(Generators with export power > 10 MW)**

| No | NMI Number | DLF 2011-12 | Proposed DLF 2012-13 | % Diff. | DLF Code |
|----|------------|-------------|----------------------|---------|----------|
| 1 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 2 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 3 | ██████████ | ██████ | ██████ | ██████ | ████ |
| 4 | ██████████ | ██████ | ██████ | ██████ | ████ |

Powercor 2012-2013 DLF Proposal cont.

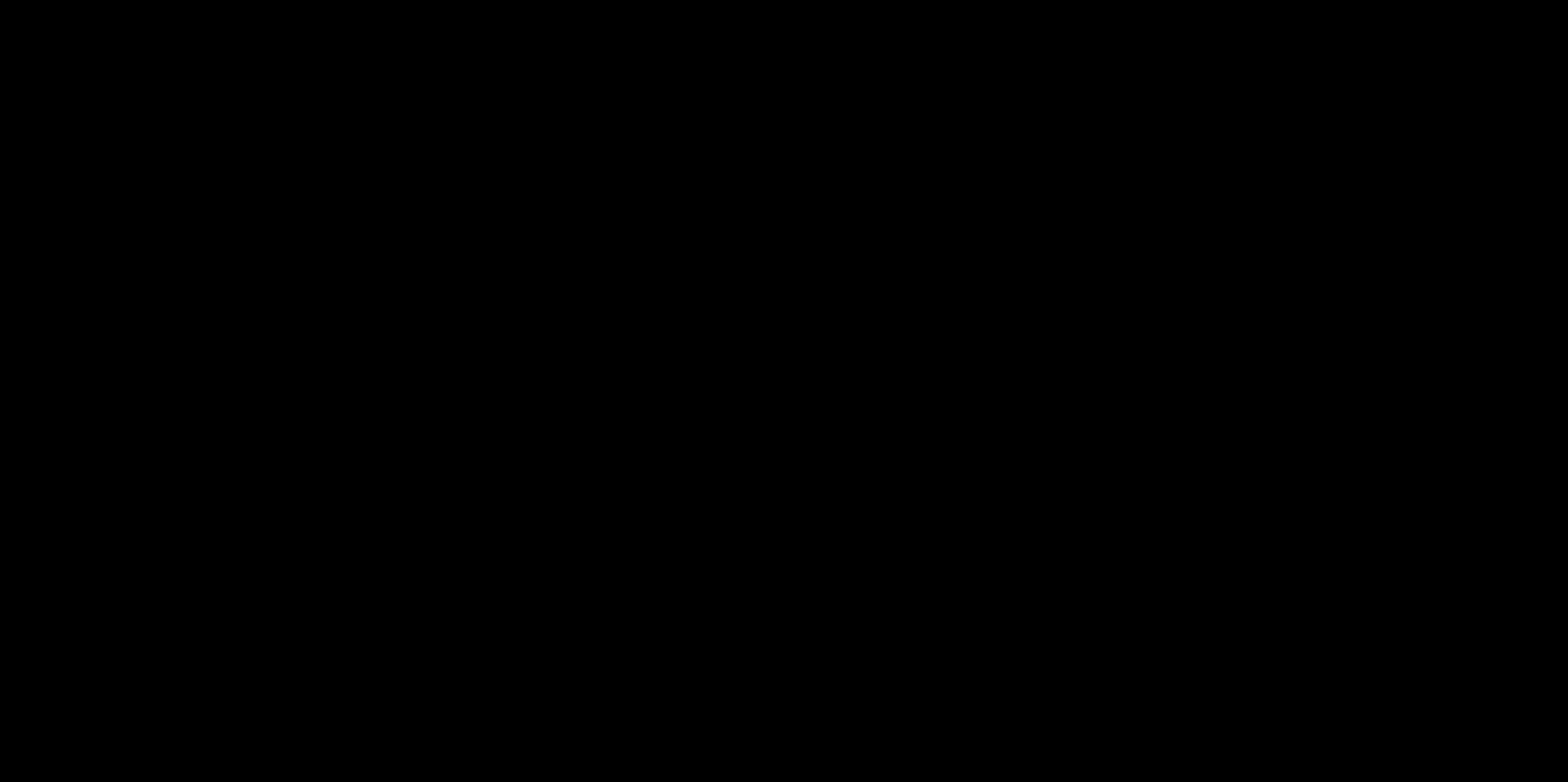
Actual Energy Procured 2010/11 (MWh)

| | MWh | |
|---|-------------------|---|
| Energy obtained from transmission connections | 11,068,407 | |
| Energy obtained from embedded generation | 417,626 | |
| Energy obtained from ETSA | 6,833 | |
| Total Energy Procured 2010/11 | 11,492,867 | X |

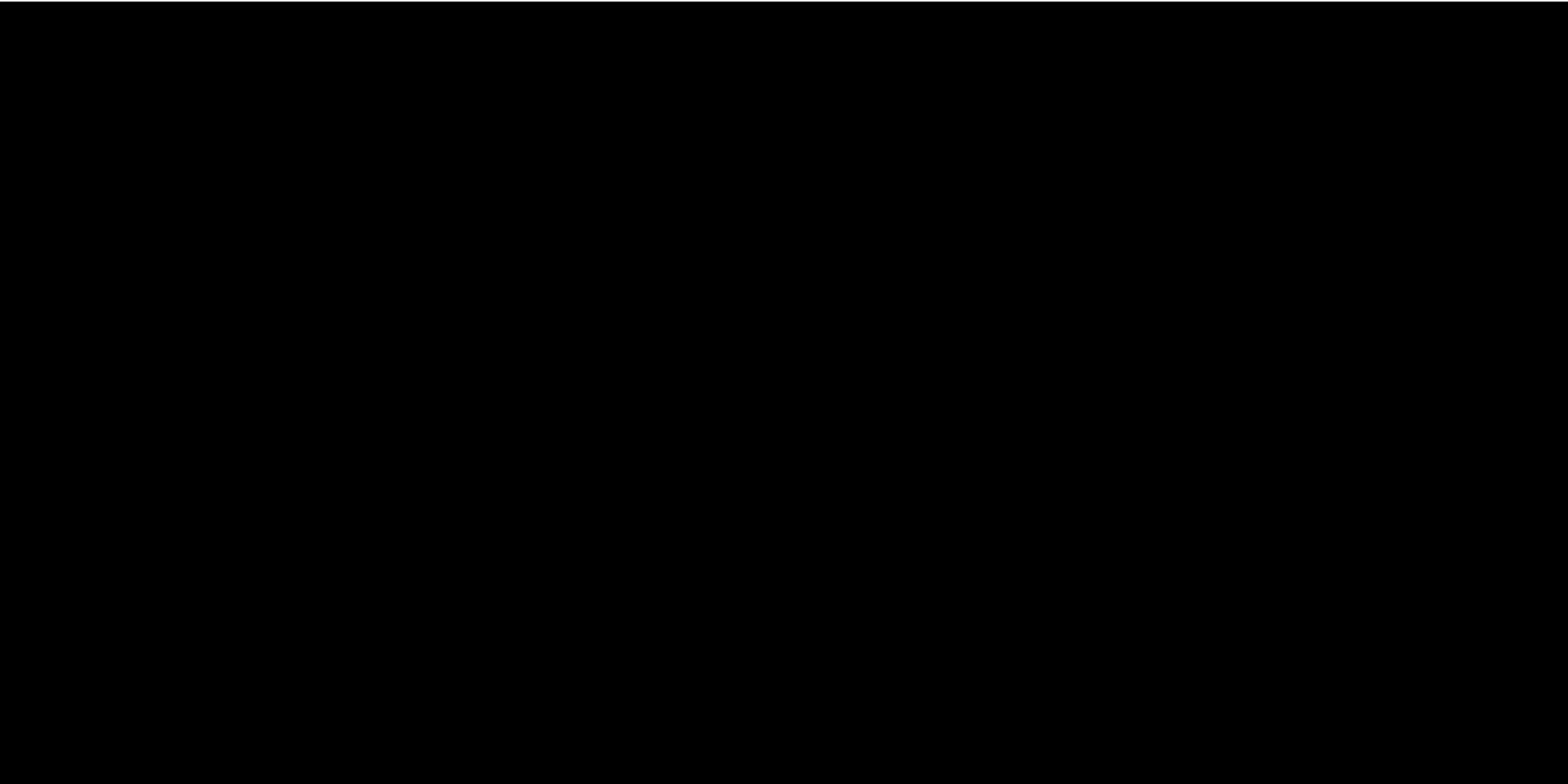
RECONCILIATION - 2010/11

| | MWh | |
|---|-------------------|-----------|
| $\Sigma ME_i \times DLF_i$ for 2010/11 | 11,456,932 | A |
| Actual Consumption or Sales for 2010/11 | 10,706,619 | B |
| Losses recovered through application of DLFs to customers' actual consumption for 2010/11 | 750,313 | C=A-B |
| Total Energy Procured 2010/11 | 11,492,867 | X |
| Actual Measured Losses 2010/10 | 786,248 | D=X-B |
| Actual Measured Losses 2010/11 as percentage of Sales | 7.34% | E=D/B |
| Difference or error in overall losses | - 35,935 | F = C - D |
| Difference or error in overall losses as % of total energy sales (Under-recovered) | -0.34% | G = F/B |

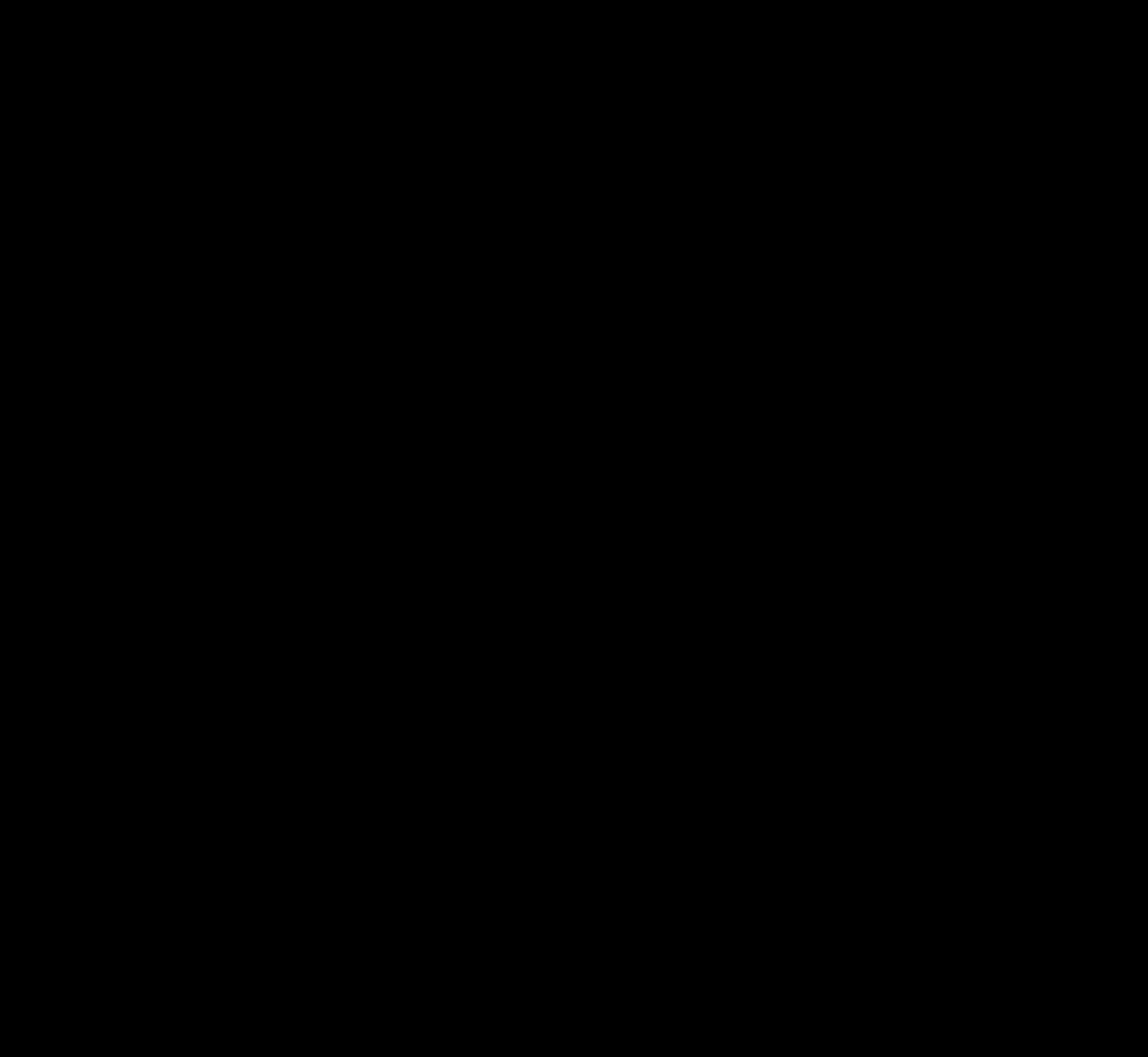
Powercor 2012-2013 DLF Proposal cont.



Powercor 2012-2013 DLF Proposal cont.



Powercor 2012-2013 DLF Proposal cont.



Appendix A – Changes to Embedded Generator Distribution Loss Factor Calculation Methodology Consultation.

From: AEMO Communications [mailto:aemo.communications@aemo.com.au]

Sent: Tuesday, 18 January 2011 2:53 PM

Subject: AEMO Communication No. 552 - (CitiPower and Powercor) - NEM - CitiPower and Powercor Methodology for Deriving Distribution Loss Factors for Embedded Generators over 10MW

The following AEMO Communication is forwarded to NEM Registered Participants and interested parties on behalf of CitiPower and Powercor.

NEM - CitiPower and Powercor Methodology for Deriving Distribution Loss Factors for Embedded Generators over 10MW

CitiPower and Powercor Australia has a responsibility to derive distribution loss factors (DLF's) for embedded generating units with actual generation of more than 10MW under the provisions of clause 3.6.3 of the National Electricity Rules. CitiPower and Powercor has used the methodology stipulated in the "Guidance Paper: Calculation Methodology for Distribution Loss Factors for the Victorian Jurisdiction" published by the Victorian Essential Services Commission (ESCV) on 14th February 2007 for this purpose. CitiPower and Powercor has revised the methodology for calculating DLF's for large embedded generators using an incremental change in losses approach as a more suitable alternative. The revised methodology derives the DLF for large embedded generators as: $DLF = 1 + (\text{Annual distribution system energy losses without generator} - \text{Annual distribution system energy losses with generator}) / \text{Annual generation volume}$.

The AER has confirmed that it has not determined a methodology and therefore CitiPower and Powercor may adopt the revised methodology as an amendment to the former ESCV methodology, subject to its publication in accordance with Rule 3.6.3(g)(2) of the National Electricity Rules. The methodology has been published.

<http://www.powercor.com.au/docs/pdf/Electricity%20Networks/Powercor%20Network/Large%20Embedded%20Generation%20DLF%20Calculation%20Methodology.pdf>

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Rolf Herrmann
Manager Regulation
Powercor & CitiPower