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Part 1 – Effective date of guidance

1.1 This is version B10 of the guidance.

1.2 This version of the guidance is effective for valuations with an **effective date** on or after 1 May 2023.

1.3 This guidance should be read in conjunction with the most recent version of our *Guidance for undertaking the valuation in accordance with Section 143 of the Pensions Act 2004.*

Part 2 – Overview

2.1 Introduction

2.1.1 The Pensions Act 2004 ("the Act") sets out the conditions that must be met for the Pension Protection Fund to assume responsibility for a scheme.

2.1.2 In order for the Pension Protection Fund to assume responsibility for a scheme, the scheme must satisfy the following key criteria:

- the scheme must be a scheme which is **eligible** for the Pension Protection Fund;
- the scheme must not have commenced wind-up before 6 April 2005;
- an **insolvency event** must have occurred in relation to the scheme's employer which is a **qualifying insolvency event**;
- there must be no chance that the scheme can be rescued; and
- there must be insufficient assets in the scheme to secure benefits on wind-up that are at least equal to the compensation that the Pension Protection Fund would pay if it assumed responsibility for the scheme.

2.1.3 A valuation under **section 143** of the Act will determine whether the scheme has sufficient funds to pay at least the Pension Protection Fund levels of compensation as set out above.

2.1.4 This guidance must be read in conjunction with the most recent version of our "*Guidance for undertaking the valuation in accordance with Section 143 of the Pensions Act*".

2.2 Purpose of this guidance

2.2.1 This guidance on assumptions is intended for actuaries undertaking valuations to determine the level of funding in accordance with **section 143** of the Act.

2.3 Legislative requirements

2.3.1 Assumptions must be set in compliance with Regulation 6 of the Pension Protection Fund (Valuation) Regulations 2005, which provides that the estimated cost of securing scheme benefits is calculated in accordance with Schedule 7 of the Act (pension compensation provisions) to the member by means of an annuity purchased at the market rate at the relevant time.

2.4 Legislation or authority for actuarial valuations

The following lists key legislation that is relevant to section 143 valuations but it is not intended to be comprehensive.

The Pensions Act 2004 (the Act), particularly section 143, section 162 and Schedule 7

The Pension Protection Fund (Valuation Regulations) 2005 SI 2005/672 ("the valuation regulations")

The Pension Protection Fund (Compensation) Regulations 2005 SI 2005/670

The Pension Protection Fund (Multi-employer Schemes) (Modification) Regulations 2005 SI 2005/441

Relevant compensation cap orders - these are updated annually

The Pensions Act 2008

All legislation made under and/or modifying any of the above.

Part 3 – Financial basis for use when undertaking valuations

3.1 Calculation of yields as at the effective date of valuation

Yields should be measured as at the close of business on the effective date of the valuation. For any dates where yields are not available the yields for the nearest preceding date should be used. Yields should be calculated to the nearest 0.01%. Expressions of the form (Yield Z - k%) should be calculated as an arithmetic difference and not a geometric difference.

3.2 Discount rates

Separate yields are used for pensioners and for non-pensioners. The liability must be obtained by reference to the following (adjusted) yields.

Non-pensioners: Adjusted yield = BoE Nominal Yield
Pensioner: Adjusted yield = BoE Nominal Yield + 0.4%

The BoE Nominal Yield is the GLC Nominal daily forward rate provided at https://www.bankofengland.co.uk/statistics/yield-curves/. The yields are shown at six-monthly intervals up to 40 years. Only those shown for integer maturities should be used. For periods beyond 40 years, the 40-year forward rate should be adopted.

3.3 Revaluation rates

Where compensation increases in deferment, the liability must be obtained by inflating compensation for the period of deferment in line with the adjusted inflation rate shown below, with the relevant cumulative caps on PPF revaluation being applied from the effective date where appropriate[1]:

Pre-1 March 2030**:** Adjusted inflation rate = BoE Inflation Rate – 0.2%
Post-28 February 2030: Adjusted inflation rate = BoE Inflation Rate – 0.1%

The BoE Inflation Rate is the GLC Inflation daily forward rate provided at https://www.bankofengland.co.uk/statistics/yield-curves/. The yields are shown at six-monthly maturities up to 40 years. Only those shown for integer maturities should be used. For periods beyond 40 years, the 40-year forward rate should be adopted.

If the rates are missing for any maturities, then the missing rates should be inferred from the rates that are available. For instance, at the moment there are no forward or

[1] i.e. 5 per cent per annum compound for pre-6 April 2009 compensation, and 2.5 per cent per annum compound for post-5 April 2009 compensation.

spot rates for years 1 and 2. In this case, for years 1 and 2, the forward rate should be derived as follows:

$$\sqrt{\frac{(1+s_3)^3}{1+f_3}}-1$$

Where:

- s_3 = the GLC Inflation daily spot rate in year 3
- f_3 = the GLC Inflation daily forward rate in year 3

Where compensation does not increase in deferment[2], revaluation should be nil.

3.4 Pension indexation rates

Pre-6 April 1997 compensation should receive no increases in payment.

Post-5 April 1997 compensation receives increases in payment in line with CPI subject to an annual cap of 2.5 per cent and a collar of zero. We refer to this as LCPI(0,2.5). This assumption should be calculated for each future year (or “tenor”) using the following formulae, which have been derived from the normal version of the Black 76 option pricing model (also known as the Bachelier model):

$$d_1 = \frac{S-K}{v\sqrt{T}}$$

$$C(K) = (S-K)\times N(d_1) + \frac{v\sqrt{T}}{\sqrt{2\pi}}e^{-{d_1}^2/2}$$

$$P(K) = (K-S)\times N(-d_1) + \frac{v\sqrt{T}}{\sqrt{2\pi}}e^{-{d_1}^2/2}$$

$$LCPI(0{,}2.5) = S + P(0\%) - C(2.5\%)$$

Where:

- T is the tenor,
- S is the inflation rate for year T, to be expressed as a 1-year forward rate and derived from the adjusted inflation rates described in section 3.3,
- v is the volatility of S, which we will publish on our website periodically at this location: https://www.ppf.co.uk/trustees-advisers/valuation-guidance, and
- $N(.)$ is the cumulative distribution function of a standard normal distribution.

[2] This assumption only applies to schemes that do not provide for any revaluation of benefits for, or in respect of, any member. If one or more members receive revaluation on any part of their pension then this assumption does not apply to that scheme.

Part 4 – Mortality for use when undertaking valuations

The mortality baseline in respect of an active, deferred or pensioner member, pre and post retirement, shall be:

Gender of first life	First life	Contingent life
Men	S3PMA	S3DFA
Women	S3PFA	S3DMA

The mortality baseline in respect of a current dependant shall be S3DMA (men) and S3DFA (women).

Future changes to mortality in line with
CMI_2021_M [1.50%; A=0.25%; w2020=10%; w2021=10%] and
CMI_2021_F [1.25%; A=0.25%; w2020=10%; w2021=10%] for men and women respectively (from 2013).

These mortality tables are published by the Continuous Mortality Investigation. For each individual, the set of mortality rates used shall be those applicable to that individual's year of birth.

The mortality table used for an active, deferred or pensioner member should be based on an individual's pension size (before application of the compensation cap and 90% reduction) as follows:

Pension size[3]	First life	Contingent life
Males:		
< 5,500	S3PMA_H	S3DFA
>= 5,500 and < 22,500	S3PMA_M	S3DFA
>= 22,500	S3PMA_L	S3DFA
Females:		
< 1,000	S3PFA_H	S3DMA
>= 1,000 and < 9,000	S3PFA_M	S3DMA
>= 9,000	S3PFA_L	S3DMA

[3] For non-pensioners include revaluation to the relevant time only, where appropriate, and include the pension equivalent of any lump sum entitlement by assuming the annualised value of a lump sum factors = 1 / PPF commutation factors, which are available on the PPF website.

Part 5 – Other assumptions for use when undertaking valuations

5.1 Assumptions for contingent benefits

a) Proportions married

Where the scheme provides for survivor pensions:

For pensioners

Where the scheme makes provision (including discretionary provision) for survivor pensions for "relevant partners" an assumption consistent with 85% (males) or 75% (females) at normal pension age.

Where the scheme only makes provision for survivor pensions for a legal spouse or civil partner, an assumption consistent with 75% (males) or 65% (females) at normal pension age.

Using a proportion married assumption consistent with 85% / 75% (males) or 75% / 65% (females) at normal pension age may require mortality rates for calendar years before 2013 for a "strictly correct" calculation of the proportion married assumption to apply for older pensioners. In such circumstances prudent assumptions should be used.

For non-pensioners

Where the scheme makes provision (including discretionary provision) for survivor pensions for "relevant partners" the assumption must be, at the assumed date of retirement or earlier death, 85% (males) or 75% (females).

Where the scheme only makes provision for survivor pensions for a legal spouse or civil partner, the assumption must be, at the assumed date of retirement or earlier death, 75% (males) or 65% (females).

A **"relevant partner"** is as defined in SI 2005/670, being a person of either sex who was not married to, or in a civil partnership with, the member and who was living with the member as if that person and the member were husband and wife or, in the case of two adults of the same sex, as if they were civil partners. For the purpose of the above, two adults of the same sex are to be regarded as living together as civil partners if they would be regarded as living together as husband and wife were they instead two adults of opposite sex. Schemes that were formerly contracted-out on a protected rights basis may be required to pay a survivor's pension to a wider category than just the legal spouse.

b) Age difference between member and dependant

Females are assumed to be 3 years younger than males.

c) Children's pensions

No specific additional allowance is to be included for prospective children's pensions. Children's pensions already in payment should be assumed to cease at age 18, or age 23 if currently aged over 17.

5.2 Expenses

This calculation of expenses is intended to give an estimate of the cost of securing a full buyout with an insurance company. The expenses must be applied whatever the investment strategy of the scheme and, in particular, even if all scheme benefits are secured by immediate and deferred annuity policies.

a) Estimated wind-up expenses

5% of liabilities (excluding benefit installation / payment expenses) up to £4 million

plus

1.5% of liabilities (excluding benefit installation / payment expenses) between £4 million and £20 million

plus

0.8% of liabilities (excluding benefit installation / payment expenses) between £20 million and £340 million.

The estimated wind-up expenses will be no more than £3 million for all schemes.

b) Benefit installation / payment expenses

Non-pensioners
An allowance of £750 per member should be made.

Pensioners
An age-related allowance per member should be made, according to the table below:

Age	Expense allowance per member £
< 60	650
60 – 70	550
70 – 80	500
80 +	400

If a member has two or more records, e.g. a pension and a deferred pension, then only one expense allowance (the highest) should be calculated.