

Ofgem requirements

Inputs for Pension Deficit Allocation Methodology
as at 31 December 2012

Prepared for Western Power Distribution (West Midlands) plc and
Western Power Distribution (East Midlands) plc in respect of the Central
Networks Group of the Electricity Supply Pension Scheme

Chris Vaughan-Williams | 17 May 2013

Summary

The key results from the PDAM allocation based on the rolled forward actuarial valuation as at 31 December 2012 are set out below.

- There was a deficit of £570.0M relative to the technical provisions in respect of pre Cut-Off Date liabilities.
- There was a deficit of £7.4M relative to the technical provisions in respect of post Cut-Off Date liabilities.
- Full details of the PDAM allocation can be found in Appendix 3.
- My actuarial certificate can be found in Appendix 4.

Inputs for Pension Deficit Allocation Methodology as at 31 December 2012

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Introduction

This report has been prepared for the Company; it sets out the information required to complete table P1.2 PDAM Actuary provided data of Ofgem's Pension Deficit Allocation Methodology as at 31 December 2012.

- This report sets out the approach taken to produce the inputs required by the PDAM following the Updated Valuation as at 31 December 2012.
- It relies on and draws together other pieces of work and advice which are listed in Appendix 1.
- Appendix 1 also sets out the legal and actuarial framework within which this report has been completed.
- This report may be shared with Ofgem in accordance with the PDAM but, as set out in Appendix 1, neither Aon Hewitt Limited nor I accept or assume any responsibility or liability to anyone other than the addressees of this report.
- Common terminology used in this report is explained opposite.

Terminology

Group

Central Networks Group of the Electricity Supply Pension Scheme

Trustees

The Trustees of the Central Networks Group of the Electricity Supply Pension Scheme

Company

Western Power Distribution (West Midlands) plc and Western Power Distribution (East Midlands) plc

Rules

The provisions of the Group

Cut-Off Date

31 March 2010

PDAM

Ofgem's Pension Deficit Allocation Methodology, published 12 April 2013

Technical provisions

The funding target for a scheme agreed as part of the actuarial valuation.

Data and benefits valued

This report is based on a roll forward of the formal valuation as at 30 June 2011 and, as such, is based on membership as at that date and asset data at 31 December 2012. The benefits valued are set out in the Rules of the Group.

- I have used the same membership data as that used for the first formal actuarial valuation of the Group as at 30 June 2011. For further information, please refer to my report on the actuarial valuation dated 27 April 2012.
- Benefits have been valued in the same way as for the Updated Valuation as at 31 December 2012 since this report relies upon the values produced for that valuation.
- The funding position at the Cut-Off Date is based on a valuation carried out as at 31 March 2010 using membership and asset data at that date. For further information, please refer to Rhiannon Curtis' report on the "Rollback" Valuation as at 31 March 2010 dated 29 April 2013.
- I have been provided with an unaudited valuation of the Group's assets by Cardano (the Trustees' investment advisers) and details of the net current assets by the Pensions Administration Team. This gave an estimated market value of assets of £2,564.9M (excluding AVCs, which are invested separately). The total assets used in these calculations are the same as those used for the Updated Valuation as at 31 December 2012.
- The Pensions Administration Team has provided data to enable a split of cashflow information between pre Cut-Off Date and post Cut-Off Date accrual to be calculated within an estimated tolerance of +/-£0.1M on the split of the overall deficit. I consider use of the above data enables the attribution of total pension scheme asset and liabilities between the pre and post Cut-Off Date Notional Sub-Funds to a reasonable and appropriate degree of accuracy to complete the data table and provide an appropriate audit trail (as required under 11.6 of PDAM).

Methodology

The method used follows the PDAM requirements.

- Details of the approach used to calculate the rolled forward technical provisions at 31 December 2012 are set out in my Updated Valuation report dated 17 May 2013.
- The assumptions used to calculate the rolled forward technical provisions are set out in Appendix 2.

Appendix 1: Legal and actuarial framework

It is a legal requirement to carry out calculations for PDAM purposes every three years based on the actuarial valuation at that date, and at such other times as requested by Ofgem.

This report is produced in compliance with:

- Energy Network Operators' Price Control Pension Costs - Regulatory Instructions and Guidance: Triennial Pension Reporting Pack supplement including pension deficit allocation methodology dated 12 April 2013
- The terms of the Agreement dated 1 October 2008 (and subsequently varied on 11 April 2011) between the Company and Aon Hewitt Limited, on the understanding that it is solely for the benefit of the addressees (the Company).

Unless prior written consent has been given by Aon Hewitt Limited, this report should not be disclosed to or discussed with any third party unless they have a legal right to see it, and in such case, Aon Hewitt Limited should be advised of such disclosure where lawfully permitted.

Notwithstanding such consent, neither Aon Hewitt Limited nor I accept or assume any responsibility or liability to anyone other than the addressees of this report.

This report should be read alongside the following documents:

- My report on the 30 June 2011 actuarial valuation dated 27 April 2012.
- Rhiannon Curtis' report on the "Rollback" Valuation as at 31 March 2010 dated 29 April 2013.
- My report on the Updated Valuation at 31 December 2012 dated 17 May 2013.

If you require further copies of any of these documents please let me know.

This report was commissioned by the Company who is both the addressee and user of the information contained in this report.

The Technical Actuarial Standards on Reporting Actuarial Information, Data, Modelling and Pensions apply to this report, and the work relating to it, and have been complied with.

Appendix 2: Assumptions for technical provisions

The assumptions used for calculating the technical provisions are summarised below.

Key Financial Assumptions

The Statement of Funding Principles links the key financial assumptions used for assessing the technical provisions to market interest rates. These have changed since the formal valuation date. The assumptions used as at 31 December 2012, together with the corresponding values used for the 31 March 2010 valuation, are summarised on the following pages. Sample spot rates for 20 year durations are as follows.

Assumption	31 December 2012	31 March 2010
RPI price inflation	3.1% p.a.	3.9% p.a.
CPI price inflation	2.4% p.a.	3.2% p.a.
RPI pension increases	3.2% p.a.	4.0% p.a.
LPI pension increases	3.2% p.a.	3.8% p.a.
Pay increases	4.6% p.a.	5.4% p.a.
Pre-retirement discount rate	5.1% p.a.	6.8% p.a.
Post-retirement discount rate	3.6% p.a.	5.3% p.a.

Demographic Assumptions

The demographic assumptions are unchanged from those adopted for the latest formal valuation of the Group.

Financial Assumptions at 31 March 2010

The detailed assumptions as at 31 March 2010 are shown below – these are the annual “forward” rates that apply from time t-1 to time t. The forward gilt yield curve rates shown are also before allowing for expected outperformance of 2.0% p.a. up to retirement and 0.5% p.a. post retirement.

Term	Gilt yield curve	RPI inflation	RPI pension increases	LPI pension increases
1	0.68%	2.96%	2.96%	2.91%
2	1.83%	2.80%	2.80%	2.75%
3	3.03%	2.89%	2.90%	2.87%
4	3.95%	3.07%	3.10%	3.05%
5	4.67%	3.33%	3.37%	3.26%
6	5.22%	3.64%	3.69%	3.53%
7	5.61%	3.93%	3.98%	3.79%
8	5.86%	4.15%	4.20%	4.03%
9	5.97%	4.29%	4.35%	4.18%
10	5.97%	4.37%	4.44%	4.25%
11	5.90%	4.40%	4.47%	4.26%
12	5.77%	4.38%	4.46%	4.23%
13	5.61%	4.34%	4.43%	4.18%
14	5.44%	4.29%	4.40%	4.13%
15	5.28%	4.25%	4.36%	4.09%
16	5.14%	4.21%	4.33%	4.06%
17	5.02%	4.19%	4.32%	4.05%
18	4.92%	4.20%	4.33%	4.06%
19	4.85%	4.21%	4.35%	4.09%
20	4.80%	4.24%	4.38%	4.13%
21	4.77%	4.27%	4.41%	4.18%
22	4.73%	4.30%	4.43%	4.22%
23	4.70%	4.31%	4.45%	4.25%
24	4.66%	4.32%	4.45%	4.26%
25	4.61%	4.31%	4.45%	4.25%
26	5.24%	4.40%	4.53%	4.33%
27	4.43%	4.38%	4.52%	4.32%
28	4.43%	4.20%	4.35%	4.13%
29	4.30%	3.93%	4.12%	3.85%
30	4.01%	3.94%	4.13%	3.86%
31	4.00%	3.93%	4.12%	3.83%
32	4.00%	3.93%	4.12%	3.83%
33	3.96%	3.93%	4.12%	3.83%
34	3.88%	3.94%	4.13%	3.85%
35	3.87%	3.93%	4.12%	3.86%
36	3.87%	3.93%	4.12%	3.88%
37	3.99%	3.93%	4.12%	3.90%
38	4.26%	3.79%	3.99%	3.77%
39	4.25%	3.57%	3.80%	3.54%

40	4.25%	3.60%	3.83%	3.56%
41	4.25%	4.04%	4.21%	3.97%
42	4.26%	4.05%	4.22%	3.97%
43	4.25%	4.04%	4.21%	3.94%
44	4.25%	4.04%	4.21%	3.94%
45	4.25%	4.04%	4.21%	3.93%
46	4.41%	4.05%	4.22%	3.93%
47	4.71%	4.04%	4.21%	3.91%
48	4.71%	4.04%	4.21%	3.91%
49	4.71%	4.04%	4.21%	3.91%
50 & above	4.71%	4.04%	4.21%	3.91%

The above inflation linked curves exclude the adjustment applied to allow for the RPI reference date used for actual pension increases

Financial Assumptions at 31 December 2012

The detailed assumptions as at 31 December 2012 are shown below – these are the annual “forward” rates that apply from time t-1 to time t. The forward gilt yield curve rates shown are also before allowing for expected outperformance of 2.0% p.a. up to retirement and 0.5% p.a. post retirement.

Term	Gilt yield curve	RPI inflation	RPI pension increases	LPI pension increases
1	0.33%	2.50%	2.50%	2.39%
2	0.29%	2.17%	2.18%	2.20%
3	0.74%	2.17%	2.18%	2.29%
4	1.29%	2.38%	2.40%	2.46%
5	1.80%	2.58%	2.62%	2.60%
6	2.26%	2.74%	2.82%	2.78%
7	2.64%	2.87%	2.97%	2.93%
8	2.97%	2.97%	3.09%	3.04%
9	3.24%	3.05%	3.18%	3.12%
10	3.47%	3.12%	3.23%	3.18%
11	3.66%	3.18%	3.27%	3.24%
12	3.84%	3.26%	3.32%	3.31%
13	3.99%	3.34%	3.38%	3.40%
14	4.13%	3.43%	3.45%	3.51%
15	4.26%	3.52%	3.53%	3.64%
16	4.37%	3.63%	3.62%	3.77%
17	4.47%	3.73%	3.71%	3.90%
18	4.56%	3.83%	3.81%	4.02%
19	4.62%	3.91%	3.89%	4.11%
20	4.66%	3.99%	3.97%	4.16%
21	4.69%	4.05%	4.03%	4.18%
22	4.69%	4.09%	4.08%	4.20%
23	4.68%	4.11%	4.11%	4.23%
24	4.65%	4.12%	4.12%	4.26%
25	4.61%	4.11%	4.11%	4.30%
26	4.86%	4.25%	4.25%	4.51%
27	4.96%	4.25%	4.26%	4.56%
28	4.22%	4.05%	4.06%	4.37%
29	3.96%	3.99%	4.01%	4.30%
30	4.00%	3.83%	3.86%	4.10%
31	4.54%	3.05%	3.11%	3.25%
32	4.03%	3.66%	3.70%	3.82%
33	3.98%	3.78%	3.81%	3.89%
34	3.98%	3.78%	3.82%	3.87%
35	3.89%	3.75%	3.79%	3.84%
36	3.90%	3.61%	3.65%	3.70%
37	3.88%	3.60%	3.65%	3.70%
38	3.76%	3.35%	3.41%	3.46%
39	3.76%	3.29%	3.36%	3.43%
40	3.34%	2.86%	2.95%	3.01%

41	2.79%	2.77%	2.86%	2.92%
42	2.79%	2.77%	2.87%	2.94%
43	2.79%	2.79%	2.89%	2.97%
44	2.79%	2.90%	3.00%	3.08%
45	2.78%	2.89%	3.00%	3.08%
46	2.78%	2.89%	3.00%	3.08%
47	2.78%	2.89%	3.00%	3.08%
48	2.79%	2.90%	3.01%	3.09%
49	2.78%	2.89%	3.01%	3.08%
50 & above	2.78%	2.89%	3.01%	3.08%

The above inflation linked curves exclude the adjustment applied to allow for the RPI reference date used for actual pension increases

Appendix 3: Entries for table P1.2 PDAM Actuary provided data

Pension Scheme Name	Central Networks Group of the Electricity Supply Pension Scheme
Date of previous, i.e. opening valuation	31 March 2010
Date of current, i.e. closing valuation	31 December 2012

Section A - Assets and Liabilities at 31 March 2010 valuation

Item	Value
Assets	£2,048.4M
Liabilities	-£2,568.3M

Section B - Assets and Liabilities at 31 December 2012 valuation

Item	Value
Assets	£2,564.9M
Active Liabilities	-£671.5M
Deferred Liabilities	-£338.8M
Pensioner Liabilities	-£2,132.0M

Section C - Reconciliation of surplus/deficit

Item	Value
Interest on deficit	-£11.9M
Higher \ Lower than expected investment returns	£313.9M
Higher \ Lower than expected salary increases	-£9.9M
Higher \ Lower than expected pension increases	-£40.3M
Employer contributions in excess of cost of benefit accrual	£238.7M
Membership movements	£0.0M
Change in financial assumptions	-£525.3M
Change in life expectancy assumption	£0.0M
Impact of Pension Strain costs	-£4.0M
Other adjustment (Employer contributions for expenses less expenses paid)	-£0.2M
Other adjustment (Miscellaneous)	-£18.5M
Other adjustment (please specify)	£0.0M

Section D1 - Scheme liabilities and attribution

Item	Value
Employer paid value of new benefits accrued during the period by active members	£56.3M
Member paid value of new benefits accrued during the period	£13.2M
New benefits due to pension strain costs	£41.6M
Liabilities transferred out during the period	-£5.6M
Benefits paid out during the period	-£351.7M
New benefits due to incoming transfers	£10.6M
Outgoing bulk transfer of liabilities during period	£0.0M
Interest earned on liabilities during the period	£196.1M
Impact of changes in actuarial assumptions due to changes in market conditions	£525.3M
Impact of changes in longevity assumption	£0.0M
Higher \ Lower than expected investment returns	£0.0M
Higher \ Lower than expected salary increases	£9.9M
Higher \ Lower than expected pension increases	£40.3M
Impact of changes in other assumptions	£0.0M
Other adjustment (Benefit augmentations)	£19.5M
Other adjustment (Miscellaneous)	£18.5M
Other adjustment (please specify)	£0.0M

Section D2 - Attribution of scheme liabilities to pre and post Cut-Off Date Notional Sub-Funds

Item	Value
Proportion of liabilities attributable to post cut-off date notional sub fund	
- Active liabilities	12.1%
- Deferred liabilities	0.0%
- Pensioner liabilities	0.0%
Value of liabilities at the current Valuation Date in respect of post Cut-Off Date benefits accrued up to and including the date of the previous Valuation	£0.0M
Value of liabilities at the current Valuation Date in respect of post Cut-Off Date benefits accrued since the date of previous valuation	-£81.5M

Section E - Scheme assets and attribution to pre and post Cut-Off Date Notional Sub-Funds

Item	Total	Post cut-off date sub-fund	Pre cut-off date sub-fund	Insert basis of the calculation of attribution to post cut-off date sub-fund, including data and formulae applied
a. assets attributable to post cut off date pensionable service at previous Valuation - 31 March 2010	£2,048.4M	£0.0M	£2,048.4M	
b. employer contributions paid towards future benefit accrual since last Valuation	£55.0M	£55.0M	£0.0M	Actual future service contributions data
c. member contributions paid towards future benefit accrual since last Valuation, including any age-related contracting-out rebates	£13.2M	£13.2M	£0.0M	Actual future service contributions data
d. employer contributions paid since last Valuation towards the deficit attributable to pre / post Cut-Off Date pensionable service	£240.0M	£0.0M	£240.0M	All attributed to pre cut-off date sub-fund as no deficit in post cut-off date sub-fund at previous valuation
e. employer contributions paid since last valuation towards Pension Strain Costs attributable to pre / post Cut-Off Date pensionable service	£37.6M	£1.9M	£35.7M	Attribution to post cut-off date sub-fund estimated using data provided for retirement lump sum split
f. employer contributions paid since last valuation towards other benefit augmentations attributable to pre / post Cut-Off Date pensionable service	£19.5M	£1.0M	£18.5M	Attribution to post cut-off date sub-fund estimated using data provided for retirement lump sum split
g. employer contributions to meet pre / post Cut-Off Date scheme administration expenses and PPF Levies since last Valuation	£4.6M	£0.0M	£4.6M	All attributed to pre cut-off date sub-fund as no post cut-off liabilities at previous valuation
h. other employer contributions paid since last Valuation in respect of pre / post Cut-Off Date pensionable service	£0.0M	£0.0M	£0.0M	
i. assets paid in as part of a Bulk Transfer and individual transfers-in in respect of pre / post Cut-Off Date pensionable service	£10.6M	£0.0M	£10.6M	Attributed to the pre cut-off date sub-fund (de minimus for the post cut-off date sub-fund)
j. benefits paid or transferred out since last Valuation in respect of pre / post Cut-Off Date pensionable service	-£357.3M	-£4.2M	-£353.1M	Attribution to post cut-off date sub-fund estimated using data provided
k. money paid out to meet post Cut-Off Date scheme administration expenses and PPF levies since last Valuation	-£4.8M	£0.0M	-£4.8M	All attributed to pre cut-off date sub-fund as no post cut-off liabilities at previous valuation
l. assets paid out as part of a Bulk Transfer in respect of pre / post Cut-Off Date pensionable service	£0.0M	£0.0M	£0.0M	

Section E - Scheme assets and attribution to pre and post Cut-Off Date Notional Sub-Funds

Item	Total	Post cut-off date sub-fund	Pre cut-off date sub-fund	Insert basis of the calculation of attribution to post cut-off date sub-fund, including data and formulae applied
m. any other payments out of the scheme since last Valuation in respect of pre / post Cut-Off Date pensionable service	£0.0M	£0.0M	£0.0M	
n. actual investment returns achieved by the pension scheme's assets during the period as applied to pre / post Cut-Off Date assets and cashflows set out in (a) to (l)	£498.1M	£7.2M	£490.9M	Calculated using actual monthly fund returns.

Section F - Calculation of pre and post Cut-Off Date deficits

Item	Value
Deficit in the pre Cut-Off Date Notional Sub-Fund	-£570.0M
Deficit in the post Cut-Off Date Notional Sub-Fund	-£7.4M

Appendix 4: Actuarial certificate

Certificate given by the Actuary for the purposes of Ofgem's Pension Deficit Allocation Methodology.

I certify that:

- the information above has been prepared from my valuation report to the Trustees of the Central Networks Group of the ESPS dated 17 May 2013;
- the input information has been prepared for the Central Networks Group of the ESPS in accordance with the methodology set out in Ofgem's Pension Deficit Allocation Methodology document dated 12 April 2013; and
- that I have received all the information necessary to calculate and complete the inputs in accordance with Ofgem's Pension Deficit Allocation Methodology document as required and the source(s) of that information are shown in the "Data and benefits valued" section of this report.

Signature		Date	17 May 2013
Name	Chris Vaughan-Williams	Qualification	Fellow of the Institute and Faculty of Actuaries
Address	25 Marsh Street Bristol BS1 4AQ	Name of Employer	Aon Hewitt Limited

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