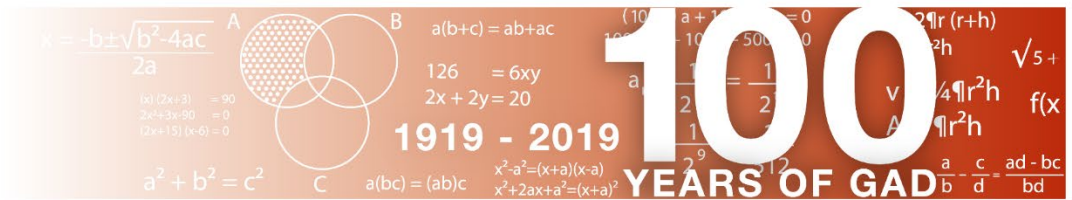




Government  
Actuary's  
Department



# The Firefighters' Pension Scheme (Scotland) 2015

## Purchase of Additional Pension

### Factors and Guidance

26 November 2019





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## 1 Introduction

- 1.1 The Scottish Ministers, as responsible authority under Schedule 2 paragraph 6 of the Public Service Pensions Act 2013 ('the responsible authority'), are required under the Firefighters' Pension Scheme (Scotland) Regulations 2015 ('the 2015 Scheme Regulations') (SI 2015/19) to issue actuarial guidance on payments for added pension (Schedule 1 of the 2015 Scheme Regulations).
- 1.2 SPPA acting on behalf of Scottish Ministers is required to determine the amounts to be credited to the Added Pension account based on the actuarial guidance under Schedule 1 of the 2015 Regulations.
- 1.3 The purpose of the note is to provide the factors for determining the amount of Added Pension (AP) to be credited to a member's pension account in respect of lump sum and periodical payments made by members to purchase such pension
- 1.4 This guidance relates only to benefits accrued under the 2015 Scheme Regulations. Some firefighters may also have benefits under the 1992 Scheme or the NFPS which should be dealt with separately according to relevant scheme guidance.
- 1.5 The remainder of this introduction contains:
- Details of the implementation and future review of this guidance
  - Statements about the use of this note and third-party reliance
- 1.6 In the remainder of this note:
- Section 2 describes the process and sets out the formulae
  - Section 3 contains examples
  - Appendix A sets out the factors to be used
  - Appendix B sets out the assumptions used in the calculation of the factors contained in this guidance note
  - Appendix C sets out some important limitations
- 1.7 The factors and guidance provided in this note have been prepared in light of our advice to the SPPA dated 30 October 2018 and its instructions following that advice.
- 1.8 This guidance supersedes the document: "The Firefighters' Pension Scheme (Scotland) 2015: Purchase of additional pension – Factors and guidance" dated 16 July 2015.
- 1.9 The factors in this note have been updated but the calculation methodology remains unchanged.
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### **Implementation and Review**

- 1.10 The factors contained in this guidance will apply from an effective date determined by SPPA. This guidance will apply with immediate effect upon receipt of the respective guidance.
- 1.11 This guidance has been written for pension administrators and assumes some knowledge of general pension terminology, and some familiarity with retirement calculations for the Firefighters' Pension Schemes. Any questions concerning the application of the guidance should, in the first instance, be referred to the SPPA.
- 1.12 In line with best practice and in order to make sure that factors are being used as intended and the instructions are fit for purpose, we suggest that some example calculations are sent to GAD for review.
- 1.13 The factors contained in this guidance will be subject to review periodically. This will depend on external circumstances, for example whenever there is a change in the SCAPE basis; when changes in the actuarial assumptions adopted for other scheme factors take place; or following each future actuarial valuation where mortality and other relevant experience is reviewed or if other credible and material information comes to light.

### **Third party reliance**

- 1.14 This guidance has been prepared for the use of the SPPA for the purposes of demonstrating the application of the factors covered by this guidance only. This guidance may be published on the SPPA website but must not otherwise be reproduced, distributed or communicated in whole or in part to any other person without GAD's prior written permission.
- 1.15 Other than SPPA, no person or third party is entitled to place any reliance on the contents of this guidance, except to any extent explicitly stated herein. GAD has no liability to any person or third party for any action taken or for any failure to act, either in whole or in part, on the basis of this guidance, whether or not GAD has agreed to the disclosure of its advice to the third party.



## 2 Instructions

- 2.1 Regulation 40 requires the “opening balance” of the added pension account at the start of a Scheme Year to include the added pension purchased throughout the previous year in accordance with paragraphs 11 or 14 of Schedule 1 to the 2015 Scheme Regulations.
- 2.2 A Scheme Year is 1 April to 31 March.
- 2.3 Added pension can be purchased either by a lump sum or by regular monthly contributions during a particular scheme year.
- 2.4 When a member makes an AP election, a check needs to be carried out to ensure the member has enough headroom within the overall extra pension limit to purchase the desired amount of AP. The amount of pension from this election to count against the overall limit will simply be the amount of AP the member has elected to purchase.
- 2.5 If the member has previously made an AP election, the amount of pension from any earlier AP elections to count against the extra pension limit will be the amount of AP the member has elected to purchase, or the paid-up credit, increased in line with inflation to the date of the new election.
- 2.6 Paragraph 2 of Schedule 1 to the 2015 Regulations sets an overall limit on the Added Pension account. This AP limit was £6,500 for 2015/16 scheme year. The AP limit increased to £6,924 in the 2019-20 financial year. The limit will change in accordance with Part 1 of Schedule 3 to the 2015 regulations in subsequent years. This guidance does not set out how the overall limit should be applied in practice and this is something that the scheme manager will separately have to ensure is not breached.
- 2.7 The HMRC limits on the tax relief in respect of pension contributions and the HMRC Annual and Lifetime Allowance apply to additional pension contributions and benefits.
- 2.8 We have provided factors up to and including age 59. Please refer to GAD if further factors are required should added pension payments continue after normal pension age.

### **Lump sum payments**

- 2.9 The factors provided in Appendix A are the factors to be used to convert lump sum contributions into Added Pension in order to meet the requirements of Regulation 40 as set out above.
- 2.10 The factors are unisex and are shown per £1 pa of added pension purchased.
- 2.11 The factors should be selected with reference to the member's:



- age last birthday at the calculation date
- for the revaluation factor, the number of complete scheme years falling between the date of payment and a member's normal pension age

2.12 If a member purchases added pension by a lump sum payment, then the amount to be credited under paragraph 14(3) of Schedule 1 of the 2015 Scheme Regulations is either that set out on any statement of amount of added pension given to the member following their election to buy added pension by lump sum, or the amount determined as at the date of receipt of payment by the member if this occurs more than 1 month after the date of the statement.

2.13 To purchase a specific increase to a member's added pension account for the relevant Scheme Year, then the lump sum payment (LS) required is determined as follows:

$$LS = P \times F_x \times F_y^{Reval}$$

Where:

- $P$  = amount of added pension purchased
- $x$  = member's age last birthday on the calculation date
- $F_x$  = lump sum factor at age  $x$  from Table 1 – Lump Sum factors
- $F_y^{Reval}$  = relevant revaluation factor for a member with  $y$  complete scheme years between calculation date and up to and including NPA from Table 2 – Added Pension Revaluation factors

Where the calculation date is either the date of the statement of amount of added pension to be purchased or the date of receipt of payment if this occurs more than 1 month after the date of the statement.

2.14 The amount of pension,  $P$ , added to a member's added pension account for the relevant Scheme Year in respect of a lump sum payment received is determined as follows:

$$P = \frac{LS}{F_x \times F_y^{Reval}}$$

Where:

- $LS$  = amount of Lump Sum payment
- $x$  = member's age last birthday on the calculation date
- $F_x$  = lump sum factor at age  $x$  from Table 1 – Lump Sum factors
- $F_y^{Reval}$  = relevant revaluation factor for a member with  $y$  complete scheme years between calculation date and up to and including NPA from Table 2 – Added Pension Revaluation factors)



Where the calculation date is either the date of the statement of amount of added pension to be purchased or the date of receipt of payment if this occurs more than 1 month after the date of the statement.

### Periodical Payments election

2.15 If a member purchases added pension by periodical payments, the amount of pension,  $P$ , added to a member's added pension account at the end of the Scheme Year is determined in a similar way to that described in 2.14 above except that:

- an adjustment is applied to the total amount of periodic contributions over the Scheme Year in order to "accumulate" contributions paid over the Scheme Year to the end of the Scheme Year;
- The revaluation factor is based on the number of complete Scheme Years falling between the closing date of the Scheme Year during which the contributions are paid and a member's normal pension age; and
- the formula to be used for the purpose of this paragraph is as follows:

$$P = \frac{C \times Adj}{F_x \times F_y^{Re\ val}}$$

Where:

- $C$  = total amount of periodic contributions over Scheme Year
- $Adj$  = 1.022 (equivalent to an addition of half a year's interest on contributions payable throughout the Scheme Year)
- $x$  = member's age last birthday at the end of the Scheme Year
- $F_x$  = regular contribution factor at age  $x$  from Table 1 – Lump Sum factors
- $F_y^{Re\ val}$  = relevant revaluation factor for a member with  $y$  complete scheme years up to and including NPA from Table 2 – Added Pension Revaluation factors

2.16 The amount of level monthly payments,  $MP$ , required to purchase a given amount of added pension if paid over a single full Scheme Year is determined as follows:

$$MP = \frac{P \times F_x \times F_y^{Re\ val}}{12 \times Adj}$$

Where:

- $P$  = amount of added pension the member wishes to buy
- $Adj$  = 1.022 (equivalent to an addition of half a year's interest on contributions payable throughout the Scheme Year)



- $x$  = member's age last birthday at the end of the Scheme Year
- $F_x$  = lump sum contribution factor at age  $x$  from Table 1 – Lump Sum factors
- $F_y^{Reval}$  = relevant revaluation factor for a member with  $y$  complete Scheme Years up to and including NPA from Table 2 – Added Pension Revaluation factors

- 2.17 If periodical payments continue into a further Scheme Year, the formulae in 2.15 and 2.16 would need to be recalculated for the payments made in this further Scheme Year with new factors appropriate for the member's situation in that year.





### 3 Example calculations

#### Example 1 – Lump sum election – Added Pension for a given lump sum payment

- Date of Birth 15/10/1965
- Amount of lump sum payment (LS) £1,000
- Calculation date 01/09/2020
- Age (last birthday) of member on calculation date 54 years
- Number of complete Scheme Years between calculation date and NPA 4 years
- Lump Sum factor  $F_x$  16.35
- Revaluation factor  $F_y^{Reval}$  1.08
- Added pension purchased immediately on payment,  $P$   $= \frac{LS}{F_x \times F_y^{Reval}}$

(See paragraph 2.14)

$$= \frac{\pounds 1,000.00}{16.35 \times 1.08}$$
$$= \pounds 56.63 \text{ pa}$$



**Example 2 – Lump sum election – Lump sum payment required to purchase Added Pension**

- Date of Birth 15/10/1965
- Amount of AP intended to purchase £200 pa
- Calculation date 01/09/2020
- Age (last birthday) of member on calculation date 54 years
- Number of complete 1 Aprils between calculation date up to NPA 4 years
- Lump Sum factor  $F_x^{LS}$  16.35
- Revaluation factor  $F_y^{Re\ val}$  1.08
- Lump Sum, *LS*, payment required to immediately purchase added pension

(See paragraph 2.13)

$$\begin{aligned} LS &= P \times F_x \times F_y^{Re\ val} \\ &= £200.00 \times 16.35 \times 1.08 \\ &= £3,531.60 \end{aligned}$$



**Example 3 – Periodic payments – Added Pension purchased for a percentage of salary in the scheme year 2020-21**

- Date of Birth 01/04/1985
- Pensionable Earnings (PE) £30,000 pa
- Amount of monthly contribution 5% of PE
- Start of periodic payment 01/04/2020
- Age of member at the end of the Scheme Year 35 years
- Number of complete subsequent Scheme Years up to NPA 24
- Expected monthly contributions  $(£30,000 \times 5\%) / 12$   
= £125 pm
- Expected amount of periodic contributions over scheme year 2020-21,  $C$  £1,500
- Regular Contribution factor  $F_x$  7.70
- Revaluation factor  $F_y^{Re\ val}$  1.61
- Added pension,  $P$ , expected to be purchased by end of scheme year

(See paragraph 2.15)

$$P = \frac{1.022 \times C}{F_x \times F_y^{Re\ val}}$$

$$= \frac{1.022 \times £1,500.00}{7.70 \times 1.61}$$

$$= £123.66 \text{ pa}$$

**Accounting for a promotion part way through the year**

- Salary Increase 10%
- Date of Salary Increase 01/01/2021
- Amount of monthly contribution in final three months  $(£30,000 \times 110\% \times 5\%) / 12$   
= £137.50 pm
- Total amount of periodic contributions over scheme year 2020-21,  $C$   $£125.00 \times 9 + £137.50 \times 3$   
= £1,537.50
- Regular Contribution factor  $F_x$  7.70
- Revaluation factor  $F_y^{Re\ val}$  1.61



- added pension purchased,  $P$   $= \frac{1.022 \times C}{F_x \times F_y^{Rev\bar{a}}}$

(See paragraph 2.15)  $= \frac{1.022 \times \pounds 1,537.50}{7.70 \times 1.61}$

$= \pounds 126.75 \text{ pa}$



**Example 4 – Periodic payments – Added Pension purchased by level payments from 2021-22**

- Date of Birth 18/06/1979
- Amount of monthly contribution £100 pm
- Start date of periodic payments 01/04/2021
- Age last birthday at the end of the Scheme Year 42 years
- Number of subsequent complete Scheme Years up to NPA 17

**Accounting for the member leaving the scheme before completing the payments**

- Date of leaving scheme 31/01/2022
- Number of months in which member has made contributions 10
- Total amount of periodic contributions over scheme year 2021-22,  $C$  £100.00 × 10 = £1000
- Regular Contribution factor  $F_x$  10.20
- Revaluation factor  $F_y^{Re\ val}$  1.40

- Added pension purchased,  $P = \frac{1.022 \times C}{F_x \times F_y^{Re\ val}}$

(See paragraph 2.15)  $= \frac{1.022 \times \pounds 1,000.00}{10.20 \times 1.40}$   
 $= \pounds 71.57$  pa



**Example 5 – Periodic payments – Monthly payments required to purchase added pension during 2021-22**

- Date of Birth 18/06/1979
- Amount of added pension desired to be purchased over the scheme year £200 pa
- Start date of periodic payments 01/04/2021
- Age (last birthday) at the end of the Scheme Year 42 years
- Number of subsequent complete Scheme Years up to NPA 17
- Regular Contribution factor  $F_x$  10.20
- Revaluation factor  $F_y^{Reval}$  1.40
- Monthly Payment,  $MP$ , required from periodical payments over the Scheme Year

(See paragraph 2.16)

$$\begin{aligned}MP &= \frac{P \times F_x \times F_y^{Reval}}{12 \times 1.022} \\ &= \frac{£200.00 \times 10.20 \times 1.40}{12 \times 1.022} \\ &= £232.88 \text{ pm}\end{aligned}$$



## Appendix A: Tables of factors

Table 1 – Added Pension Lump Sum factors (Table 701 in consolidated factors spreadsheet)

Age Last Birthday	Lump Sum factor
18	3.82
19	3.99
20	4.16
21	4.34
22	4.52
23	4.71
24	4.91
25	5.11
26	5.33
27	5.55
28	5.79
29	6.03
30	6.28
31	6.54
32	6.81
33	7.10
34	7.39
35	7.70
36	8.02
37	8.35
38	8.69
39	9.05
40	9.42
41	9.80
42	10.20
43	10.62
44	11.05
45	11.49
46	11.95
47	12.43
48	12.93
49	13.45
50	13.99
51	14.54
52	15.12
53	15.73
54	16.35
55	17.01
56	17.70
57	18.43
58	19.20
59	20.01



**Table 2 - Added Pension Revaluation factors (Table 702 in consolidated factors spreadsheet)**

<b>Number of Complete Scheme Years before NRA</b>	<b>Revaluation Factor</b>
0	1.00
1	1.02
2	1.04
3	1.06
4	1.08
5	1.10
6	1.13
7	1.15
8	1.17
9	1.20
10	1.22
11	1.24
12	1.27
13	1.29
14	1.32
15	1.35
16	1.37
17	1.40
18	1.43
19	1.46
20	1.49
21	1.52
22	1.55
23	1.58
24	1.61
25	1.64
26	1.67
27	1.71
28	1.74
29	1.78
30	1.81
31	1.85
32	1.88
33	1.92
34	1.96
35	2.00
36	2.04
37	2.08
38	2.12
39	2.16
40	2.21





## Appendix B: Assumptions underlying factors

### Financial assumptions

Nominal discount rate	4.448%
CPI	2.00%
Real discount rate (in excess of CPI)	2.40%

### Mortality assumptions

Base mortality tables and adjustments	Member: 134% of S2NMA (M) and 134% of S2NFA (F) Dependant: 134% of S2NMA (M) and 118% of S2DFA (F) (as per 2016 valuation)
Future mortality improvement	Based on ONS principal UK population projections 2016
Year of use	2020

### Other assumptions

Proportion of male members for unisex factors	95% for members and 5% for dependants
Proportion partnered	75% of members assumed married at retirement (80% assumed partnered).
Age difference between member and partner	Males assumed 3 years older than partner. Females assumed 3 years younger than partner.
Allowance for commutation	Nil



## Appendix C: Limitations

- C.1 This guidance should not be used for any purpose other than those set out in this guidance.
- C.2 The factors contained in this guidance are subject to regular review. Scheme managers and administrators need to ensure that they are using the latest factors, as relevant, when processing cases.
- C.3 Advice provided by GAD must be taken in context and is intended to be considered in its entirety. Individual sections, if considered in isolation, may be misleading, and conclusions reached by a review of some sections on their own may be incorrect. GAD does not accept responsibility for advice that is altered or used selectively. Clarification should be sought if there is any doubt about the intention or scope of advice provided by GAD.
- C.4 This guidance only covers the actuarial principles around the calculation and application of added pension factors. Any legal advice in this area should be sought from an appropriately qualified person or source.
- C.5 Scheme managers and administrators should satisfy themselves that added pension calculations and benefit awards comply with all legislative requirements including, but not limited to, tax and contracting-out requirements.
- C.6 This guidance is based on the Regulations in force at the time of writing. It is possible that future changes to the Regulations might create inconsistencies between this guidance and the Regulations. If users of this guidance believe there to be any such inconsistencies, they should bring this to the attention of the SPPA and GAD. Under no circumstances should this guidance take precedence over the Regulations. Administrators should ensure that they comply with all relevant Regulations.