



# Principal Civil Service Pension Scheme (PCSPS)

Actuarial reduction buy out (ARBO) - for members retiring before age 55 whose deemed date for pension increases occurs before the date of early retirement

Factors and guidance



# Principal Civil Service Pension Scheme (PCSPS)

ARBO before age 55 with PI deemed date before early retirement

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# 1 Summary

- 1.1 This note is addressed to the Cabinet Office as scheme manager of the PCSPS (the 'Principal Civil Service Pension Scheme' or the 'Scheme').
- 1.2 The purpose of this note is to provide Cabinet Office with the method and tables to be used to calculate the cost of buying out the full actuarial reduction in the circumstances described in paragraph 1.4 below.
- 1.3 Scheme members who are eligible to take actuarially reduced early retirement have the option to pay a lump sum to the scheme and then receive an unreduced pension and lump sum.
- 1.4 This note relates only to cases involving members wishing to retire before age 55 whose deemed date for pension increases occurs before the date of early retirement. We have provided a pro forma in Appendix C, which can be used to calculate the ARBO cost. An example of using the pro forma is in Appendix B.
- 1.5 In the remainder of this note, the lump sum payment required to buy out the actuarial reduction is referred to as the actuarial reduction buy out (ARBO) cost. The ARBO cost should be calculated before the member commutes pension for lump sum.
- 1.6 The ARBO cost for added pensions will be calculated in the same way as for main scheme benefits (and using the same tables as determined by paragraphs 2.2 to 2.4 and 3.1).
- 1.7 This guidance is intended to supersede any advice previously issued, for the purposes of ARBO calculations. No advice or factors issued in the past should be used for cases after this date. In particular, this guidance supersedes:
  - "Principal Civil Service Pension Scheme (PCSPS): Factors for actuarial reduction buy out (ARBO) for members retiring before age 55 whose deemed date for pension increases occurs before the date of early retirement" dated 26 June 2015.
- 1.8 The factors in this note have been updated but the calculation methodology remains unchanged.

### Relevant scheme rules

1.9 The PCSPS rules on actuarial reduction buy out are set out below. The rules state that the factors covered by this note are to be prepared by the Minister for the Civil Service, after consulting the Scheme Actuary.

1972 Section – rule 3.51 (final salary benefits)

- rule 14.18A (added pension benefits)

- rule 12.4 (pension credit member benefits)

2002 Section – rule D.3A (**premium** final salary benefits)

rule L.11A (classic plus final salary benefits)

- rule C1.15A (added pension benefits)

2007 Section – rule E.15A (all benefits)

### **Assumptions**

- 1.10 The factors provided in this note have been prepared in light of our advice to the Cabinet Office dated 30 October 2018 and its instructions following that advice.
- 1.11 Details of the principal assumptions underlying the factor tables in this guidance are set out in Appendix E. Some important limitations are set out in Appendix F.

### Cases not covered by this note

- 1.12 For cases involving members wishing to retire after age 55 or before age 55 whose deemed date for pension increases occurs on or after the date of early retirement, the procedure for calculating the ARBO cost is set out in the latest version of our note PCSPS: Factors for actuarial reduction buy out (ARBO) All members except those retiring before age 55 whose deemed date for pension increases occurs before the date of early retirement.
- 1.13 We understand that **nuvos** members can only take early retirement (in normal health) at or above age 55. Therefore this note will not apply to members of **nuvos**.
- 1.14 Calculations for members whose NPA is not age 60 or 65 years should be referred to GAD.
- 1.15 We do not anticipate any other special cases not covered by this note (or the guidance note referenced in paragraph 9 above). However, if any do occur they should be referred to GAD.

#### Implementation and Review

- 1.16 The factors contained in this guidance will apply from 1 May 2019. This implementation date has been determined by the Cabinet Office. This guidance will apply with immediate effect.
- 1.17 This guidance has been written for pension administrators and assumes some knowledge of general pension terminology, and some familiarity with retirement calculations for the PCSPS. Any questions concerning the application of the guidance should, in the first instance, be referred to the Cabinet Office.
- 1.18 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.
- 1.19 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.
- 1.20 Any special cases that are not covered by this guidance should be treated on a case by case basis.



### **Third Party Reliance**

- 1.21 This guidance has been prepared for the use of the Cabinet Office and the scheme administrators for the purposes of demonstrating the application of the factors covered by this guidance only. This guidance may be published on Cabinet Office and scheme administrator's 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.
- 1.22 Other than Cabinet Office and the scheme administrators, 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 Classic and Classic Plus members

- 2.1 The ARBO cost for a **classic** or **classic plus** member retiring early should be considered as the sum of two components: the cost of buying out the reduction applied to the member's pension, and the cost of buying out the reduction applied to the member's lump sum.
- 2.2 The cost of buying out the actuarial reduction applied to the member's pension should be calculated as:

$$PensionCost = [P \times F_x \times (1 + PI)] - [P \times PI \times G_x]$$

Where:

x = member's age at retirement date in years and complete months

= unreduced pension at retirement. [The pension consists of a member's Main Pension, any Added Pension bought and (where relevant) the Transfer In pension].

PI = rate of pension increase (PI rate) from the 'Deemed Date for Pension Increase' to the published increase date preceding the date of early retirement, as provided for under Section 59 of the Social Security Pensions Act 1975 (as amended). The PI rate is calculated as:

PI rate = (PI multiplier – 1)

where the PI multiplier applies from the Deemed Date for Pension Increase to the published increase date preceding the early retirement date<sup>1</sup>.

 $F_{r}$  = relevant factor for a member aged x, taken from:

- Table 3 (P1ARBO60) for a member with NPA 60
- Table 4 (P1ARBO65) for a member with NPA 65<sup>2</sup>

 $G_{x}$  = relevant factor for a member aged x, taken from Table 1 (P1ARBOGX).

<sup>&</sup>lt;sup>1</sup> The PI *multipliers* are published by HM Treasury in the tables: "Pensions increase multiplier tables" each year. The multipliers in the tables are in the form of one plus the pension increase percentage. This means the amount of pension after the increase is found by multiplying the current pension by the multiplier. For examples of using the multiplier tables, see Appendix D.

<sup>&</sup>lt;sup>2</sup> We understand that there are a small number of **classic** and **premium** members with an NPA of 65.

2.3 The cost of buying out the actuarial reductions applied to the member's lump sum should be calculated as:

$$LSCost = LSR + [PI \times LSR \times H_r]$$

- LSR = lump sum reduction (i.e. 'unreduced lump sum' 'reduced lump sum').

  The reduced lump sum is the amount of lump sum the member would be entitled to at retirement if they chose not to buy out the actuarial reduction.
- $H_{\rm x}$  = relevant factor for a member aged x, taken from Table 2 (P1ARBOHX).
- 2.4 The total ARBO cost of a **classic** or **classic plus** member is then the sum of the pension buy out and lump sum buy out components:

2.5 The calculations above are done before the member commutes pension for lump sum.

### 3 Premium members

3.1 Since **premium** members receive no automatic lump sum, the ARBO cost should be calculated as:

$$Cost = [P \times F_x \times (1 + PI)] - [P \times PI \times G_x]$$

where variables are as defined in paragraph 2.2.

3.2 The calculation above should be done before the member commutes pension for lump sum.

# 4 How to use the pro forma

- 4.1 Appendix C contains a pro forma which can be used to calculate the ARBO cost for cases covered by this note. Appendix B contains an example of using the pro forma.
- 4.2 The pension 'P' referred to in paragraphs 2.2 and 3.1, consists of a member's Main Pension, any Added Pension bought and (where relevant) the Transfer In pension. As outlined in the pro forma, pension increases apply to each of these components and different pension increases may be required if different 'Deemed date for PI' are applicable.
- 4.3 The following table gives the sources of the variables defined in 2.2 and 3.1 above, and their references in the pro forma.

Variable	Source	Reference in pro forma
P	Member data	(1)
PI	HM Treasury- "Pension increase multiplier tables". The early retirement date determines which multiplier table should be used. See Appendix D for examples of using the multiplier tables.	(3)
$F_{x}$	Tables 3 and 4 in Appendix A	(4)
$G_{x}$	Table 1 in Appendix A	(5)
LSR	Member data	(12)
$H_x$	Table 2 in Appendix A	(6)

- 4.4 The member's unreduced lump sum at retirement should reflect the retirement lump sum a member is entitled to before any commutation takes place.
- 4.5 The reduced lump sum referenced by (11) in the pro forma is derived from the lump sum early retirement factor, i.e. the actuarial reduction factor that would apply to the member's lump sum if they received actuarially reduced benefits and did not take up the buy out option see the latest version of GAD's guidance note *Principal Civil Service Pension Scheme: Early and late retirement factors*.



# 5 Example

Example: Classic (NPA 60) member retiring from active status

Member data:

•	Date of birth	01/11/1964
•	Normal Pension age (NPA)	60
•	Date of retirement	01/05/2019
•	Deemed Date for Pension Increase	01/01/2012
•	Main Pension	£5,000
•	Added Pension	£0
•	Transferred in pension	£0
•	Unreduced lump sum	£15,000

### Calculation:

•	Age at retirement (years and complete months)	54 years 6 months
•	F <sub>x</sub> factor table to use	Table 3 (P1ARBO60)
•	F <sub>x</sub> factor for age at retirement	5.11
•	PI rate between Deemed Date and retirement <sup>3</sup>	0.1462
•	G <sub>x</sub> factor for age at retirement (from Table 1)	0.49
•	H <sub>x</sub> factor for age at retirement (from Table 2)	0.98
•	Reduced lump sum <sup>4</sup>	£13,203.45
•	Lump sum reduction (LSR)	£1,796.55

<sup>&</sup>lt;sup>3</sup> This is taken from the 2019 PI Multiplier Tables published by HMT. See Appendix D for more details on calculating the appropriate PI rate.

<sup>&</sup>lt;sup>4</sup> Calculated using the methodology and factors provided in the latest version of GAD's note *Principal Civil Service Pension Scheme: Early and late retirement factors* (paragraph 2.8). In this example, the required factors are: Bx = 0.023 and Cx = 1.116 (age 54 years and 6 months from P1ER60LS2).

Pension cost calculated as:

$$PensionCost = [P \times F_x \times (1 + PI)] - [P \times PI \times G_x]$$

- Pension cost = [£5,000.00 x 5.11 x 1.1462] [£5,000.00 x 0.1462 x 0.49]
   = £28,927.22
- Lump sum cost calculated as:

$$LSCost = LSR + [PI \times LSR \times H_x]$$

- Lump sum cost = £1,796.55 + [0.1462 x £1,796.55 x 0.98] = £2,053.95
- Overall ARBO cost is calculated as:

$$Cost = PensionCost + LSCost$$

• Cost = £28,927.22 + £2,053.95

Please note that in this example the member has no Added Pension or Transferred in pension. Where members do have these, the 'Deemed Date for PI' may not be the same for all components of pension. If different 'Deemed Date for PI' apply then the PI would need to be applied individually to the different components of pension (as shown in the pro forma in Appendices B and C.



# **Appendix A: Factor tables**

### **List of Tables**

- Table 1: P1ARBOGX (Table 710 in consolidated factors spreadsheet) G<sub>x</sub> factors for all members
- Table 2: P1ARBOHX (Table 711 in consolidated factors spreadsheet) H<sub>x</sub> factors for all members
- Table 3: P1ARBO60 (Table 712 in consolidated factors spreadsheet) F<sub>x</sub> factors for classic or premium members with NPA65
- Table 4: P1ARBO65FS (Table 713 in consolidated factors spreadsheet) F<sub>x</sub> factors for classic or premium members with NPA65

Table 1: P1ARBOGX (Table 710 in consolidated factors spreadsheet) -  $G_x$  factors for all members

	Age at early retirement										
Months	50	51	52	53	54	55					
0	4.47	3.66	2.80	1.91	0.98	0.00					
1	4.41	3.59	2.73	1.83	0.90						
2	4.34	3.52	2.66	1.76	0.81						
3	4.27	3.44	2.58	1.68	0.73						
4	4.20	3.37	2.51	1.60	0.65						
5	4.13	3.30	2.43	1.52	0.57						
6	4.07	3.23	2.36	1.44	0.49						
7	4.00	3.16	2.28	1.37	0.41						
8	3.93	3.09	2.21	1.29	0.33						
9	3.86	3.02	2.13	1.21	0.24						
10	3.79	2.95	2.06	1.13	0.16						
11	3.73	2.88	1.99	1.06	0.08						



Table 2: P1ARBOHX (Table 711 in consolidated factors spreadsheet) - H<sub>x</sub> factors for all members

	Age at early retirement										
Months	50	51	52	53	54	55					
0	0.82	0.85	0.88	0.92	0.96	1.00					
1	0.82	0.85	0.89	0.92	0.96						
2	0.82	0.85	0.89	0.92	0.96						
3	0.83	0.86	0.89	0.93	0.97						
4	0.83	0.86	0.89	0.93	0.97						
5	0.83	0.86	0.90	0.93	0.98						
6	0.83	0.87	0.90	0.94	0.98						
7	0.84	0.87	0.90	0.94	0.98						
8	0.84	0.87	0.91	0.94	0.99						
9	0.84	0.87	0.91	0.95	0.99						
10	0.84	0.88	0.91	0.95	0.99						
11	0.85	0.88	0.92	0.95	1.00						



Table 3: P1ARBO60 (Table 712 in consolidated factors spreadsheet) - F<sub>x</sub> factors for classic or premium members with NPA60

	Age at early retirement												
Months	50	51	52	53	54	55	56	57	58	59	60		
0	8.59	7.88	7.13	6.35	5.53	4.68	3.79	2.88	1.94	0.99	0.00		
1	8.53	7.82	7.07	6.28	5.46	4.60	3.71	2.80	1.86	0.90			
2	8.47	7.76	7.00	6.22	5.39	4.53	3.64	2.72	1.78	0.82			
3	8.41	7.69	6.94	6.15	5.32	4.46	3.56	2.65	1.70	0.74			
4	8.35	7.63	6.87	6.08	5.25	4.38	3.49	2.57	1.62	0.66			
5	8.29	7.57	6.81	6.01	5.18	4.31	3.41	2.49	1.54	0.57			
6	8.24	7.51	6.74	5.94	5.11	4.23	3.33	2.41	1.46	0.49			
7	8.18	7.44	6.68	5.88	5.03	4.16	3.26	2.33	1.38	0.41			
8	8.12	7.38	6.61	5.81	4.96	4.09	3.18	2.26	1.30	0.33			
9	8.06	7.32	6.55	5.74	4.89	4.01	3.11	2.18	1.23	0.25			
10	8.00	7.26	6.48	5.67	4.82	3.94	3.03	2.10	1.15	0.16			
11	7.94	7.20	6.42	5.60	4.75	3.86	2.95	2.02	1.07	0.08			



Table 4: P1ARBO65 (Table 713 in consolidated factors spreadsheet) - F<sub>x</sub> factors for classic or premium members with NPA65

	Age at early retirement															
Months	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
0	12.19	11.57	10.92	10.23	9.51	8.76	7.98	7.18	6.36	5.52	4.66	3.77	2.87	1.94	0.98	0.00
1	12.14	11.51	10.86	10.17	9.45	8.69	7.91	7.11	6.29	5.45	4.58	3.70	2.79	1.86	0.90	
2	12.08	11.46	10.80	10.11	9.39	8.63	7.84	7.04	6.22	5.37	4.51	3.62	2.71	1.78	0.82	
3	12.03	11.40	10.74	10.05	9.32	8.56	7.78	6.97	6.15	5.30	4.44	3.55	2.63	1.70	0.74	
4	11.98	11.35	10.69	9.99	9.26	8.50	7.71	6.90	6.08	5.23	4.36	3.47	2.56	1.62	0.65	
5	11.93	11.30	10.63	9.93	9.20	8.43	7.64	6.84	6.01	5.16	4.29	3.40	2.48	1.54	0.57	
6	11.88	11.24	10.57	9.87	9.14	8.37	7.58	6.77	5.94	5.09	4.22	3.32	2.40	1.46	0.49	
7	11.83	11.19	10.52	9.81	9.07	8.30	7.51	6.70	5.87	5.02	4.14	3.24	2.32	1.38	0.41	
8	11.77	11.13	10.46	9.75	9.01	8.24	7.44	6.63	5.80	4.94	4.07	3.17	2.25	1.30	0.33	
9	11.72	11.08	10.40	9.69	8.95	8.17	7.38	6.56	5.73	4.87	3.99	3.09	2.17	1.22	0.25	
10	11.67	11.02	10.35	9.63	8.88	8.11	7.31	6.49	5.66	4.80	3.92	3.02	2.09	1.14	0.16	
11	11.62	10.97	10.29	9.57	8.82	8.04	7.24	6.43	5.59	4.73	3.85	2.94	2.01	1.06	0.08	

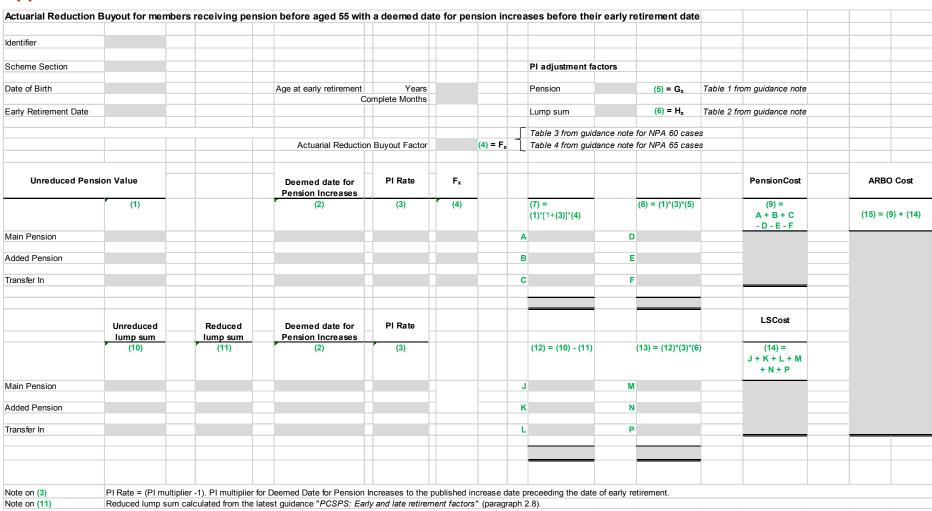


# **Appendix B: Example case**

			on before aged 55 with										
dentifier	Example												
Scheme Section	Classic						PI adjustment fa	ctors					
Date of Birth	01/11/1964		Age at early retirement	Years mplete Months	54 6		Pension	0.4900	(5) = G <sub>x</sub>	Table 1 from guidance not	e		
arly Retirement Date	01/05/2019			Inpicte Months			Lump sum	0.9800	(6) = H <sub>x</sub>	Table 2 from guidance not	e		
							Table 3 from guid						
			Actuarial Reduction	Buyout Factor	5.11 (4	) = F <sub>x</sub>	Table 4 from guid	ance note	for NPA 65 cases	<b>;</b>	-		
Unreduced Per	sion Value		Deemed date for Pension Increases	PI Rate	F <sub>x</sub>					PensionCost		ARBO (	Cost
	(1)		(2)	(3)	(4)		(7) = (1)*[1+(3)]*(4)		(8) = (1)*(3)*(5)	(9) = A + B + C - D - E - F		(15) = (9)	+ (14
Main Pension	£5,000.00		01/01/2012	0.1462	5.11		£29,285.41	D	£358.19				
Added Pension	£750.00		01/01/2018	0.0317	5.11		£3,953.99	Е	£11.65	£38,244.74		_	
Transfer In	£1,000.00		01/01/2017	0.0574	5.11		£5,403.31	F	£28.13			_	
							£38,642.71		£397.97				
	Unreduced lump sum	Reduced lump sum	Deemed date for Pension Increases	PI Rate			£30,042.71		£397.97	LSCost		£40,956	6.06
	(10)	(11)	(2)	(3)			(12) = (10) - (11)		(13) = (12)*(3)*(6)	(14) = J + K + L + M + N + P		_	
Main Pension	£15,000.00	£13,203.45	01/01/2012	0.1462			<b>J</b> £1,796.55	M	£257.40				
Added Pension	£2,250.00	£1,980.52	01/01/2018	0.0317			£269.48	N	£8.37	£2,711.32			
Transfer In	£3,000.00	£2,640.69	01/01/2017	0.0574			£359.31	Р	£20.21				
							£2,425.34		£285.98				
Note on (3)	PI Rate = (PI multipli	er -1). PI multiplier fo	Deemed Date for Pension Ir	ncreases to the pu	ublished incre	ease date	preceeding the date	of early re	tirement.	1			



# **Appendix C: Pro forma for calculations**





# **Appendix D: Pension increases**

HM Treasury publishes pensions increase multiplier tables in April each year. The effective date varies from year to year. The multipliers in the tables are in the form of one plus the pension increase percentage. This means the amount of pension after the increase is found by multiplying the current pension by the multiplier.

The following examples show how the early retirement date and the effective date of the pensions increase multiplier tables interact.

### Example 1

Early retirement date: 09/04/2018

Deemed Date for Pension Increase: 01/01/2010

09/04/2018 is the date from which the 2018 pensions increase multipliers take effect so these should be used. The multiplier in question is therefore 1.1985 and the rate (i.e. "PI" as defined in paragraph 2.2) is 0.1985.

### Example 2

Early retirement date: 06/04/2019

Deemed Date for Pension Increase: 01/01/2010

The early retirement date in this example occurs before the date from which the 2019 pensions increase multipliers take effect so the 2018 pension increase multipliers should be used. The multiplier in question is therefore 1.1985 and the rate (i.e. "PI" as defined in paragraph 2.2) is 0.1985

### Example 3

Early retirement date: 09/12/2019

Deemed Date for Pension Increase: 24/03/2019

Where there is a short period of time between the Deemed Date for Pension Increase and the date from which the next pension increase multipliers take effect the pension increase multiplier table may not show the relevant factor. In this example the early retirement date is after



08/04/2019 so the 2019 pensions increase multiplier table should be used, but the table does not give a factor any date after 23/03/2019. It should therefore be assumed that the pension increase multiplier is 1.00 and therefore the rate (i.e. "Pl" as defined in paragraph 2.2) is 0.

Example 4

Early retirement date: 01/02/2019

Deemed Date for Pension Increase: 01/07/2018

In cases where the period between the Deemed Date for Pension Increase and the early retirement date does not pass the date when the next pension increase multipliers take effect then it should be assumed that the pension increase multiplier is 1.00 and therefore the rate (i.e. "PI" as defined in paragraph 2.2) is 0. [These calculations can be simplified by using the procedure for calculating the cost of the actuarial reduction buy out as laid out in the most recent guidance note: 'PCSPS: Factors for actuarial reduction buy out (ARBO) - All members except those retiring before age 55 whose deemed date for pension increases occurs before the date of early retirement'].

### Links to HM Treasury tables.

Most recent Pensions Increase multiplier tables:

https://www.gov.uk/government/publications/public-service-pensions-increase-2018 https://www.gov.uk/government/publications/public-service-pensions-increase-2019

Previous pensions increase multiplier tables:

http://webarchive.nationalarchives.gov.uk/20130402150008/http://www.hm-treasury.gov.uk/tax pensions increases.htm

# **Appendix E: Assumptions underlying factors**

### Financial assumptions

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

### **Mortality assumptions**

Base mortality tables S2NMA and S2NFA

Base table adjustment Member: 104% of S2NMA for males and 104%

of S2NFA for females (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 the

purpose of unisexing factors

50%

Allowance for commutation Nil

# Appendix F: Limitations of this guidance

- F.1 This guidance should not be used for any purpose other than those set out in this guidance.
- F.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.
- F.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.
- F.4 This guidance only covers the actuarial principles around the calculation and application of ARBO factors. Any legal advice in this area should be sought from an appropriately qualified person or source.
- F.5 Scheme managers and administrators should satisfy themselves that ARBO calculations and benefit awards comply with all legislative requirements including, but not limited to, tax and contracting-out requirements.
- F.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 Cabinet Office and GAD. Under no circumstances should this guidance take precedence over the Regulations. Administrators should ensure that they comply with all relevant Regulations.