GAD
GOVERNMENT **ACTUARY'S** DEPARTMENT

Teachers' Pension Scheme

Outstanding Contributions in respect of Past Added Years and additional family benefit contracts
Factors and Guidance

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1 Introduction

1.1 This note is provided for the Department for Education ('the Department') in our capacity as actuarial advisers to the Teachers' Pension Scheme (TPS) and provides factors and instructions on how to determine the appropriate lump sum to be paid by members in respect of outstanding contributions for Past Added Years (PAY) and additional family benefit contracts.

1.2 This note relates to

> paragraphs 22, 23(2), 24 and 26 of Schedule 5 to The Teachers' Pensions Regulations 2010 (SI 2010/990) ('the 2010 Regulations'), and

> paragraph 8 of Part 3 of Schedule 13 to the 2010 Regulations, which allows Part I of Schedule 4 to The Teachers' Pensions Regulations 1997 (SI 1997/3001) ('the 1997 Regulations') to remain in effect.

1.3 Cases arising under paragraph 8(6) of Part 1 of Schedule 4 to the 1997 Regulations are not covered by this note.[1]

1.4 Cases arising under paragraph 23(3) of Schedule 5 to the 2010 Regulations are not covered by this note and should be referred to the Government Actuary's Department.[2]

1.5 The factors provided in this note have been prepared in light of the approach set out in our letters dated 16 November 2012 and 11 June 2013, and our email dated 11 February 2013.

1.6 The factors are to be implemented with effect from 1 August 2013.

1.7 Paragraph 2.1 sets out how the outstanding lump sum should be calculated, other than for members retiring in ill health, using factors set out in the Appendix to this note.

1.8 The outstanding lump sum should be calculated differently for members who retire on grounds of ill health. Paragraph 2.4 sets out how the outstanding lump sum should be calculated for these members.

1.9 Paragraphs 6 and 9 of Part 1 of Schedule 4 of the 1997 Regulations allow members who have paid PAY contributions while in part-time employment to elect to have their purchased PAY service treated as if they had been in full-time employment. Section 3 of this note sets out how the amount required to purchase this option should be calculated

1.10 Examples of how this guidance should be used to calculate amounts payable in respect of outstanding additional contributions have been provided in Section 4 of this note.

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[1] These cases cover members who had been in full-time pensionable employment throughout the PAY contribution period and are over age 60 when ceasing employment.

[2] These cases cover members who previously varied their election to pay additional family benefits at a higher rate but the Secretary of State is not satisfied that the corresponding declaration of normal health was made in good faith.

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2   Calculating the lump sum amount for outstanding contributions

Member ceases additional contributions on grounds other than ill health

2.1   The following formula should be used to calculate the appropriate lump sum payment for members who cease additional contributions on grounds other than ill health:

$$Outstanding\ Lump\ Sum\ = C \times F^N \times P$$

where,

C = Additional contributions expressed as percentage of salary.

F^N = Capitalisation factor for N outstanding years of contributions at the calculation date (from **Table 900**, subject to paragraph 2.2).

P = Pensionable salary at the calculation date (full-time equivalent for part-time members).

The capitalisation factor depends only on the number of outstanding years of contributions and not on the member's age.

2.2   If the member has a period of outstanding contributions which is not a whole number of years, the capitalisation factor (F^N) should be interpolated using the factors provided in **Table 900** in the following formula.

$$F^N = F^- + [S^E - S^-] \times [F^+ - F^-]$$

where,

S^E = actual outstanding contribution period at the calculation date

S^- = outstanding contribution period rounded down to nearest whole year

S^+ = outstanding contribution period rounded up to nearest whole year

F^- = capitalisation factor for S^- outstanding years

F^+ = capitalisation factor for S^+ outstanding years

2.3   In line with the formula above, full-time equivalent pensionable salary should be used in place of actual pensionable salary for part-time members. Part-time members can only elect to complete the payment of outstanding contributions as if they had been in full-time employment from the date they left pensionable service to the end of the contribution period.

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Member ceases additional contributions on grounds of ill health

2.4   The following formula should be used to calculate the appropriate lump sum payment for members who cease additional contributions due to retirement on grounds of ill health:

$$Outstanding\ Lump\ Sum\ = C \times H_x^N \times P$$

where,

C = Additional contributions expressed as percentage of salary.

H_x^N = Capitalisation factor for N outstanding years of contributions beyond age 60, for a member aged x at the calculation date (from **Table 910**, subject to paragraph 2.5).

P = Pensionable salary at the calculation date (full-time equivalent for part-time members).

The capitalisation factor should be chosen with reference to both the number of outstanding years of contributions **and** the member's age (in completed years and months) at the calculation date.

2.5   Where the member has a period of outstanding contributions after their 60th birthday that is not a whole number of years from the calculation date, the appropriate capitalisation factor should be interpolated from the factors provided in **Table 910** using the following formula.

$$H_x^N = H^- + [T^E - T^-] \times [H^+ - H^-]$$

where,

T^E = actual outstanding contribution period beyond age 60

T^- = outstanding contribution period beyond age 60 rounded down to nearest whole year

T^+ = outstanding contribution period beyond age 60 rounded up to nearest whole year

H^- = capitalisation factor for T^- outstanding years

H^+ = capitalisation factor for T^+ outstanding years

2.6   In line with the formula above, full-time equivalent pensionable salary should be used in place of actual pensionable salary for part-time members. Part-time members can only elect to complete the payment of outstanding contributions as if they had been in full-time employment from the date they left pensionable service to the end of the contribution period.

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3 Purchasing full-time equivalent PAY service

3.1 The amount a member is required to pay to have their purchased PAY service treated as if they had been in full-time employment throughout the contribution period should be calculated as the difference (increased with interest) between the member's actual contributions and the contributions they would have paid had they been in full-time employment.

3.2 Interest should be calculated in line with Paragraph 129 of the 2010 Regulations.

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4   Examples

Example 1

Member leaves service on grounds other than ill health where the outstanding period of PAY contributions is a whole number of years

Additional contributions (% of salary)	1.24%
Outstanding period of contributions	10 years 0 months (ie 120 payments remaining)
Pensionable salary	£30,000 per year
Age at calculation date	50 years and 0 months

From **Table 900**, the capitalisation factor (F^N) to use for this member is 9.633.

The lump sum payable in respect of outstanding contributions should therefore be calculated as

$$Outstanding\ Lump\ Sum\ = 1.24\% \times 9.633 \times £30,000$$

$$= £3,583.48$$

So the member will have to pay **£3,583.48** to purchase the remainder of his PAY benefits.

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Example 2

Part-time Member leaves service on grounds other than ill health where the outstanding period of PAY contributions is a whole number of years

Additional contributions (% of salary)	1.24%
Outstanding period of contributions	10 years 0 months (ie 120 payments remaining)
Actual pensionable salary	£30,000 per year
Full-time equivalent pensionable salary	£60,000 per year

From **Table 900**, the capitalisation factor (F^N) to use for this member is 9.633.

As stated in the formula in paragraph 2.1 and described in paragraph 2.3, full-time equivalent salary should be used for part-time members.

Therefore, the lump sum payable in respect of outstanding contributions should be calculated as

$$Outstanding\ Lump\ Sum\ = 1.24\% \times 9.633 \times £60,000$$

$$= £7,166.95$$

So the member will have to pay **£7,166.95** to purchase the remainder of his (full-time equivalent) PAY benefits.

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Example 3

Member leaves service on grounds other than ill health where the outstanding period of additional family benefit contributions is a non-integer number of years

Additional contributions (% of salary)	2.7%
Outstanding period of contributions	5 years 2 months (ie 62 payments remaining)
Pensionable salary	£30,000 per year

The capitalisation factor is found using the formula from paragraph 2.2 and **Table 900**;

$$F^N = F^- + [S^E - S^-] \times [F^+ - F^-]$$

$$= 4.906 + \left[5\frac{2}{12} - 5\right] \times [5.866 - 4.906]$$

$$= 5.066$$

The lump sum payable in respect of outstanding additional contributions should therefore be calculated as

$$Outstanding\ Lump\ Sum = 2.7\% \times 5.066 \times £30,000$$

$$= £4,103.46$$

So the member will have to pay **£4,103.46** to purchase the remainder of his additional family benefits.

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Example 4

NPA60 member leaves service on grounds of ill health where the outstanding period of additional family benefit contributions (after the 60th birthday) is a whole number of years

Additional contributions (% of salary)	1.0%
Outstanding period of contributions	9 years 0 months
Period to member's 60th birthday	5 years 0 months
Pensionable salary	£40,000 per year
Age at calculation date	55 years 0 months

The outstanding period of contributions after the member's 60th birthday is 4 years 0 months (ie 48 payments remaining).

From **Table 910**, the capitalisation factor (H_x^N) to use for this member is 3.796.

Using the formula in paragraph 2.4

$$Outstanding\ Lump\ Sum\ = C \times H_x^N \times P$$

$$= 1.0\% \times 3.796 \times £40,000$$

$$= £1,518.40$$

Therefore an amount of **£1,518.40** will be deducted from the member's ill-health retirement lump sum to purchase the remainder of his additional family benefits.

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Example 5

Member leaves service on grounds of ill health where the outstanding period of PAY contributions (after the 60th birthday) is a non-integer number of years

Additional contributions (% of salary)	1.7%
Outstanding period of contributions	7 years 5 months
Period to member's 60th birthday	3 years 0 months
Pensionable salary	£40,000 per year
Age at calculation date	57 years 0 months

The outstanding period of contributions after the member's 60th birthday is 4 years 5 months (ie 53 payments remaining).

The capitalisation factor is found using the formula from paragraph 2.5 and **Table 910**;

$$H_x^N = H^- + [T^E - T^-] \times [H^+ - H^-]$$

$$= 3.853 + \left[4\frac{5}{12} - 4\right] \times [4.797 - 3.853]$$

$$= 4.246$$

The lump sum payable in respect of outstanding additional contributions should therefore be calculated using the formula in paragraph 2.4 as,

$$Outstanding\ Lump\ Sum\ = C \times H_x^N \times P$$

$$= 1.7\% \times 4.246 \times £40,000$$

$$= £2,887.28$$

So the member will have to pay **£2,887.28** to purchase the remainder of his PAY benefits

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Appendix – Tables of factors

Table 900: Capitalisation factors for Normal Health Retirement

Outstanding contribution period (years)	PAY capitalisation factor	Outstanding contribution period (years)	PAY capitalisation factor
0	0	14	13.288
1	0.996	15	14.186
2	1.985	16	15.076
3	2.966	17	15.960
4	3.940	18	16.837
5	4.906	19	17.707
6	5.866	20	18.572
7	6.818	21	19.429
8	7.763	22	20.281
9	8.701	23	21.126
10	9.633	24	21.964
11	10.557	25	22.797
12	11.474	26	23.623
13	12.385		

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Table 910: Capitalisation factors for death or retirement on grounds of infirmity

Age (Yrs/mths)	Period of contributions outstanding from 60th birthday (years)										
	0	1	2	3	4	5	6	7	8	9	10
44/0	0	0.884	1.761	2.632	3.496	4.353	5.205	6.050	6.888	7.721	8.548
45/0	0	0.890	1.775	2.652	3.522	4.386	5.244	6.095	6.940	7.778	8.612
46/0	0	0.897	1.788	2.671	3.549	4.419	5.283	6.141	6.992	7.837	8.676
47/0	0	0.904	1.801	2.691	3.575	4.452	5.323	6.187	7.044	7.896	8.741
48/0	0	0.911	1.815	2.712	3.602	4.485	5.363	6.233	7.097	7.955	8.807
49/0	0	0.917	1.828	2.732	3.629	4.519	5.403	6.280	7.150	8.014	8.873
50/0	0	0.924	1.842	2.752	3.656	4.553	5.444	6.327	7.204	8.075	8.939
51/0	0	0.931	1.856	2.773	3.684	4.587	5.484	6.375	7.258	8.135	9.007
52/0	0	0.938	1.870	2.794	3.711	4.621	5.526	6.422	7.313	8.196	9.074
53/0	0	0.945	1.884	2.815	3.739	4.656	5.567	6.471	7.367	8.258	9.142
54/0	0	0.952	1.898	2.836	3.767	4.691	5.609	6.519	7.423	8.320	9.211
55/0	0	0.959	1.912	2.857	3.796	4.726	5.651	6.568	7.478	8.382	9.280
56/0	0	0.967	1.927	2.879	3.824	4.762	5.693	6.617	7.534	8.445	9.349
57/0	0	0.974	1.941	2.900	3.853	4.797	5.736	6.667	7.591	8.508	9.419
58/0	0	0.981	1.956	2.922	3.882	4.833	5.779	6.717	7.648	8.572	9.490
59/0	0	0.989	1.970	2.944	3.911	4.869	5.822	6.767	7.705	8.636	9.561

Note: The additional factors for non-zero months can be derived from this table by interpolation. The factors provided in excel format include the interpolated factors for non-zero months.