



Government Actuary's Department

Advice to the Utility Regulator, Northern Ireland

Review of the NIE Pension Scheme

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1 Executive summary

- 1.1 The Utility Regulator (Northern Ireland Authority for Utility Regulation) is the economic regulator of Northern Ireland Electricity Networks Limited (referred to in this report as NIEN). The Utility Regulator commissioned the Government Actuary's Department (GAD) to review certain aspects of the NIE Pension Scheme (NIEPS) and the RP6 pension cost allowances requested by NIEN (covering the period from 1 October 2017 to 31 March 2024).
- 1.2 This report analyses the principal factors which determine NIEN's cash pension contributions and the pension cost allowances requested for RP6, which have been determined using the *Pension Deficit Allocation Methodology (PDAM)* framework. This report comprises of the following sections:
- > Scheme benefits (Section 3);
 - > Investment strategy (Section 4);
 - > Actuarial funding methodology and assumptions (Section 5);
 - > Actuarial funding valuation results, including cash contributions (Section 6);
 - > Scheme expenses (Section 7);
 - > RP6 allowances (Section 8); and
 - > Improvements and efficiencies (Section 9)
- 1.3 The results of this review enable the Utility Regulator to understand the factors affecting NIEN's future cash pension contributions, and the extent to which the NIEPS's funding approach is consistent with that of other UK private sector *defined benefit* pension schemes. Further, this review should assist the Utility Regulator in determining whether it needs to adjust the RP6 pension cost allowance amounts requested by NIEN.

Scheme benefits

- 1.4 Scheme benefits are one of the main determinants of *defined benefit* (DB) pension schemes' ultimate costs.
- 1.5 The DB section of the NIEPS was closed to new entrants in 1998 and replaced with a *defined contribution* (DC) section. This is consistent with general trends in UK private sector pension provision. It reduces NIEN's exposure to the risk of *deficiency (or deficit) contributions* and is expected to reduce overall pension costs. These effects will increase over time as more entrants join the DC section rather than the DB section.



- 1.6 There have been no changes to NIEPS's DB section's benefits since the last review, and the benefits are overall slightly more generous than those provided by typical UK private sector DB schemes. Its benefits reflect, in part, its public sector origins and protections put in place at privatisation. They also reflect, in part, past benefit improvements to utilise valuation surpluses. The Electricity (*Protected Persons*) Pensions Regulations (Northern Ireland) 1992 protect employees' pension benefits in respect of past and future service (the protection applies to those members who joined the NIEPS pre 1992). As benefit protections apply to over 95% of NIEPS members, the extent to which the NIEPS's benefits and member contribution rates can be varied is limited.
- 1.7 The DC section of the NIEPS is fairly typical of a DC arrangement. The employer contribution rates payable are slightly higher than average, although still broadly in line with rates typically paid into DC schemes of other UK private sector employers.
- 1.8 This report mainly considers the DB section of the NIEPS, Focus.

Investment strategy

- 1.9 The NIEPS's investment strategy affects its investment returns (and therefore its current and future *funding levels*) and the choice of actuarial assumptions for funding valuations. A number of factors affect schemes' investment strategies.
- 1.10 Around 46% of the NIEPS's assets by market value were invested in *return-seeking assets* (such as equities) in March 2015. This is broadly in line with that suggested by data on average UK pension schemes' strategic investment strategies, although such a simplified comparison ignores many factors.
- 1.11 The NIEPS' investment strategy now incorporates a de-risking objective with the aim of moving towards a broadly matched position over the long-term. The current approach uses a *liability-driven investment (LDI)* strategy. This type of approach is now common among many UK private sector *defined benefit pension schemes*.

Funding valuation methodology and assumptions

- 1.12 The results of actuarial funding valuations of the NIEPS, and therefore NIEN's cash pension contributions, depend significantly on the assumptions made for future experience. It should be noted that assumptions affect the timing of when contributions are payable, rather than the actual long-term cost which will depend on experience. This report considers the assumptions adopted for the funding assessment as at 31 March 2014.
- 1.13 A key factor affecting the trustees' choice of valuation assumptions, and in particular the degree of *prudence* incorporated, is the trustees' view of NIEN's *covenant*. NIEN has stated that the NIEPS's trustees' view of its *covenant* is "tending to strong". Therefore, I have assumed that the NIEPS's funding assumptions should incorporate low to normal margins for *prudence*.
- 1.14 In general the assumptions adopted for the 2011 and 2014 funding valuations of the NIEPS are within a broadly reasonable range, and the margins for *prudence* included do not appear overly excessive.



Actuarial funding valuation results

- 1.15 NIEN's employer *Standard Contribution Rate (SCR)* is slightly higher than the average for other schemes. This is consistent with the NIEPS's benefits being slightly more generous than average and may also reflect the age profile of the active membership.
- 1.16 The NIEPS's *funding levels* at the 2011 and 2014 valuations were slightly higher than the average *funding levels* for other UK private sector *DB schemes*. In both cases, data on other schemes should be used with some caution.
- 1.17 Following the 2014 valuation of the NIEPS, NIEN is due to pay *deficiency contributions* until March 2022. The deficit *recovery period* of 8 years is consistent with the typical *recovery period* length agreed for other UK private sector *DB schemes* around that time. A new *recovery period* may need to be agreed at the forthcoming 2017 valuation (or subsequent valuations), which would reflect relevant circumstances at the time (for example, *employer covenant* strength, affordability and regulatory factors such as consideration of consumer interests).

Scheme expenses

- 1.18 We have reviewed the expenses incurred in the DB section during RP5. Overall, the level of expenses appears to be at the higher end of the typical range, when compared to data published by the Pensions Regulator. We suggest that the Utility Regulator explores this point further with NIEN to understand the reasons why and consider if any further action is required.

RP6 allowances

- 1.19 In addition to reviewing the approach to funding and benefit provision in the NIEPS, when considering RP6 allowances, the terms of reference also require GAD to comment on a number of other areas (some of which are non-actuarial, or specific to RP6) which can affect the allowable pensions costs for RP6.
- 1.20 NIEN have requested £84million in pension allowances for RP6. This amount includes a request for *deficit contributions* for the two years after the end of the existing *recovery period* agreed following the 2014 valuation.
- 1.21 At RP5, one of the Competition and Markets Authority (CMA) decisions involved basing price control allowances on a similar approach to that used by Ofgem, by adopting their *Pension Deficit Allocation Methodology (PDAM)* framework.
- 1.22 In submitting information for RP6, NIEN set out their requested pension cost allowances based on their interpretation of the *PDAM* requirements and relevant RP5 decisions. The *PDAM* approach involves the creation of two subfunds; one in respect of benefit accrual up to 31 March 2012 (the "*cut-off date*") and one for benefit accrual after the *cut-off date*. Shareholders are fully responsible for any deficits emerging in the post *cut-off date* subfund (referred to as the "*incremental deficit*"), whilst consumers effectively guarantee any deficits emerging in the pre *cut-off date* subfund (referred to as the "*established deficit*").



- 1.23 A number of factors affect the amount of the allowances. The following paragraphs summarise GAD's comments on the points which are specific to RP6. Most of the issues are not actuarial, and therefore the Utility Regulator will need to consider the appropriate treatment in each case.
- 1.24 Deficit contribution request: NIEN's RP6 submission includes a request for allowance of "deficit" (or deficiency) contributions extending beyond the term of the existing schedule of contributions. At RP5, pension cost allowances were aligned to the term of the existing deficit recovery period. We understand the request reflects a current expectation that the 2017 valuation may result in deficit payments extending beyond March 2022 (when the final deficit payment under the existing schedule of contributions is due).
- 1.25 The request for extra contributions is mainly a timing point; the deficit in the pre-cut off date subfund will be funded by the consumer so all else being equal, higher contributions now will lead to lower contributions in future and vice versa. Accordingly, the Utility Regulator may be content to allow for these contributions. We also recognise that there may be wider regulatory issues that could support an additional allowance (for example, cashflow constraints due to higher pension costs during RP6 may adversely impact how efficiently NIEN is able to operate).
- 1.26 Conversely, we note that a regulatory mechanism is already in place which would adjust, on a neutral basis, for any extra deficit contributions made during RP6 at the time of the next price control review.
- 1.27 The Utility Regulator should consider whether it is content to allow for the additional "deficit" payments requested and any implications this might have for future reviews, recognising the likelihood that actuarial valuations carried out within price control will lead to either favourable or unfavourable outcomes relative to previous expectations. It will also need to consider how future surpluses should be accounted for and any mechanism required to ensure that consumers can benefit.
- 1.28 PDAM: information setting out NIEN's allocation of assets and liabilities based on the PDAM framework was provided in Aon Hewitt's report of 3 June 2016. We have reviewed the allocation based on a "cut-off date" of 31 March 2012 and changes in assets and liabilities between the cut-off date and 31 March 2014 when a full valuation was completed. In reviewing this allocation, we have considered information contained in the actuarial valuation reports, scheme accounts, relevant market data and documentary PDAM guidance. Overall, we have not identified any significant areas of concern, however the Utility Regulator will need to decide if it is content with the application of the Regulatory Fraction and the adjustments for Early Retirement Deficit Contributions (ERDCs) and the article 75 payment (see later comments).
- 1.29 RP5 adjustments: our review of the information provided indicates that contributions during RP5 (and RP4) have been payable as expected, in line with the schedule of contributions and therefore we do not believe that any adjustments are required in respect of contributions for service accrual or deficit recovery, which account for the majority of NIEN's RP5 contributions.



- 1.30 Early Retirement Deficit Contributions (ERDCs): NIEN stated that the allowances requested for RP6 have been derived consistently with the RP5 decision that 30% of the unfunded ERDC liabilities should be funded by shareholders. As a non-actuarial issue, it is for the Utility Regulator to decide whether it wishes to revisit the appropriateness of a 30% allocation. We are not aware of any further information that has become available since the last review.
- 1.31 Regulatory Fraction: the *Regulatory Fraction* is used to allocate pension costs which are deemed to be associated with regulated activities. NIEN's RP6 submission reflects a pre-adjusted *Regulatory Fraction* of 99.26% (in line with the final RP5 determination) which is used to calculate the position in the pre *cut-off date* subfund, and identify the *established deficit*.
- 1.32 We note that a 3.7% adjustment has been applied in respect of an *article 75 payment* (as Powerteam Electrical Services (UK) Ltd (PES) ceased to participate in the scheme on 24 December 2013) which will increase the proposed RP6 allowances. The total scheme deficit has been split according to regulated or non-regulated status. NIEN have adjusted the *Regulatory Fraction* so that the surplus emerging in respect of the PES *article 75 payment* is treated as non-regulated surplus (and so increases RP6 allowances). The Utility Regulator will need to consider whether it is content with the proposed adjustment to the *Regulatory Fraction*.
- 1.33 Split of costs – Transmission and Distribution: in setting RP6 allowances, a split between Transmission and Distribution sections of the business is required. We understand the RP5 allocation of pension costs was 92% to the Distribution side and 8% to the Transmission side. As this is not an actuarial issue, GAD cannot make a recommendation on this point. The appropriate distribution will need to be decided by the Utility Regulator.

Incentives and efficiencies

- 1.34 The terms of reference ask GAD to identify any areas where NIEN might be able to operate its pension arrangements more efficiently.
- 1.35 In addressing this point, it is important to recognise that pensions is just one aspect of remuneration and can be a valuable tool for attracting and retaining valued staff, and supporting efficiency exercises such as staff restructures.
- 1.36 Following the introduction of the PDAM framework, NIEN's interests are arguably more aligned to consumers now as its shareholders are fully responsible for any surplus or deficits in the post *cut-off date* subfund.
- 1.37 In respect of the *established deficit*, we note that NIEN's ability to manage the deficit is limited due to *Protected persons* legislation and the scheme's mature membership profile, however it would be reasonable to expect an efficient company to explore any opportunities to mitigate unnecessary costs by considering an increase in member contributions or reforming scheme benefits (for staff who are not subject to *Protected persons* legislation). Further, it could look to explore options such as pension increase exchange initiatives, or enhanced transfer value exercises.



1.38 More generally, a key cost determinant in funding the scheme is the investment strategy and identifying the optimal level of strategy risk. Regular reviews and monitoring will help mitigate against company actions that increase costs unnecessarily. The Utility Regulator should consider whether recent developments for other regulators (for example, Ofgem, Ofwat, Ofcom etc.) might also be relevant in seeking ways to ensure that NIEN is operating as efficiently as possible. For example, we note that Ofgem have challenged companies to demonstrate that good governance procedures are in place and that schemes' running expenses are demonstrably value for money.

Limitations of the analysis

- 1.39 This review considers NIEPS only. It is recognised that pension arrangements are only part of overall remuneration packages.
- 1.40 This report compares the NIEPS with publicly available information on other UK private sector *defined benefit pension schemes*. Such comparisons do not take into account factors which affect particular industries, sponsoring employers or pension schemes in isolation, and are provided as a guide only.
- 1.41 Pension schemes' benefits, investment strategies and funding approaches should reflect each scheme's particular circumstances. It is beyond the scope of this report to consider all such factors. It is recognised that a "one-size fits all" approach is not appropriate. This review must not be interpreted as advising that a particular approach is necessarily inappropriate.

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22 March 2017



2 Introduction

Section summary

The Utility Regulator is the economic regulator of NIEN. The Utility Regulator commissioned the Government Actuary's Department (GAD) to review the NIE Pension Scheme (NIEPS). The results of this review enable the Utility Regulator to understand the factors affecting NIEN's future cash pension contributions, and the extent to which the NIEPS's funding approach is consistent with that of other UK private sector *defined benefit pension schemes* and the extent to which pension allowances requested for RP6 are reasonable. Recognising the relative funding costs, this report mainly considers the defined benefit section of the NIEPS and analyses the principal factors which determine NIEN's cash pension contributions. Limitations of the analysis are noted.

Background

- 2.1 The Utility Regulator (Northern Ireland Authority for Utility Regulation) is the economic regulator of Northern Ireland Electricity Networks Limited (NIEN). The Utility Regulator sets price controls which limit the revenue NIEN can earn.
- 2.2 When setting price limits, the Utility Regulator considers the costs which an efficient company incurs to carry out its functions. Such costs include contributions to pension schemes.
- 2.3 The next NIEN price control (RP6) is due to apply from October 2017. In advance of this, the Utility Regulator is analysing NIEN's pension costs. At the last price control review (RP5), a number of decisions were made by the Competition and Markets Authority which affect the way in which the allowances for RP6 are determined (in particular, the adoption of the *PDAM* framework).
- 2.4 Employees of NIEN are offered membership of the NIE Pension Scheme (NIEPS). This scheme was known as the Viridian Group Pension Scheme (VGPS) prior to the acquisition of NIEN by ESB in December 2010.
- 2.5 The NIEPS comprises a defined benefit (DB) section ("Focus") and a *defined contribution* (DC) section ("Options"). Employer contributions to the DB section were around £27 million in the year 2014-15 and £24 million in the year 2015-16 (contributions in respect of future benefit accrual represented approximately 30% of total contributions). Employer contributions to the DC section were £2-3 million a year over the same period. This review mainly considers the Focus section of the scheme.
- 2.6 At the 2014 valuation, the Focus section was comprised of 586 active members, 752 deferred pensioners and 4,447 pensioners. The NIEPS Focus is a large scheme, with the liabilities exceeding £1 billion. It is a relatively mature scheme, having been closed to new entrants in 1998, with a proportion of approximately 77% pensioners compared with an average of 38% for similar sized schemes.



Objectives of this review

- 2.7 The Utility Regulator commissioned the Government Actuary's Department (GAD) to review certain aspects of the NIEPS. Appendix A provides a high level summary of the terms of reference for this review.
- 2.8 The results of this review assist the Utility Regulator to assess:
- > The reasonableness of NIEN's pension costs;
 - > Differences between NIEN's pension costs;
 - > The reasonableness of the methods and assumptions used to determine NIEN's pension costs; and
 - > The reasonableness of the information presented under the *PDAM* framework and the pension cost allowances requested by NIEN for RP6
- 2.9 Appendix B lists the information on the NIEPS used in this review. Appendix C provides some background on pension scheme funding and contributions. Appendix D summarises factors affecting a pension scheme's high-level investment strategy. A glossary is included in Appendix E.
- 2.10 The report on GAD's previous review of the NIEPS (for RP5) was dated 16 May 2011.
- 2.11 This report mainly considers the *defined benefit* (DB) section of the NIEPS, Focus. Some comments on the *defined contribution* (DC) section, Options, are included in Section 3.
- 2.12 This report considers the NIEPS in total. It does not consider the allocation of contributions or scheme deficit between participating employers.

Information used

- 2.13 Appendix B lists the information on the NIEPS which has been provided to us by the Utility Regulator. My analysis is based solely on this information and relies on the completeness and accuracy of the information provided. I have checked this information for internal consistency. Such checks do not represent a full independent audit of the information provided. In particular, I have not independently calculated or checked the details of any funding calculations. GAD accepts no responsibility for any inaccuracies or omissions due to any errors or omissions in the information provided for this review.
- 2.14 The Utility Regulator and NIEN were shown drafts of this report before it was finalised, for comment and to check factual accuracy. The Utility Regulator's and NIEN's comments have been borne in mind when preparing the final version.

Limitations

- 2.15 This review considers the NIEPS only. It is recognised that pension arrangements are only part of overall remuneration packages.



- 2.16 This report compares the NIEPS with publicly available information on other UK private sector *defined benefit pension schemes*. Such comparisons do not take into account factors which affect particular industries, sponsoring employers or pension schemes in isolation, and are provided as a guide only.
- 2.17 Pension schemes' benefits, investment strategies and funding approaches should reflect each scheme's particular circumstances. It is beyond the scope of this report to consider all such factors. It is recognised that a "one-size fits all" approach is not appropriate. This review must not be interpreted as advising that a particular approach is necessarily inappropriate.

Distribution and publication of this report

- 2.18 This report is addressed to the Utility Regulator. I am aware that the Utility Regulator may make this report available to other parties, including NIEN and the trustees of the NIEPS. I am aware that the Utility Regulator may choose to publish this report in its entirety, or to quote this report in part, subject to confidentiality requirements. GAD reserves the right to review and comment on any document in which the Utility Regulator quotes or refers to this report in part.
- 2.19 Advice provided by GAD to the Utility Regulator is intended solely for the use of the Utility Regulator. GAD does not accept any responsibility to third parties who may read this report or extracts from it.



3 Scheme benefits

Section summary

Scheme benefits are one of the main determinants of *defined benefit pension schemes'* ultimate costs.

The defined benefit (DB) section of the NIEPS was closed to new entrants in 1998 and replaced with a *defined contribution* (DC) section. This is consistent with general trends in UK private sector pension provision. It reduces NIEN's exposure to the risk of *deficiency contributions* and is expected to reduce overall pension costs. These effects will increase over time as more entrants join the DC section rather than the DB section.

The NIEPS's DB section's benefits have not changed since the last review, in 2011 – overall, scheme benefits are slightly more generous than those provided by typical UK private sector *DB schemes*. Its benefits reflect, in part, its public sector origins and protections put in place at privatisation. They also reflect, in part, past benefit improvements to utilise valuation surpluses.

The Electricity (*Protected Persons*) Pensions Regulations (Northern Ireland) 1992 protect employees' pension benefits in respect of past and future service (the protection applies to those members who joined the NIEPS pre 1992). As benefit protections apply to over 95% of NIEPS members, the extent to which the NIEPS's benefits and member contribution rates can be varied is limited.

The level of employer contributions in the NIEPS's DC section (Options) is slightly more generous than average, but still broadly within the range of contribution rates typically paid by into private sector *DC schemes* in the UK.

Background

- 3.1 Scheme benefits are one of the main determinants of *DB pension schemes'* ultimate costs, and therefore also of contribution rates to schemes. This section considers the benefits provided by the NIEPS. The purpose of this is to understand the level of NIEN's pension contributions. I have not been asked to comment on the reasonableness of the level of pension benefits provided by the NIEPS.
- 3.2 The NIEPS includes two sections:
- > "Focus", providing *defined benefit* (DB) pension benefits; and
 - > "Options", providing *defined contribution* (DC) pension benefits.



- 3.3 I understand that the Electricity (*Protected Persons*) Pensions Regulations (Northern Ireland) 1992 protect employees' pension benefits in respect of past and future service (the protection applies to those members who joined the NIEPS pre 1992). As benefit protections¹ apply to over 95% of NIEPS members, the extent to which the NIEPS's benefits and member contribution rates can be varied is limited. As at 31 March 2016, only 34 active NIEPS members were post 1992 joiners (so do not have protected status).

Closure of scheme to new entrants

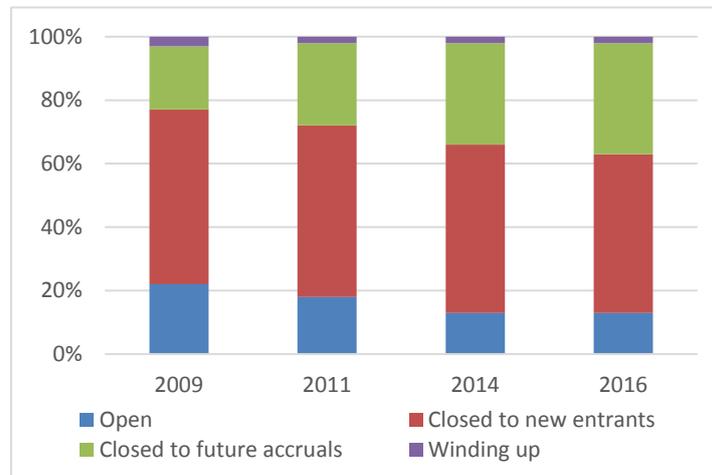
- 3.4 The Focus (DB) section of the NIEPS was closed to new entrants with effect from 18 March 1998. Existing active members have continued to accrue benefits in respect of future service after that date. Subsequent joiners are offered membership of the Options (DC) section instead.
- 3.5 The closure of the Focus section to new entrants and its replacement with a DC arrangement is consistent with trends in UK private sector pension provision. It reduces NIEN's exposure to the risk of *deficiency contributions* and is expected to reduce overall pension costs. These effects will increase over time as more entrants join the DC section rather than the DB section.
- 3.6 DC arrangements typically, but need not, involve lower employer pension contributions than a DB pension. Whether contributions are lower to a DC arrangement than to a DB scheme depends on the design of the two schemes.
- 3.7 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 arrangement the risk of adverse future experience rests with the member through lower than expected benefits. Conversely, members benefit from favourable experience in a DC arrangement, whereas in a DB scheme the employer may benefit (depending on the scheme rules).
- 3.8 Following the most recent formal actuarial valuation in 2014, NIEN's "average" contribution rate (9.5% of pay) to the DC section of the NIEPS was significantly lower than its contribution rate to the DB section (28.3% of pay in respect of benefit accrual, plus additional contributions to address the scheme's assessed deficit and ongoing administration costs).
- 3.9 Figure 3.1 (below) illustrates results published by the Pension Protection Fund (PPF) and the Pensions Regulator (tPR)², showing that, in 2016, 50% of private sector DB pension schemes were closed to new entrants but with existing members continuing to accrue benefits (as in the Focus section of the NIEPS). Since the last review in 2011, the percentage of schemes open to new entrants has decreased, as has the percentage of schemes closed to new entrants, as more schemes cease future benefit accrual.

¹ Note that benefits in respect of past service cannot be amended for any members.

² "The Purple Book: DB pensions universe risk profile 2016", PPF and tPR, Figure 3.1.



Figure 3.1: UK private sector defined benefit pension schemes by status – percentage of all schemes



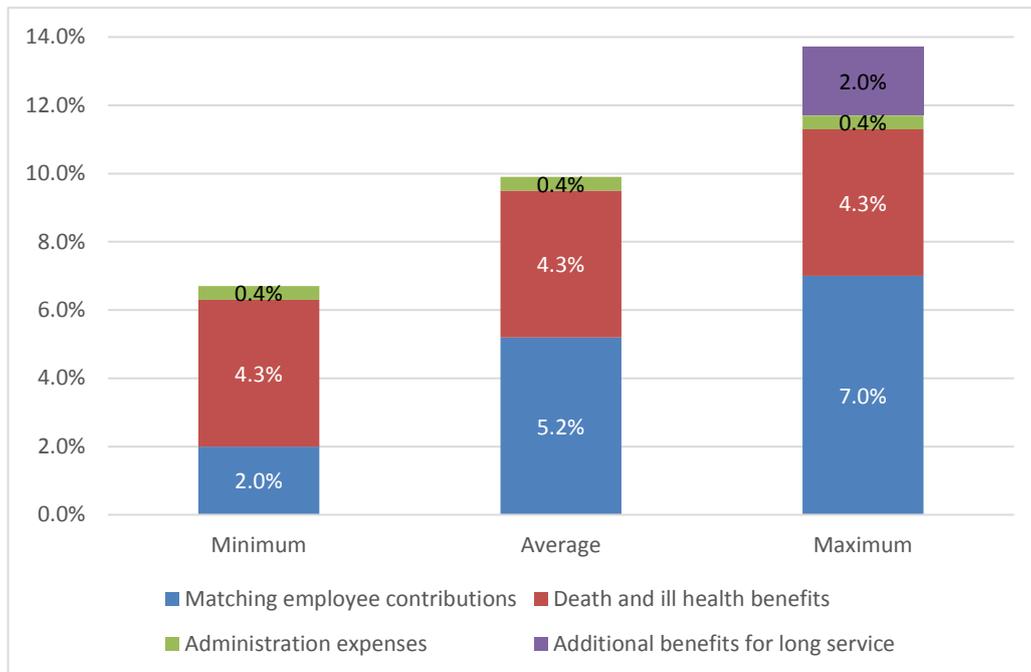
Options (DC) section of the NIEPS

- 3.10 This report mainly considers the DB section of the NIEPS, Focus (reflecting the additional complexities associated with running a *DB scheme* and the relative level of employer contributions currently paid). NIEN's future contributions to the DC section are expected to be more certain than those to the DB section. This is because, in the DC section, the contribution rates (not the level of benefits) are specified in the scheme rules (other than for some death and ill-health benefits). The employer risk of future funding shortfalls applies only to the DB section, not the DC section.
- 3.11 NIEN's contributions to the DC section, Options, depend on the following factors:
- > The contribution rates specified in the scheme rules;
 - > The rates at which scheme members elect to contribute (because NIEN matches member contributions up to 7% of pay);
 - > The payroll of scheme members; and
 - > NIEN's contributions for death and ill-health benefits (which are not met entirely by members' pension accounts), and to meet administration expenses.
- 3.12 Employees in the DC section of the NIEPS can choose how much to contribute, subject to a minimum contribution of 2% of pay. NIEN matches the employee's contributions up to 7% of pay (an increase from 6% of pay before 1 January 2015) and contributes an additional 1% of pay for employees with over ten years' service, with an extra 1% of pay for employees with over 15 years' service, introduced from 1 January 2015. NIEN pays further contributions in respect of death and ill-health benefits (estimated as 3.7% of pay from 1 April 2012, increasing at 1 April 2015 to 4.3%) and to meet administration expenses (0.4% of pay from the 2014 actuarial valuation).
- 3.13 The structure of contributions to the DC section, whereby NIEN matches employee contributions on a 1:1 basis up to a limit (7% of pay here), is fairly typical.



- 3.14 NIEN's average contribution rate to the DC section at time of the 2014 actuarial valuation was 5.2% of pay in respect of retirement benefits. The valuation report showed further contributions at an average of 3.9% of pay in respect of death and ill health benefits (consistent with the estimates of 3.7% of pay from 1 April 2012, increasing to 4.3% of pay at 1 April 2015). Contributions were also paid to meet administration expenses (0.4% of pay) giving a total of 9.5% of pay as an average at the 2014 valuation. This is an increase from 7.7% at the 2009 valuation.
- 3.15 Figure 3.2 shows the range of member contribution rates payable by NIEN into the DC section, including the minimum rate, the average rate at the time of the 2014 valuation and the maximum rate (for a member who personally contributes at least 7% of pay and is eligible for the extra contributions due to long service).

Figure 3.2: Contribution rates payable by NIEN in respect of the Options section on the NIEPS.



Comparing DC contribution rates

- 3.16 ONS survey data³ suggests that the average employer contribution rate to private sector *DC occupational pension schemes* was around 2.9% of pay in 2014. This is a significant decrease from 6.1% in 2013. However, this decrease is largely due to the recent workplace pension reforms and introduction of auto enrolment. A similar pattern can be seen across a range of surveys. Arguably a more appropriate comparison would be against typical *DC schemes* which were established prior to the reforms.

³<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/pensionssavingsandinvestments/bulletins/occupationalpensionschemesurvey/2015-09-24#contribution-rates-in-private-sector-occupational-pension-schemes>



3.17 A 2016 Aon Hewitt⁴ survey reported an average DC employer contribution rate of 7.5% in 2014 and noted the impact of auto enrolment pulling average rates down. Similarly, the Association of Consulting Actuaries pension trend survey showed the average employer contribution rate for Trust based *DC schemes* falling from 6.9% in 2013 to 5% in 2015.

3.18 Overall, the average employer contribution of 9.5% (with 5.2% for retirement benefits) paid by NIEN appears to be slightly higher, but not significantly out of line with the contributions paid to other private sector *DC occupational pension* schemes set up before the pension reforms.

Options section - member choices

3.19 In the year ending March 2016 there were ten investment funds available to members of the Options section. Following changes in Government legislation, which provide more flexibility for Options members when drawing their retirement savings, the Trustees have changed the Options Lifestyle strategy options with effect from 1 April 2015. From 1 April 2015, there were three lifestyle strategies available:

- > The Drawdown Lifestyle strategy which will use a mix of investments designed for members who want retirement flexibility
- > The Cash Lifestyle strategy, for members who plan to take all of their retirement savings as cash at, or soon after their selected retirement age
- > The Annuity Lifestyle strategy, for members who want to buy an annuity

3.20 The design of the Options section, as described in the preceding paragraph, is typical of that which might be expected for a *DC scheme* of its size, and the lifestyle strategies available are reflective of recent changes in legislation.

⁴ Aon Hewitt DC Member Survey 2016 – page 8



Focus (DB) section of the NIEPS

- 3.21 The principal benefits provided by the Focus section of the NIEPS are summarised in Table 3.1. The NIEPS benefits are unchanged since the last review in 2011. This table also shows the benefits offered by “typical” UK private sector *DB schemes* from ONS survey data.⁵

Table 3.1: NIE pension scheme benefits (Focus section)

	NIEPS Focus section 2014	“Typical” UK scheme 2014
Age at which unreduced benefits are paid (NRA)	60 or 63 ¹	65
<i>Accrual rate</i>	60ths	60ths
Dependants’ pension after death of member	50%	50%
Benefits on ill-health	Enhanced pension	Enhanced pension
Lump sum on retirement	By commutation	By commutation
Member contributions (% of pay)	6%	5.2%
Pension increases (in payment)	CPI ²	RPI/CPI with cap ³

Source: “Typical” UK scheme: Occupational Pension Schemes Annual Report 2014 (ONS)

¹ 63 for post-April 1988 entrants. The cost of unreduced employer-approved early retirement benefits is met by NIEN.

² Future NIEPS pension increases reflect Consumer Prices Index (CPI) increases. Increases above 10% are at NIEN’s discretion.

³ UK private sector DB pension schemes’ pension increases typically reflect increases in either the Retail Prices Index (RPI) or CPI, depending on the scheme rules. Increases are often capped at 2½% or 5% pa.

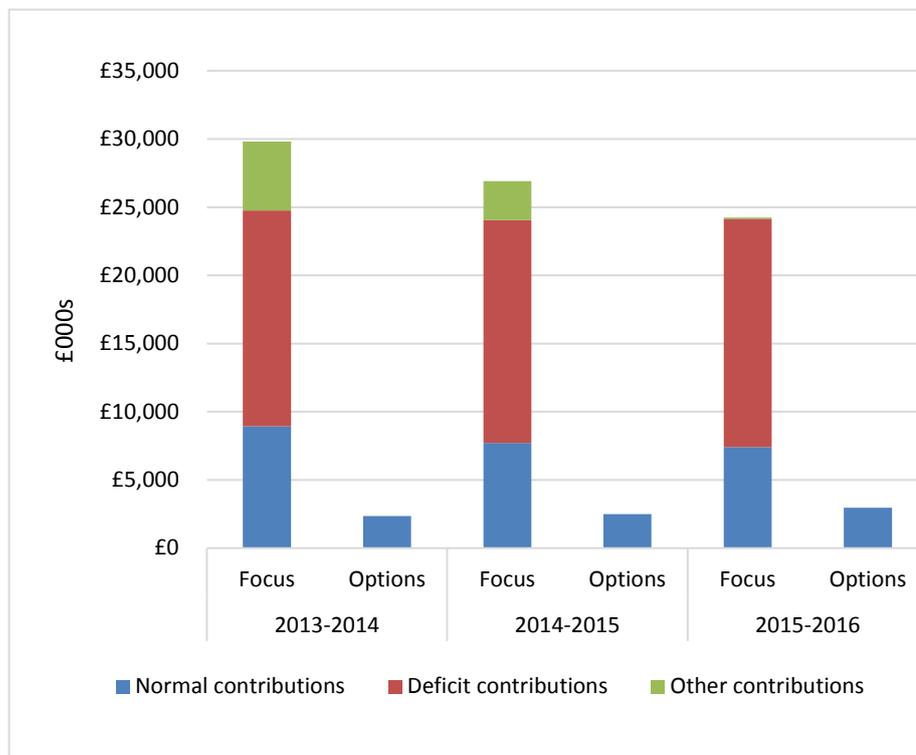
- 3.22 Table 3.1 shows that the NIEPS’s DB section’s benefits are slightly more generous than those provided by typical UK private sector DB schemes. The lower age at which unreduced benefits may be paid (63 or lower, rather than 65) and the higher annual cap on pension increases (10% with discretionary increases above this level, rather than a 2½% or 5% cap) provide more generous benefits. Conversely, the slightly higher rate of member contributions (6%, rather than 5.2%, of pay) and CPI-linked pension increases are less generous than some other schemes.
- 3.23 This comparison with a “typical” UK private sector DB scheme is approximate only. It considers pension benefits in isolation, ignoring industry- or company-specific factors and other elements of the remuneration package.

⁵ “Occupational Pension Schemes Survey 2014”, Office for National Statistics (ONS), Section 10.



3.24 Employer contributions for the Focus section of the NIEPS are higher than those for the Options Section. Total employer contributions to the Focus section were around £27 million in 2014-15 and £24 million in 2015-16, compared to employer contributions to the Options section in the region of £2-3 million a year over the same period. This equated to a higher percentage of *pensionable salary*, 28.6% of pay compared to the average of 9.5% of pay in the Options section. The employer contributions in the Focus section were in respect of normal ongoing contributions and also to address the pension scheme funding deficit. Figure 3.3 shows the contributions paid in respect of each of the sections of the NIEPS and the breakdown of employer contributions in the Focus section.

Figure 3.3: Employer contributions in the NIEPS



3.25 The NIEPS's benefits reflect, in part, its public sector origins and protections put in place at privatisation. They also reflect, in part, past benefit improvements to utilise valuation surpluses. For example, the scheme's *accrual rate* was increased from 62nds to 60ths following the 2000 actuarial valuation. If this change had not been made, NIEN's future pension contributions would be lower.



Developments during RP5

- 3.26 Additional contributions of £0.9 million – above the specified normal and deficit contributions – were payable by Powerteam Electrical Services (PES) during the RP5 period. These contributions were payable in respect of *benefit augmentations* granted during the review period at the point when PES ceased to participate in the NIEPS on 24 December 2013. The (relatively modest⁶) contributions were used to enhance the benefits of six active members who were employed by PES. Whilst we are not aware of all the details and background, in certain circumstances granting augmentations can be considered an appropriate outcome (for example, to compensate individuals for the loss of a future salary link to their pension benefits).
- 3.27 From 6 April 2016, a flat rate single-tier State Pension was introduced. Before 6 April 2016, it was possible for employers to “contract out” of the additional State Pension, subject to meeting certain statutory requirements. In return for providing a pension which met the statutory minimum, both the employer and employee paid reduced rates of National Insurance contributions. NIEPS was a “contracted out” scheme up to 6 April 2016.
- 3.28 The option to “contract out” was removed with effect from 6 April 2016. A significant implication of this is that both employers and employees needed to pay unreduced National Insurance contributions, increasing the cost to NIEN (by 3.4% of pay). NIEN have stated that there has been no impact to the pension scheme following the cessation of contracting out. We note that regulations are in place that can enable employers to amend their schemes for some or all members, to take account of the increase in the employer’s National Insurance contributions. We understand that the option to amend scheme terms may only extend to the NIEPS members who are not covered by the *Protected persons* regulations (post 1992 joiners). As at 31 March 2016, there were 34 NIEPS active members who were not protected by this legislation. Recognising that implementing any changes would incur a cost, overall savings are unlikely to be material at a scheme level. The Utility Regulator may wish to explore this point further to satisfy itself that the approach taken was reasonable.
- 3.29 We have reviewed the contributions paid by NIEN over the review period and they appear consistent with the schedules of contributions and deficit recovery plans. In addition to the employer deficit and future accrual contributions, we have noted that additional contributions in respect of *benefit augmentations* have been made. Those payments have been disclosed in the scheme accounts and are generally relatively modest, however the Utility Regulator should consider how these augmentations are funded and any interaction with its price allowances.

⁶ In the context of scheme funding - the contributions represented less than 0.1% of the NIEPS’s *technical provisions* (or liabilities) at the 2014 valuation. The value of the enhancements would have been significant at an individual level.



4 Investment strategy

Section summary

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.

In March 2015, the NIEPS held around 46% of its assets in "*return-seeking assets*" (at the last review, it was noted that around 33% of assets were invested in *return-seeking assets* in March 2009). This is broadly in line with the allocation suggested by data on average UK pension schemes' strategic investment strategies. Such a simplified comparison ignores many factors (such as scheme maturity and *employer covenant* strength).

The current benchmark investment strategy is to invest 20% of the scheme's assets in equities, 40% in absolute return funds, 20% in multi asset credit assets, and 20% in a *Liability Driven Investment* (LDI) portfolio. We understand there is an objective to de-risk the scheme over the longer term by reducing the allocation to *return-seeking assets* and increasing the level of *matching assets*. This approach, and an increasing sophistication in the strategy, is typical of recent developments seen more generally for DB UK pension schemes.

Introduction

- 4.1 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 summary of the key factors that influence the high-level strategic investment strategy for a funded *defined benefit pension scheme* is given in Appendix D. The Utility Regulator wishes to consider whether the NIEPS's investment strategy is consistent with that of other schemes.
- 4.2 The analysis in this section concentrates on the high-level split between *return seeking* assets, low risk assets, and *matching* assets. A more detailed analysis of specific asset classes is beyond the scope of this report.

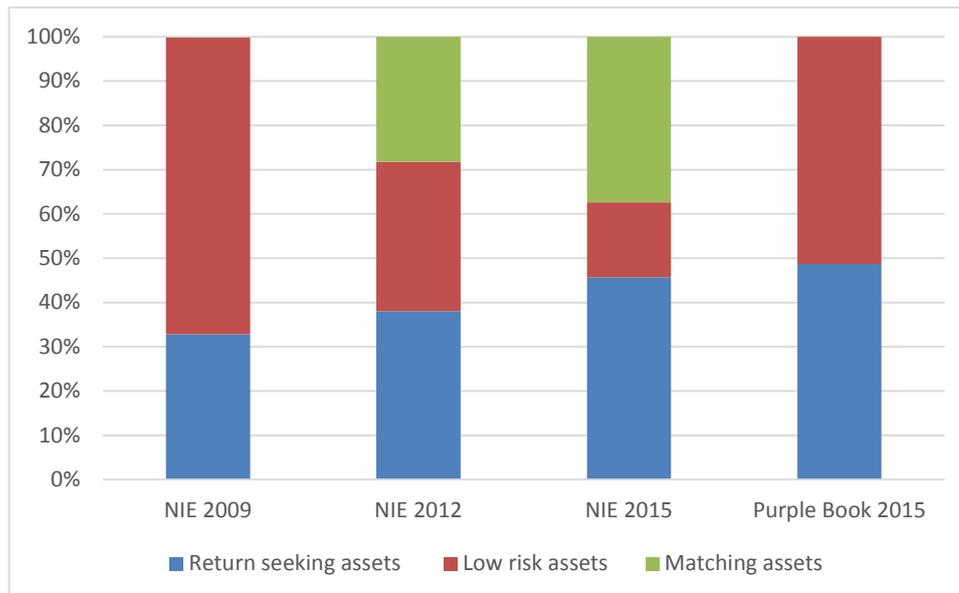
NIEPS' investment strategy

- 4.3 The October 2015 Statement of Investment Principles states that the NIEPS's benchmark investment strategy is as follows:
 - > 20% invested in equities (classed as *return seeking* assets)
 - > 40% invested in absolute return funds (a mixture of *return seeking* assets, low risk assets and *matching assets*)
 - > 20% invested in multi-asset credit funds (classed as low risk assets)
 - > 20% in a LDI portfolio (classed as *matching assets*)



- 4.4 In March 2015, the NIEPS held around 46%⁷ of its assets (by market value) in “*return seeking assets*”. The remaining 54% of its assets were invested in low risk asset classes (including *matching assets* which are chosen as the movement in their value is expected to mirror any changes in the estimated value of the liabilities).
- 4.5 Figure 4.1 shows the NIEPS’s investment allocation by market value at March 2009, March 2012, and March 2015, taken from the relevant RP6 information submitted by NIEN (reflecting information from annual accounts, actuarial valuation reports and funding updates). It also shows the average asset allocation for UK private sector defined benefit pension schemes in 2015, based on Purple Book data⁸. This data is jointly published annually by the Pension Protection Fund (PPF) and The Pensions Regulator. The Purple Book “focuses on the risk faced by Defined Benefit (DB) pension schemes, predominantly in the private sector”.

Figure 4.1: NIEPS’ investments and average allocation for UK private sector defined benefit schemes (Purple Book) – percentage of assets



- 4.6 It is most useful to compare the respective allocations to “*return seeking assets*” (the blue bars in Figure 4.1) for NIEPS in 2015 and the Purple Book 2015.

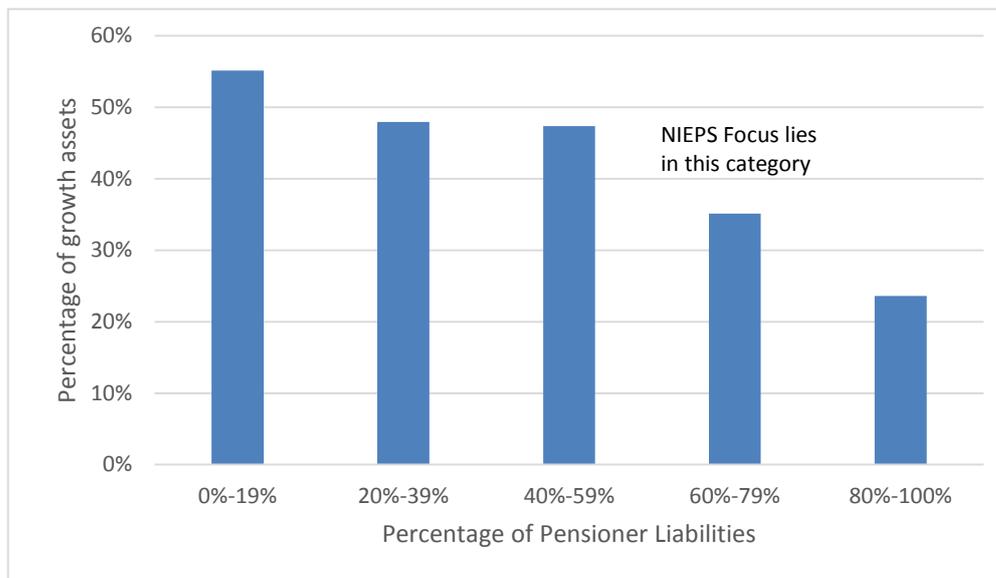
⁷ Note that actual investment allocations can be expected to deviate from the benchmark strategy from time to time due to tactical decisions and short-term investment returns.

⁸ See “[The Purple Book: 2015](#)”, PPF and tPR, Chapter 7. For this purpose, “Other” assets - which represented a 3.7% allocation - have been classified as low risk assets. Different classifications may be possible which could alter the split shown. This point should be recognised in making comparisons and drawing any conclusions.



- 4.7 The Purple Book reports that just under 49% of UK private sector *DB schemes'* assets by market value was invested in *return seeking* assets (including equities, property and hedge funds) on average in 2015. A similar percentage of the NIEPS's assets (46%) was invested in *return seeking* assets compared to the average UK private sector pension scheme which, in isolation, might indicate that it falls within a broadly reasonable range (noting the comments below on scheme maturity).
- 4.8 One of the main factors affecting investment strategy is the maturity of the scheme: all else being equal, a scheme with a more mature liability profile would be expected to invest a lower proportion of its assets in *return seeking* assets.
- 4.9 Chart 7.9 in the 2015 Purple Book illustrates the relationship between investment strategy and scheme maturity, using the percentage of a scheme's liabilities attributable to current pensioners as a proxy for scheme maturity. Figure 4.2 shows approximate figures, based on information in Chart 7.9 in the 2015 Purple Book.

Figure 4.2: UK private sector *DB pension scheme* average investment in return-seeking assets – by percentage of liabilities attributable to current pensioners – percentage of assets



This chart doesn't include the "other" category in Chart 7.9 as the data may arguably be distorted by one large scheme, which shifted a lot of its assets into annuities.

- 4.10 74% of the NIEPS's liabilities at the 2014 funding valuation were attributable to current pensioner members. Figure 4.2 suggests that the average UK scheme with a similar membership profile would have about 35% of its assets invested in *return seeking* assets. On that basis, the NIEPS's allocation of 46% to *return seeking* assets is slightly higher than average, after allowing for scheme maturity. Conversely, a scheme with a strong *employer covenant*, such as the NIEPS, can reasonably adopt a riskier investment strategy in anticipation of being able to generate higher investment returns over the long-term.



- 4.11 Overall, the current NIEPS asset allocation - recognising that the NIEPS is a mature scheme with a strong *employer covenant* - does not appear unreasonable when compared to data covering other UK schemes.

Implications of strategic investment strategy

- 4.12 *Long-term implications* Other things being equal, less (more) investment in *return-seeking* assets implies:
- > lower (higher) long-term expected investment returns; and therefore
 - > an expectation of higher (lower) long-term employer contributions (in order for the scheme's assets to be able to meet future benefit payments); but with
 - > less (more) investment risk; so
 - > potentially less (more) volatile funding outcomes; and therefore
 - > potentially less (more) volatile overall employer contribution rates.
- 4.13 *Short-term implications* One possible consequence of a relatively low (high) investment in *return-seeking assets* is a relatively high (low) employer contribution rate in the short term, due to actuarial valuation assumptions anticipating lower (higher) long-term investment returns.

De-risking strategies

- 4.14 A key feature of the scheme's investment strategy is an objective to de-risk over the longer-term. In other words, the aim is to reduce the allocation to *return-seeking assets* and increase the level of *matching assets*. The advantage of *matching assets* is that they are expected to move broadly in line with changes (up or down) in the value of the liabilities. However, as these assets are considered to be lower risk, the expectation is that returns will be lower – over the long term – than returns earned on higher risk asset classes (for example, equities).
- 4.15 The approach and level of complexity involved in managing a transition to lower risk portfolios can vary considerably. Traditionally, schemes would look to move towards a de-risked position by increasing their allocations to gilts (using suitable proportions of index-linked and fixed interest gilts). In recent years, many private sector *defined benefit schemes* now follow more sophisticated approaches and this is the case for the NIEPS at this review.
- 4.16 In more detail, the common approach to de-risking now involves the use of derivatives, particularly swaps, in order to manage or "hedge" the scheme's exposure to various financial risks. Derivatives are not physical assets but will change the fundamental nature of the scheme's investment portfolio.



- 4.17 As an example, a key risk for pension schemes relates to interest rates. If interest rates decrease, we would expect the present value of pension scheme liabilities to increase. Under a swap arrangement, two parties agree to exchange a series of payments (one will pay a fixed rate and the other will pay a floating rate). At outset, the expected value of the swap for both parties is zero. However, as soon as interest rate expectations change, the value of the swap will no longer be zero. As such, if a scheme agrees to pay floating rate payments under a swap, it will 'profit' if interest rates fall. In that way, in theory the scheme's funding position can be (fully or partially) hedged against falls in interest rates. Conversely, should interest rates rise, whilst the funding position will not worsen (assuming a scheme is fully hedged), the scheme's investment returns would be less than they would otherwise have been.
- 4.18 All schemes have regard to the level of *matching assets* which their trustees believe is appropriate. The NIEPS make use of *liability-driven investment (LDI)* strategies to manage their exposure to risks such as interest rates and inflation. This is consistent with general market practice for larger-sized schemes⁹.

Other considerations

- 4.19 When considering the maturity of the NIEPS, it should be noted that bulk transfers of pension liabilities are likely to have increased the maturity of the scheme further relative to that indicated above (assuming that mainly benefits in respect of active members have been transferred out of the scheme).
- 4.20 The percentage of the NIEPS's assets by market value invested in *return-seeking assets* reflects, in part, changes in market conditions over time. It is therefore not appropriate to place undue weight on the investment allocation at any particular date (also noting that the split between *return seeking* and *non-return seeking* assets is a broad classification and different categorisations may be possible). The strategic benchmark allocation, as stated in the Statement of Investment Principles, provides a better indication of the scheme's longer-term investment strategy. More generally, the simplified analysis presented in this section ignores many detailed risk and return factors that schemes' trustees take into account when deciding on investment strategy.
- 4.21 As noted above, in their consideration of risk, one key factor for the trustees is the financial strength of the sponsoring employer (the *employer's covenant*). All else being equal, a stronger *employer covenant* can support greater investment in *return-seeking assets*, due to the likelihood of the employer being able to meet any future deficits caused by investment losses. NIEN has stated that the NIEPS's trustees' view of its *covenant* is "tending to strong". The NIEPS's level of investment in *return-seeking assets* should be viewed in this context.

⁹ For example, Chart 31 in [Aon Hewitt's Global Pension Risk Survey 2015 UK survey findings](#), shows that only 18% of large schemes (over £1bn of assets) do not have a policy for hedging interest rate and inflation risks.



Limitations of this analysis

- 4.22 The analysis in this section focuses on high-level strategic investment strategy only. It ignores many detailed risk and return factors which schemes' trustees take into account when deciding on investment strategy.



5 Actuarial funding methodology and assumptions

Section summary

The results of a pension scheme's funding valuation and therefore the sponsor's future cash contributions depend significantly on the assumptions made for future experience. It should be noted that assumptions affect the timing of when contributions are payable, rather than the actual long term cost which will depend on experience. This section of the report considers the assumptions adopted for the funding assessment as at 31 March 2014.

A key factor affecting the trustees' choice of valuation assumptions, and in particular the degree of *prudence* incorporated, is the trustees' view of NIEN's *covenant*. NIEN has stated that the NIEPS's trustees' view of its *covenant* is "tending to strong". Therefore, I have assumed that the NIEPS's funding assumptions should incorporate low to normal margins for *prudence*.

In general, the assumptions adopted for the 2011 and 2014 funding valuations of the NIEPS are within a broadly reasonable range and we do not consider the margins for *prudence* reflected in the assumptions to be overly excessive (recognising the scheme's circumstances).

The NIEPS assumed salary increases no longer include any allowance for promotional salary growth. This is said to reflect the company's latest views on future earnings growth. We also note that a mechanism exists whereby NIEN will fund any greater than expected salary increases that lead to a cost strain with the NIEPS.

Introduction

- 5.1 The results of a pension scheme's funding valuation and therefore the sponsor's future cash contributions depend significantly on the assumptions made for future experience. However, all else being equal, assumptions will affect the timing of when contributions are made rather than the actual cost of providing benefits (lower contributions in the short-term will result in higher contributions over the longer-term, and vice versa).
- 5.2 More prudent (or cautious) assumptions place a higher present value on the scheme's liabilities and will result in a higher *Standard Contribution Rate* (SCR), so NIEN's initial cash contributions will be higher. However, more prudent assumptions would be more likely to result in a future valuation surplus and hence lower future contribution rates (assuming that surplus is used to reduce contribution rates rather than to improve members' benefits).
- 5.3 This section of the report considers the assumptions used for the 2011 and 2014 actuarial funding valuations. It compares the assumptions used with publicly available information on other UK private sector *defined benefit pension schemes*. This section considers the DB (Focus) section of the NIEPS.
- 5.4 Appendix C provides some background on scheme funding valuations and assumptions.



Relevance of funding valuation methodology and assumptions

- 5.5 At a high level, the method and assumptions used for funding valuations affect the timing of pension contributions but not the pension scheme's ultimate costs.
- 5.6 However, funding valuation outcomes do affect consumers' utility bills, as:
- > There may be timing issues, if a sudden increase in pension contributions contributes to increased utility bills in the short term;
 - > There are issues of inter-generational equity between consumers over time;
 - > In the event that a prudent funding approach ultimately leads to future scheme surpluses, if such surpluses (or a portion of them) are used to improve members' benefits, then ultimate pension costs increase;
 - > Where different regulatory approaches apply to different portions of a pension scheme's costs or deficit, the allocation (through the funding valuation, using funding assumptions) of costs or deficit to different portions may affect the ultimate split of costs between NIEN (and its shareholders) and consumers.
- 5.7 While individual assumptions are reviewed in turn it is recognised that the overall basis in the round determines the funding valuation results. The analysis in this section focuses on the most significant actuarial assumptions.
- 5.8 It is recognised that funding valuations and assumptions are chosen by the pension scheme trustees, not the sponsor. However, the sponsor has specific roles in scheme funding legislation with regard to being consulted on, and agreeing, funding assumptions and contribution outcomes. UREGNI should be concerned if NIEN's incentives to negotiate with trustees on these matters were weaker than for scheme sponsors in competitive industries.

Employer covenant

- 5.9 An *employer (or sponsor) covenant* relates to the extent of the legal obligation and financial ability of the employer to support the funding requirements and investment risks associated with its pension scheme.
- 5.10 A key factor affecting the trustees' choice of valuation assumptions, and in particular the degree of *prudence* incorporated, is the trustees' view of the *sponsor's covenant*. The greater the trustees' perceived risk of the sponsoring employer's insolvency, the more *prudence* they are likely to apply.
- 5.11 I have not independently assessed NIEN's *covenant* for the purposes of this review. NIEN has stated that the NIEPS's trustees' view of its *covenant* is "tending to strong". Therefore, I have assumed that the NIEPS's funding assumptions should incorporate low to normal margins for *prudence*.



Valuation method

- 5.12 The 2009, 2011 and 2014 funding valuations of the NIEPS used an actuarial method called the projected unit method. This is a standard method which is commonly used for funding valuations. For closed schemes (like the Focus section of the NIEPS), an alternative method (called the *attained age method*) is sometimes used, but that method would be expected to result in higher contribution rates in the short term. The following paragraphs explain this further.
- 5.13 The expected cost of pension benefits accruing to active members, expressed as a percentage of payroll, usually increases with age (although this depends on the actuarial assumptions used to calculate the expected cost). Where a pension scheme is closed to new entrants (like the Focus section of the NIEPS), this would be expected to result in an increase in the average age of active members over time, and hence an increase in the expected cost of benefits accruing to active members, expressed as a percentage of payroll.
- 5.14 If the employer *standard contribution rate* (SCR) is calculated to be sufficient to meet the expected cost of benefits accruing to active members in the few (typically three, as used here) years following the valuation date, then the employer SCR (expressed as a percentage of payroll) would be expected to increase in the future for a closed scheme. Such an approach is called the projected unit method.
- 5.15 Alternatively, the employer SCR could be calculated to be sufficient to meet the average expected cost of benefits accruing to active members for the remainder of their expected working lifetimes. This can result in a higher initial SCR, but with no further increases being expected in the future as the average age of active members increases. This is called the attained age method.
- 5.16 Both the projected unit method and the attained age method are commonly used for funding valuations of closed pension schemes. The fact that the projected unit method has been used for the valuation of the Focus section of the NIEPS is likely to result in lower initial employer contributions than if the attained age method had been used instead. The projected unit method may lead to future increases in the employer SCR as the average age of active members increases, but this should be considered in light of the corresponding expected reduction in pensionable payroll.

Discount rates and pay increases

- 5.17 The *discount rate* is the rate at which a scheme's expected future benefit outgo is discounted for the purpose of an actuarial valuation. That is, to convert a stream of expected future benefit cash flows to a current capitalised (or present) value. It can be thought of as corresponding to an assumed rate of return on assets. The assumed *discount rate* is usually the most important valuation assumption in determining contribution requirements.
- 5.18 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 money now in order to meet future benefit payments. Therefore, the value placed on its liabilities is lower, its *funding level* is higher, and its *standard contribution rate* (SCR) is lower.



- 5.19 Pension scheme valuation outcomes are very sensitive to changes in the *discount rate*. For example, a ½% increase in the *discount rate* could reduce the employer's share of the SCR by 3-4% of pay for a typical scheme.
- 5.20 *Discount rates* are typically set by reference to gilt yields or swap curves plus an allowance for assumed *asset outperformance* of *return seeking assets* relative to gilts or swaps. This is the approach adopted for the 2009, 2011 and 2014 funding valuations of the NIEPS.
- 5.21 A comparison of the assumed *asset outperformance* (relative to gilts or swaps) adopted for schemes' funding valuations provides an indication of the relative *prudence* of the valuation assumptions: all else 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 the assumptions at each valuation. In particular, it should be borne in mind that a scheme with a higher percentage of *return-seeking assets* would, all else being equal, be expected to assume higher outperformance relative to gilts.
- 5.22 In common with many other schemes, the valuation of the NIEPS uses different *discount rates* for valuing benefits in the period up to retirement (in which period, investment in a higher proportion of *return seeking assets* can be expected) and for valuing benefits post-retirement (in which a greater degree of investment in *matching assets* is typically assumed). The assumed *asset outperformance* has therefore been considered separately for the pre- and post-retirement periods.
- 5.23 Table 5.1 shows the outperformance assumptions for both the pre- and post-retirement periods for the NIEPS compared with typical 'average' data, published by the Pensions Regulator.

Table 5.1: expected *discount rate* outperformance above long dated gilt yields, comparison of Focus valuation assumptions and a "typical" range

Actuarial valuation (NIEPS)	Pre-retirement outperformance (% pa)		Post-retirement outperformance (% pa)	
	NIEPS	tPR 'typical'	NIEPS	tPR 'typical'
2009	2.25%	2% - 2.25%	1.0%	0.75% - 1%
2011	2.25%	1.5% - 2%	0.75%	0.5% - 0.75%
2014	2.50%	1.5% - 2%	0.85%	0.5% - 0.75%

- 5.24 The outperformance assumption reflects the expected return on scheme assets. Table 5.1 shows that the level of outperformance (above the expected return on gilts) reflected in the NIEPS' *discount rate* assumptions is towards the higher end, or slightly above, the typical range for UK private sector occupational *DB schemes* (and the level increased slightly between the 2011 and 2014 valuations). It should be noted, however, that higher levels of outperformance are more associated with schemes with a stronger *employer covenant* (such as the NIEPS).



Neutral estimates

- 5.25 In providing information for the RP6 review, the NIEPS included details of the *neutral estimates* from the 2014 valuation. *Neutral estimates* are an indication of likely future experience on a best-estimate basis, rather than on a prudent basis which is required by scheme funding legislation.
- 5.26 The difference between the *neutral estimates* and the valuation assumptions can be used to understand the level of *prudence* adopted in the valuation assumptions.
- 5.27 Aon Hewitt stated that there was a 1% level of *prudence* in the pre-retirement *discount rate* and a 0.15% level of *prudence* in the post-retirement *discount rate*. *Neutral estimates* were not available at previous valuations. This information does not highlight any concerns that are not raised elsewhere in this report.

Assumed rates of price inflation and pension increases

- 5.28 The assumed rates of Retail Prices Index (RPI) price inflation, in the 2009, 2011 and 2014 valuations of the NIEPS are derived using market data, allowing for the differences between yields on fixed-interest gilts and real yields on index-linked gilts. This is a common approach.
- 5.29 An assumption is required for the assumed rates of the Consumer Prices Index (CPI), as pensions are increased by reference to CPI. The 2014 valuation assumes that CPI will be 1.1% a year lower than RPI (slightly higher than the 0.9% a year gap assumed for the 2009 valuation). Estimates of this difference vary between commentators, however a gap of 1.1% a year is within a range that might be considered reasonable.
- 5.30 We note that no allowance has been made for an “inflation risk premium” which could arguably be incorporated into the assumptions (on the basis that breakeven inflation used at the 2014 valuation would, all else being equal, be expected to slightly exceed the future change in the inflation indices). Allowing for such an adjustment might be expected to reduce the assessed value of the liabilities by perhaps up to 5%, say.

Assumed rates of pay increases

- 5.31 The allowance for future pay increases in the funding valuations comprises two elements:
- > Assumed future general (inflationary) pay increases; and
 - > Assumed future pay increases due to promotion and progression.
- 5.32 Higher pay increases will lead to higher pension benefits and increased costs. The assumed rate of future general (inflationary) pay increases is equal to the assumed rate of RPI at the 2014 valuation. This is a decrease from the 2011 valuation assumption of RPI + ½%. Further, the 2014 valuation does not allow for any promotional increases in salary, a change from the 2011 valuation. The report on the 2014 valuation states that the reduction in the assumed rate of pay increases relative to price inflation reflects the Company's latest views on future salary growth.



- 5.33 A Salary Strain Mechanism has been agreed such that the Company will pay additional contributions to the Scheme if salary increases exceed the assumption. The mechanism is described in detail in the Statement of Funding Principles dated 27 May 2015.
- 5.34 The assumed rates of pay increases should reflect NIEN's likely future long-term pay awards. I do not have any independent data available on such awards.
- 5.35 The assumption that salaries will not increase as much as previously thought will decrease the reported *Technical Provisions* (or scheme liabilities), hence improving the reported *funding level*. However, it is important to note that the Company will be responsible for meeting any future shortfall on the Salary Strain Mechanism. This mechanism might therefore be a useful tool in monitoring pensions (and general remuneration) costs.

Assumed longevity

- 5.36 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.
- 5.37 Figures 5.1 and 5.2 show the expected age at death for a 65 year old male pension scheme member at the valuation date (in Figure 5.1) and for a male pension scheme member retiring at age 65 twenty years after the valuation date (Figure 5.2). The dates chosen coincide with the funding valuation reports in 2009 and 2014 and the actuarial report produced by Aon Hewitt which reflects the *PDAM cut-off date* of 31 March 2012. We understand that the 2012 expected age at death figures were calculated using the mortality assumptions stated in the 2011 funding valuation. Figures 5.1 and 5.2 also show the corresponding data published by the Pensions Regulator on the range of longevity assumptions used for funding purposes by UK private sector *defined benefit pension schemes*.
- 5.38 The Pensions Regulator¹⁰ data in Figures 5.1 and 5.2 are shown separately for valuation dates (September to September years in each case). For each year, the following statistics are shown:
- > The 5th percentile of schemes (bottom of the block);
 - > The median of schemes (boundary between the two colours); and
 - > The 95th percentile of schemes (top of the block).

¹⁰ "Scheme Funding Statistics" (tPR), June 2016.



Figure 5.1: Assumed expected age at death for a 65 year old male at the valuation date, from tPR data (September to September, the 5th percentile, median and 95th percentile) and for the 2009, 2011 and 2014 valuation of the NIEPS – years

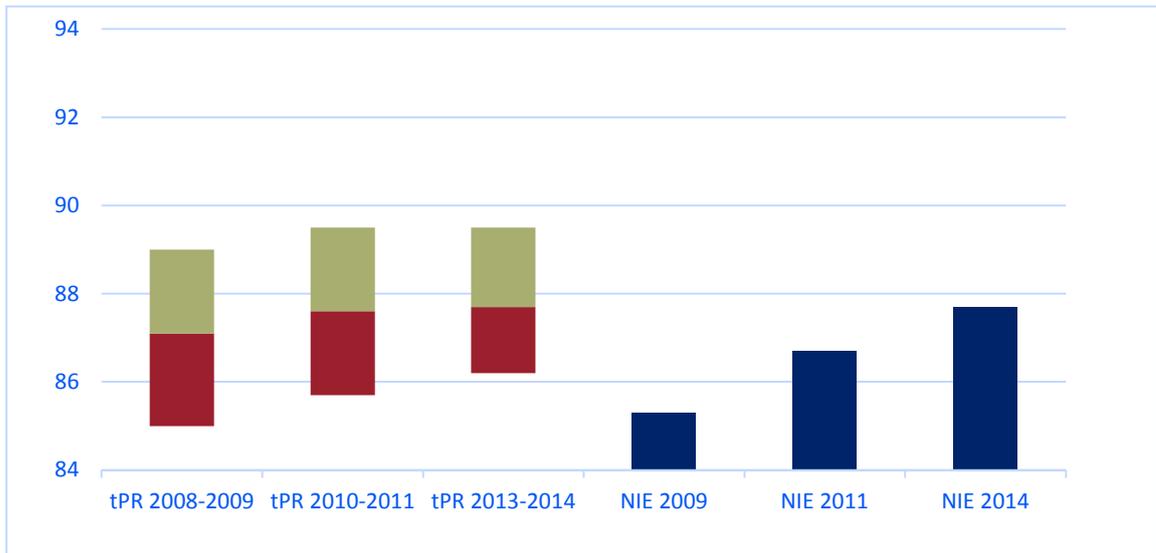
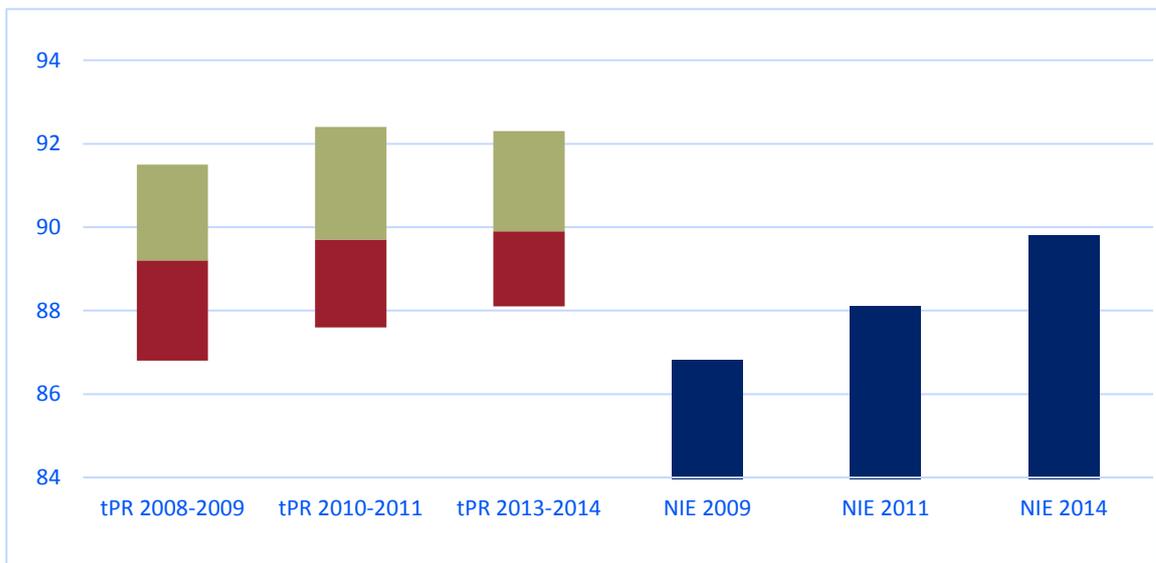


Figure 5.2: Assumed expected age at death for a male retiring at age 65, 20 years after the valuation date, from tPR data (September to September years, the 5th percentile, median and 95th percentile) and for the 2009, 2011 and 2014 valuation of the NIEPS – years



5.39 Figures 5.1 and 5.2 show that longevity assumptions reflected in actuarial valuations carried out between September 2008 and September 2014, increased over the period, according to the Pensions Regulator's data.



- 5.40 Figures 5.1 and 5.2 show that the assumed expectations of life at the 2014 valuation were broadly in line with most other schemes, based on the Pensions Regulator's data for 2013-14 valuations. The charts show that the increase in assumed life expectancies between 2008-09 and 2013-14 was greater for NIEPS than the increase implied by the Pensions Regulator's data. The report on the 2014 NIEPS valuation states that the mortality assumptions were updated "to reflect the Scheme's pensioner mortality experience and postcode analysis since the last valuation" and that the future improvements were updated to "reflect the latest research".
- 5.41 Assumptions for future mortality improvements, adopted for the 2014 NIEPS valuation¹¹, were based on standard tables produced by the Continuous Mortality Investigation (CMI)¹². Table 5.5 of the "[Scheme Funding Statistics](#)" (Appendix (tPR), June 2016) indicates that over 90% of DB schemes were basing their assumed mortality improvement rates on CMI projections, for valuations with effective dates between September 2013 and September 2014.
- 5.42 Overall, the allowance made for future longevity improvements appears to be in line with that adopted by other UK DB pension schemes (at earlier valuations, it had been noted that the assumed life expectancies for NIEPS members were lower than the corresponding averages for other schemes).

Other Factors

- 5.43 A number of other actuarial assumptions affect the results of an ongoing funding valuation. These include the allowance made for commutation and the assumed rates of ill-health retirement. I have not reviewed each such assumption in detail, but there are no unusual features to note.
- 5.44 For this review, there have been no fundamental changes in valuation methodology or assumptions from those used previously. This provides comfort that NIEPS have not changed approaches significantly in order to disproportionately attribute risk to consumers.

Limitations of this analysis

- 5.45 The analysis in this section focuses on key valuation assumptions. It ignores many detailed factors which schemes' trustees' take into account when deciding on funding assumptions. It is recognised that a scheme's funding approach should reflect its, and its sponsor's, particular circumstances. This review is solely intended to highlight where UREGNI may wish initially to seek further information on the approach adopted. It should not be interpreted as advising that a particular approach is necessarily inappropriate for funding purposes.

¹¹ Improvements were based on "CMI2013 Core Projections with a long term rate of improvement of 1.5% per annum".

¹² The Continuous Mortality Investigation (CMI) carries out research into mortality and its projections are published by the actuarial profession.



6 Actuarial funding valuation results

Section summary

NIEN's employer *Standard Contribution Rate* (SCR) is slightly higher than the average for other schemes. This is consistent with the NIEPS's benefits being slightly more generous than average and may also reflect the age profile of the active membership. The NIEPS's *funding levels* at the 2009, 2011, and 2014 valuations are similar to, if not slightly higher than, the average *funding levels* for other UK private sector *DB schemes*. In both cases, data should be used with some caution.

Following the 2014 valuation of the NIEPS, NIEN is required to pay *deficiency contributions* in addition to the normal ongoing contributions, over an 8 year period until March 2022. An 8 year deficit *recovery period* is within a "typical" range when compared to data from the Pensions Regulator. A revised recovery plan may need to be agreed at the 2017 valuation (or subsequent valuations), and if so the appropriate *recovery period* length will have regard to relevant considerations at the time.

Section 8 (RP6 allowances) provides comments on the interaction between *recovery periods* agreed at formal funding valuations and pension cost allowances set at price control reviews.

Introduction

- 6.1 This section discusses the results of the 2009, 2011 and 2014 funding valuations of the NIEPS, which determine NIEN's cash pension contributions. It considers the DB (Focus) section of the NIEPS only. It also comments on changes in the *funding level* and SCR between valuations.
- 6.2 The results of the 2011 funding valuation determined the contributions payable for the majority of the RP5 price control period. The results of the 2014 funding valuation determine NIEN's pension contributions going forward, although they will be subject to change at the 2017 funding valuation. This section also comments on subsequent events which may affect future pension costs.

Table 6.1: NIEPS 2011 and 2014 funding valuation results (Focus section)

	2009 valuation	2011 valuation	2014 valuation
Employer's share of SCR (% of pay) ^{1,2}	24.7%	26.9%	28.3%
<i>Funding level</i> (%) ¹	74%	91%	90%
Length of deficit <i>recovery period</i> ¹	13 years	11 years	8 years

¹ Please refer to the glossary in Appendix E for definitions of these terms.

² Excluding the allowance for expenses.



Comparison with other schemes

- 6.3 ONS data¹³ suggests that the average employer *standard contribution rate* (SCR) to private sector *DB pension schemes* was 20.9% of pay in 2014. This can be compared with the rate of 26.9% of pay for the NIEPS following the 2011 valuation (which would have remained payable during 2014).
- 6.4 This data suggests that NIEN's SCR is slightly higher than the average for other schemes, while being within a reasonable range. To the extent that the NIEPS's benefits are slightly more generous than those provided by a typical scheme (see section 3), while the funding valuation assumptions are broadly consistent with those used by other schemes (see section 5), this is to be expected. Further, SCRs are higher for older members, so any difference between the average age of the active NIEPS membership and comparator schemes, would be reflected in the respective SCRs.
- 6.5 The ONS data should be used with some caution. In particular, the average rate includes schemes where no standard contributions are payable, it excludes some contributions payable as fixed amounts, and comparisons across schemes might be confused by different treatments of deficit recovery contributions and administration expenses. Therefore, such data should be considered indicative only.
- 6.6 PPF and tPR data¹⁴ allows a comparison of the March 2011 and March 2014 NIEPS *funding levels* to be made against the average UK private sector *DB schemes' funding levels* (around 88% and 89%, respectively). The NIEPS's *funding levels* shown in Table 6.1 are higher than these levels.
- 6.7 This PPF and tPR data should also be used with some caution, as the *funding levels* on a scheme funding basis have been calculated approximately based on the historic relationship between such results and *funding levels* calculated on other bases.

Increase in SCR

- 6.8 The employer's share of the SCR increased from 24.7% of pay to 28.3% of pay between the 2009 and 2014 funding valuations.
- 6.9 The valuation reports do not provide a full analysis of this increase. However, the increase is likely to be due to reductions in the *discount rate* (as gilt yields have fallen), an ageing of the membership and changes in demographic assumptions (due to an increase in assumed longevity). These effects were partially offset by the changes in some of the financial assumptions (for example, the decrease in the assumed rate of general salary growth relative to price inflation) which in isolation would have reduced the SCR.

¹³ "Occupational Pension Schemes Survey 2014", Office for National Statistics (ONS), Section 10.

¹⁴ "The Purple Book: DB pensions universe risk profile 2016, PPF and tPR – Section 12

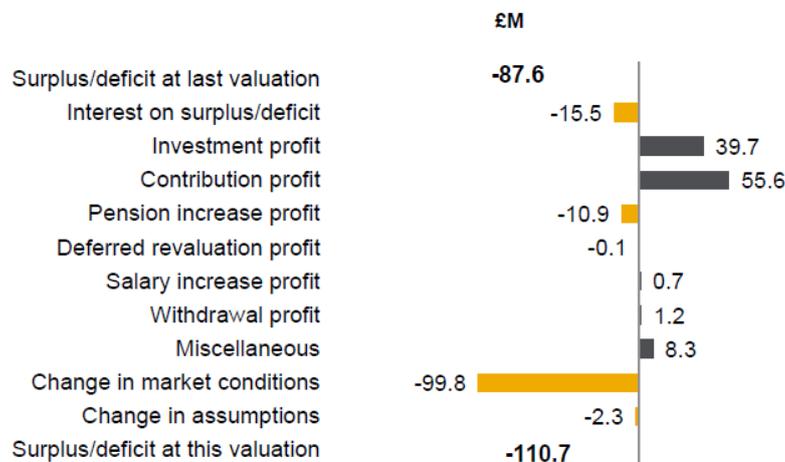


Movement in surplus or deficit between the 2011 and 2014 funding valuations

6.10 Figure 6.1 shows the principal reasons for the increase in the NIEPS's deficit from £87.6 million as at 31 March 2011 to £110.7 million as at 31 March 2014, as shown in the report on the 2014 funding valuation:

Figure 6.1: NIEPS funding valuations – change in valuation surplus (deficit) between the 2011 and 2014 valuations

The chart below shows the key reasons for the change in funding position.



6.11 Figure 6.1 shows that the principal reason for the increase in the deficit between the 2011 and 2014 valuations was the change in market conditions, in particular the fall in real gilt yields, which caused the liabilities (or “*Technical Provisions*”) to increase significantly and therefore increase the deficit.

6.12 The increase in the deficit was partially offset by a gain of £95.3 million due to additional *deficiency (or deficit) recovery* contributions paid by NIEN and investment profit (the return on assets exceeded the rate expected at the 2011 valuation).

Deficiency (or deficit) contributions

6.13 The valuation deficit of £87.6million as at 31 March 2011 was expected to be met by additional employer contributions of:

- > £12.74 million in monthly instalments from 1 April 2011 to 31 March 2012; and then
- > £15.38 million a year payable until 31 March 2022 (amounts are increased in line with RPI)

6.14 The valuation deficit of £110.7 million as at 31 March 2014, did not lead to a change in the schedule of contributions agreed following the 2011 valuation, as the existing payment stream was expected to remove the deficit by 31 March 2022.



Comments on the recovery period

- 6.15 At the most recent valuation in March 2014, the length of the deficit *recovery period* was 8 years (the final deficit payment is due on 31 March 2022). Data¹⁵ published by the Pensions Regulator provides information on typical deficit *recovery period* lengths (covering valuations with effective dates between 22 September 2013 and 21 September 2014). Page 6 of the scheme funding statistics paper notes that the average *recovery period* length was 8.0 years for schemes with a deficit. This is in line with the 8 year period reflected in the scheme's latest recovery plan from the 2014 valuation. Accordingly, the length of the NIEPS deficit *recovery period* can be considered reasonable in the context of general practice.
- 6.16 It should be noted that, all else being equal, the length of the deficit *recovery period* will affect the pace of funding, rather than the long-term cost of providing benefits. A shorter *recovery period* will lead to higher contributions in the short-term and vice versa. There is no simple actuarial answer as to what a "correct" deficit recovery should be. Typically schemes with stronger *employer covenants* are associated with shorter periods, however we also note that there are regulatory issues which may need to be taken into consideration (for example, wanting to adopt a period which strikes a fair balance for different generations of consumers).
- 6.17 A new *recovery period* may need to be agreed if there is a deficit at the 2017 valuation (or at subsequent valuations), and I understand that current expectations suggest that a deficit outcome is likely. Any *recovery period* agreed between the NIEPS trustees and NIEN will reflect relevant considerations at the time, and it may be considered appropriate for the *recovery period* to be extended beyond 31 March 2022 (when the final deficit payment under the existing schedule of contributions is due).
- 6.18 At this review, the latest available formal funding valuation results are those as at 31 March 2014. It is recognised that the *recovery period* agreed at the latest formal funding valuation before the price control review will directly impact the pension cost allowances requested. Further comments on this interaction can be found in section 8 (RP6 allowances) of this report.

¹⁵ <http://www.thepensionsregulator.gov.uk/docs/scheme-funding-2016.pdf>



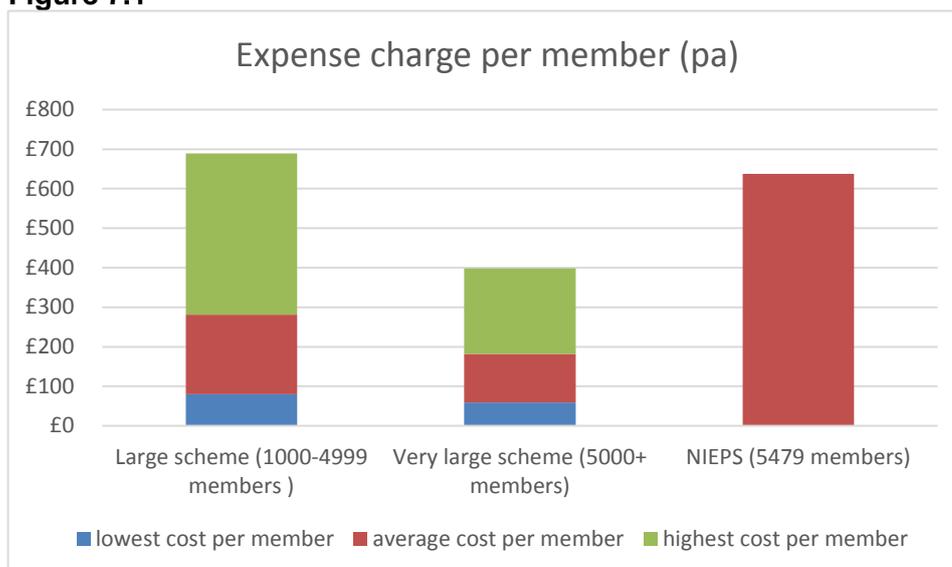
7 Scheme expenses

Section summary

Scheme trustees have a duty to monitor expenses and ensure the level incurred is reasonable. Our analysis of the total expenses incurred by the scheme recently, indicate that they are higher than average, when compared to the data from the Pensions Regulator. We suggest that the Utility Regulator discusses this aspect with NIEN to understand the reasons why expenses are above average so it can consider whether any further action is appropriate.

- 7.1 The terms of reference state that GAD should identify where scheme administration and investment management costs are materially out of line with industry figures in the period under review. We have reviewed the information submitted by NIEN for this purpose. It is important to ensure the costs are not excessive and represent value for money.
- 7.2 We have compared the average annual level of expenses incurred by the NIEPS between 2012 and 2016 (aligning broadly with the RP5 period) with data published by the Pensions Regulator. The expenses data is classified according to scheme size to enable a more informative comparison (larger schemes are expected to have lower per member expenses charges). Accordingly, NIEPS expenses are compared with expenses incurred by schemes of a similar size; that is with very large schemes (over 5,000 members) and large schemes (between 1,000 and 5,000 members).
- 7.3 Figure 7.1 below compares the annual cost per member for total administrative and investment management charges.

Figure 7.1





- 7.4 As can be seen from Figure 7.1, average NIEPS expense costs appear high when compared to the sample data, noting that:
- > NIEPS expense costs exceed all those within the sample of very large schemes, and
 - > NIEPS expense costs are close to the level of the highest individual scheme cost within the sample of large schemes. NIEPS expense costs are significantly higher than the average “large scheme” expense costs (£638 per member versus £281 per member).

- 7.5 Given this comparison, we suggest that the Utility Regulator discusses this aspect with NIEN to understand the reasons why expenses are above average so it can consider whether any further action is appropriate. More granular expense comparisons are possible (for example, looking at breakdowns by administration, investment and adviser fees etc). We note that the investment management expenses appear to represent a relatively high proportion (around $\frac{3}{4}$) of the total, however in the first instance it seems appropriate to seek a better understanding of why overall expenses are above average.

Expense treatment in PDAM

- 7.6 It is useful to note that controlling administration and investment expenses is the responsibility of the NIEPS trustees. In allocating expenses between the pre and post *cut-off* date subfunds under the *PDAM* framework, expenses have been allocated pro-rata to the liability value in each subfund, as at the last actuarial valuation. Accordingly, any gain (or loss) emerging in respect of expenses will be allocated mainly to the pre *cut-off date* subfund to reflect the higher liability in that subfund (that is, to the subfund where the cost is supported by consumers rather than NIEN).
- 7.7 We note that between 31 March 2012 and 31 March 2014, administration expenses and *PPF levies* have been identified explicitly in the determination of the pre and post *cut-off* date subfunds. Investment management charges are allowed for within the investment return item. We understand that any higher than expected expense charges incurred would result in a lower asset value (and increased deficit) in the pre *cut-off* date subfund. As part of discussions with NIEN on expenses, we suggest that the Utility Regulator considers ways in which future (component) expense items can be monitored to ensure that they are incurred at a reasonable level.

PPF levies

- 7.8 In addition, NIEN pays the NIEPS's *Pension Protection Fund (PPF) levy*. The scheme is required to pay a levy, the amount has been between £250,000 and £300,000 a year from 2012 to 2014. A detailed check of these amounts is beyond the scope of this review, however the calculation of the annual amount is prescribed so we have no reason to doubt the accuracy of the amounts paid.



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- 7.9 Whilst the *PPF levy* represents a relatively small proportion of the cost of financing a pension scheme, we would still expect efficient employers to take steps to reduce the annual amount payable. We note that NIEN's RP6 submission states that a bespoke investment stress test was performed and a deficit reductions contributions certificate (DRCC) was submitted through the Pension Regulator's Exchange website. We would expect to see such steps being continued in future and for the scheme to explore other ways in which levy might be reduced (for example using asset backed contributions, which take account of contingent assets pledged to the pension scheme to reduce the levy).
- 7.10 The Utility Regulator should note that the trustees' role will involve monitoring expenses regularly to ensure they are reasonable and governance processes should be in place to ensure this happens.

Limitations of this analysis

- 7.11 The comparison of expenses in this section is necessarily simplified and we recognise that it may not take into account all factors affecting scheme expenses. However, we expect that a high level comparison of expenses between the NIEPS and other schemes will be a useful exercise in helping to understand any differences.



8 RP6 allowances

Section summary

NIEN have requested £84million in pension allowances for RP6. The Utility Regulator will need to consider whether it is content to allow for the “deficit” contributions requested by NIEN which extend beyond the term of the existing deficit *recovery period* (31 March 2022). Disallowing the “deficit” contributions beyond 31 March 2022 will reduce the requested pension allowance to £58.9million.

These contributions are being requested because the deficit currently anticipated at the 2017 valuation exceeds that expected at the 2014 valuation. At RP5, to address this feature it was envisaged that any difference between actual and expected costs would be allowed for at the following price control review.

The Utility Regulator will need to decide if it is content to allow these additional contributions and consider any implications for future price control reviews as well as wider regulatory issues. This section also comments on some other factors which affect the amount of the allowances and the Utility Regulator will need to consider its position for each factor.

- 8.1 The terms of reference require GAD to review the pension cost allowances requested by NIEN for RP6 and identify areas where adjustments are required. The amount of the pension cost allowances is affected by a number of factors, some of which are non-actuarial, or specific to price control reviews. Accordingly, the Utility Regulator, rather than GAD, will need to decide whether the pension cost allowances requested are reasonable, or whether they should be adjusted.
- 8.2 NIEN have calculated that the total pension deficit contributions expected to be payable during RP6 as £114.5million, ignoring the early retirement deficit contribution adjustment. NIEN are requesting an allowance for pensions of £84million for RP6. It should be noted that this figure includes deficit contribution payments which extend for two years beyond the existing deficit *recovery period*. The extra two years' contributions are being requested because the deficit currently anticipated at the 2017 valuation exceeds that expected at the 2014 valuation.
- 8.3 The allowances might be adjusted, if the Utility Regulator believes the approach to funding or benefit provision in the NIEPS is unreasonable, having considered the comments in the previous sections of this report.
- 8.4 Additionally, the amount of the pension cost allowances is also affected by a number of other factors, specific to price control reviews. The following paragraphs summarise GAD's comments on the points which are specific to RP6. As most of the issues are not actuarial, the Utility Regulator will need to consider the appropriate treatment in each case.



Pension Deficit Allocation Methodology (PDAM)

- 8.5 The RP6 pension cost allowances requested by NIEN reflect a number of decisions made by the Competition Commission (since replaced by the Competition and Markets Authority) at RP5. In particular, it was decided that pension cost allowances should be determined using a similar approach to that used by Ofgem, by adopting their *Pension Deficit Allocation Methodology (PDAM)* framework.
- 8.6 The *PDAM* framework involves creating two notional subfunds within the scheme. One subfund is used to track assets and liabilities attributable to benefit accrual up to a “*cut-off date*” (for NIEPS, the “*cut-off date*” is 31 March 2012), and the other subfund is used to track assets and liabilities attributable to benefit accrual after the “*cut-off date*” of 31 March 2012.
- 8.7 In determining pension cost allowances, any deficit which emerges in the pre “*cut-off date*” subfund (referred to as the “*established deficit*”) will be fully funded by consumers. Conversely, any deficit emerging in the post “*cut-off date*” subfund (referred to as the “*incremental deficit*”) will be solely the responsibility of NIEN's shareholders.
- 8.8 Information setting out NIEN's allocation of assets and liabilities based on the *PDAM* framework was provided in Aon Hewitt's report of 3 June 2016. We have reviewed the allocation based on a “*cut-off date*” of 31 March 2012 and changes in assets and liabilities between the “*cut-off date*” and 31 March 2014 when a full valuation was completed. In reviewing this allocation, we have considered information contained in the actuarial valuation reports, scheme accounts, relevant market data and documentary *PDAM* guidance. Overall, we have not identified any significant areas for concerns, however the Utility Regulator will need to decide if it is content with the application of the *Regulatory Fraction* and the adjustments for the *Early Retirement Deficit Contributions (ERDCs)* and the *article 75 payment* (see comments below).

Early Retirement Deficit Contributions (ERDCs)

- 8.9 Between 1997 and 2003, when the NIEPS was in surplus, early retirement benefit enhancements were granted, increasing the scheme's liabilities, but no additional contributions were paid into the scheme at the time. At RP5, following extensive consideration, it was decided that shareholders should fund part of these unfunded liabilities by disallowing 30% of deficit repair contributions. It was noted that a case could be made for an allocation of between 23% and 45%, however a 30% allocation was adopted on the basis that no compelling evidence was presented that the overall effect of this was either too harsh or too generous.
- 8.10 NIEN allowances requested for RP6 have been derived consistently with the RP5 decision that 30% of the historic unfunded *ERDC* liabilities should be funded by shareholders. As a non-actuarial issue, it is for the Utility Regulator to decide whether it wishes to revisit the appropriateness of a 30% allocation. We are not aware of any further information that has become available since the last review.



Regulatory Fraction / article 75 payment

- 8.11 The *Regulatory Fraction* is used to allocate pension costs which are deemed to be associated with regulated activities. NIEN's RP6 submission reflects an allowance for a pre-adjusted *Regulatory Fraction* of 99.26% (in line with the final RP5 determination) which is used to calculate the position in the pre *cut-off date* subfund, and identify the *established deficit*. At RP5, following extensive consideration, out of the options proposed, it was decided that a 99.26% allocation was appropriate. As this is not an actuarial issue, the Utility Regulator, will need to decide whether it wishes to revisit this allocation for RP6. To illustrate the materiality of this decision, should a *Regulatory Fraction* of 100% - rather than 99.26% - be used the total RP6 allowance amount requested would rise by £0.8million to £84.8million.
- 8.12 We note that a 3.7% adjustment has been applied in respect of an *article 75 payment* (as Powerteam Electrical Services (UK) Ltd ceased to participate in the scheme on 24 December 2013) which will increase the proposed RP6 allowances. The total scheme deficit has been split according to regulated or non-regulated status. NIEN have adjusted the *Regulatory Fraction* so that the surplus emerging in respect of the PES *article 75 payment* is treated as non-regulated surplus (and so increases RP6 allowances). The Utility Regulator will need to consider whether it is content with the proposed adjustment to the *Regulatory Fraction*. To illustrate the materiality of this decision, if this adjustment was also removed for RP6 and a 100% *regulatory fraction* was used throughout, the amount requested would decrease by £3.3million to £80.7million.

Adjustments for RP5

- 8.13 We have reviewed the scheme experience over RP5 and, in particular note that the payment of deficit contributions has been in line with the RP5 allowances. Further, we have not identified any actions taken by the company which have resulted in an avoidable, material, increase in the pension scheme costs which are underwritten by consumers. Overall, other than the points discussed in the preceding paragraphs, we have not identified any areas in respect of RP5 experience, that we would expect to result in an adjustment to the requested RP6 pension cost allowances.

Recovery periods and cost allowances

- 8.14 As formal funding valuations operate on a triennial cycle, they do not coincide with price control review periods (which usually involve a period of 5 to 6 years). Accordingly, it can be expected that actual pension costs incurred by NIEN will vary from those anticipated at the beginning of a price control review following the completion of funding valuations during the price control review period. The effect can work in either direction; actual (deficit) funding costs may reduce if scheme experience is more favourable than expected, or costs can increase if scheme experience is poor.
- 8.15 At RP5, to address this feature, it was envisaged that the difference between actual costs and expected costs (those reflected in the pension cost allowances) would be reflected in an adjustment at the following price control review on a neutral basis.



- 8.16 In its RP6 submission, NIEN have requested allowance for “deficit” contributions for a further 2 years, beyond 31 March 2022, which is when the final deficit payment is due under the existing schedule of contributions. We understand that this request is made because recent funding updates have indicated that the funding position has not improved in line with expectations at the 2014 valuation (otherwise we would expect no deficit to remain beyond 31 March 2022). The current expectation is that the 2017 valuation may reveal a substantial deficit, which could lead to deficit recovery payments being required beyond 31 March 2022.
- 8.17 The Utility Regulator will need to consider whether it is content to allow for projected “deficit” payments beyond 31 March 2022. At RP5, it was decided to align allowances in the price controls with the existing NIEPS payment schedule (which was up to 31 March 2022). As the funding deficit in respect of benefit accrual up to 31 March 2012 is effectively underwritten by consumers, the Utility Regulator may be content to allow for payments beyond 31 March 2022, recognising that this issue is mainly a timing point, and there may be wider regulatory implications – for example, cashflow constraints or materiality - that might reduce how efficiently NIEN can operate if the payments requested are disallowed.
- 8.18 Conversely, the Utility Regulator might decide that it would be reasonable to not allow for deficit payments beyond the term of the existing schedule of contributions, recognising that it is usually preferable to rely on information from the latest formal funding valuation, and as noted above that a mechanism already exists that would adjust for any under (or over) provision of contributions on a neutral basis at the next price review.
- 8.19 If “deficit” contributions beyond 31 March 2022 are to be allowed for, the Utility Regulator will need to consider implications for future reviews; for example, to what extent should it allow for information after the latest formal triennial valuation (which could show an improvement or worsening of the funding position) and how will future allowances be adjusted to reflect the more recent information. The Utility Regulator should also consider how any future surpluses emerging can be used to benefit consumers who are currently underwriting the “*established deficit*”.
- 8.20 This decision has a significant impact on the RP6 allowance. If the deficit contributions between March 2023 and March 2024 were disallowed, with all other decisions remaining the same, the amount requested by NIEN would decrease by £25.1million to £58.9million

Split of costs – Transmission and Distribution

- 8.21 In setting RP6 allowances, a split between Transmission and Distribution sections of the business is required. We understand the RP5 allocation of pension costs was 92% to the Distribution side and 8% to the Transmission side. As this is not an actuarial issue, GAD cannot make a recommendation on this point. The appropriate distribution will need to be decided by the Utility Regulator.



9 Incentives and efficiencies

Section Summary

The shareholders are fully responsible for any surplus or deficit established in the post *cut-off date* (31 March 2012) subfund and so NIEN's interests are arguably more aligned to consumers than previously.

We note that NIEN's ability to manage the *established deficit* in the pre *cut-off date* subfund is limited due to the majority of its active members being covered by *Protected persons* legislation, or having left active service. However, we would still expect an efficient company to be exploring options to reduce, or manage, the cost of running its pension scheme.

The long term cost is determined by the generosity of scheme benefits and the performance of scheme assets. Regular reviews and monitoring will help mitigate against company actions that increase costs unnecessarily. Further, the Utility Regulator should consider whether any recent initiatives introduced by other Regulators, for example Ofgem, might usefully be adopted in its regulatory approach.

- 9.1 The terms of reference require GAD to identify any areas where NIEN might be able to operate its pension arrangements more efficiently.
- 9.2 It is important to recognise that pensions is just one aspect of remuneration and it can be a valuable tool for attracting and retaining valued staff, and can support efficiency exercises such as staff restructures.
- 9.3 Following the introduction of the *PDAM* framework, the shareholders are fully responsible for any surplus or deficits established in respect of the post *cut-off date* subfund. This should act as an incentive for NIEN to operate the pension scheme efficiently.
- 9.4 We recognise that NIEN's ability to manage the *established deficit* in the pre *cut-off date* subfund is limited due to *Protected persons* legislation and the scheme's mature membership profile. We understand that approximately only 7.5% of active members in NIEPS do not have a protected member status. However, it would be reasonable to expect an efficient company to explore any opportunities to mitigate unnecessary costs by considering an increase in member contributions or reforming scheme benefits, for the group of staff (around 30 individuals) who are not subject to *Protected persons* legislation.
- 9.5 NIEN could also be encouraged to consider liability management exercises such as exchanging future pension increases for a one-off cash lump sum, or providing enhanced transfer values. These initiatives are used by other scheme sponsors.
- 9.6 As mentioned previously, the scheme expenses look to be higher than the average expenses for schemes of a similar size. Whilst these costs only account for a small proportion of the overall costs, it may be possible to identify clear savings in this area.



- 9.7 The long term cost is determined by the generosity of scheme benefits and the performance of the scheme assets. Regular reviews and monitoring will help mitigate against any company actions that increase costs unnecessarily (e.g. *benefit augmentations*) and identify where the scheme appears to be adopting excessively cautious funding or investment strategies.

Recent approaches by other regulators

- 9.8 The Utility Regulator could consider the merits of approaches used by other regulators to incentivise their regulated companies to manage their pension schemes more effectively.
- 9.9 A key cost determinant in funding the scheme is the investment strategy and identifying the optimal level of strategy risk. In developing their approach within the *PDAM* framework, Ofgem have challenged their regulated companies to demonstrate that they have taken consumer interests into account in setting strategies. Further, they have challenged companies to demonstrate that good governance procedures are in place and that schemes' running expenses are demonstrably value for money. The Utility Regulator may wish to adopt a similar approach.
- 9.10 Ofgem have consulted on its approach to pensions twice in recent years (May 2015 and March 2016). Although no decisions have been published following the latest consultation, some of the content may inform the Utility Regulator's approach at this review and in future, noting that Ofgem use the *PDAM* framework.
- 9.11 We note in particular that Ofgem had previously envisaged pension scheme deficits being repaid over a fixed 15-year period. However, having identified some potential issues with the use of a fixed 15-year period and a "stop dead" date (for example, use of excessive margins for *prudence* in actuarial valuations carried out in the run up to the "stop dead" date), Ofgem's expected future direction will include more flexibility by not specifying what the *recovery period* should be, provided it is funded over a reasonable period. In considering whether a fixed "stop dead" date might apply for NIEN, the Utility Regulator should have regard to the issues identified by Ofgem and its refined approach.
- 9.12 At RP5, the NIEPS deficit was expected to be removed over the period up to 31 March 2022. Currently, there is an expectation that the 2017 valuation outcome will lead to deficit recovery payments continuing beyond 31 March 2022. We understand that, where requests for deficit contributions extend beyond the term anticipated at the previous price control review, the Utility Regulator will expect NIEN to demonstrate robustly why additional deficit contributions are required.
- 9.13 In determining pension cost allowances for RP6, the Utility Regulator will need to consider whether it is reasonable to allow for "deficit" payments over an extended term, and how any adjustments at RP7 (to recognise a change in contributions payable, triggered at valuations during RP6) will be applied.



- 9.14 Other regulators have taken different approaches to their price reviews to incentivise regulated companies to act efficiently. In contrast to the Ofgem approach, Ofwat disallowed 50% of deficit contributions as it believed this would create a stronger alignment between the shareholders and consumer interests. Ofwat have also stated that they will allow no more deficit contribution payments beyond the end of the recovery plans agreed in 2009 (effectively introducing a fixed end point for consumer support of pension scheme deficits). The end dates for these recovery plans typically range from 2019 to 2025.
- 9.15 Further, we are aware that Ofcom disallowed all deficit contributions in determining pension cost allowances for BT. The regulatory approach on this point appears quite wide. The Utility Regulator should consider if any changes to its existing *PDAM* approach might be appropriate in light of wider industry practice, however, we recognise that this may be impractical due to commitments made at previous price reviews.



Appendix A: Objectives of the review

A high level summary of the requirements for this review, based on the Terms of Reference, as described in the Review of Northern Ireland Electricity Networks Pension allowances for the RP6 price control period – Work Package 1, is set out below.

Requirement 1 - RP5 and previous price control adjustments

- > Consider whether there should be any adjustments in respect of RP4 or RP5. Assess pension performance and allowances over RP5 compared to regulatory allowances and assumptions and whether there should be any required adjustments for RP6.

Requirement 2 - pension valuation

- > Perform an assessment of the reasonableness of the most recent NIEPS actuarial valuation, assessing underlying methodology and assumptions.
- > Review the reasonableness of the investment portfolio, comparing to similar companies and utilities,
- > Review whether the scheme's benefits, funding methodology, assumptions, *funding level* or standard contributions are outside of the expected range compared to industry peers and regulated entities.

Requirement 3 - pension scheme deficit recovery programme

- > Consider the appropriateness of the pension deficit recovery programme, the derivation of the *established* and *incremental deficits*, and the recovery programme proposed by NIEN in RP6. Identify any alternative approaches and comment on implications for future price controls.

Requirement 4 - current pension scheme contributions

- > Perform an assessment of the reasonableness of the current contributions (including expenses) for both the Options and Focus schemes, separately.

Requirement 5 - additional areas

- > Comment on the incidence and reasonableness of other factors affecting the pension cost allowance amounts requested by NIEN for RP6
- > Identify any scope to implement efficiencies or incentives in NIEN pension arrangements



Appendix B: Information used for the review

Information regarding the NIEPS

1. The Scheme Actuary's actuarial valuation reports as at 31 March 2009, 2011, 2014;
2. The Scheme Actuary's actuarial reports (funding updates) as at 31 March 2010, 2012, 2015, and 2016;
3. The Trustees' annual report & accounts 2011-12, 2012-13, 2013-14, 2014-15, and 2015-16;
4. Focus (DB section) members' booklet dated May 2016 and Options (DC section) members' booklet dated 2015;
5. VGPS Rules dated April 2009 and deed of alterations dated June 2009, 18 February 2015, 19 June 2015, and 22 March 2016;
6. Statement of Investment Principles, October 2015;
7. Statement of Funding Principles, May 2015;
8. Aon Hewitt RP6 Pensions data assurance report and certificate dated 3 June 2016.
9. Northern Ireland Electricity Networks Limited Business Plan – a guide to the RP6 submission dated 29 June 2016.
10. RP6 BPT Pensions Reporting Workbook along with a RP6 BPT Pensions Commentary
11. Flexible Apportionment Arrangement dated 18 December 2015
12. Northern Ireland Electricity Pension Scheme Recovery Plan dated 27 May 2015
13. Schedule of Contributions dated 27 May 2015
14. NIE Pension Deficit Allocation report as at 31 March 2014

Publicly available reference information

15. ["The Purple Book"](#), Pension Protection Fund, 2016, 2015, 2014, 2011, 2009.
16. ["Scheme funding statistics. Appendix"](#), The Pensions Regulator, 2016.
17. ["Occupational pension schemes survey 2014"](#), Office for National Statistics, September 2015.



Appendix C: Background to scheme funding and contributions

- C.1 Most UK private sector *defined benefit pension schemes* are subject to the scheme funding requirements of Part 3 of the Pensions Act 2004 (in Great Britain) or Part VI of the Pensions (Northern Ireland) Order 2005 (in Northern Ireland).¹⁶ 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.¹⁷
- C.2 Employers' contribution rates usually comprise 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 (often the next three years), 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 which have accrued up to the valuation date, additional *deficiency contributions* are 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.
- C.3 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.¹⁸
 - > The membership profile of the pension scheme: the expected cost of providing a pension depends on the age of the members. Differences in age profiles will result in different SCRs.

¹⁶ For further information, please refer to the Pensions Regulator's regulatory code of practice 03, "[Funding defined benefits](#)".

¹⁷ 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, given a fixed rate of member contributions, the employer must ensure the scheme has sufficient assets to pay the specified benefits.

¹⁸ 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.



- C.4 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. For any given deficit, the annual deficiency contribution will be lower the longer the period over which the deficit is to be repaid.
- C.5 Some key points on the scheme funding process are¹⁹:
- > 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 generally 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 degree of *prudence* is not defined, and will depend on the scheme's circumstances.²⁰
 - > 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'.
- C.6 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.

¹⁹ This list is not exhaustive.

²⁰ Please refer to Appendix E for a definition of "*prudence*" in this context.



- C.7 Actuarial valuations may be carried out for other purposes, for example to determine pension costs and liabilities for the sponsoring employer's financial statements under FRS17 or IAS19, or to assess the extent to which the pension scheme's assets would be sufficient to buy out the accrued liabilities with an insurer if the scheme were to wind up (referred to as a solvency valuation). Different types of actuarial valuations use different methods and assumptions, as appropriate for the purposes of the valuation. This report considers scheme funding valuations of the NIEPS only, which are used to determine NIEN's cash contributions to the scheme.
- C.8 The NIEPS uses an actuarial method called the *projected unit method*. This is a standard method which is commonly used for funding valuations. For schemes that are closed to new entrants (like Focus), an alternative method (called the *attained age method*) is sometimes used. The *attained age method* would be expected to result in higher contribution rates in the short term. The following paragraphs explain this further.
- C.9 The expected cost of pension benefits accruing to active members, expressed as a percentage of payroll, usually increases with age (although this depends on the actuarial assumptions used to calculate the expected cost). Where a pension scheme is closed to new entrants, this would be expected to result in an increase in the average age of active members over time, and hence an increase in the expected cost of benefits accruing to active members, expressed as a percentage of payroll.
- C.10 If the employer *standard contribution rate* (SCR) is calculated to be sufficient to meet the expected cost of benefits accruing to active members in the few (typically three) years following the valuation date, then the employer SCR (expressed as a percentage of payroll) would be expected to increase in the future for a closed scheme. Such an approach is called the projected unit method.
- C.11 Alternatively, the employer SCR could be calculated to be sufficient to meet the average expected cost of benefits accruing to active members for the remainder of their expected working lifetimes. This can result in a higher initial SCR, but with no further increases being expected in the future as the average age of active members increases. This is called the *attained age method*.
- C.12 Both the projected unit method and the *attained age method* are commonly used for funding valuations of closed pension schemes. The projected unit method would be expected to result in lower initial employer contributions than if the *attained age method* were used. The projected unit method is expected to lead to future increases in the employer SCR as the average age of active members' increases, but this should be considered in light of the corresponding expected reduction in pensionable payroll.
- C.13 A *defined benefit pension scheme's* ultimate cost depends on three factors:
- > The scheme's benefits (including to what extent members pay for their own benefits);
 - > The scheme's investment returns; and
 - > Members' experience (for example employees' pay rises, and pensioners' longevity)



- C.14 However, an employer's contributions to a pension scheme also depend on the method and assumptions used to calculate the contribution rates (in other words, the assumptions made regarding future investment returns and future experience).
- C.15 The use of more prudent assumptions causes a higher initial contribution rate, but would be more likely to result in a future valuation surplus and hence lower future contribution rates (assuming that surpluses are used to reduce contribution rates rather than to improve members' benefits). Therefore, differences in contribution rates which are caused by different methods and assumptions might, in broad terms, be expected to even themselves out over time (assuming the scheme is ongoing), but raise issues of equity between customers at different times if they are reflected in price limits.



Appendix D: Factors affecting investment strategy

- D.1 A number of factors affect the high-level strategic 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 broadly reflecting changes in the present value of the scheme's liabilities²¹.
- D.2 In their consideration of risk, one key factor for the trustees is the financial strength of the sponsoring employer (that is, its '*covenant*'). 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.
- D.3 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*).

²¹ Depending on the method used to value the scheme's liabilities.



Appendix E: 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 pensionable service, the *accrual rate* is one eightieth.

Article 75 payment – When an employer departs from a scheme they become liable to pay their share of the scheme's liabilities.

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

Attained age method – A method used to calculate *standard contribution rates (SCRs)* where the *SCR* is calculated to be sufficient to meet the average expected cost of benefits accruing to active members for the remainder of their expected working lifetimes. (Compare with *projected unit method*.)

Benefit augmentations – The provision of additional benefits offered to members of a DB scheme, normally where the cost is borne by the scheme and/or the employer.

Covenant - see *employer covenant*.

Cut-off Date – 31 March 2012 for NIEPS.

Deficiency (or deficit) 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 (so the scheme is in "deficit"), 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 pension scheme (DB 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 pension scheme (DC 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, annuity rates at retirement 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 *defined benefit pension scheme's* expected future benefit expenditure is discounted for the purpose of an actuarial valuation. That is, to convert a stream of expected future benefit cash flows to a current capitalised value. It can be thought of as corresponding to an 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, its *funding level* is higher, and its *standard contribution rate* is lower.

Early retirement deficiency contributions (ERDCs) – The cost of providing enhanced pension benefits granted under severance arrangements prior to the cut-off date which were not fully matched by increased contributions.

Employer (sponsor) covenant – The degree to which the employer is willing and able to meet the funding requirements of the scheme.

Established Deficit - Difference between assets and liabilities, determined at any point in time, attributable to pensionable service up to the end of the cut-off date and relating to regulated business activities. The term applies equally if there is a subsequent surplus.

Funding level – The ratio of the value of the pension scheme's assets to the assessed value of its accrued liabilities. A *funding level* of 100% means that the pension scheme is deemed to be "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. A "fully-funded" scheme is not guaranteed to be able to meet its future liabilities; it is only an expectation based on the assumptions adopted.

Incremental Deficit - The difference between the assets and liabilities, determined at any point in time, attributable to post cut-off date pensionable service and relating to regulated business activities. The term also applies equally where there is a surplus for the post cut-off date regulated Notional Sub-Fund.

Liability-driven investment (LDI) – *Liability driven investment* is an investment strategy which considers the nature of both a pension scheme's assets and liabilities when determining an approach. Typically these strategies involve the use of swaps and other derivatives to manage, or hedge, a scheme's exposure to risk (most commonly interest rates and inflation). Such strategies can also incorporate 'flight paths' with the aim of reducing risk over the long-term, subject to returns delivering a suitable level of outperformance against low-risk asset classes in the meantime.

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*.

Neutral estimate – A *neutral estimate* is similar to a "best-estimate" assumption, where there is expected to be a broadly 50% chance that future experience will be higher (or lower) than the relevant assumption.



Pension Deficit Allocation Methodology (PDAM) - The Pension Deficit Allocation Method as described in Ofgem's "Energy Network Operators' Price Control Pension Costs – Regulatory Instructions and Guidance: Triennial Pension Reporting pack supplement including pension deficit methodology" dated 12 April 2013 (v1.02 13 June 2013).

Pension Protection Fund (PPF) levy - The cash costs paid, directly or indirectly, by the sponsoring employer(s) or pension scheme (in respect of the conveyance business) to the Pension Protection Fund.

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*) (Northern Ireland) Pension Regulations 1992. 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.

Prudence (in the context of scheme funding assumptions) – A prudent (or cautious) assumption increases the value of the liabilities compared to a best-estimate assumption.

Recovery period – See *deficiency contributions*.

Regulatory fraction – Proportion of a company's pension scheme liabilities that relates to licensed regulated business activities before the relevant cut-off date. This fraction is after any adjustment that was made in price allowances for ERDCs.

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 are expected to demonstrate greater volatility of returns relative to the value of the liabilities than *matching assets*, increasing the risk of a future deficit.

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.

Technical provisions – The present value of a pension scheme's past service liabilities for scheme funding purposes.