



# Government Actuary's Department

## **Firefighters' Pension Schemes (England)**

Actuarial valuation as at 31 March 2012

Report on membership data

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Authors: Ian Boonin FIA

Michael Scanlon FIA



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## 1 Introduction

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- 1.1 This report is addressed to the Department for Communities and Local Government (DCLG). It is also being made available to the Firefighters' Pension Committee (FPC) as part of the consultation process relating to the actuarial valuation which is being carried out as at 31 March 2012. This report should not be reproduced or disseminated to other parties without prior consent. The Government Actuary's Department (GAD) does not accept any liability to third parties, whether or not it has agreed to the disclosure.
- 1.2 This report discusses and summarises the membership and accounting data provided to GAD in respect of members of the Firefighters' Pension Scheme (FPS) and the New Firefighters' Pension Scheme (NFPS) England, referred to collectively in this report as the Fire Pension Schemes (the schemes), and to be used by GAD for the purposes of the actuarial valuation as at 31 March 2012. It also sets out the checks that GAD has undertaken on this data. Summary tables of the data to be used are given in Appendix C.
- 1.3 The results of the valuation will be critically dependent on the quality and correctness of the data used. The purpose of this document is to ensure users of the valuation report understand the issues relating to the data used and in particular those issues that may have a material impact on the valuation results.
- 1.4 Experience data used to inform the assumptions appropriate for the valuation will be the subject of separate reports.
- 1.5 All member data provided and discussed in this report were supplied to GAD either directly by the individual Fire and Rescue Authorities (FRAs) or via their appointed administrators. Supplementary accounting information was provided both by FRAs (or their appointed administrators) and also from data collated by DCLG, which ultimately came from FRAs. We are very grateful to the FRAs and their administrators for their assistance in providing data and answering our queries.
- 1.6 In preparing this report, GAD has relied on data and other information supplied by the FRAs as described in the report. Any checks that GAD has made on this information are limited to those described in the report, including any checks on the overall reasonableness and consistency of the data. These checks do not represent a full independent audit of the data supplied and do not by themselves confirm or guarantee the overall quality or correctness of the data. In particular, GAD has relied on the general completeness and accuracy of the information supplied without independent verification.
- 1.7 The contents of this report have been discussed and agreed with DCLG who have confirmed that they are content for the resulting data to be used in the 2012 actuarial valuation of the Fire Pension Schemes.
- 1.8 Throughout this report the totals given for summed data may not be exactly the same as the sum of the components shown due to rounding effects.



## **2 Description of data provided**

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### **2.1 Individual member data**

- 2.1.1 Individual member data was supplied for all active members, deferred members and current beneficiaries of the schemes.
- 2.1.2 The data items requested for each member in the data specification sent out to FRAs on the 12 and 14 December 2012 are set out in Appendix A.
- 2.1.3 Each of the 46 FRAs in England have provided data for all individual members of the schemes as at 31 March 2012.
- 2.1.4 Most FRAs were able to provide most of the data items requested.
- 2.1.5 Where certain data items were not available from members' electronic files (e.g. dependants' pension amounts for current pensioner members) we did not ask FRAs to undertake the extensive work of extracting the information from paper files.
- 2.1.6 Details of all adjustments made to the data provided and the estimates used are set out in sections 3 to 5 of this report.

### **2.2 Accounting information**

- 2.2.1 FRAs were asked to provide cashflow data from the audited accounts for the year 1 April 2011 to 31 March 2012. All the FRAs were able to provide this information. Certain pieces of financial information from the accounts were used to perform the automated macro checks on the valuation data as explained in sections 3 and 5.
- 2.2.2 DCLG has collated and published unaudited cashflow information provided by FRAs for the year 2011-12. We used this data to cross check the accuracy of the cashflow data provided by the FRAs, as it allowed us to efficiently identify and investigate any material differences between the data FRAs have provided to us and the unaudited data they provided to DCLG last year.
- 2.2.3 This data was also used to perform independent checks on the valuation data as explained in sections 3 to 5.



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### 3 Active member data

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#### 3.1 Introduction

- 3.1.1 This section discusses the data provided for active members for the purposes of this valuation. It sets out the checks and adjustments we have made to the data provided and shows summary statistics about the data following implementation of the required data adjustments.
- 3.1.2 Each of the 46 FRAs in England provided data separately. The total combined active member dataset contains 35,149 members (22,296 FPS and 12,853 NFPS members).
- 3.1.3 Under the terms of the reforms being made to Public Service pension schemes from 2015, active members who meet certain age criteria will remain in their existing schemes until retirement. These members are called 'Protected Members'. Members failing to meet the protection criteria by a small margin will transfer to the 2015 schemes between 1 April 2015 and 31 March 2022<sup>1</sup>. These members are called 'Tapered Members'. The details of those covered by protection and tapering are set out in Appendix B. All other members are called 'Unprotected Members'. Since the benefits to be provided for members after 1 April 2015 will depend on which group they fall into we have identified those members within each group.
- 3.1.4 The active member data used will help determine the past service liability and the employer contribution rates payable from 2015. It will also influence the calculation of the cost cap.

#### 3.2 Checks applied to individual active member data

- 3.2.1 Each FRA was asked to enter their data into a standard template and to run a macro which GAD provided within the template spreadsheet. The macro contained some broad checks on the completeness and consistency of the data entered into the template against the data specification. FRAs were asked to consider the output of the macro checks and provide explanations or amend any data which did not fall within the boundaries permitted by the checks prior to submitting their data. Most FRAs were able to run the macro checks.
- 3.2.2 Once the data was submitted to GAD, we re-ran the macro (or ran it for those unable to use the macro checks) and performed some additional checks on the critical<sup>2</sup> data items. We queried any instances where there were critical data items which were not properly completed or which contained unexpected entries (unless the number of such instances was in single figures).

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<sup>1</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/14943/120524\\_-\\_Final\\_Agreement\\_-\\_Fire\\_-\\_FINALv2.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/14943/120524_-_Final_Agreement_-_Fire_-_FINALv2.pdf)

<sup>2</sup> Critical data items are those which are most material in determining an actuarial liability or cost. These data items are shown in bold in Appendix A



3.2.3 Common errors in the initial submissions are set out below:

- Pensionable pay showing as zero for some members;
- Pensionable pay information provided was not the reference pay for retained firefighters, nor the full-time equivalent pay for part-time firefighters;
- Part-time indicator field being left blank

3.2.4 FRAs generally responded to our queries with revised data which satisfied our checks. Where data was not available we have made adjustments and have estimated data as set out in section 3.6.

### 3.3 Checks against accounts data collated by DCLG

3.3.1 The revised datasets for each individual FRA were then subjected to some independent checks against the unaudited accounting data published by DCLG. The total pensionable pay in the data was compared against contribution payments recorded in the annual accounts. The conclusions arising from this checking process are explained below.

3.3.2 We requested that FRAs supply the full-time equivalent (FTE) pensionable pay in the year to 31 March 2012 based on contributions paid. The accounting data published by DCLG shows the amount of member contributions into the Fire Pension Schemes (shown separately for FPS and NFPS) over the year 1 April 2011 to 31 March 2012. Employer contributions can be converted to implied pay over the year by dividing through by the employer contribution rates payable over this period (21.3% for FPS members and 11% for NFPS members).

3.3.3 In general, using this approach we expected the total pensionable pay to exceed the implied pay from contributions because we requested that the pensionable pay provided for members show the full-time equivalent, whereas the implied pay would take into account the actual pay on which members are paying contributions. So for part-time and retained members, the pensionable pay would be expected to exceed the implied pay from their contributions.

3.3.4 Changes in the size of the active membership over the year also affect the comparison of pensionable pay to implied pay from contributions.

#### 3.3.5 *FPS accounts checks*

3.3.5.1 For FPS, taking these factors into account, we were content that the total pensionable pay compared reasonably well with implied pay from contributions for all FRAs. Our tolerance for the comparison was that total pensionable pay had to be within 5% of implied pay.

3.3.5.2 As a final check, after application of all of the adjustments detailed in section 3.6 below (except the adjustment to convert pensionable pay over the year to pensionable pay as at the valuation date), we applied an overall check on the combined FPS pensionable pay for all FRAs against the combined implied pay from contributions recorded in the audited accounts for all FRAs (making an approximate allowance for the change in the number of FPS members over the year). The combined FPS pensionable pay for all FRAs is within 1.7% of the combined FRA



implied FPS pay from contributions from the DCLG accounting data. We consider this to be reasonable.

### 3.3.6 **NFPS accounts checks**

3.3.6.1 For NFPS members, due to the number of part-time and retained firefighters present the check involved converting the full time equivalent salary from the data to an estimated actual salary over the year. This was done in 2 different ways – one based on data on the part-time proportion and one based on data on the 'actual' salary over the year. Neither of the 2 checks proved very reliable, and often one check would imply too high a salary roll whilst the other would imply that it is too low for the FRA. Therefore queries were only raised when both the NFPS checks suggested a possible issue with the NFPS data. In these cases the FRA either provided revised data or confirmed that the pensionable pay data was correct.

3.3.6.2 However, these checks did highlight that in many cases either or both of the 'part-time proportion' and 'actual salary over the year' data items did not look reasonable. The 'actual salary over the year' data item is only used for cross-checking and not in the valuation calculations therefore we have not investigated this further. The 'part-time proportion' data item is used in the calculation of the cost of accrual for future service (to ensure that part-time members are not given the same weight as full-time members when determining this cost, as they will not be accruing as much service).

3.3.6.3 Therefore we have adjusted the part-time proportion data item for all part-time and retained firefighter members as described in section 3.6.

3.3.6.4 As a final check, after application of all of the adjustments detailed in section 3.6 below (except the adjustment to convert pensionable pay over the year to pensionable pay as at the valuation date), and converting full-time equivalent pensionable pay to actual pay over the year using the adjusted part-time proportion, we applied an overall check on the combined NFPS pensionable pay for all FRAs against the combined implied NFPS pay from contributions recorded in the audited accounts for all FRAs. The combined NFPS pensionable pay is within 3.8% of the combined FRA implied NFPS pay from contributions from the DCLG accounting data. In this case, we consider this to be reasonable because:

- We do not have sufficient data to make an approximate adjustment for the expected increase in the numbers of NFPS members over the year (due to new joiners being to the NFPS but most retirements being from the FPS), therefore we would expect a ratio above 100% for this check.
- As detailed in section 3.6, the adjusted part-time proportion has been derived based on the average ratio of reckonable service (excluding transfer-ins) to notional service on a full-time basis **since joining** for part-time and retained firefighter members. This may not be the same as the average part-time proportion **over 2011-12**, which is what we would ideally use for this check.

### 3.3.7 **Overall accounts checks**

3.3.7.1 We have also done a comparison of the pensionable pay for both FPS and NFPS combined, after the adjustments as set out in 3.3.5.2 and 3.3.6.4 against the combined implied pay from contributions recorded in the audited accounts for all FRAs. The combined pensionable pay is within 0.6% of the combined implied pay



from contributions from the DCLG accounting data. We consider this to be reasonable.

### 3.4 Checks for systematic errors in data extracts

- 3.4.1 We randomly selected one male member and one female member from two of the larger FRAs and compared the data provided with that which was submitted for the valuation of the schemes as at 31 March 2007. The FRAs selected represented each of the two main administration systems that we are aware of which are being used by FRAs.
- 3.4.2 Our checks were trying to identify any systematic issues with the reports which were used to extract the data that we requested. In all cases, the critical data items were consistent with the data provided in 2007 (i.e. same scheme/gender/date of birth/date joined scheme, a reasonable increase in pensionable salary and increase in active service of 5 years, except where part-time).

### 3.5 Checks for consistency of data between FRAs

- 3.5.1 The populations of most of the FRAs would not be expected to differ significantly from each other. As a broad reasonableness check, averages of the key data items (age, service, pay) were compared between all of the FRAs. Queries relating to the data were raised with the FRA if their membership profile was not in line with that expected of a typical FRA and this was considered to have a material impact on the valuation. Following our queries we either received revised data which resolved the issue or received confirmation that FRAs had double checked the data concerned and were content that it was correct.

### 3.6 Adjustments made to the active member data

- 3.6.1 Pensionable pay: The data specification asked for full-time equivalent (FTE) pensionable pay in the year to 31 March 2012 based on contributions paid. For the purposes of the valuation we will use a pay figure expressed as FTE pensionable pay as at 31 March 2012. Over the year to 31 March 2012, no pay award was granted, so we would expect differences between the figure for pay over the year and pay as at 31 March 2012 to differ only when someone had received a promotion during the year. We have made an approximate allowance for this by increasing pay for all members by 0.6%. The 0.6% represents half the average promotional increase over a year for pension scheme members based on the 2007 valuation salary scale (which implicitly assumes that promotions occurred, on average half way through the 2011-12 year).
- 3.6.2 Pensionable salary too low: 76 members were recorded with a salary below the minimum payable to a trainee firefighter on the valuation date. We have replaced the data provided for these members with averages from members in the same scheme and of the same gender, as per section 3.6.4 below.
- 3.6.3 Part-time details: Investigations of the part-time proportion data indicated that in many cases it did not appear to be reasonable. Data for reckonable service (excluding transfer-ins) and notional service on a full-time basis since joining appeared generally reasonable, and so was used to determine an average part-time proportion for part-time and retained firefighters over their career to date. The average part-time proportion derived on this basis was 28.5%. We have adjusted the data to give all part-time and retained firefighter members a part-time proportion of 28.5%.



3.6.4 Members where date of birth, pensionable pay or active service is missing or zero after the checks and adjustments noted above: Where one of these data items was missing we have replaced all of the members' data items with averages calculated from members in the same scheme and of the same gender. There were 341 members for whom average details have been used to overwrite the incomplete data provided. This includes the 76 members detailed in section 3.6.2 above.

### 3.7 Data summaries

3.7.1 The active membership data provided by the FRAs, following implementation of the adjustments made to improve the quality of the data and/or to estimate missing data is summarised in Appendix C1.

3.7.2 The total CPD pension accrued by the active members of the scheme as at 31 March 2012 stood at £628,000.

### 3.8 Added years data

3.8.1 In addition to the data discussed above, we were provided with information about added years which have been purchased by 244 active members (0.7% of the active membership).

3.8.2 Added years purchased at the valuation date (a proportion of those which will be purchased over the entire duration of the contract for members who elected to purchase the added years with periodic contributions) will be valued along with the active member benefits.

3.8.3 There was insufficient credible data to determine the number of added years purchased for 63 members with added years contracts in force. Whilst this is a large proportion of the added years population, the impact of added years contracts on the overall liability of the schemes will be negligible. As such, we have estimated the number of added years purchased at the calculation date for these members by using the averages calculated from members in the same scheme and of the same gender.

3.8.4 In total we will value 295 years of service (265 in the FPS and 30 in the NFPS) at 31 March 2012 in respect of added years contracts.



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## 4 Deferred member data

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### 4.1 Introduction

- 4.1.1 This section discusses the data provided for deferred members for the purposes of this valuation. Deferred members are predominantly former active members of the schemes, but they also include pension credit members (which arise following a divorce) where the pension credit is not yet payable. This section also sets out the checks and adjustments we have made to the data and shows summary statistics about the data following implementation of the required data adjustments.
- 4.1.2 Each of the 46 FRAs in England provided data separately. The total deferred member dataset contains 5,242 members (2,592 FPS and 2,650 NFPS members), which includes the pension credit members.
- 4.1.3 All benefits that have been accrued in the existing schemes at the valuation date will be payable from the scheme in which they were accrued. There are no tapered or unprotected members, unlike the active membership.
- 4.1.4 The deferred member data used will help determine the past service liability result and the employer contribution rates payable from 2015 but will not affect the cost cap.

### 4.2 Checks applied to deferred member data

- 4.2.1 Each FRA was asked to enter their data into a standard template and to run a macro which GAD provided within the template spreadsheet. The macro contained some checks on the completeness and consistency of the data entered into the template against the data specification. FRAs were asked to consider the output of the macro checks and provide explanations or amend any data which did not fall within the boundaries permitted by the checks prior to submitting their data. Most FRAs were able to run the macro checks.
- 4.2.2 Once the data was submitted to GAD, we re-ran the macro (or ran it for those unable to use the macro checks) and performed additional checks on the critical<sup>3</sup> data items. We queried any instances where there were critical data items which were not properly completed or which contained unexpected entries (unless the number of such instances was in single figures).
- 4.2.3 Common errors in the initial submissions are set out below:
- Deferred pension showing as zero for some members
- 4.2.4 FRAs generally responded to our queries with revised data which satisfied our checks. Where data was not available we have made adjustments and have estimated data as set out in section 4.6.

### 4.3 Checks against audited accounts

- 4.3.1 It was not possible to undertake any independent checks (against accounting information, or otherwise) on the deferred member data.

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<sup>3</sup> Critical data items are those which are most material in determining an actuarial liability or cost. These data items are shown in bold in Appendix A



#### 4.4 Checks for systematic errors in data extracts

- 4.4.1 We randomly selected a couple of individual members from two of the larger FRAs and compared the data provided with that which was submitted for the valuation of the schemes as at 31 March 2007. The FRAs selected represented the two main administration systems that we are aware of which are used by the FRAs.
- 4.4.2 Our checks were trying to identify any systematic issues with the reports which were used to extract the data that we requested. For all members selected, the critical data items were consistent with the data provided in 2007 (i.e. same scheme/gender/date of birth and date became deferred).

#### 4.5 Checks for consistency of data between FRAs

- 4.5.1 The populations of most of the FRAs would not be expected to differ significantly from each other. As a broad reasonableness check, averages of the key data items (age, current deferred pension, ratio of deferred members to active members) were compared between all of the FRAs. Queries relating to the data were raised with the relevant FRAs if their membership profile did not match that of a typical FRA and this was considered to have a material impact on the valuation. Average data for most FRAs appeared reasonable, and where it did not this could generally be explained. For a few FRAs this check highlighted missing deferred data, which was corrected after contacting the administrator.

#### 4.6 Adjustments made to the deferred member data

- 4.6.1 Revaluation: We requested that FRAs provide member and dependant current pensions including all pension increases up to that which was effective from 9 April 2012. We also asked FRAs to complete a questionnaire to confirm the dates to which pensions had been revalued. Four FRAs (6.7% of the current deferred pension roll) stated that they had provided pensions which included increases up to 2011 only. One FRA (covering 1.9% of the current deferred pension roll) stated that the pensions provided included increases up to 2010 only. For these FRAs we have adjusted the pensions provided so that they include all pension increases to 9 April 2012. This is an accurate adjustment except for the most recent leavers. We have not independently verified the FRAs' questionnaire responses.
- 4.6.2 Contingent dependants' pensions: Contingent dependants' pensions did not look credible for most FRAs. We have set contingent dependant's pensions to 50% of members' current pensions for all FRAs. Whilst this would be a slight overstatement for any deferred member with service in the periods which did not qualify for 50% dependants' pensions (i.e. before 1972 for male members and before 1990 for female members), given the very small deferred membership of the schemes (and in particular, the small number of members not accruing 50% pension over their entire period of service) this will not have a material impact on the valuation results (and will not affect the cost cap).
- 4.6.3 Members where date of birth or current deferred pension was missing or zero after the checks and adjustments noted above: Where either of these data items is missing we have replaced all the member's data items with averages calculated from members in the same scheme and of the same gender. There were 9 members for whom average details have been used to overwrite the incomplete data provided.



#### 4.7 **Data summary**

4.7.1 The deferred data provided by the FRAs, following implementation of the adjustments made to improve the quality of the data and/or to estimate missing data is summarised in Appendix C2.

#### 4.8 **Pension debits data**

4.8.1 In addition to the data discussed above, we were provided with information about pension debits (following a pension sharing order) which apply to 319 active or deferred members.

4.8.2 Since pension debits are fixed pension amounts (increasing with pension increases, rather than salary), they are similar to deferred pensions. The debits will be valued as negative liabilities.

4.8.3 Similar to 4.6.1, where pension increases to 9 April 2012 were not included in the data provided we increased the pension amounts.

4.8.4 A summary of the adjusted pension debits data can be found in Appendix C3.



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## 5 Pensioners and dependants

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### 5.1 Introduction

- 5.1.1 This section discusses the data provided for pensioner members and dependants for the purposes of this valuation. It sets out the checks and adjustments we have made to the data provided and shows summary statistics about the data following implementation of the required adjustments.
- 5.1.2 45 of the 46 FRAs in England provided data separately. (Isles of Scilly have no pensioners at present). The total pensioner member dataset contains 32,760 members (32,649 FPS and 111 NFPS members). The total dependant member dataset contains 5,838 members (5,794 FPS and 44 NFPS members).
- 5.1.3 All benefits that have been accrued in the existing schemes at the valuation date will be payable from the scheme in which they were accrued. There are no tapered or unprotected members, unlike the active membership.
- 5.1.4 The pensioner member and dependant data will affect the past service liability result and the employer contribution rates payable from 2015 but will not affect the cost cap.

### 5.2 Checks applied to pensioner member and dependant data

- 5.2.1 Each FRA was asked to enter their data into a standard template and to run a macro which GAD provided within the template spreadsheet. The macro contained some checks on the completeness and consistency of the data entered into the template against the data specification. FRAs were asked to consider the output of the macro checks and provide explanations or amend any data which did not fall within the boundaries permitted by the checks prior to submitting their data. Most FRAs were able to run the macro checks.
- 5.2.2 Once the data was submitted to GAD, we re-ran the macro (or ran it for those unable to use the macro checks) and performed additional checks on the critical<sup>4</sup> data items. We queried any instances where there were critical data items which were not properly completed or which contained unexpected entries (unless the number of such instances was in single figures).
- 5.2.3 Common errors in the initial submissions are set out below:
- Type of pension not recorded for some pensioner members;
  - An incorrect type of pension decode was recorded for some members;
  - Date pension began and Date joined scheme for pensioner members were entered the wrong way around in the spreadsheet ;
  - Zero or blank current pension.
- 5.2.4 FRAs generally responded to our queries with revised data which satisfied our checks. Where data was not available we have made adjustments and have estimated data as

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<sup>4</sup> Critical data items are those items which are most material in determining an actuarial liability or cost. These data items are shown in bold in Appendix A



set out in section 5.6.

### 5.3 Checks against accounts data collated by DCLG

- 5.3.1 The revised datasets for each individual FRA were then subjected to some independent checks against the accounting data published by DCLG. The total pension payroll recorded in the pensioner member and dependant datasets were compared to pension payments recorded in the annual accounts. The conclusions arising from this checking process are explained below.
- 5.3.2 We requested that FRAs supply current pensions including the pension increase effective from 9 April 2012. The accounts show the total pension payments from the Fire Pension Schemes over the year 1 April 2011 to 31 March 2012 (i.e. amounts which would not include this 2012 increase). Where FRAs stated that the 2012 pension increase was included in the current pensions provided, we stripped this out approximately to obtain an estimate of non-increased pensions in payment at 31 March 2012. We then compared the combined (adjusted) pensions in the pensioner member and dependant datasets to the figure showing in the accounts (this is not usually split between payments to pensioners and dependants).
- 5.3.3 Changes in the size of the pensioner and dependant populations over the year also impact on the comparison of the pension payroll at 31 March 2012 to the pension payments recorded in the accounts.
- 5.3.4 Taking these factors into account, we were content that the total pensions in payment compared reasonably well with the accounts for 28 of the 46 FRAs. Our tolerance for the comparison was that total pension payments in the datasets (adjusted for non PI related increases in pension roll) had to be within 3% of pension payments recorded in the accounts. There were 18 FRAs where the total pension payments in the dataset was outside the 3% tolerance level. In some cases the total pension in payment appeared too high, but it was evident that the data provided gave pension amounts including increases yet to be paid for normal health pensioners under age 55. In these cases we did not query the amounts as this feature was dealt with in our adjustments (see section 5.6). We requested the other FRAs either confirm that their data was correct or to provide us with new data.
- 5.3.5 After responding to our queries, some FRAs data remained outside of the 3% tolerance level. However, our check is approximate, and these FRAs, had either provided an explanation for the difference, or had confirmed they were content that the membership data provided was correct.
- 5.3.6 Finally, after application of all of the adjustments detailed in section 5.6 below, we applied an overall check on the combined pensions in payment for all the FRAs against the combined pension payments recorded in the accounts collated by DCLG. The combined pensions in payment are within 1% of the combined pension payments from the accounts. We consider this to be reasonable.

### 5.4 Checks for systematic errors in data extracts

- 5.4.1 We randomly selected a couple of individual members from two of the larger FRAs and compared the data provided with that which was submitted for the valuation of the



schemes as at 31 March 2007. The FRAs selected represented each of the two main administration systems that we are aware of which are being used by FRAs.

5.4.2 Our checks were trying to identify any systematic issues with the reports which were used to extract the data that we requested. There were some fields which were not consistent for all members (e.g. increase in current pension was not as expected). This appeared to be as a result of requesting that injury award data be given separately to member pension data in the 2012 data request. We were content that this did not represent a systematic issue with the 2012 data, and did not raise any queries with either of the FRAs.

#### 5.5 **Checks for consistency of data between FRAs**

5.5.1 The populations of most of the FRAs would not be expected to differ significantly from each other. As a broad reasonableness check, averages of the key data items (age, current pension, the ratio of pensioners to actives) were compared between all of the FRAs. Queries relating to the data were raised with the FRAs if their membership profile did not match that of a typical FRA, and this was considered to have a material impact on the valuation. Following our queries we either received revised data which resolved the issue or received confirmation that FRAs had double checked the data concerned and were content that it was correct

#### 5.6 **Adjustments made to the pensioner member and dependant data**

5.6.1 Pension increases for all pensioner members with entitlement and dependants: We requested that the FRAs provide member and dependant current pensions including all pension increases up to that which was effective on 9 April 2012. We also asked FRAs to complete a questionnaire to confirm the dates to which pensions had been increased. Four FRAs (11.4% of the total pension roll) stated that they had provided pensions which included increases up to 2011 only. For these FRAs we have applied the increase effective from 9 April 2012. This is an accurate adjustment except for the most recent pensions. We have not independently verified the FRAs' questionnaire responses.

5.6.2 Pensioner members below age 55 not entitled to pension increases: We requested that FRAs provide members' pensions currently in payment (i.e. excluding pension increases accrued to date). We also asked them to complete a questionnaire to confirm the increases applied to these pensions. 30 FRAs stated that they had provided pensions which included accrued pension increases since retirement date, but out of these 4 failed to pass our validation checks and appeared to exclude pension increases. A further 6 FRAs appeared to have included increases despite having stated that they were excluded. A further 3 FRAs stated that they did not have any such pensioners on file and 2 FRAs did not specify whether they had applied the pension increases or not, although our validation checks showed that all 5 of these FRAs had done so. For the 37 FRAs (82.7% of the total pension roll) where the pension figures provided appeared to include pension increases since retirement date we have approximately stripped them out from the amounts provided. Our calculations will incorporate allowance for the accrued pension increases since the date of retirement that become payable from age 55.

5.6.3 Contingent dependants' pensions for current pensioner members: Contingent dependants' pensions did not look credible for most FRAs. We have estimated



contingent dependants' pension for all pensioner members by estimating the proportion of service that would count for dependants' pensions (based on the assumption that members serve for 30 years on average between ages 20 and 50) and assuming that all members commuted 25% of their pension for lump sum. The pensions derived in this way are not exact (for example, not all members will have served 30 years at retirement and not all will have commuted 25%) but we believe that these estimates will give a more accurate measure of the contingent dependants' liability than the data provided.

- 5.6.4 Type of pensions: for 823 members FRAs were not able to verify the pension type (e.g. age retirement or ill health retirement). These members have been separately classified as pension type 'unknown'.
- 5.6.5 Members where current pension is missing or zero after the checks and adjustments noted above: Where this data item was missing we have replaced all of the members' data items with averages calculated from members in the same scheme, with the same pension type and gender. There were 32 pensioner members and 63 dependants for whom average details have been used to overwrite the incomplete data provided.

#### 5.7 Data summaries

- 5.7.1 The pensioner and dependant data provided by the FRAs, following implementation of the adjustments made to improve the quality of the data and/or to estimate missing data is summarised in Appendix C4.



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## Appendix A: Data items

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Key data items are shown in bold. These are the items which are most material in determining an actuarial liability or cost.

### A1. Actives

Unique identifier

**Scheme**

**Gender**

**Date of birth**

Marital Status

Role

**Date Joined Scheme**

Actual pay (Actual rate of pay (for retained firefighters this will be the actual contributory pay in the previous 12 months and for part-time members this will be the annual rate of pensionable pay)

**Pensionable Pay** (Pensionable pay in the year based on contributions paid (for retained firefighters this will be the reference pay and for part-time members this will be full-time equivalent pay)

**Active service** (Pensionable service to valuation date excluding doubling, transferred-in service and added years. This is used to determine accrued benefits by applying this service field plus transferred-in service to pensionable salary)

**Active service on full-time basis** (As Active service, but part-time service reckoned as full-time)

**Transferred-in Service**

**Part-time (indicator)**

Part-time proportion

Date of GMP

Pre 88 GMP

Post 88 GMP

Dependant Service

Career Break

CPD accrued to date

Notes

**Part time working:** For future service calculations we assume part-time staff work 28.5% of full time hours as set out in section 3.6.3.



## A2. Deferreds

Unique identifier

**Scheme**

**Gender**

**Date of birth**

Marital Status

Role

Date Joined Scheme

Date Deferred

Average pensionable pay

Initial Deferred Pension

Initial Partner's Pension

**Current Deferred Pension** (Current deferred pension (Includes transferred-in service and added years))

Current Partner's Pension

Date payable (the date upon deferred benefits become payable)

Date of GMP

Pre-88 GMP

Post-88 GMP

Part-time (indicator)

## A3. Pensioners

Unique identifier

**Scheme**

**Gender**

**Date of birth**

Marital Status

Role

Date Joined Scheme

Date Pension Began

**Type of Pension**

Average Pensionable Pay

Member's Initial Basic Pension

**Member's Current Basic Pension**

Initial Partner's Pension

Current Partner's Pension

Date of GMP

Pre-88 GMP

Post-88 GMP

Part-time (indicator)

Commuted Lump Sum

Abated Pension

Pension Increases

Injury Award



#### **A4. Dependants**

Unique identifier

**Scheme**

**Gender**

**Date of birth**

**Dependant Type**

Dependant Date

**Dependant's Pension**

Dependant's Pre-88 GMP

Dependant's Post-88 GMP

Dependant's Current Injury Award

#### **A5. Added years**

Unique identifier

**Scheme**

**Gender**

**Date of birth**

Marital status

Role

**Date Joined Scheme**

**Purchase type**

**Purchase start date**

**Cessation date**

**Contract in force**

**Added years** (Number of added 60ths (FPS) or added years (NFPS) purchased if contributions have finished or total being purchased if contributions are still being made.)

Part-time (indicator)

#### **A6. Pension Debits**

Unique identifier

**Scheme**

**Gender**

**Date of birth**

Role

**Order Date**

Initial Pension Debit

**Current Pension Debit**

Initial Partner's Debit

Current Partner's Debit

Part-time (indicator)

#### **Notes:**

**Pension increases:** For all categories, current pension figures should be shown after the pension increase due in the April immediately after the valuation date has been applied.

**Pension credit members:** Included as deferred members (with no contingent dependant's pension) if the credit is not yet in payment and as dependant members where the credit is in payment.



## Appendix B: Protection and member categories

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### B1. Transitional protection

Transitional protection is set out in the Proposed Final Agreement (see link below) for certain categories of members as follows:

1. All active scheme members who, as of 1 April 2012, have 10 years or less to their current Normal Pension Age<sup>5</sup> will see no change in when they can retire, nor any decrease in the amount of pension they receive at their current Normal Pension Age. This protection will be achieved by the member remaining in their current scheme until they retire, which could be beyond 31 March 2022.
2. There will be a further 4 years of tapered protection for scheme members. Members who are up to 14 years from their current Normal Pension Age, as of 1 April 2012, will have limited protection so that on average for every month of age they are beyond 10 years of their Normal Pension Age, they gain about 53 days of protection. The last day of protected service for any member benefiting from the tapered protection will be 31 March 2022. At the end of the protected period, they will be transferred into the new pension scheme arrangements.

For further details, see

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/14943/120524\\_-\\_Final\\_Agreement\\_-\\_Fire\\_-\\_FINALv2.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/14943/120524_-_Final_Agreement_-_Fire_-_FINALv2.pdf)

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<sup>5</sup> The Normal Pension Age for the purpose of the Firefighters' Pension Scheme 1992 is age 55, for the New Firefighters' Pension Scheme 2006 it is age 60.



## Appendix C: Data summaries

### C1. Active member data

#### C1.1 Adjusted Active member data

The data provided by the FRAs, following implementation of the adjustments made to improve the quality of the data and/or to estimate missing data is summarised below.

##### C1.1.1 FPS active membership data as at 31 March 2012

Protection	Gender	Number of members	Total pensionable salary(i) £m	Average age(ii)	Average service(iii)
Protected	Male	9,348	334.4	49.0	24.0
	Female	81	2.9	47.6	17.5
	Total	9,429	337.3	49.0	24.0
Taper	Male	4,583	152.7	43.0	18.1
	Female	131	4.4	43.1	15.2
	Total	4,714	157.1	43.0	18.0
Unprotected	Male	7,718	241.9	35.9	11.7
	Female	435	13.4	35.2	10.6
	Total	8,153	255.3	35.8	11.6
All FPS members	Male	21,649	729.0	43.4	18.4
	Female	647	20.7	38.6	12.4
	Total	22,296	749.7	43.3	18.2

i. Pensionable salary is the full-time equivalent annual rate of pay at 31 March 2012

ii. Weighted by pensionable salary

iii. Active service in the Fire Pension Schemes plus transferred-in service



**C1.1.2 NFPS active membership data as at 31 March 2012**

<b>Protection</b>	<b>Gender</b>	<b>Number of members</b>	<b>Total pensionable salary(i) £m</b>	<b>Average age(ii)</b>	<b>Average service(iii)</b>
<b>Protected</b>	Male	1,179	36.5	54.1	2.4
	Female	27	0.8	52.8	2.6
	Total	1,206	37.3	54.1	2.4
<b>Taper</b>	Male	1,021	30.5	47.9	2.4
	Female	37	1.0	47.5	2.4
	Total	1,058	31.5	47.9	2.4
<b>Unprotected</b>	Male	9,812	269.1	33.3	2.5
	Female	777	21.1	32.3	2.9
	Total	10,589	290.2	33.2	2.5
<b>All NFPS members</b>	Male	12,012	336.1	36.9	2.5
	Female	841	22.9	33.6	2.9
	Total	12,853	359.0	36.6	2.5

- i. Pensionable salary is the full-time equivalent annual rate of pay at 31 March 2012
- ii. Weighted by pensionable salary
- iii. Active service in the Fire Pension Schemes plus transferred-in service



**C1.1.3 NFPS active retained firefighter membership data as 31 March 2012**

<b>Protection</b>	<b>Gender</b>	<b>Number of members</b>	<b>Total pensionable salary(i) £m</b>	<b>Average age(ii)</b>	<b>Average service(iii)</b>
<b>Protected</b>	Male	1,025	31.4	54.1	1.8
	Female	19	0.5	53.0	2.1
	Total	1,044	31.9	54.1	1.8
<b>Taper</b>	Male	834	24.8	47.9	1.6
	Female	30	0.8	47.6	1.9
	Total	864	25.6	47.9	1.6
<b>Unprotected</b>	Male	5,354	142.3	34.5	1.0
	Female	292	7.4	33.2	0.9
	Total	5,646	149.7	34.4	1.0
<b>All retained members</b>	Male	7,213	198.5	39.2	1.2
	Female	341	8.7	35.7	1.1
	Total	7,554	207.2	39.1	1.2

- i. Pensionable salary is the full-time equivalent annual rate of pay at 31 March 2012
- ii. Weighted by pensionable salary
- iii. Active service in the Fire Pension Schemes plus transferred-in service



**C1.1.4 NFPS active membership data (excluding retained firefighters) as at 31 March 2012**

Protection	Gender	Number of members	Total pensionable salary(i) £m	Average age(ii)	Average service(iii)
<b>Protected</b>	Male	154	5.2	54.3	5.9
	Female	8	0.2	52.3	4.0
	Total	162	5.4	54.2	5.8
<b>Taper</b>	Male	187	5.8	47.9	5.7
	Female	7	0.2	47.2	4.7
	Total	194	6.0	47.9	5.6
<b>Unprotected</b>	Male	4,458	126.8	31.9	4.3
	Female	485	13.7	31.7	4.1
	Total	4,943	140.5	31.9	4.3
<b>All NFPS members (excl. retained)</b>	Male	4,799	137.8	33.4	4.4
	Female	500	14.1	32.3	4.1
	Total	5,299	151.9	33.3	4.4

- i. Pensionable salary is the full-time equivalent annual rate of pay at 31 March 2012
- ii. Weighted by pensionable salary
- iii. Active service in the Fire Pension Schemes plus transferred-in service



### C1.1.5 Summary of all active membership data as at 31 March 2012

Gender	Number of members	Total pensionable salary(i) £m	Average age(ii)	Average service(iii)
Male	33,661	1,065.1	41.3	12.7
Female	1,488	43.6	36.0	7.0
<b>Total</b>	<b>35,149</b>	<b>1,108.7</b>	<b>41.1</b>	<b>12.5</b>

- i. Pensionable salary is the full-time equivalent annual rate of pay at 31 March 2012
- ii. Weighted by pensionable salary
- iii. Active service in the Fire Pension Schemes plus transferred-in service

### C1.2 Original (unadjusted) Active member data

For comparison, the table below summarises the totals of the original (unadjusted) data provided to us by the FRAs.

#### C1.2.1 Summary of active membership data prior to adjustments as at 31 March 2012

	Number of members	Total pensionable salary £m	Average age(i)	Average service(ii)
<b>Total</b>	<b>35,149</b>	<b>1,100.7</b>	<b>41.1</b>	<b>12.4</b>

- i. Weighted by pensionable salary
- ii. Active service in the Fire Pension Schemes plus transferred-in service



## C2. Deferred member data

### C2.1 Adjusted deferred membership data as at 31 March 2012

The data provided by the FRAs, following implementation of the adjustments made to improve the quality of the data and/or to estimate missing data is summarised below.

Scheme	Gender	Number of members	Total deferred pension (i) £m	Average age (ii)
FPS	Male	2,067	15.5	46.6
	Female	525	3.4	49.2
	Total	2,592	18.9	47.1
NFPS	Male	2,425	1.1	39.5
	Female	225	0.2	39.2
	Total	2,650	1.3	39.5
<b>Combined schemes</b>				
	Male	4,492	16.6	46.2
	Female	750	3.6	48.7
	Total	5,242	20.2	46.6

- i. including pension increases awarded to 9 April 2012
- ii. weighted by deferred pension

### C2.2 Summary of deferred membership data prior to adjustments as at 31 March 2012

	Number of members	Total deferred pension £m	Average age (i)
<b>Total</b>	5,242	20.1	46.6

- i. weighted by deferred pension



### C3. Pension debit data

#### C3.1 Adjusted pension debit data as at 31 March 2012

The data provided by the FRAs, following implementation of the adjustments made to improve the quality of the data and/or to estimate missing data is summarised below.

Scheme	Gender	Number of members	Total pension debit (i) £m	Average age (ii)
FPS	Male	313	omitted (iii)	omitted
	Female	1	omitted	omitted
	Total	314	1.9	50.5
NFPS	Male	5	0.0	50.5
	Female	0	0.0	0.0
	Total	5	0.0	50.5
<b>Combined Schemes</b>				
	Male	318	omitted	omitted
	Female	1	omitted	omitted
	Total	319	1.9	50.5

- i. including pension increases awarded to 9 April 2012
- ii. weighted by pension debit
- iii. Some data items omitted to avoid disclosing information on a single individual

#### C3.2 Summary of pension debit members prior to adjustments as at 31 March 2012

	Number of members	Total pension debit £m	Average age (ii)
<b>Total</b>	319	1.8	50.5

- i. weighted by pension debit



#### C4. Pensioner and dependant membership data

##### C4.1 Adjusted pensioner and dependant data as at 31 March 2012

The data provided by the FRAs, following implementation of the adjustments made to improve the quality of the data and/or to estimate missing data is summarised below.

Type of pensioner	Gender	Number of members	Total pension(i) £m	Average age(ii)
Age retirement	Male	16,442	298.4	62.1
	Female	25	0.2	69.0
	Total	16,467	298.6	62.1
Ill-health retirement	Male	15,418	192.1	64.4
	Female	52	0.3	49.7
	Total	15,470	192.4	64.4
Unknown	Male	812	11.4	67.1
	Female	11	0.0	61.4
	Total	823	11.4	67.1
Dependants(iii)	Male	218	0.7	34.1
	Female	5,620	35.4	72.3
	Total	5,838	36.1	71.6
All pensioners (excluding Dependants)	Male	32,672	501.9	63.1
	Female	88	0.5	57.4
	Total	32,760	502.4	63.1
All pensioners (including Dependants)	Male	32,890	502.6	63.0
	Female	5,708	35.9	72.1
	Total	38,598	538.5	63.6

- i. including pension increases awarded to 9 April 2012
- ii. weighted by current pension
- iii. including pension credit members



**C4.2 Summary of pensioner and dependant data prior to adjustments as at 31 March 2012**

	<b>Number of members</b>	<b>Total pension £m</b>	<b>Average age(ii)</b>
<b>Total(i)</b>	38,598	537.5	63.6

- i. members who are not in receipt of a pension from the Fire Pension Schemes but are in receipt of an injury pension have been excluded
- ii. weighted by current pension