GOVERNMENT ACTUARY'S DEPARTMENT

Ofgem

Price control pension principles

Analysis of questionnaire responses

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1 Executive Summary

1.1 Ofgem applies six principles when considering pension costs for the purpose of price controls. Two of these principles state that "customers…should expect to pay the efficient cost of providing a competitive package of pay and other benefits…in line with comparative benchmarks", and "allowances are based on the cash funding rate recommended by the most recent full actuarial valuation".

1.2 Ofgem issued a defined benefit (DB) pension scheme questionnaire to network companies in December 2008 as part of its ongoing review of compliance with its price control pension principles. This report analyses the results of the questionnaire, describing the main features of licensees' DB pension schemes and their valuation results, comparing the results across licensees and with other UK private sector defined benefit pension schemes. This analysis enables Ofgem to understand the main differences between licensees' cash contribution rates to their DB schemes, and to consider the extent to which licensees have taken action to reduce their pension costs, in order to assess compliance with its pension principles.

Scheme benefits

1.3 Most licensees' DB schemes are derived from pre-privatisation arrangements, where reductions in benefits are constrained either by legislation (for the electricity schemes) or the scheme rules (for the gas schemes). This explains the limited information provided by licensees on reductions to their DB schemes' benefits. Licensees have greater flexibility in provision for post-privatisation entrants.

1.4 All licensees except WPD[1] have closed their original pension schemes to new entrants. Where the original pension schemes have been closed, all licensees except EDF Energy now offer defined contribution (DC) pension arrangements to new entrants. This is consistent with general trends in UK private sector pension provision. Replacing DB provision with DC provision for new entrants reduces the licensee's exposure to the risk of deficiency contributions, and would be expected to reduce overall pension costs (although this depends on the design of the DC scheme). These effects will increase over time, as more entrants join the DC arrangement rather than the DB scheme. Analysis of licensees' DC pension arrangements is beyond the scope of this report, but Ofgem considers all pension costs (including contributions to DC schemes) when setting price controls.

1.5 Considering the licensees' original pension schemes (in other words, the schemes that originated from pre-privatisation arrangements), the gas schemes provide more generous benefits than the electricity schemes (due to a lower normal retirement age, lower member contributions and higher accrual rate), and the electricity schemes provide slightly more generous benefits than typical UK private sector defined benefit pension schemes (due to a lower normal retirement age). The generosity of the schemes reflects, in part, benefit improvements made in the 1990s and early 2000s, mostly in order to utilise valuation surpluses. All four gas schemes provide the same benefits. SHEPS and SPPS have higher accrual rates than the other electricity schemes, SPPS and MAN have lower member contributions than the other electricity schemes, and EDF Energy has an agreement to provide unreduced benefits before normal retirement age for certain members.

[1] Please refer to Appendix A for a list of licensees, schemes and abbreviations.

Investment strategy

1.6 Most licensees' schemes invest between 40% and 65% of assets by market value in "return-seeking" assets such as equities and property (as opposed to "matching" assets such as bonds). Such proportions are similar to average UK private sector defined benefit pension schemes, after adjusting for the relative maturity of licensees' schemes. Most licensees' schemes have reduced their investment in return-seeking assets in recent years. This would be expected to reduce schemes' investment risk, at the cost of higher expected contribution rates.

Funding valuation cash contribution rates and assumptions

1.7 A licensee's cash contribution rate comprises two elements:

- The employer's share of the Standard Contribution Rate (SCR): this is the contribution rate required to meet the expected cost of pension benefits accruing to active members in respect of service in the relevant period, after deducting the members' contribution rate. The higher the members' contribution rate, the lower the employer's share of the SCR.

- Adjustments for past service surplus or deficit: where an actuarial valuation shows that the scheme's assets are less than required to cover the expected cost of members' benefits, additional deficiency contributions are required from the employer to meet the shortfall. Conversely, a surplus may result in the employer's contributions being reduced.

1.8 The gas schemes' SCRs are higher than the electricity schemes'. This is, at least in part, due to the relative generosity of the gas schemes' benefits.

1.9 The SGNPS and WWUPS have higher SCRs (37%-39% of pay) than the other gas schemes (29%-31% of pay). This is due, in part, to the financial assumptions adopted for funding purposes. In other words, the higher contributions arise (partly) due to the funding basis agreed between the trustees and the employer, rather than any differences in scheme benefits.

1.10 The electricity schemes' SCRs are mostly between 20% and 24% of pay, which are slightly higher than average contribution rates to UK private sector defined benefit pension schemes (15% to 16% of pay). This will be due, in part, to the lower normal retirement age in the electricity schemes, relative to typical schemes. However, it is also likely to be caused by the published data on other schemes being out of date; in particular, it will not fully reflect any changes to contribution rates arising from the introduction of the new scheme funding regime in late 2005. It is possible that average contribution rates to UK private sector DB schemes will increase to nearer the electricity schemes' SCRs, once the effects of the new scheme funding regime have been fully allowed for.

1.11 The ENWESPS has a higher SCR (30% of pay) than most other electricity schemes. In part, this is due to changes in market conditions over time, since the effective date of the ENWESPS valuation is later than for other schemes.

1.12 The SHEPS and SPPS have higher SCRs (33% of pay and 29% of pay respectively) than most other electricity schemes. This is due, in part, to the higher accrual rates in these schemes. The SPPS SCR is also affected by the lower member contribution rate (5% of pay) than for most other electricity schemes (6% of pay). The pre-retirement financial assumptions adopted for funding purposes also contribute, in part, to the higher SCRs in the SHEPS and SPPS.

1.13 Most licensees' schemes' funding levels and funding assumptions are similar to those suggested by data on average UK private sector defined benefit schemes' funding valuations. This suggests that most licensees' schemes' financial positions and funding approaches are consistent with other private sector schemes, although such a comparison ignores many industry- and company-specific factors.

1.14 The NGUKPS's funding level (97%) is higher than for the other gas schemes (77%-85%). The other gas schemes were demerged from the NGUKPS in 2005. It seems that the assets allocated to the new schemes on their establishment in 2005 were insufficient to meet the values now being placed on the transferred liabilities, using a prudent approach as required under the new scheme funding regime. However, the information provided in the questionnaires is not sufficient to explain the difference between the NGUKPS's funding level and those of the other gas schemes. The lower funding level in the other gas schemes indicates that additional employer cash contributions are required to meet the deficit.

1.15 The SPPS's relatively high funding level (106%) could be, in part, a function of the assumptions adopted for funding purposes, in particular relatively low assumed longevity. The SHEPS (103%), NGESPS (77%) and SEPS (81%) have relatively high, low and low funding levels respectively. These funding levels affect future employer cash contributions, with additional contributions being required to meet the deficits where a scheme has a low funding level, and with no additional contributions being required where a scheme's funding level exceeds 100%. Differences in past experience will explain some of these differences in funding levels, but it has not been possible to provide a detailed analysis of such factors from the information provided.

Limitations of the analysis

1.16 This report considers licensees' defined benefit pension provision in isolation, and no other elements of employees' remuneration packages. Simple comparisons across schemes do not take into account all relevant circumstances of each scheme and employer.

1.17 The results and assumptions considered in this report relate to valuations with effective dates prior to the recent significant falls in asset markets. Changes in market conditions would be expected to affect licensees' schemes' funding positions and contribution requirements going forward.

2 Introduction

Section summary

2.1 Ofgem issued a defined benefit (DB) pension scheme questionnaire to network companies in December 2008 as part of its ongoing review of compliance with its price control pension principles. This report analyses the results of the questionnaire, comparing the results across licensees and with other UK private sector defined benefit pension schemes. This analysis enables Ofgem to understand the main differences between licensees' cash contribution rates to their DB schemes, and to consider the extent to which licensees have taken action to reduce their pension costs, in order to assess compliance with its pension principles. Limitations of the analysis are also noted in this section.

Price control pension principles

2.2 Ofgem regulates the energy networks to protect the interests of customers. It sets price controls every five years. These price controls set the total revenues that each network licensee can recover from customers at a level that allows an efficient business to finance its activities. In considering such revenues, Ofgem considers the treatment of pension costs.

2.3 Ofgem applies six principles when considering pension costs for the purpose of price controls. These principles were first discussed in May 2003 and were reiterated in August 2008[2]. Of these principles, two are most relevant to this report:

- ***Principle 1 – Efficient and economic employment and pension costs*** – Customers of network monopolies should expect to pay the efficient cost of providing a competitive package of pay and other benefits, including pensions, to staff of the regulated business, in line with comparative benchmarks.

- ***Principle 4 – Actuarial valuation / scheme-specific funding*** – Pension costs should be assessed using actuarial methods, on the basis of reasonable assumptions in line with current best practice. Allowances are based on the cash funding rate recommended by the most recent full actuarial valuation.

Defined benefit pension scheme questionnaire

2.4 In December 2008, Ofgem issued a defined benefit (DB) pension scheme questionnaire to network companies as part of its ongoing review of compliance with its price control pension principles. Responses have been received from each licensee in respect of each defined benefit scheme in which it is a participating employer.

2.5 In addition, Centrica responded voluntarily in respect of its defined benefit pension schemes. Centrica is not a network licensee, but its responses have been included as an example of a non-regulated business in the same industry as the licensees. We are grateful to Centrica for its assistance.

2.6 Appendix A lists the licensees and pension schemes which have been included in the analysis, and the abbreviations used in this report. A glossary is included as Appendix B.

[2] "Price control pension principles, Consultation document", Ofgem, August 2008.

2.7 Ofgem asked the Government Actuary's Department (GAD) to analyse the results of the questionnaire. This report sets out the results of our analysis. It compares the results across licensees, and with publicly available information on other UK private sector defined benefit pension provision. Our analysis enables Ofgem to understand the main differences between licensees' cash contribution rates to their DB schemes, and to consider the extent to which licensees have taken action to reduce their pension costs.

2.8 This report focuses on the following aspects:

- Cash contributions (Section 3)
- Scheme benefits (Section 4)
- Investment strategy (Section 5)
- Actuarial funding valuations (Section 6)

2.9 This report only considers licensees' defined benefit pension provision. This report does not consider licensees' defined contribution pension arrangements, except to note where such provision has replaced defined benefit arrangements. In setting price controls, Ofgem considers licensees' overall pension costs, including contributions to defined contribution arrangements.

Limitations of the analysis

2.10 Our analysis is based solely on the information that has been provided to us in the questionnaire responses. We accept no responsibility for any inaccuracies or omissions due to any errors or omissions in the responses.

2.11 This report considers licensees' defined benefit pension provision in isolation. It is recognised that pension arrangements are only part of overall remuneration packages. A company's relatively generous pension provision might compensate for relatively lower salaries, for example, or vice versa. In setting price controls, Ofgem considers licensees' overall remuneration packages.

2.12 This report compares licensees' pension arrangements with publicly available information on other UK private sector defined benefit pension provision. Such comparisons do not take into account factors which affect particular industries, sponsoring employers or pension schemes in isolation, and are therefore provided as a guide only.

2.13 A large number of factors will be taken into account by the schemes' trustees and sponsoring employers when setting schemes' investment strategies and carrying out actuarial funding valuations. It is beyond the scope of this report to consider all such factors. It is recognised that schemes' investment strategies and funding valuation assumptions should reflect each scheme's particular circumstances, and that a "one-size fits all" approach is not appropriate. This report must not be interpreted as advising that a particular approach or level of provision is necessarily inappropriate.

Distribution and publication of this report

2.14 This report is addressed to Ofgem. We are aware that Ofgem may make this report available to other parties. We are aware that this report may be published or quoted in part by Ofgem, subject to confidentiality requirements. GAD reserves the right to review and comment on any context in which Ofgem may quote material from this report. GAD does not accept any responsibility to third parties who may read this report or extracts from it.

3 Cash contributions

Section summary

3.1 This section first provides some background on pension scheme contribution rates and funding requirements. Cash contribution rates are compared across licensees, and with publicly available information on employer contributions to UK private sector DB pension schemes in general.

3.2 Standard employer contributions (excluding adjustments for surplus or deficit) are higher to the gas schemes (29% – 39% of pay) than to the electricity schemes (mostly 20% – 24% of pay), reflecting the relative generosity of the benefits provided. Certain schemes have higher contributions than others, partly due to differences in assumptions used for funding purposes (see Section 6). Overall, employer contributions are higher than "typical" levels suggested by Office for National Statistics (ONS) survey data (15% – 16% of pay). In part this is caused by limitations of the ONS survey data, but it also reflects the level of benefits provided (see Section 4).

Cash contribution rates – background and scheme funding requirements

3.3 Ofgem's fourth principle (see paragraph 2.3) states that "allowances [for pension costs for the purposes of price controls] are based on the cash funding rate recommended by the most recent full actuarial valuation." The starting point for our analysis is therefore to consider the current levels of cash contributions to licensees' pension schemes.

3.4 Most UK private sector defined benefit pension schemes are subject to the scheme funding requirements of Part 3 of the Pensions Act 2004.[3] Pension schemes must have a full actuarial valuation carried out at least every three years. The purposes of such an actuarial valuation are:

- To check whether the pension scheme's assets are sufficient to cover its accrued liabilities (referred to as its *Technical Provisions* in the Pensions Act 2004); and
- To determine the contribution rate payable by the employer going forward.[4]

3.5 Employers' contribution rates usually comprise two elements:

- The *Standard Contribution Rate (SCR)*: this is the contribution rate required to meet the expected cost of the pension accruing to active members in respect of service in the relevant period (with no adjustment for any past service surplus or deficit).
- Adjustments for past service surplus or deficit: where the actuarial valuation shows that the scheme's assets are less than required to cover the expected cost of members' benefits which have accrued up to the valuation date, additional *deficiency contributions* will be required from the employer to make up the shortfall. Conversely, where the scheme's assets are more than sufficient, the employer's contributions may be reduced, depending on the scheme's rules.

[3] For further information, please refer to the Pensions Regulator's regulatory code of practice 03, "Funding defined benefits".

[4] The pension scheme's rules usually determine the rate of members' contributions. In a defined benefit scheme, the employer's contributions are usually variable, and depend on the scheme's experience. In other words, the employer must ensure the scheme has sufficient assets to pay the specified benefits.

3.6 The Standard Contribution Rate (SCR) therefore depends on the following three main factors:

- The level of benefits being provided: The more generous the benefits, the higher the SCR. Also, the lower the members' contribution rate (as specified in the scheme rules), the higher the employer's share of the SCR.

- The actuarial assumptions used: The more optimistic the assumptions, the lower the expected cost now of providing the defined benefits.[5]

- The membership profile of the pension scheme: The expected cost of providing a defined pension benefit depends on the age of the members. Differences in age profiles will result in different SCRs.

3.7 The amount of any deficiency contributions depends on the following factors:

- The scheme's funding position: This depends on the scheme's actual past experience, and also on the assumptions used for the valuation with regard to the scheme's future experience. Past experience affects both the scheme's liabilities (its obligations to pay members' pensions) and the scheme's assets (the fund which has built up from past contributions and the actual investment performance achieved to date).

- The *recovery period*: In other words, the period over which any shortfall must be met by the employer through additional contributions.

3.8 Some key points on the scheme funding process are[6]:

- The assumptions to be adopted for funding purposes are not prescribed in legislation or guidance.

- Assumptions must be set by the pension scheme trustees, after taking actuarial advice, and they must be agreed by the sponsoring employer. Assumptions must reflect the scheme's and the sponsoring employer's specific circumstances, in particular the trustees' view of the sponsoring employer's covenant.

- When calculating past service liabilities, assumptions must be prudent.

- The recovery period must also be agreed with the sponsoring employer. The trustees should aim to eliminate any funding shortfall "as quickly as the employer can reasonably afford".[7]

[5] Note that, other things being equal, the more optimistic the assumptions used to calculate the SCR, the greater the risk of actual future experience being worse than the assumptions used and hence of a deficit emerging in the pension scheme in the future.
[6] This list is not exhaustive.
[7] "Code of Practice 03: Funding defined benefits", the Pensions Regulator (tPR), paragraph 101.

Licensees' cash contribution rates

3.9 Table 1 shows contribution rates payable to licensees' pension schemes (and the Centrica schemes) following the schemes' most recent full triennial actuarial funding valuations. Table 1 shows:

- The employer's share of the Standard Contribution Rate (SCR).
- The pension scheme deficit, as a percentage of the value of the scheme's liabilities.
- The recovery period (the period over which any deficiency is to be repaid).

3.10 The second and third items together indicate the level of deficiency contributions payable. Deficiency contributions are normally expressed as fixed monetary amounts, rather than percentages of payroll, which hinders comparisons across schemes.

Table 1: Cash contribution rates following most recent actuarial valuations

Pension scheme	Employer SCR (% of pay)	Deficit (% of liabilities)	Recovery period (years)
Gas			
NGNPS	31%	15%	10
NGUKPS	29%	3%	2½
SGNPS	37%	23%	10
WWUPS	39%	18%	10
Electricity			
EDFESPS [1]	20%	5%	8
ENWESPS [2]	30%	11%	tbc
EON	23%	6%	6
MAN	20%	1%	5¾
NEG	24%	9%	3¾
NGESPS	21%	23%	10
SEPS	23%	19%	8
SHEPS [3]	33%	-	-
SPPS [4]	29%	-	-
WPD	21%	10%	3
Centrica			
CEPS	23%	2%	6
CPS	22%	7%	5

[1] The EEPS (see 4.14) has an employer SCR of 10%, a 5% deficit and 1-year recovery period.

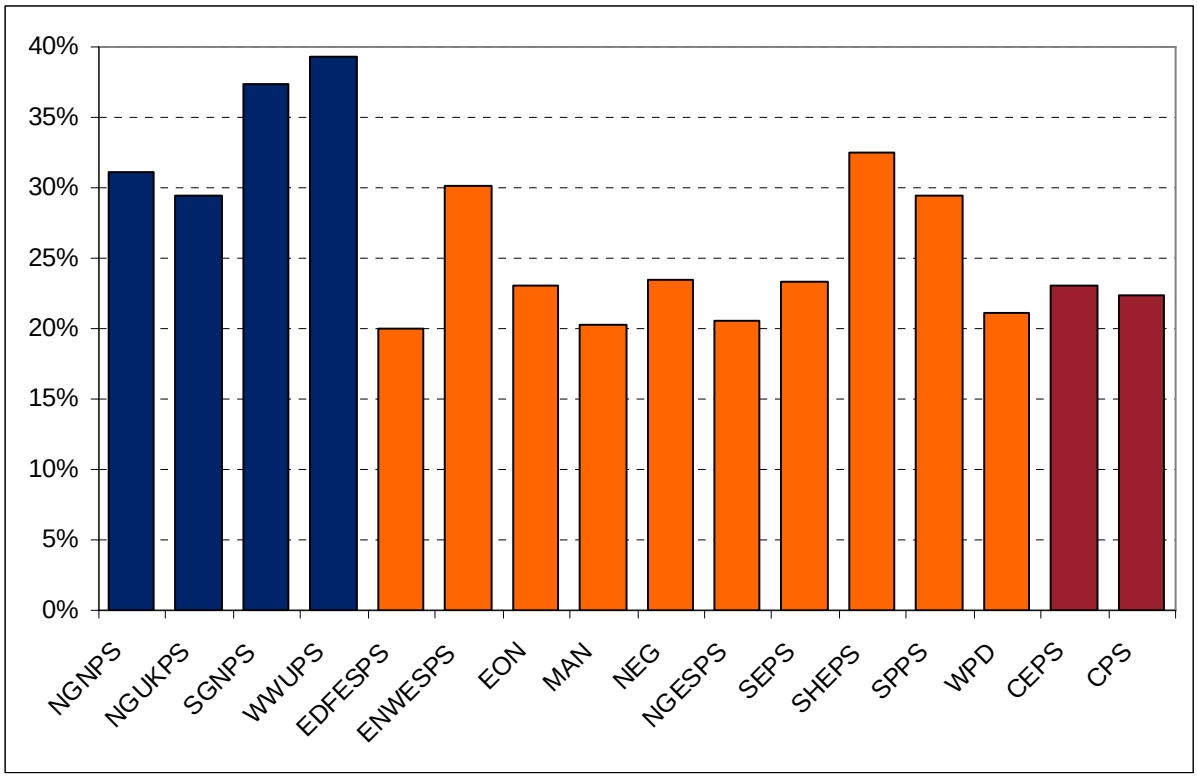
[2] Average of the ENW Section and the UUES Section of the ENW Group of the ESPS.

[3] The SHEPS had a valuation surplus. As a result, the employer is currently paying contributions of 28% of pay, less than the SCR.

[4] The SPPS has an employer SCR of 21% for life plan benefits. The SPPS had a valuation surplus. As a result, the employer is currently paying contributions of 15% of pay, less than the SCR.

3.11 Figure 1 illustrates the employer SCRs shown in Table 1.

Figure 1: Employer SCRs (% of pay) following most recent actuarial valuations



Gas schemes

3.12 Table 1 shows that the gas schemes' SCRs are, in general, higher than those of the electricity schemes. Section 4 explains that this is, at least in part, due to the higher level of benefits provided in the gas schemes.

3.13 The SGNPS and WWUPS have higher SCRs than the other gas schemes. Section 6 suggests that this is partly due to differences in valuation assumptions, but that there may be other factors.

3.14 The NGNPS, SGNPS and WWUPS have deficits of between 15% and 25% of the values of the schemes' liabilities. Conversely, the NGUKPS has a much smaller deficit, around 3% of the value of its liabilities. Therefore, higher deficiency contributions are required in respect of the NGNPS, SGNPS and WWUPS than the NGUKPS. The NGNPS, SGNPS and WWUPS were demerged from the NGUKPS in 2005, with assets being transferred from the NGUKPS to each of the three new schemes. Section 6 notes that the assets allocated to the new schemes on their establishment seem to have been insufficient to meet the value of the transferred liabilities under the new scheme funding regime, but that the information provided in the questionnaires is not sufficient to explain the difference between the NGUKPS's funding level and those of the other gas schemes. Section 6 also notes that the NGUKPS results are at a different effective date than the results for the other schemes, which also affects the comparison of funding levels.

Electricity schemes

3.15 Most of the electricity schemes' SCRs are between 20% and 24% of pay. However, there are three exceptions: ENWESPS at 30% of pay, SPPS at 29% of pay and SHEPS at 33% of pay. Section 6 notes that the ENWESPS SCR has been calculated at a different effective date than most other schemes, which will have caused, at least in part, the higher SCR. The higher SPPS and SHEPS SCRs are, at least in part, due to a higher accrual rate than other electricity schemes (see Section 4) and the use of more prudent financial assumptions for the valuation (see Section 6). In addition, member contributions in the SPPS (5% of pay) are lower than most other electricity schemes (6% of pay) (see Section 4), which increases the employer's share of the SCR.

3.16 Most of the electricity schemes have deficits of up to 10% of the values of their liabilities, except for the NGESPS with a deficit of 23% of the value of its liabilities, the SEPS with a deficit of 19% of the value of its liabilities, and the SPPS and SHEPS which are in surplus. Section 6 notes that it is difficult, from the information available, to comment in detail on funding levels, since a pension scheme's funding level will reflect the scheme's experience over many past years. However, the higher than average funding level for the SPPS may, in part, reflect lower assumed longevity.

Centrica's schemes

3.17 Table 1 shows that the SCRs for the two Centrica schemes, at 22% to 23% of pay, are around the same level as for the majority of the electricity schemes, despite the schemes' benefits being similar to those of the gas schemes. Section 4 notes that this is, in part, due to the higher member contribution rates to the CEPS and the CPS (6% of pay, compared to 3% of pay for the gas schemes).

Comparison with other schemes

3.18 Table 2 shows average employer (and member) contribution rates to UK private sector defined benefit pension schemes in 2007, from ONS data[8].

Table 2: Weighted-average contribution rates to private sector occupational defined benefit pension schemes: by size and contributor, 2007 (% of pay)

Scheme size	Member	Employer	Total
10,000 +	4.5	16.3	20.8
5,000 – 9,999	5.3	15.2	20.5
1,000 – 4,999	5.8	14.2	20.0
100 to 999	5.2	13.8	19.0
12 to 99	5.2	20.9	26.1
Total	**4.9**	**15.6**	**20.5**

Source: Occupational Pension Schemes Survey 2007 (ONS)

3.19 The results illustrated in Table 2 should be used with some caution. First, they exclude regular deficiency contributions expressed as a fixed monetary amount, although they include deficiency contributions expressed as a percentage of pensionable pay. As a result, it is most useful to compare the results in Table 2 with the SCRs shown in Table 1, while accepting that Table 2 includes *some* deficiency contributions too.

[8] "Occupational pension schemes annual report", No. 15, 2007 edition, Office for National Statistics (ONS), Table 4.2.

3.20 Second, some upward pressure to the contribution rates shown in Table 2 may be expected once the effects of the scheme funding regime introduced by the Pensions Act 2004 follow through to all pension schemes.[9]

3.21 The new scheme funding regime was only introduced in December 2005, with the first valuations not being due to be completed until the first half of 2007. Most pension schemes operate triennial actuarial valuation cycles. Therefore a scheme's first valuation under the new regime might not be completed until 2009. As a result, the effect of the new regime is not reflected in Table 2, and there is not yet any information on the effect of the new regime on the contribution rates shown in Table 2.

3.22 Licensees' schemes are generally among the larger two groups illustrated in Table 2. Therefore, the ONS data suggests a typical employer contribution rate of 15% to 16% of pay, less than the employer SCRs of 20% to 24% of pay for most electricity schemes in Table 1 (and much less than the gas schemes' SCRs). However, once the effect of the introduction of the new scheme funding regime is taken into account, it is possible that the majority of the electricity schemes' SCRs will be closer to typical employer contribution rates.[10]

3.23 Section 4 explains that the electricity schemes provide slightly more generous benefits than "typical" UK private sector defined benefit schemes. In itself, this would suggest that the electricity schemes' SCRs will remain slightly higher than for the average scheme.

[9] The scheme funding regime places greater emphasis on prudence than previously.
[10] The valuation results for licensees' (and Centrica's) schemes used in this report have all been carried out under the new scheme funding regime.

4 Scheme benefits

Section summary

4.1 Scheme benefits are the main determinant of contribution rates to defined benefit pension schemes. Most licensees' DB schemes are derived from pre-privatisation arrangements, where reductions in benefits are constrained. This explains the limited information provided by licensees on reductions to their DB schemes' benefits. Licensees have greater flexibility in provision for post-privatisation entrants.

4.2 Most, but not all, licensees have closed their defined benefit pension schemes to new entrants and replaced them with defined contribution arrangements. This is consistent with general trends in UK private sector pension provision. Replacing DB provision with DC provision for new entrants reduces the licensee's exposure to the risk of deficiency contributions, and would be expected to reduce overall pension costs (although this depends on the design of the DC scheme). These effects will increase over time, as more entrants join the DC arrangement rather than the DB scheme.

4.3 Considering the licensees' original pension schemes (in other words, the schemes that originated from pre-privatisation arrangements), the gas schemes provide more generous benefits than the electricity schemes (due to a lower normal retirement age, lower member contributions and higher accrual rate), and the electricity schemes provide slightly more generous benefits than typical UK private sector defined benefit pension schemes (due to a lower normal retirement age). The generosity of the schemes reflects, in part, benefit improvements made in the 1990s and early 2000s, mostly in order to utilise valuation surpluses.

Background

4.4 The four gas schemes originate from the pre-privatisation British Gas Staff Pension Scheme, which was established in 1982. The British Gas Staff and Corporation Schemes merged in April 2000. The original scheme became the National Grid UK Pension Scheme (NGUKPS).

4.5 The other gas schemes (NGNPS, SGNPS, and WWUPS) were formed in 2005 on the sale of distribution networks to three separate buyers, and originally mirrored the NGUKPS. In other words, all schemes provided identical benefits in 2005.

4.6 All four gas schemes are subject to a rule amendment made on the privatisation of the gas industry in 1986, whereby any reduction in scheme benefits or increase in member contributions can only occur with the consent of two thirds of affected members.

4.7 The majority of the electricity licensees' pension schemes originate from the pre-privatisation Electricity Supply Pension Scheme (ESPS). The Scottish Power Pension Scheme and the Scottish Hydro Electric Pension Scheme did not originate from the ESPS, but have similar provisions to the ESPS.

4.8 On privatisation in 1990, individual businesses' shares of the ESPS were split into segregated sections of the scheme, referred to as Groups. Since then, there have been various transfers between and mergers of Groups, in line with sales and mergers of the sponsoring employers.

4.9 Pension provision in respect of *Protected Persons* (broadly members of the ESPS on privatisation, plus some other employees) is governed by legislation made on the privatisation of the electricity industry in 1990. In broad terms, future pension rights cannot be reduced for Protected Persons unless a meeting of affected members votes in favour of the change by a two-thirds majority.

Closure of original schemes to new entrants

4.10 While provision to members of the scheme at privatisation has been constrained by legislation (in the case of the electricity schemes) or the scheme rules (in the case of the gas schemes), employers have had more flexibility to amend or reduce benefit provision in respect of post-privatisation entrants. In particular, most licensees no longer permit new entrants to join the original defined benefit pension schemes (unless employees with protected rights join following a merger or acquisition).

4.11 Table 3 summarises changes in licensees' provision for new entrants:

Table 3: Changes in pension provision offered to new entrants

Licensee	Original scheme closed?	Year closed	New entrants' provision
Gas			
Northern Gas Networks	✓	2005 [1]	DC
National Grid Gas	✓	2001/2002	DC
Scotia Gas Networks	✓	2005 [1]	DC
Wales & West Utilities	✓	2005 [1]	DC
Electricity			
EDF Energy Networks	✓	1995	DB
Electricity North West	✓	1991 [2]	DB/DC [2]
Central Networks	✓	2005 [3]	DB/DC [3]
SP Manweb	✓	1999	DB/DC [4]
CE Northern Electric/Yorkshire Electric	✓	1997	DC
Southern Electric	✓	1999	DC
Scottish Hydro Electric	✓	1999	DC
SP Distribution	✓	1999	DB/DC [4]
WPD (South Wales / South West)	×	-	-
National Grid Electricity Transmission	✓	2006 [5]	DC

[1] The NGNPS, SGNPS and WWUPS were never open to new entrants since their establishment in 2005. The original scheme had closed to new entrants in 2001 (for most employees) and 2002 (for senior management).

[2] The original ESPS section was closed to new entrants in 1991. Subsequent new entrants entered the United Utilities Pension Scheme (UUPS), a final salary defined benefit pension scheme, which has now been merged into the ENW Group of the ESPS. The UUPS was closed to new entrants in October 2006; since then new entrants are offered a DC arrangement.

[3] The Eon UK Group of the ESPS was formed in April 2005 by the merger of four former separate Groups. The different Groups had been closed to new entrants at various times, but all were closed to new entrants by 1 April 2005. Entrants between 2005 and 2008 were offered membership of a lower-cost defined benefit cash balance plan, which was itself closed to new entrants in December 2008. Since then new entrants are offered a DC arrangement.

[4] The original schemes were closed to new entrants in 1999. New entrants from 1999 to 2006 were offered membership of the "Final salary life plan", a lower-cost final salary pension scheme, which is now part of the SPPS. New entrants since 2006 are offered a DC arrangement.

[5] Membership restricted to staff working exclusively on electricity for new entrants from 2002 (excluding finance and HR staff, for example), before being closed to new entrants in 2006.

4.12 Table 3 shows that all licensees other than WPD have closed their original defined benefit pension schemes to new entrants.[11] In such cases, active members of the original schemes continue to accrue benefits in respect of future service, but new employees are offered alternative provision.

[11] Some schemes remain technically open to new entrants, either for rarely-used recruitment and retention reasons, or to permit the possibility of protected persons transferring from another section of the ESPS following a merger or acquisition.

4.13 Licensees have closed their original schemes to new entrants at different times. Because the original schemes' benefits are typically more generous than those offered to more recent entrants, the earlier a licensee closed their original scheme to new entrants the larger the expected saving on pension costs.

4.14 Of the licensees that have closed their original schemes to new entrants, all except EDF offer defined contribution (DC) pension arrangements to current and future new entrants. EDF offers new employees membership of the EDF Energy Pension Scheme (EEPS), a final salary defined benefit pension scheme. The EEPS has been excluded from much of the analysis in this report, since it contained less than 1,000 members in respect of regulated businesses at 31 March 2008, whereas the EDF Energy Group of the ESPS contained nearly 18,000 members in respect of regulated businesses.

4.15 The main difference between DB and DC provision relates to risk: in a DB scheme the employer bears the risk of adverse future experience through the possibility of deficiency contributions being required, whereas in a DC scheme the risk of adverse future experience rests with the member through lower than expected benefits. A DC pension usually, but not necessarily, involves lower employer pension contributions than a defined benefit pension. Whether contributions are lower to a DC arrangement than to a previous DB scheme depends on the design of the two schemes.

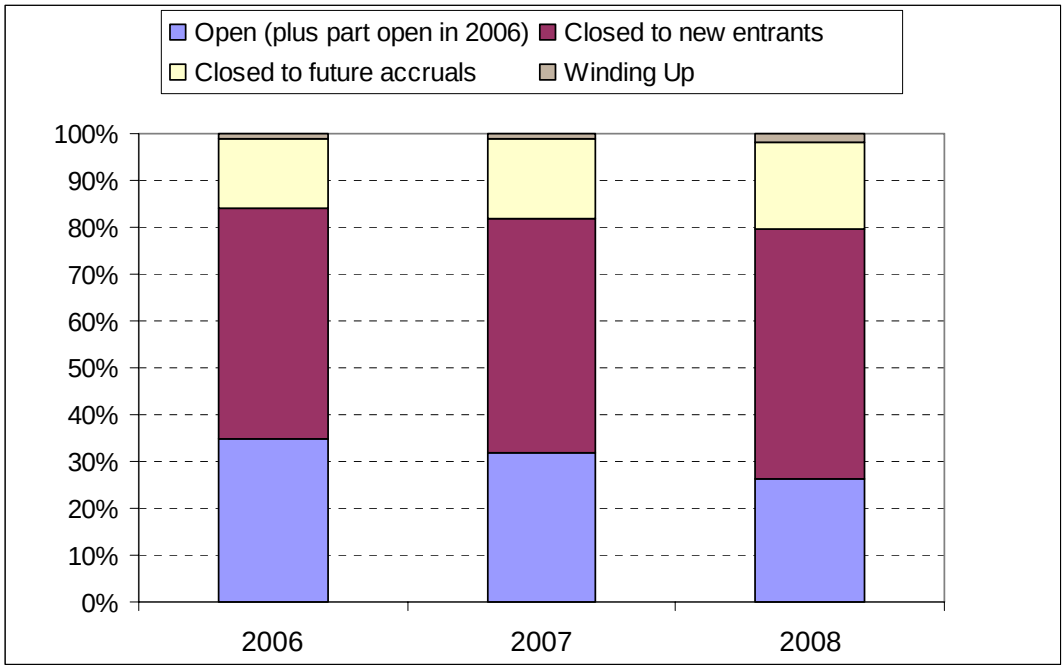
4.16 Therefore, where a licensee has closed its original DB scheme to new entrants and replaced it with a DC arrangement, this reduces the licensee's exposure to the risk of deficiency contributions, and would be expected to reduce overall pension costs (although this depends on the design of the DC scheme). These effects will increase over time, as more entrants join the DC arrangement rather than the DB scheme.

4.17 Analysis of licensees' defined contribution pension arrangements is beyond the scope of this report, except to note where such provision has replaced defined benefit arrangements. In setting price controls, Ofgem considers licensees' overall pension costs, including contributions to defined contribution arrangements.

4.18 Figure 2 illustrates results published by the Pension Protection Fund (PPF) and the Pensions Regulator (tPR)[12], showing that 26% of private sector defined benefit pension schemes were open to new entrants in 2008, while 53% were closed to new entrants (but not to future accrual) and 18% were also closed to future accruals.[13] Between 2006 and 2008, there was a decrease in the percentage of schemes open to new entrants, and a consequential increase in the percentage of schemes closed to new entrants and/or future accrual.

[12] "The Purple Book: DB pensions universe risk profile, 2008", the Pension Protection Fund (PPF) and the Pensions Regulator (tPR), Table 3.2.
[13] The remaining schemes were in wind up.

Figure 2: UK private sector defined benefit pension schemes by status (% of all schemes)



Source: The Purple Book 2008 (PPF/tPR)

4.19 The results illustrated in Figure 2 do not take into account variation by size of scheme: a higher percentage of larger schemes (such as those sponsored by the licensees) than smaller schemes remain open to future new entrants.[14] The tPR/PPF data suggests that 47% of members of private sector DB schemes were in schemes that remained open to new entrants, with 49% being in schemes that had closed to new entrants but in which active members continued to accrue benefits.[15]

4.20 For comparison purposes, the Centrica Engineers Pension Scheme (CEPS) and the Centrica Pension Scheme (CPS) were established in 1998, and mirrored the equivalent British Gas schemes at that date. The original CPS final salary benefits were closed to new entrants in 2003, with future entrants being offered membership of a career average defined benefit section within the scheme. In turn, this was closed to new entrants in 2008, with DC provision offered to future entrants. The original CEPS final salary benefits were closed to new entrants in 2006, with a career average defined benefit section within the scheme remaining open to new entrants at present.

[14] For example, see table 2.3 in "Occupational Pension Schemes Annual Report, No. 15, 2007 edition", Office for National Statistics (ONS).
[15] "The Purple Book: DB pensions universe risk profile, 2008", the Pension Protection Fund (PPF) and the Pensions Regulator (tPR), Table 3.4.

Original schemes' benefits

4.21 Very similar benefits are provided by each of the four original schemes within the gas sector. Also, very similar benefits are provided by each of the ten original schemes within the electricity sector. The principal benefits are summarised in Table 4. Table 4 also illustrates the benefits offered by "typical" UK private sector defined benefit pension schemes, from ONS survey data.[16]

Table 4 – Benefits provided by gas and electricity licensees' original schemes

	Gas	Electricity	"Typical" UK scheme
Age at which unreduced benefits are paid	60	63 [1]	65
Accrual rate	60ths	80ths [2]	60ths
Lump sum on retirement	By commutation	3 x pension [2]	By commutation
Member contributions (% of pay)	3%	6% [3]	5%
Dependants' pension after member's death	67%	50%-67%	50%
Pension increases (in payment)	RPI-linked	RPI-linked [4]	Capped RPI [5]

Source: "Typical" UK scheme: Occupational Pension Schemes Survey 2007 (ONS)

[1] For post-April 1988 entrants. Some employers grant unreduced benefits at age 60.

[2] Some schemes offer 60ths accrual with lump sum by commutation.

[3] Some schemes have different member contribution rates.

[4] Increases above 5% may be subject to the agreement of the employer.

[5] Increases linked to RPI but with a cap higher than 2½% a year.

4.22 Most electricity schemes provide 80ths accrual[17] with an additional lump sum on retirement of 3 times the annual pension. The gas schemes provide 60ths accrual, but any lump sum is by commutation (this means in return for giving up some of the member's annual pension). A comparison of schemes' benefits must take into account this difference in lump sum entitlement. The value of a 60ths pension where the lump sum is by commutation is usually higher than the value of an 80ths pension with an additional lump sum of 3 times the annual pension, but the precise difference depends on the commutation terms (in other words, the amount of annual pension given up for each £1 of lump sum) and the extent to which members commute pension for cash.

4.23 Table 4 shows that, in general, benefits provided by the gas schemes are more generous than those provided by the electricity schemes, due to the lower age at which benefits are paid, the lower member contribution rate, and the higher accrual rate (also taking into account the different lump sum entitlement). This partly explains the higher SCRs reported for the gas schemes than the electricity schemes in Section 3.

4.24 The electricity schemes pay unreduced benefits at a lower age than the "typical" UK private sector defined benefit scheme, but otherwise provide a similar level of benefits. This initial comparison ignores differences between individual gas schemes or ESPS Groups, which are discussed below. This comparison also ignores industry- or company-specific factors, and other elements of the remuneration package.

[16] "Occupational Pension Schemes Annual Report, No. 15, 2007 edition", Office for National Statistics (ONS), Tables 3.20, 4.1, 5.1 and 5.12, and Figure 5.15.

[17] Please refer to the glossary in Appendix B for a definition of accrual rates.

Changes to benefits

4.25 In part, the generosity of benefits provided by the original gas and electricity schemes reflect improvements to benefits that have been made in the 1990s and early 2000s, mostly in order to utilise valuation surpluses. Due to the constraints on reducing members' benefits discussed in paragraphs 4.6 and 4.9, it might not be easy, or even possible, to reverse such benefit improvements once they have been granted, even for future service. However, to the extent that such improvements have affected the schemes' past outgo and may continue to affect future costs, they influence current cash contribution rates. Table 5 shows a summary of principal benefit improvements.

Table 5: Summary of principal benefit improvements

Pension scheme	Member conts been reduced?	Current member rate (% of pay)	Dependant pension	Death in service lump sum increased?	One-off benefit increases?	Other
Gas						
NGNPS [1]	✓	3%	67%		✓	
NGUKPS	✓	3%	67%		✓	
SGNPS [1]	✓	3%	67%		✓	
WWUPS [1]	✓	3%	67%		✓	
Electricity						
EDFESPS	✓	6%	55%–67%	✓	✓	✓ [2]
ENWESPS [3]		6%	50% [4]			
EON		6%	55%–67%	✓	✓	
MAN	✓	5½%	67%	✓	✓	
NEG	✓	6%	67%	✓	✓	
NGESPS	✓	6%	67%	✓	✓	
SEPS	✓	6%	60%–66%	✓	✓	
SHEPS		6%	50% [7]		✓	✓ [5]
SPPS	✓	5%	50% [7]			✓ [6]
WPD	✓	6%	54% [4]	✓	✓	

[1] Changes made to previous scheme, before de-merger in 2005.

[2] EDFESPS: Employer has agreed to provide unreduced benefits from age 60 to certain members.

[3] ENWESPS: This scheme was only established in 2007. Changes made to the previous schemes (the UUGESPS and the UUPS) have been carried into the ENWESPS.

[4] ENWESPS and WPD: members have the option of a two-thirds dependant's pension, with the employer meeting half the cost.

[5] SHEPS: past and future service benefits changed from 80ths with separate lump sum to 60ths with lump sum by commutation.

[6] SPPS: past and future service benefits changed from 80ths with separate lump sum to 60ths with lump sum by commutation.

[7] The 50% dependants' pensions in the SHEPS and SPPS are equivalent to 67% in the other electricity schemes, due to the higher member accrual rates (60ths) in the SHEPS and the SPPS.

4.26 Particular features of Table 5 are as follows:

- EDF Energy has an agreement to provide unreduced benefits before normal retirement age for certain members.
- Member contributions remain below 6% of pay in the Manweb Group of the ESPS and the Scottish Power Pension Scheme. In particular, this explains, in part, the higher SCR for the SPPS compared with the other electricity schemes.
- The change to accrual rates in the SHEPS and the SPPS.

4.27 Considering the third bullet point in more detail, the SHEPS and the SPPS provide 60ths accrual with a lump sum by commutation, whereas the other electricity schemes provide 80ths accrual with an additional lump sum of 3 times the annual pension. As noted in paragraph 4.22, 60ths accrual with a lump sum by commutation is generally more valuable than 80ths accrual with an additional lump sum of 3 times the annual pension. This explains, in part, the higher SCRs for the SHEPS and the SPPS compared with the other electricity schemes. From the completed questionnaires, the SHEPS benefits were changed in 1992 to bring the scheme's benefits "in line with private sector practice", whereas the SPPS benefits were changed in 1995 to "simplify provision of benefits".

4.28 Some licensees have taken action to reduce pension costs in recent years. In particular, the following licensees have introduced salary sacrifice arrangements:

- Electricity North West – 2006
- Northern Gas Networks – 2006
- CE Northern Electric / Yorkshire Electric – 2007
- Scottish Power and SP Manweb – Intend to introduce in 2009

4.29 A salary sacrifice arrangement in respect of pension scheme benefits is where the member's salary is reduced by the amount of the member pension contributions that he or she would normally pay, and instead the employer meets the cost of the member pension contributions. The pension scheme should be broadly unaffected by any salary sacrifice arrangement: the benefits provided to members and the total contributions to the scheme should be unchanged. The advantage of such an arrangement is a saving in National Insurance Contributions for both the member and the employer. Any such savings for licensees might therefore be included in projections of other employment costs, rather than licensees' pension costs.

4.30 Further, National Grid Gas has reduced the proportion of pay that is deemed pensionable. SP Distribution and SP Manweb reduced the benefits provided by the "final salary life plan", the lower-cost final salary pension scheme for joiners between 1999 and 2006, on its closure in 2006: normal pension age was increased from 63 to 65, and the cap on pension increases in payment was reduced from 5% a year to 2½% a year, for future service.

4.31 As noted above, licensees may be constrained by the scheme rules (for gas schemes) or legislation (for electricity schemes) from reducing benefits accruing under their original pension schemes, even for future service. This explains the limited information provided by licensees on reductions to their DB schemes' benefits.

4.32 The two Centrica schemes (the CEPS and the CPS) have similar provisions to the gas schemes: benefit changes which adversely affect members require the consent of two thirds of affected members.

4.33 Centrica has increased member contribution rates to the CEPS twice (from 4% of pay to 5% of pay in 2002, and from 5% of pay to 6% of pay in 2008), by obtaining the consent of two thirds of affected members. In 2002 this was in return for the scheme remaining open to new entrants, and in 2008 this formed part of the pay negotiations. Centrica has not used this approach to make any other changes to benefits.

4.34 Member contributions are currently 6% of pay to both the CEPS and the CPS. This explains, in part, the lower employer SCRs for the CEPS and the CPS than for the gas licensees' schemes. The original final salary sections of the CEPS and the CPS provide similar benefits to the other gas schemes. However, because member contributions are higher to the CEPS and the CPS (6% of pay) than to the other gas schemes (3% of pay), the other gas schemes are more generous than the Centrica schemes. This is reflected in the employer SCRs.

5 Investment strategy

Section summary

5.1 Schemes' investment strategies affect their investment returns (and therefore their current and future funding levels), and also the choice of actuarial assumptions for funding valuations. A number of factors affect schemes' investment strategies. Most licensees' schemes invest between 40% and 65% in "return-seeking" assets such as equities and property (as opposed to "matching" assets such as bonds). Such proportions are similar to average UK private sector defined benefit pension schemes, after adjusting for the relative maturity of licensees' schemes. Most licensees' schemes have reduced their investment in return-seeking assets in recent years. This would be expected to reduce schemes' investment risk, at the cost of higher expected contribution rates.

Factors affecting investment strategy

5.2 A number of factors affect the investment strategy for a funded defined benefit pension scheme. The choice of investment strategy represents a trade-off between:

- Return – In isolation, assets which are expected to generate higher returns would be preferred to assets with lower expected returns. Such assets include equities and property, and are referred to as *return-seeking assets* in this report.

- Risk – The scheme's trustees wish to minimise the risk of sufficient assets not being available to meet the scheme's benefit payments as they fall due. The employer may also want to minimise the risk of large deficiency contributions being required in the future. Investing in *matching assets*, such as government and corporate bonds, can reduce risk by providing an approximate match to future pension liabilities, and by their market values reflecting broadly changes in the present value of the scheme's liabilities[18].

5.3 In their consideration of risk, one key factor for the trustees is the financial strength of the sponsoring employer. They wish to minimise the likelihood of there being insufficient assets in the scheme with no continuing sponsoring employer being able to meet the deficiency. The greater the trustees' perceived risk of the sponsoring employer's insolvency, the more cautious the scheme's investment strategy is likely to be, although this may be influenced by the size of any existing surplus or deficit.

5.4 The maturity of the scheme is also important. Mature schemes, for example schemes where a large proportion of their liabilities relate to current pensioners, generally have net cash outflow and need certainty of investment income to ensure pensioner payments can be met. Immature schemes with significant cash inflows may choose to take a more risky approach to investment, as there is a longer time horizon to deal with fluctuations in asset values (subject to the strength of the sponsor's covenant).

5.5 When comparing investment strategies across different schemes, it is therefore important to take such factors into account.

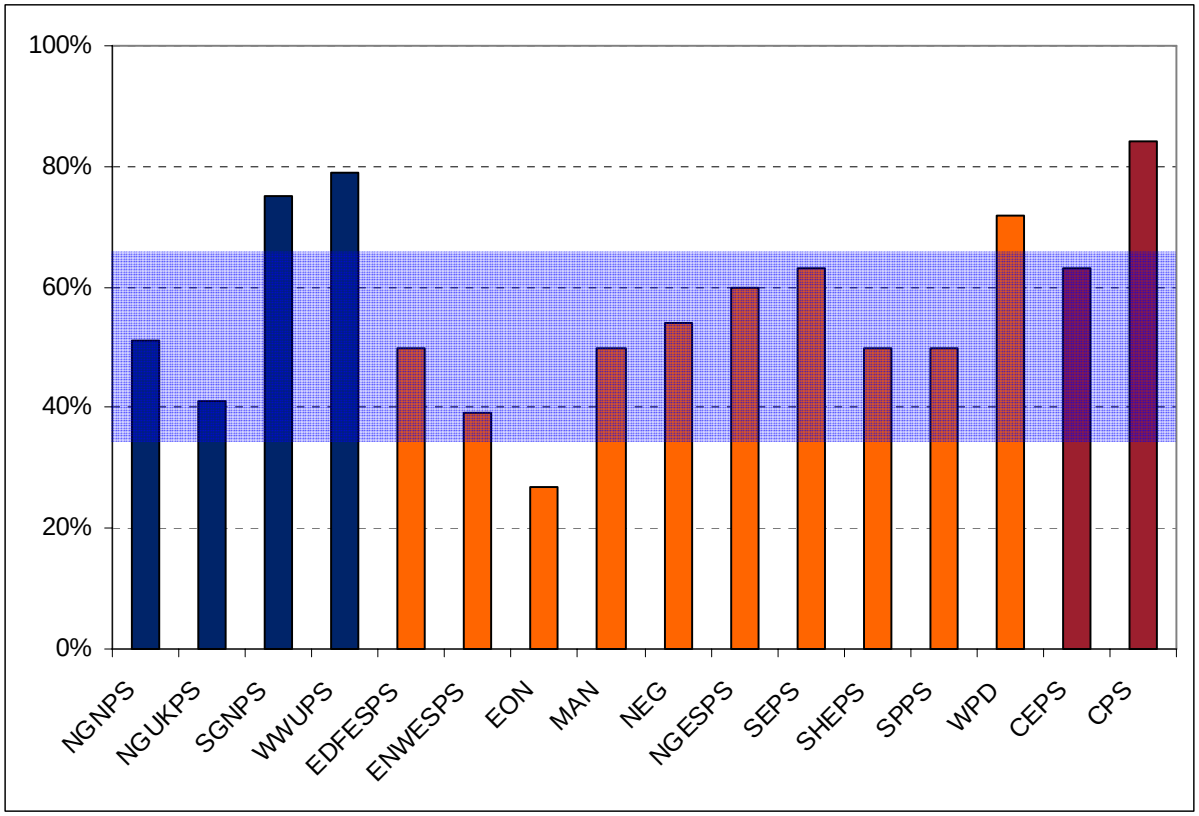
5.6 The analysis in this section concentrates on the high-level split between return-seeking assets and matching assets. A more detailed analysis of specific asset classes is beyond the scope of this report.

[18] Depending on the method used to value the scheme's liabilities.

Licensees' schemes' investment strategies

5.7 Figure 3 illustrates licensees' (and Centrica's) schemes' current strategic investment strategies. Figure 3 shows the percentage of the schemes' assets invested in return-seeking assets. In most cases, the percentages reflect the market values of assets from the scheme's latest accounts. However, where a licensee has indicated that the scheme's benchmark strategy is, or will become, significantly different to the value suggested in the latest accounts, the benchmark strategy has been used instead.

Figure 3: Percentage of assets invested in return-seeking assets (%) from latest accounts (or benchmark strategy if materially different)



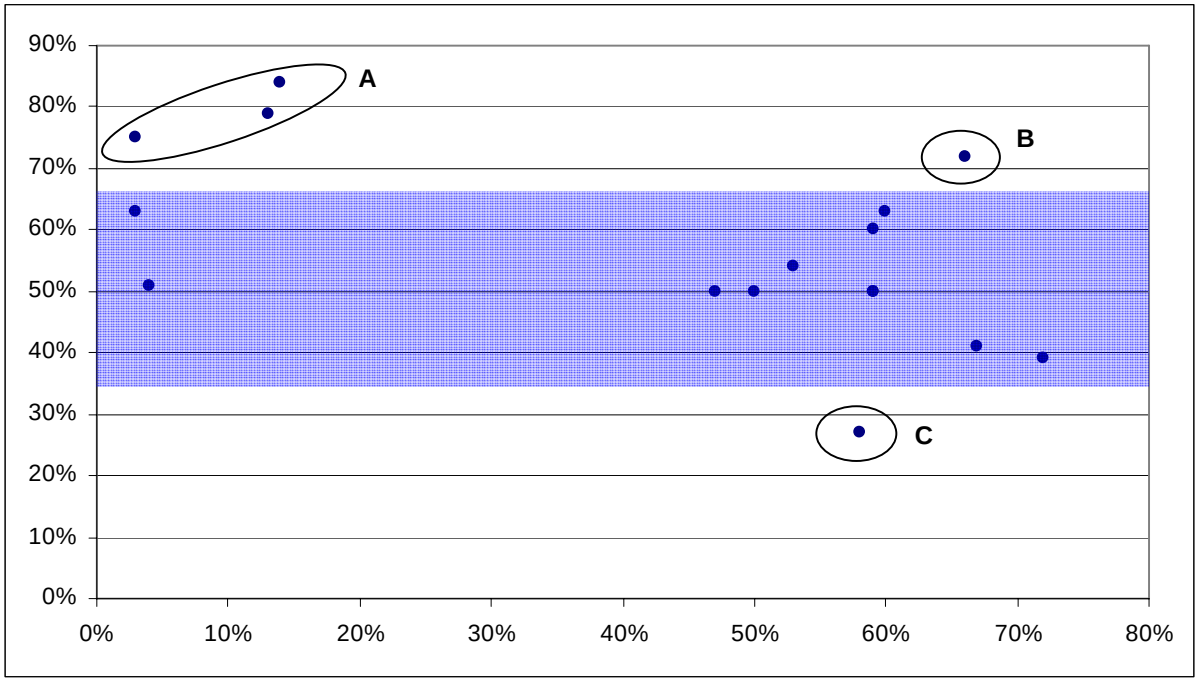
5.8 Figure 3 shows that most schemes have between around 40% and 65% of their assets (by market value) invested in return-seeking assets. The blue band across the chart highlights the range from 35% to 65%, in which all but the following five schemes lie:

- SGNPS: 75% in return-seeking assets
- WWUPS: 79% in return-seeking assets (although new contributions are being invested in gilts, which will result in this percentage falling over time)
- EON: 27% in return-seeking assets.
- WPD: 72% in return-seeking assets.
- CPS: 84% in return-seeking assets.

5.9 One of the main factors affecting investment strategy is the maturity of the scheme: other things being equal, a scheme with a more mature liability profile would be expected to invest a lower proportion of its liabilities in return-seeking assets.

5.10 Figure 4 illustrates the percentage of schemes' assets invested in return-seeking assets (vertical axis) relative to the percentage of its members who are pensioners (horizontal axis). The percentage of a scheme's members who are pensioners has been used as a simplified indication of a scheme's maturity.

Figure 4: Percentage of assets invested in return-seeking assets (%) on vertical axis, against percentage of members who are pensioners (horizontal axis)



Group A – SGNPS, WWUPS, CPS – few pensioners, high percentage return-seeking assets
Group B – WPD – high percentage of pensioners and return-seeking assets
Group C – EON – high percentage of pensioners, low percentage return-seeking assets

5.11 The blue band across the centre of Figure 4 corresponds to the blue band in Figure 3: all but five of the schemes lie within this band.

5.12 Figure 4 shows that, of the schemes identified in paragraph 5.8:

- Group A (SGNPS, WWUPS and CPS) have a higher than average percentage in return-seeking assets, but this is partly explained by the relative immaturity of the schemes (indicated by the relatively low percentage of pensioner members).

- Group B (WPD) is unusual, in that it has a higher than average percentage in return-seeking assets but is relatively mature (despite remaining open to new entrants). The scheme's Statement of Investment Principles states that "the long-term aim of the group trustees and the Company is to reduce investment risk".

- Group C (EON) has a lower than average percentage in return-seeking assets, but this is partly explained by the relative maturity of the scheme (indicated by the relatively high percentage of pensioner members).

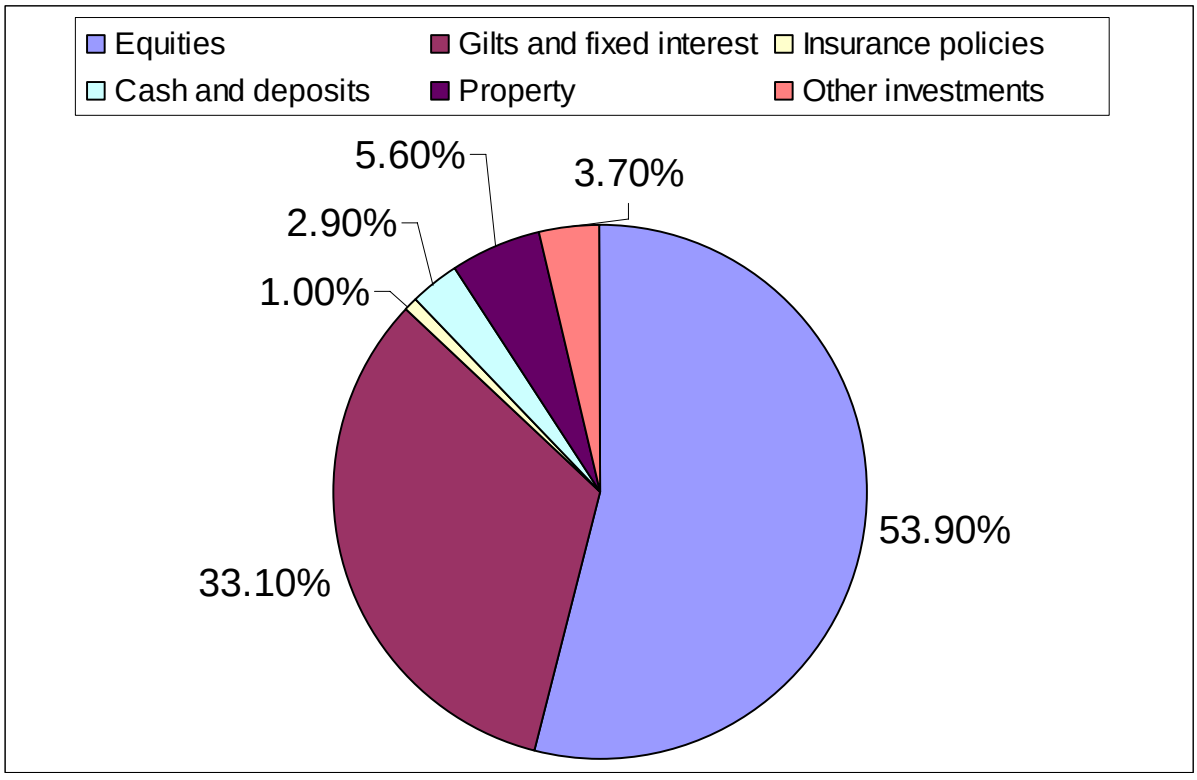
5.13 The two schemes in Figure 4 at the left hand side of the blue band are slightly unusual, in that they appear to be relatively immature, but have a similar percentage in return-seeking assets as other schemes. One of the schemes is the CEPS, which is not covered by the price control. The other scheme is the NGNPS.

5.14 While Figure 3 shows the two Centrica schemes as having relatively high percentage allocations to return-seeking assets relative to licensees' schemes, Figure 4 demonstrates that this can at least partly be explained by the relative immaturity of the two Centrica schemes compared with the licensees' schemes (as indicated by the relatively low percentage of pensioner members).

Comparison with other schemes

5.15 Figure 5 shows the average asset allocation for UK private sector defined benefit pension schemes from PPF/tPR data[19]. Other sources[20] suggest similar results. The total of around 60% in return-seeking assets (the sum of the allocation to equities and property) is slightly higher than, but of a similar order to, the equivalent percentage for most licensees' schemes as illustrated in Figure 3.

Figure 5: UK private sector defined benefit pension schemes' asset allocation (% of assets)



Source: The Purple Book 2008 (tPR/PPF)

[19] "The Purple Book: DB pensions universe risk profile, 2008", Pension Protection Fund (PPF) and the Pensions Regulator (tPR), Table 7.1.
[20] "Annual survey 2007", National Association of Pension Funds (NAPF), and "Accounting for pensions 2008, UK and International", Lane Clark & Peacock (LCP).

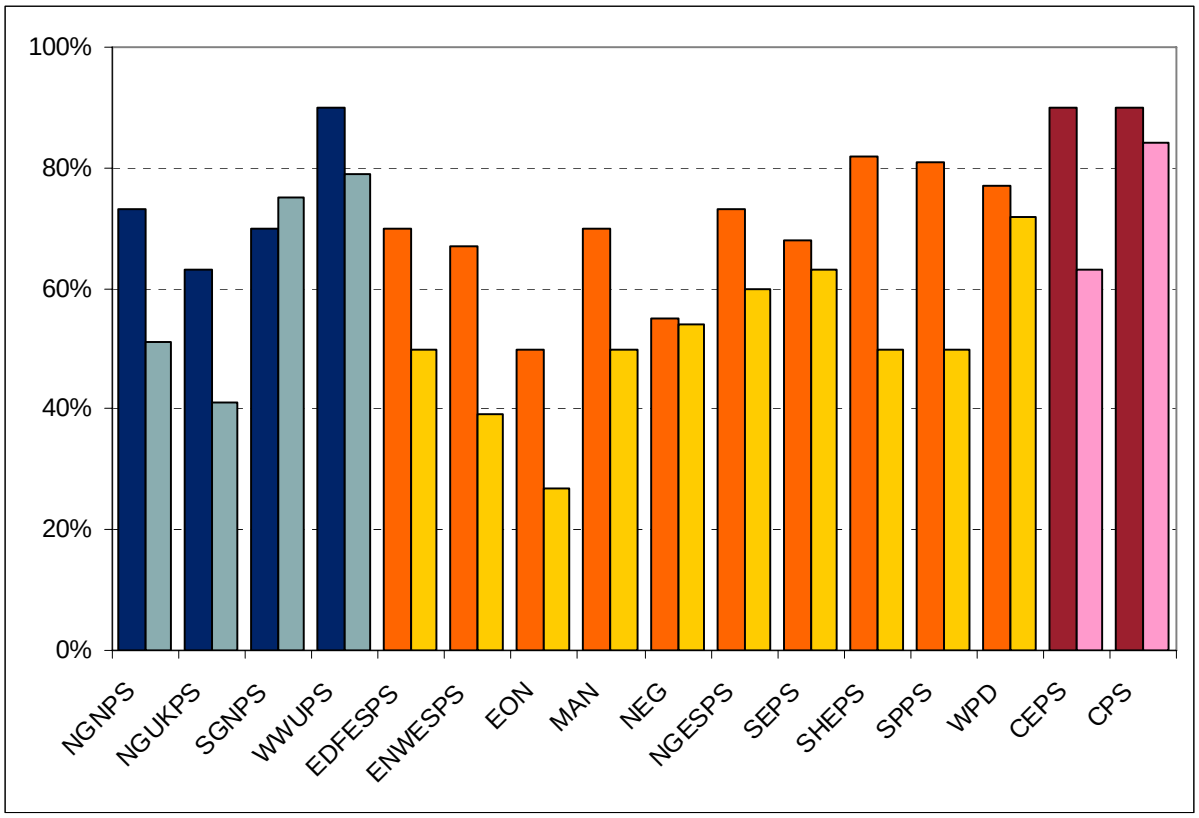
5.16 Chart 7.4 in the Purple Book illustrates the relationship between investment strategy and scheme maturity discussed in paragraphs 5.9 to 5.14. It suggests that relatively immature schemes (schemes where current pensioner liabilities are less than 20% of the total liabilities) typically invest around 65% of their assets in equities (excluding other return-seeking asset classes), whereas more mature schemes (schemes where current pensioner liabilities are between 60% and 79% of the total liabilities) typically invest just over 40% of their assets in equities (again, excluding other return-seeking asset classes).

5.17 The latter case is broadly analogous to the majority of licensees' schemes. This suggests that, once other return-seeking assets are taken into account, licensees' schemes strategic investment allocation might be broadly similar to that of average UK private sector defined benefit schemes after controlling for scheme maturity.

Changes in investment strategy

5.18 Figure 6 illustrates the change in investment allocation over the past six years (where available): for each scheme, the first bar shows the percentage of the scheme's assets invested in return-seeking assets six years ago (where available), and the second bar shows the current percentage.

Figure 6: Percentage of assets invested in return-seeking assets (%) six years ago (first bar) and now (second bar)



Where data for 6 years ago is not available (for example, because the scheme did not exist in its current form then), the earliest available amounts are shown, as follows: NGNPS (2 years ago), SGNPS (2 years ago), WWUPS (2 years ago) and EON (3 years ago). NEG's benchmark strategy 6 years ago was not provided, so the strategy for 7 years ago has been used instead.

5.19 Figure 6 shows that all schemes except one (SGNPS, where limited past data is available due to the relatively recent establishment of the scheme) have reduced their allocation to return-seeking assets.[21] 6 years ago, typical allocations were around 65% to 90% in return-seeking assets, compared to 40%-65% now.

5.20 PPF/tPR data[22] suggests that such a trend reflects that in other UK pension schemes, with the percentage of scheme's assets invested in equities (excluding other return-seeking asset classes) having reduced from approximately 60% in 2000 to nearer 40% in 2006.[23] This will generally have reduced the investment risks borne by schemes.

5.21 There are some disadvantages to this data, which is based on a sample of pension schemes carried out by ONS rather than the data used for the majority of the analysis in the Purple Book 2008. In particular, the sample includes some local authorities and defined contribution pension schemes, and therefore does not solely relate to UK private sector defined benefit schemes. In addition, the change in allocation may, in part, reflect movements in market levels over the period, as well as changes in schemes' investment strategies. Nonetheless, this data suggests that the reduction in licensees' schemes' allocation to return-seeking assets is broadly consistent with trends elsewhere (although the precise magnitude of the reduction might differ).

5.22 Figure 6 also shows a reduction in allocation to return-seeking assets for the two Centrica schemes over the past six years, particularly for the CEPS.

[21] Where data is taken from schemes' accounts, market movements rather than changes in strategic investment allocation could account for some of the changes observed.
[22] "The Purple Book: DB pensions universe risk profile, 2008", Pension Protection Fund (PPF) and the Pensions Regulator (tPR), Chart 7.8.
[23] When considering total return-seeking assets, part of this reduction may have been offset by the increase in allocation to "mutual funds" from around 10% of assets to around 20% of assets, although this will depend on the extent to which the increased investment in mutual funds corresponds to either return-seeking or matching assets, which is unknown.

6 Actuarial funding valuations

Section summary

6.1 This section extends the discussion of schemes' funding valuations from section 3. Most licensees' schemes' funding levels are close to the average for UK private sector defined benefit schemes. The majority of licensees' schemes' funding valuation assumptions are similar to those adopted for other UK private sector defined benefit schemes. Outliers are identified and considered in the context of the schemes' valuation results.

Funding valuation results

6.2 Table 6 summarises the results of licensees' (and Centrica's) schemes' most recent funding valuations.[24] Table 6 is similar to Table 1, except:

- It shows the scheme's funding level[25] on an ongoing basis, whereas Table 1 showed the scheme's *deficit* (expressed as a percentage of liabilities).
- It also shows the scheme's funding level on a buy-out (or solvency) basis.

6.3 The buy-out (or solvency) funding level is the ratio of the value of the scheme's assets to the estimated cost of buying out the scheme's liabilities with an insurance company at the valuation date.

6.4 The buy-out level is not directly relevant to an ongoing pension scheme that is not in the process of, or about to, wind up. However, the advantage of comparing schemes' buy-out levels is that, whereas pension schemes might adopt different valuation assumptions for funding purposes depending on each scheme's particular circumstances, the buy-out level should be a more consistent benchmark.[26]

[24] Please refer to section 3 for a background to scheme funding requirements and terminology.
[25] The funding level is the ratio of the value of the scheme's assets to the present value of its liabilities. A funding level of 100% means that the scheme is "fully funded"; in other words, it is deemed to have no surplus or deficit.
[26] Limitations to the extent to which the buy-out level does represent a consistent benchmark include: there are different ways in which the buy-out level can be estimated or calculated, and the relative positions on an ongoing and buy-out basis may be affected by factors such as the scheme's maturity.

Table 6: Results of most recent ongoing funding valuations

Pension scheme	Valuation date	Employer SCR (% of pay)	Funding level (%)	Buy-out level (%)	Recovery period (years)
Gas					
NGNPS	7/12/2005	31%	85%	55%	10
NGUKPS	31/3/2007	29%	97%	85%	2½
SGNPS	31/3/2006	37%	77%	62%	10
WWUPS	31/3/2006	39%	82%	57%	10
Electricity					
EDFESPS [1]	31/3/2007	20%	95%	72%	8
ENWESPS [2]	31/3/2008	30%	89%	88%	tbc
EON	31/3/2007	23%	94%	75%	6
MAN	31/3/2007	20%	99%	79%	5¾
NEG	31/3/2007	24%	91%	76%	3¾
NGESPS	31/3/2007	21%	77%	61%	10
SEPS	31/3/2007	23%	81%	68%	8
SHEPS [3]	31/3/2006	33%	103%	80%	-
SPPS [4]	31/3/2006	29%	106%	68%	-
WPD	31/3/2007	21%	90%	70%	3
Centrica					
CEPS	31/3/2006	23%	98%	70%	6
CPS	31/3/2006	22%	93%	67%	5

[1] The EEPS (see 4.14) has an employer SCR of 10%, a 95% funding level, a 56% buy-out level and a 1-year recovery period, as at 31 March 2007.

[2] Average of the ENW Section and the UUES Section of the ENW Group of the ESPS.

[3] The SHEPS had a valuation surplus. As a result, the employer is currently paying contributions of 28% of pay, less than the SCR.

[4] The SPPS has an employer SCR of 21% for life plan benefits. The SPPS had a valuation surplus. As a result, the employer is currently paying contributions of 15% of pay, less than the SCR.

6.5 Figure 7 illustrates the employer SCRs, and is identical to Figure 1. Figure 8 illustrates schemes' ongoing (first bar) and buy-out (or solvency) (second bar) funding levels. The red line across Figure 8 represents a funding level of 100%.

Figure 7: Employer SCRs (% of pay) following most recent actuarial valuations

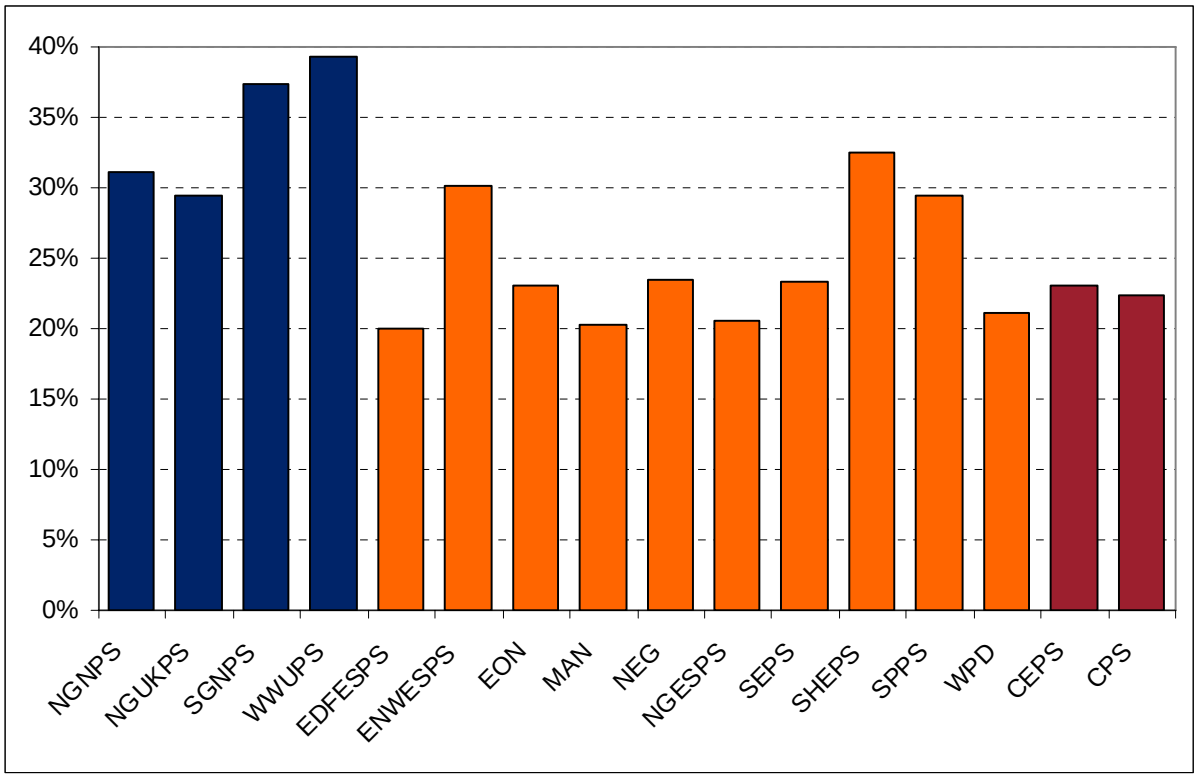
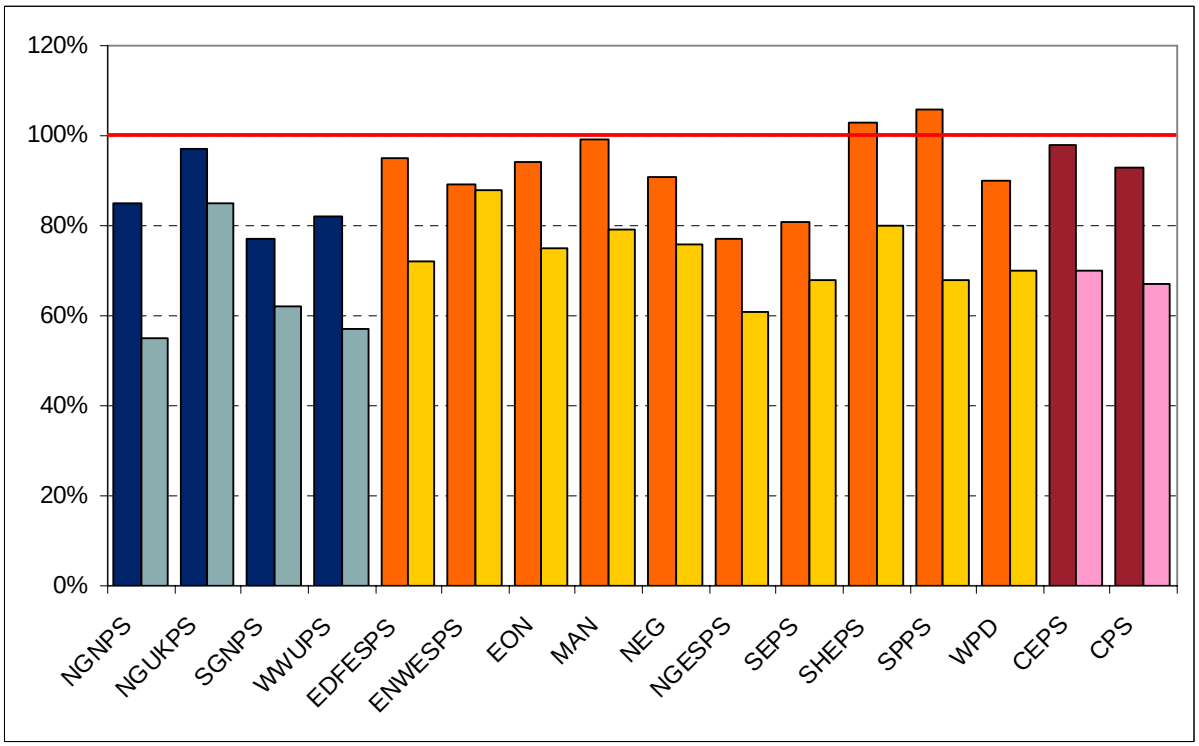


Figure 8: Ongoing (first bar) and buy-out (second bar) funding levels (%) at most recent actuarial valuations



6.6 The following features are demonstrated by Table 6, Figure 7 and Figure 8:

- The gas schemes' SCRs are higher than for the electricity schemes.
- The SGNPS and WWUPS have higher SCRs than the other gas schemes.
- The electricity schemes' SCRs are mostly between 20% and 24% of pay, except for the ENWESPS (30% of pay), SHEPS (33% of pay) and SPPS (29% of pay).
- Centrica's schemes' SCRs are similar to those for the electricity schemes, even though the Centrica's schemes' benefits are similar to those provided by the gas schemes.
- The NGUKPS's ongoing funding level (97%) is higher than the other gas schemes' funding levels (77%-85%).
- The electricity schemes' ongoing funding levels are between 89% and 100%, except for the NGESPS (77%), SEPS (81%), and two schemes which are in surplus (the SHEPS with a funding level of 103% and the SPPS with a funding level of 106%).
- Centrica's schemes' ongoing funding levels are similar to the electricity schemes' ongoing funding levels.

6.7 Section 4 explained that the gas schemes' SCRs being higher than the electricity schemes' are, at least partly, because the gas schemes generally provide a higher level of benefits. It explained that the SHEPS and SPPS SCRs are higher than for other electricity schemes, in part, due to a higher accrual rate (and lower member contributions for the SPPS only). It also noted that the lower member contribution rates to the Centrica schemes compared with the gas schemes explain, in part, the lower SCRs for the Centrica schemes. The extent to which the remaining points can be explained by differences in valuation assumptions is considered later in this section.

6.8 Table 6 shows that, in most cases, the buy-out level moves consistently in line with the ongoing funding level. For example:

- For the NGUKPS, most electricity schemes and Centrica's schemes, the ongoing funding level is between 90% and 100%, and the buy-out level is between around 70% and 85%.

- For the NGNPS, SGNPS and WWUPS, the ongoing funding level is lower (77% to 85%), and so is the buy-out level (55%-62%).

6.9 There are two exceptions:

- The ENWESPS has an ongoing funding level of 89%, but a buy-out level of 88%.[27] This is explained by the ENWESPS valuation having an effective date of 31 March 2008, whereas all other schemes' valuation dates were at least one year earlier. Buy-out terms improved over the year to 31 March 2008, causing an improvement in buy-out funding levels relative to ongoing funding levels.[28]

- The SPPS has the highest ongoing funding level (106%) but one of the lowest buy-out levels (68%). This suggests that the SPPS's strong ongoing funding level might, in part, be a function of the assumptions adopted for the ongoing funding assessment, relative to those used by other schemes.

[27] Results are for the average of the ENW Section and the UUES Section of the ENW Group.
[28] See, for example, analysis in the Paternoster buy-out index for the period to 2 January 2009.

Comparison with other schemes

6.10 Please refer to section 3 for a comparison of licensees' schemes SCR's with survey data on contributions to UK private sector defined benefit pension schemes on average.

6.11 Data from the Pensions Regulator[29] suggests that, for scheme funding valuations with effective dates between September 2005 and September 2007, the average recovery plan length (for those schemes that were in deficit) was around 7 to 8 years. Table 6 shows a range of recovery plan periods from between 2½ years to 10 years for licensees' schemes. The Pensions Regulator has indicated that recovery plans of more than 10 years' duration will attract greater scrutiny, which is likely to explain the absence of any recovery plans of more than 10 years' duration among the licensees' schemes.

6.12 Under the Pensions Regulator's code of practice, "Trustees should aim for any shortfall to be eliminated as quickly as the employer can reasonably afford. What is possible and reasonable, however, will depend on the trustees' assessment of the employer's covenant".[30]

6.13 NAPF survey data[31] suggests that average funding levels for UK defined benefit pension schemes were around 93% on an ongoing funding basis and 66% on a buy-out basis in 2007.[32] This suggests that most licensees' ongoing funding levels are similar to other UK schemes (on average), whereas most licensees' buy-out levels are slightly higher than average UK schemes (on average).

6.14 The difference between a scheme's ongoing funding level and its buy-out level can be taken as a broad indication of the degree of prudence adopted for funding purposes. Taking the buy-out level as a consistent benchmark, adopting more prudent funding valuation assumptions would result in a higher value placed on the scheme's liabilities for funding purposes. The scheme's ongoing funding level would therefore be lower, and closer to the buy-out level, than if less prudent funding valuation assumptions had been adopted.

6.15 Paragraph 6.13 suggests that licensees' schemes ongoing funding levels are closer to their buy-out levels than is the case on average for UK schemes. This could imply that licensees' schemes are being more prudent in their choice of funding valuation assumptions than other schemes (on average). However, such a simplified analysis does not take into account many other factors that could affect the relative values of a scheme's ongoing funding level and its buy-out level.[33] Instead, it is more appropriate to consider directly the principal assumptions adopted for licensees' schemes ongoing funding valuations. This is discussed in the next section.

[29] "Scheme funding: An analysis of recovery plans and clearance applications", The Pensions Regulator (tPR), December 2008, Table 3.4.1c.
[30] "Code of practice 03: Funding defined benefits", The Pensions Regulator (tPR), paragraph 101.
[31] "Annual survey 2007", National Association of Pension Funds (NAPF), Figure 25.
[32] These percentages would be expected to be very different as at a more recent date, due to the recent significant falls in asset markets.
[33] For example, if licensees' schemes were typically more mature than the average UK scheme, a similar result could occur.

Ongoing funding valuation assumptions

6.16 The results of an ongoing funding valuation depend not only on a scheme's situation at the effective date of the valuation, but also on the assumptions made for future experience. More prudent (or cautious) assumptions will place a higher present value on the scheme's liabilities[34] and will result in a higher SCR[35], and vice versa.

6.17 This section of the report considers the assumptions adopted for licensees' schemes' most recent funding valuations, and discusses the extent to which the assumptions adopted explain the features noted in paragraph 6.6.

6.18 The assumptions to be adopted for funding purposes are not prescribed in legislation or guidance. Assumptions must be set by the pension scheme trustees, after taking actuarial advice, and they must be agreed by the sponsoring employer. Assumptions must reflect the scheme's and the sponsoring employer's specific circumstances, in particular the trustees' view of the sponsoring employer's covenant.

6.19 When calculating past service liabilities, assumptions must be prudent. However, the degree of prudence is not defined, and will depend on the scheme's circumstances.

6.20 A number of assumptions affect the results of an ongoing funding valuation. These include:

- Financial assumptions: including the discount rate (or equivalently, the assumed rate of return on the scheme's assets), pay increases, price inflation and pension increases.

- Demographic assumptions: including assumed longevity (allowing for expected future longevity improvements), assumed rates of withdrawal from active service (and whether this is through voluntary withdrawal, ill-health, death or retirement), and the proportion of members in respect of whom dependants' benefits will be paid.

6.21 It is beyond the scope of this report to analyse all the actuarial assumptions adopted for funding valuations of licensees' pension schemes. Instead, the analysis has been restricted to three of the most important assumptions:

- The discount rate (or assumed rate of return)
- The assumed rate of future pay increases
- Assumed longevity

Discount rate and pay increases

6.22 It is increasingly common for discount rates to be set by reference to gilt yields, plus an allowance for assumed *outperformance* of return-seeking assets relative to gilts.[36]

[34] In other words, it would suggest that the scheme should be holding more assets now in order to meet its future liabilities.
[35] In other words, the sponsoring employer will be required to pay higher contributions to meet the expected cost of benefits accruing to active members.
[36] Gilt yields are taken to represent the market's view of the expected rate of return on risk-free assets.

6.23 A comparison of the assumed *asset outperformance* (relative to gilts) adopted for schemes' funding valuations therefore provides a comparison of the relative prudence of the valuation assumptions: other things being equal, assuming lower outperformance relative to gilts is more prudent than assuming higher outperformance. Such a comparison is somewhat simplified, but does provide a basis on which to compare different schemes' assumptions. In particular, it should be borne in mind that a scheme with a higher percentage of return-seeking assets would, other things equal, be expected to assume higher outperformance relative to gilts.

6.24 It has become increasingly common for schemes to adopt different discount rates for valuing benefits in the period up to retirement (in which period investment is assumed to be predominantly in return-seeking assets) and for valuing benefits post-retirement (in which a greater degree of matching is typically assumed). The assumed asset performance has therefore been considered separately for pre- and post-retirement.

6.25 Table 7 shows the assumed asset outperformance adopted for the licensees' (and Centrica's) schemes' most recent ongoing funding valuations. It also shows the assumed rate of salary growth in excess of price inflation ("real salary growth").

6.26 When considering the effect of the assumed asset outperformance on a scheme's SCR in particular, it is important also to consider the assumed rate of real salary growth. In a final salary pension scheme, an active member's pension will depend on his or her pay at, or near, retirement (or other exit). Other things being equal, a higher assumed rate of real salary growth will result in a higher SCR (and a higher value being placed on liabilities in respect of active members).

Table 7: Assumed asset outperformance (% a year) and real salary growth (% a year) from most recent ongoing funding valuations

Scheme	Pre-retirement asset outperformance (% a year)	Post-retirement asset outperformance (% a year)	Real salary growth (% a year)
Gas			
NGNPS	1%	½%	¾%
NGUKPS	½ – 2% [1]	½%	1% [2]
SGNPS	1%	½%	1½%
WWUPS	1¾% [3]	0% [3]	1¼% [2]
Electricity			
EDFESPS	1½%	1½%	2%
ENWESPS	2%	½%	1½% [2]
EON	1%	1%	1% [2]
MAN	2%	½%	1½%
NEG	1½%	½%	1%
NGESPS	½% – 3¼% [4]	½% – 1½% [4]	1% [2]
SEPS	2%	½%	2%
SHEPS	1%	½%	2%
SPPS	¾%	¾%	1½%
WPD	2%	1%	1½%
Centrica			
CEPS	1%	½%	1%
CPS	1¾%	½%	1% [2]

[1] NGUKPS: Pre-retirement asset outperformance varies over time, reducing from 2% at the valuation date to ½% over 20 years.

[2] An additional allowance is made for promotional salary increases.

[3] WWUPS: a different approach is adopted, whereby all benefit payments due within 15 years are discounted in line with assumed bond yields (shown under the post-retirement column in the table), whereas all benefit payments due after 15 years allow for the asset outperformance shown under the pre-retirement column in the table.

[4] NGESPS: Asset outperformance varies over time, reducing from 3¼% (pre-retirement, for active members) or 1½% (post-retirement) at the valuation date to around ½% over 25 years.

6.27 Data from the Pensions Regulator[37] suggests that typical asset outperformance assumptions for funding purposes are around 1¾% a year pre-retirement and slightly over ¼% a year post-retirement, or around 1% a year overall for both pre- and post-retirement combined.

[37] "Scheme funding: An analysis of recovery plans and clearance applications", The Pensions Regulator (tPR), December 2008, Table 3.3.1a.

6.28 Most schemes in Table 7 are broadly consistent with this tPR data, with assumed pre-retirement asset outperformance of 1½% to 2%, and post-retirement asset outperformance of ½%.

6.29 Taking these comments into account, the following features are shown in Table 7:

- The NGNPS and the SGNPS assume slightly lower pre-retirement asset outperformance (1% a year) than other schemes, particularly taking into account that the SGNPS has a higher than average allocation to return-seeking assets. The relatively low assumed pre-retirement asset outperformance for the NGNPS is offset, to some extent, by the relatively low assumed real salary growth (¾% a year), whereas a higher rate of real salary growth (1½% a year) is assumed for the SGNPS. This explains, in part, why the SGNPS has a higher SCR than the NGNPS and the NGUKPS (2nd bullet point of paragraph 6.6).

- The WWUPS has adopted a different approach than other schemes. Instead of assuming separate asset outperformance for pre- and post-retirement, all benefit payments due within 15 years are assumed to be matched by gilt returns, and benefit payments due after 15 years are valued assuming outperformance of 1¾% a year. This difference in approach makes comparisons with other schemes difficult. However, the difference in approach, combined with real salary growth[38] potentially exceeding asset outperformance, could explain, in part, why the WWUPS has a higher SCR than the NGNPS and NGUKPS (2nd bullet point of paragraph 6.6).

- The EDFESPS assumes slightly more optimistic asset outperformance than other schemes (1½% a year both pre- and post-retirement), but relatively high real salary growth (2% a year).

- The SHEPS and SPPS assume relatively prudent pre-retirement asset outperformance (1% a year and ¾% a year respectively) and relatively prudent real salary growth (in particular 2% a year for the SHEPS). This explains, in part, why these two schemes' SCRs are higher than for most other electricity schemes (3rd bullet point of paragraph 6.6, while noting also the differences in benefits discussed in paragraph 6.7).

- WPD's assumed asset outperformance is slightly more optimistic than other schemes (2% a year pre-retirement and 1% a year post-retirement). This is consistent with its relatively high allocation to return-seeking assets compared to other schemes.

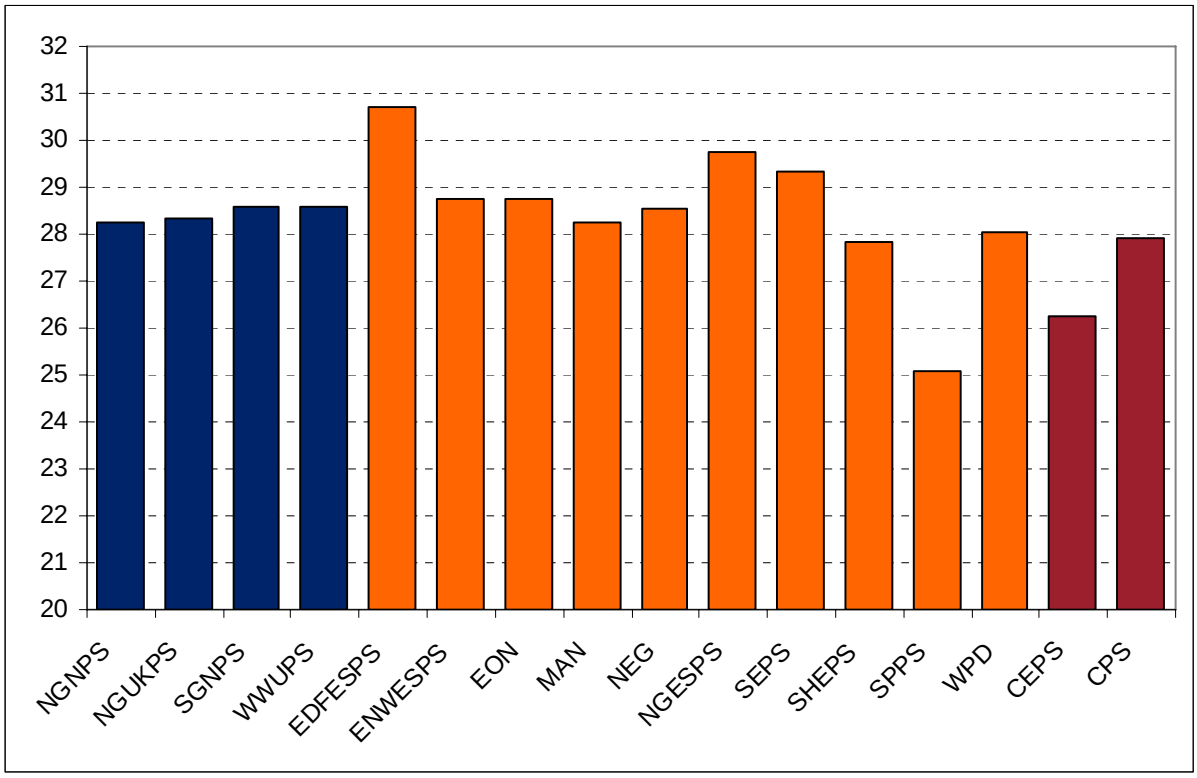
[38] Once the promotional salary scale is allowed for.

Assumed longevity

6.30 The longer a pension scheme member lives after retirement, the greater the cost of providing a defined benefit pension. Ongoing funding valuations require an assumption regarding the assumed longevity of members and their dependants. Such assumptions should reflect the particular membership of the scheme (in other words, whether the members' industry or geographical location suggests they might live for longer or shorter than average), and should allow for expected future improvements in longevity.

6.31 Figure 9 shows the remaining expectation of life at age 60 for a pension scheme member retiring in 20 years' time as assumed for licensees' (and Centrica's) schemes' most recent ongoing funding valuations.[39] Figure 9 shows the average of the expectations of life for a man and a woman.[40]

Figure 9: Assumed remaining expectation of life at age 60 (in years) for pension scheme member retiring in 20 years time, from most recent actuarial funding valuations (average for men and women)



6.32 Data from the Pensions Regulator[41] suggests a typical assumption of around 28.1 years for funding purposes. This is consistent with the majority of the schemes shown in Figure 9.

[39] The remaining expectation of life at age 60 is the number of future years for which a pension scheme member who survives to age 60 is assumed to live.
[40] Women live longer than men, on average. Pension scheme valuations usually include different longevity assumptions for men and women.
[41] "Scheme funding: An analysis of recovery plans and clearance applications", The Pensions Regulator (tPR), December 2008, commentary under Figure 3.3.2f.

6.33 The most notable feature of Figure 9 is the lower than average assumed longevity for the SPPS. This may explain, in part, its higher than average ongoing funding level, and the larger than average difference between its ongoing funding level and its buy-out level (assuming that more prudent longevity assumptions have been adopted for the buy-out level). It is possible that the SPPS longevity assumption reflects differences between its past longevity experience and that for other schemes.

6.34 The relatively lower assumed longevity for the SPPS would also be expected to result in a lower SCR, other things being equal. However, the SPPS SCR is higher than for most other electricity schemes. It therefore appears that other factors, such as those mentioned in Section 4 and in the 4th bullet point under paragraph 6.29, more than offset the effect of the lower assumed longevity on the SCR.

6.35 The EDFESPS, NGESPS and SEPS assume slightly higher longevity than other schemes.

Other factors

6.36 A number of other actuarial assumptions affect the results of an ongoing funding valuation. These include the allowance made for commutation, the assumed rates of ill-health retirement, and the allowance for expenses. It is beyond the scope of this report to analyse in detail all assumptions adopted for licensees' schemes valuations. Therefore, residual differences between schemes' funding levels and SCRs which have not been explained in this report may result, at least in part, from differences in other valuation assumptions.

6.37 A scheme's ongoing funding level reflects its past experience (for example past levels of employer contributions and any transfers to or from the scheme) as well as its future liabilities and valuation assumptions. Differences in past experience should explain some of the residual features of schemes' funding levels, such as the higher than average ongoing funding level for the SHEPS and the lower than average funding levels for the NGESPS and the SEPS.

6.38 In particular, the NGNPS, SGNPS and WWUPS have lower ongoing funding levels than the NGUKPS. The NGNPS, SGNPS and WWUPS were demerged from the NGUKPS in 2005. It seems that the assets allocated to the new schemes on their establishment in 2005 were insufficient to meet the value of the transferred liabilities under the new scheme funding regime. The information provided in the questionnaires is not sufficient to explain the difference between the NGUKPS's funding level and those of the other gas schemes.

6.39 Ongoing funding valuations reflect market conditions at the effective date of the valuation. Changes in market conditions over time affect valuation results. In particular, the results and assumptions considered in this report all relate to valuation dates prior to the recent significant falls in asset markets. The assumptions adopted for, and the results of, ongoing funding valuations for UK private sector defined benefit pension schemes (including licensees' schemes) with effective dates since autumn last year would be expected to be very different to those considered in this report.

6.40 The effective date of the most recent ongoing funding valuation of the ENWESPS was 31 March 2008, one year later than the valuation dates for the majority of the other electricity schemes. Expected returns on index-linked gilts fell over the year to 31 March 2008. This explains, at least in part, the higher SCR for the ENWESPS than for most other electricity schemes.

6.41 Differences in effective valuation dates between, for example, the SHEPS/SPPS and other electricity schemes, or the NGUKPS and the other gas schemes, also affect the comparison of funding levels. In theory, it would be possible to roll forward or back the results of licensees' schemes funding valuations to a consistent date, to improve comparisons across schemes. However, this would require additional information to be provided (for example, additional data on schemes' membership) and has not been considered necessary for the high-level analysis presented in this report. If the analysis presented in this report suggests that a more detailed investigation of one or more schemes' funding valuations would be appropriate, then this is one area which could be explored.

6.42 Finally, ongoing funding valuation results and assumptions depend on the scheme's membership. For example, the SCR can be very sensitive to the average age of active members. Differences in the membership of licensees' schemes would be expected to explain some of the residual features noted in this report, but a detailed analysis of each scheme's membership is beyond the scope of this report.

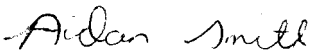
7 Conclusions

7.1 Ofgem's first principle on pension costs for the purpose of price controls states that "customers…should expect to pay the efficient cost of providing a competitive package of pay and other benefits…in line with comparative benchmarks". This report has discussed the level of licensees' defined benefit pension provision, and the extent to which licensees have taken action to reduce their pension costs given the constraints imposed by legislation or the scheme rules. It has highlighted cases where benefits differ to those provided by other licensees, and it has compared the overall level of benefits with that of other UK private sector defined benefit pension schemes.

7.2 Ofgem's fourth principle states that "allowances are based on the cash funding rate recommended by the most recent full actuarial valuation". This report has compared licensees' cash contribution rates with each other, and with information on typical contribution rates to UK private sector defined benefit pension schemes. It has also explained the principal differences in licensees' contribution rates, by reference to differences in scheme benefits, actuarial assumptions or other factors.

7.3 The analysis presented in this report enables Ofgem to understand the main differences between licensees' cash contribution rates, and to consider the extent to which licensees have taken action to reduce their pension costs, in order to assess compliance with its pension principles. The high-level nature of this report is such that our analysis has not considered all relevant factors that will be taken into account by the trustees and sponsors of licensees' pension schemes when setting investment strategies and carrying out actuarial funding valuations.

7.4 The results and assumptions considered in this report relate to valuations with effective dates prior to the recent significant falls in asset markets. Changes in market conditions would be expected to affect licensees' schemes' funding positions and contribution requirements going forward.



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30 July 2009

Appendix A – Licensees and pension schemes

Network operator (Licensee)	Defined benefit pension scheme	Abbreviation used
Gas distribution networks (GDNs)		
Northern Gas Networks	Northern Gas Networks Pension Scheme	NGNPS
National Grid Gas	National Grid UK Pension Scheme	NGUKPS
Scotia Gas Networks	Scotia Gas Networks Pension Scheme	SGNPS
Wales & West Utilities	Wales & West Utilities Pension Scheme	WWUPS
Electricity distribution network operators (DNOs)		
EDF Energy Networks	EDF Energy Pension Scheme [1]	EDF
	ESPS EDF Energy Group	EDFESPS
Electricity North West	ESPS ENW Group	ENWESPS
	ESPS United Utilities Group [2]	UUGESPS
	United Utilities Pension Scheme [2]	UUPS
Central Networks West/East	ESPS Eon UK Group	EON
SP Manweb	ESPS Manweb Group	MAN
CE Northern Electric Distribution / CE Yorkshire Electric Distribution	ESPS Northern Electric Group	NEG
Southern Electric Power Distribution	Southern Electric Pension Scheme	SEPS
Scottish Hydro Electric Power Distribution	Scottish Hydro Electric Pension Scheme	SHEPS
SP Distribution	Scottish Power Pension Scheme	SPPS
Western Power Distribution (South Wales / South West)	ESPS WPD Group	WPD
Transmission network owners and operators (TOs)		
National Grid Electricity Transmission	ESPS National Grid Electricity Group	NGESPS
National Grid Gas	National Grid UK Pension Scheme	*See above*
Scottish Hydro Electric Transmission	Scottish Hydro Electric Pension Scheme	*See above*
Scottish Power Transmission	Scottish Power Pension Scheme	*See above*

[1] The EDF Energy Pension Scheme is excluded from much of the analysis in this report, since it is currently small relative to the EDF Energy Group of the ESPS, and because around 90% of its members relate to unregulated businesses.

[2] The United Utilities Group of the ESPS and the United Utilities Pension Scheme no longer exist and are therefore excluded from much of the analysis in this report. Assets and liabilities of these two schemes relating to Electricity North West were transferred into the ENW Group of the ESPS in December 2007.

Centrica

The analysis in this report includes two defined benefit pension schemes operated by Centrica (British Gas):

- Centrica Engineers Pension Scheme – *CEPS*
- Centrica Pension Scheme – *CPS*

Centrica also provided information about a third pension scheme, the Centrica Pension Plan. However, that scheme has been excluded from the analysis in this report, because it did not originate from the gas industry (it was originally the AA Management Pension Scheme), and because its members are principally management and senior management employees.

Appendix B – Glossary

Accrual rate – The rate at which benefits accrue to active members in a defined benefit scheme. For example, in a final salary scheme where a member is entitled to a pension of one eightieth of his or her final salary for each year of service, the *accrual rate* is one eightieth.

Asset outperformance – The assumed extent to which a scheme's investment return will exceed returns on government bonds (gilts).

Deficiency contributions - Where an actuarial funding valuation shows that the scheme's assets are less than required to cover the expected cost of members' benefits which have accrued up to the valuation date, additional *deficiency contributions* will be required from the employer to make up the shortfall. Deficiency contributions are payable for a fixed term, known as the ***recovery period***, after which the deficiency would be expected to have been eliminated.

Defined benefit (DB) pension scheme – A pension scheme in which an employee's pension is determined under the scheme rules. In a ***final salary scheme***, the pension is based on the number of years of service and on the employee's *pensionable salary* at, or shortly before, the employee leaves active service. In a ***career average scheme***, the pension reflects the employee's average *pensionable salary* throughout his or her active service. The cost of providing the defined benefits will depend on the scheme's experience. In most schemes, the employer has to provide additional funds to the scheme to meet the cost of providing the defined benefits, if experience is worse than expected. In other words, the risk of adverse experience usually rests with the sponsoring employer. Conversely, the employer usually benefits from reduced contributions if experience is favourable.

Defined contribution (DC) pension scheme – A pension scheme in which the benefits paid to an employee depend on the level of contributions to the scheme, the investment return earned on the contributions, and the provider's expense charges. There is no guaranteed level of benefits. In other words, the risk of adverse experience rests with the employee (who also benefits from any favourable experience).

Discount rate – The rate at which a scheme's expected future benefit outgo is discounted for the purpose of an actuarial valuation. It can be thought of as the assumed rate of return on assets. A higher discount rate (or assumed rate of return) means that the scheme's assets are expected to generate higher investment returns, and therefore the scheme needs to hold less assets now in order to meet its liabilities, so the funding level is higher.

Distribution network operators (DNOs) – A DNO is a company which operates the electricity distribution network.

ESPS – The Electricity Supply Pension Scheme. The ESPS was formed in 1983 as a result of the amalgamation of the Staff Scheme and the Industrial Staff Scheme. On privatisation in 1990, individual businesses' shares of the ESPS were split into segregated sections of the scheme, referred to as Groups.

Funding level – The ratio of the value of the pension scheme's assets to the value of its accrued liabilities. A funding level of 100% means that the pension scheme is "fully funded"; in other words, its assets are expected to be sufficient to meet the expected cost of the benefits accrued to the valuation date, on the basis of the assumptions adopted for the valuation.

Gas distribution networks (GDNs) – GDNs transport gas from the National Transmission System to final consumers and to connected system exit points.

Matching assets – Asset classes such as government and corporate bonds, whose cashflows can provide an approximate match to future pension payments, and whose market values may broadly reflect changes in the present value of the scheme's liabilities, depending on the method used to value the scheme's liabilities. Such assets are used to reduce a pension scheme's investment risk (in simplistic terms) but at the expense of lower expected long-term investment returns compared with *return-seeking assets***.**

Pensionable salary – The amount of an employee's salary which is used to calculate the amount of contributions to a pension scheme, and the benefits provided by a defined benefit pension scheme. Pensionable salary can exclude fluctuating elements of pay, such as overtime and bonuses.

Protected persons – People covered by The Electricity (Protected Persons) (England and Wales) Pension Regulations 1990 (SI 1990/346). Principally members of the ESPS on privatisation, plus some other employees. The Protected Persons Regulations place obligations on successor employers to fund accrued pension rights. The Regulations also specify (broadly) that future pension rights cannot be reduced for Protected Persons unless a meeting of affected members votes in favour of the change by a two-thirds majority.

Real salary growth – The rate of salary growth in excess of price inflation.

Return-seeking assets – In a pensions context, asset classes such as equities and property, which are expected to generate higher returns than *matching assets*. However, the market values of such assets demonstrate greater volatility of returns than *matching assets*, increasing the risk of a future deficit.

Salary sacrifice – A salary sacrifice arrangement in respect of pension scheme benefits is where the member's salary is reduced by the amount of the member pension contributions that he or she would normally pay, and instead the employer meets the cost of the member pension contributions. The advantage of such an arrangement is a saving in National Insurance Contributions for both the member and the employer.

Standard contribution rate (SCR) - The level of contributions required to meet the expected cost of the additional pension to which active members will be entitled in respect of service in the relevant period. The SCR is assessed at full actuarial funding valuations.

Transmission network owners and operators (TOs) – 3 TOs own the high-voltage electricity transmission system in Great Britain, and a further company is responsible for the gas transmission system.

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