Kerr Henderson (Consultants and Actuaries) Limited
29-32 College Gardens
Belfast
BT9 6BT

Clarkson PLC Pension Scheme

Actuarial Valuation as at 31 March 2019

Scheme Funding Report

Prepared for the Trustees of the Clarkson PLC Pension Scheme

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Summary of Valuation Results

Ongoing Position	Value of Assets:	£137.8M
	Technical Provisions:	£131.2M
	Surplus/(Deficit):	£6.6M
	Funding level:	105%
Solvency Estimate	Value of Assets:	£137.8M
	Solvency Estimate:	£169.8M
	Surplus/(Deficit):	(£32.0M)
	Funding Level:	81%
Contribution Structure	As the Scheme is in surplus, there will not be any Company contributions. The Company will pay directly all administration expenses, Pension Protection Fund levies and other levies collected by the Pensions Regulator. Contributions will be reviewed at the next actuarial valuation due as at 31 March 2022.	

Contents

Introduction

This report was commissioned by and is addressed to the Trustees of the Clarkson PLC Pension Scheme.

The purpose of this report is to set out the results of the actuarial valuation of the Scheme as at 31 March 2019. The report has been prepared in accordance with section 224(1)(a) of the Pensions Act 2004.

This report records the final outcome of the valuation process. During the valuation process I provided advice to the Trustees on various matters relating to the valuation including the selection of actuarial assumptions. The Trustees and Company have agreed and finalised a Statement of Funding Principles and Schedule of Contributions.

The following abbreviations are used in this report.

Term	Abbreviation
Clarkson PLC Pension Scheme	Scheme
Trustees of the Clarkson PLC Pension Scheme	Trustees
Clarkson PLC	Company
Trust Deed & Rules	Rules

Signed:

Date: 6 March 2020

Anthony Morgan
Scheme Actuary
Fellow of the Institute and Faculty of Actuaries
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Developments since the last valuation

In this section I have summarised developments affecting the Scheme since the last valuation.

Summary of previous valuation

The previous actuarial valuation of the Scheme was undertaken with an effective date of 31 March 2016.

At this valuation, the Scheme's assets were £127.0M and the Technical Provisions were £123.4M. This corresponded to a funding surplus of £3.6M or a funding level of 103%.

Schedule of Contributions

Following completion of the previous valuation, the Trustees and Company agreed no contributions would be payable by the Company. The Company agreed to pay the cost of administration expenses, the Pension Protection Fund levy and other levies collected by the Pensions Regulator directly.

Contributions paid

No deficit reduction contributions were due to be paid by the Company over the period since the previous valuation. However, the Company paid additional monthly contributions of £85,167 into the Scheme over the period April 2016 to September 2016.

Investment Strategy

A summary of the Trustees' investment strategy at the current and previous valuation dates is provided in Appendix 2.

The investment return achieved on the Scheme's assets over the period was approximately 10% per annum.

Membership

As the Scheme is paid-up, there were no changes to the Scheme's membership during the inter-valuation period other than those due to routine member movements.

Benefits

As the Scheme is paid up, there were no changes to the Scheme's benefit structure during the inter-valuation period.

Guaranteed Minimum Pension (GMP) Equalisation

The calculation of the Technical Provisions has made an allowance for "GMP equalisation".

GMP equalisation is a long-standing unresolved issue affecting defined benefit pension schemes that were contracted-out of the state scheme prior to 6 April 1997. The issue stems from the fact that the original contracting-out legislation required schemes to calculate GMPs differently for men and women.

On 26 October 2018 the High Court handed down its judgment in *Lloyds Banking Group Pensions Trustees Ltd v Lloyds Bank plc and others*. The High Court has ruled that schemes must equalise the discriminatory effects of GMPs and set out various methods that schemes can use to achieve this (but did not provide a single definitive method that schemes should use).

We estimate that equalising GMPs will increase the Scheme's liabilities by around 0.5%, using Method C2 (higher of male and female comparator pensions each year, subject to accumulated offsetting and interest). The estimated impact may be different if alternative methods are used, but the Company may be able to compel the Trustees to adopt Method C2.

We have calculated the impact on a member basis for each deferred member using membership data as at 31 March 2019. We haven't carried out the same analysis for the pensioner members as the calculations for these members are more complex and require more comprehensive data than we currently hold. Instead we have assumed that the impact on the pensioner members is in line with the impact on the deferred membership. We believe this is a reasonable approach.

Please note our method does not allow for any forfeiture of back payments that may be considered later or for any members who previously transferred their benefits out of the Scheme.

Scheme Information

The valuation results depend on three main items of Scheme information – membership data, assets and benefits.

Membership Data

A summary of the membership data used for the current and previous valuations is set out in Appendix 1.

Assets

A summary of the Scheme's assets as at the valuation date is set out in Appendix 2. This information was obtained from the Scheme's audited accounts as at the valuation date.

Please note that, for the purpose of the valuation, all funds in respect of Additional Voluntary Contributions (AVCs) and the Defined Contribution (DC) section of the Scheme are excluded from the valuation calculations as the benefits payable in respect of these funds exactly match the investments held.

The value of the Scheme's assets as at the valuation date (excluding AVCs and DC funds) was £137.8M.

The Scheme also holds assets in the form of several annuities that were purchased many years ago. The actuarial value of these annuity policies, which I calculate to be £0.7m, is included as an asset in the valuation balance sheet.

Benefits

The Scheme benefits valued for the purpose of the valuation are those set out in the consolidated Rules dated 11 February 2015 together with subsequent amending deeds. A summary of the benefit structure as at the valuation date is provided in Appendix 3.

No allowance has been made for discretionary benefits in this valuation.

Purpose, Method & Assumptions

Purpose

The purpose of the actuarial valuation is to enable the Trustees to:

- Assess the financial position of the Scheme as at the valuation date.
- Determine the level of contributions that should be paid by the Company to the Scheme in the future.
- Carry out certain calculations as required by legislation.

A number of calculations are carried out as follows.

Ongoing Valuation

Calculations are carried out on the assumption that the Scheme will continue to operate in its current form on an ongoing basis. In particular the following is calculated:

Technical Provisions

In legislation, Technical Provisions is defined as "the amount required, on an actuarial calculation, to make provision for the scheme's liabilities". In other words, the Technical Provisions represents an estimate of how much money is required now to fund benefits payable in the future.

Benefit payments from the Scheme are expected to be made for many years into the future. Some of the benefit payments are fixed and known in advance. However, other benefit payments are unknown as they will depend on future price inflation.

The Technical Provisions are calculated by first estimating the benefits that will be paid in the future. These estimated benefits are then discounted to the valuation date to obtain a present value.

Deficit repair contributions

If a pension scheme has a shortfall in assets relative to its Technical Provisions it is necessary to calculate the additional contributions required to fund the shortfall.

The Trustees' funding objective is set out in the Statement of Funding Principles. In summary, the Trustees' objective is that the Scheme should be fully funded relative to its Technical Provisions and that any shortfalls should be eliminated by the payment of additional Company contributions as quickly as the Company can reasonably afford.

Solvency Valuation

The Trustees are also required to consider the financial position of the Scheme in the event that the Scheme is wound up. In this scenario, the Scheme would be dissolved and members' accrued benefits would be secured by purchasing individual insurance policies from an insurance company. In legislation, this measure of funding is referred to as the actuary's estimate of the solvency of the Scheme.

Calculations are carried out on the hypothetical assumption that the Scheme commenced winding-up on the valuation date.

The solvency estimate provides an estimate of buy-out costs. However, the actual cost of buying-out all benefits can only be determined by obtaining actual buy-out quotations from insurance companies. The pricing of buy-out quotations will depend on an insurer's own assessment of financial and demographic factors. Pricing will also reflect commercial factors such as supply and demand for this type of insurance business.

Actuarial Method

There are a number of different actuarial methods available to carry out the various calculations.

The Trustees have adopted the Projected Unit Credit method of calculation.

Actuarial Assumptions

The actuarial assumptions used to calculate the Technical Provisions and the other ongoing valuation calculations were determined by the Trustees after considering advice from the Scheme Actuary and following discussion with the Company. Collectively, these assumptions represent a prudent view of the future experience of the Scheme assuming it continues as an ongoing scheme.

The actuarial assumptions used to calculate the statutory estimate of solvency were determined by the Scheme Actuary. These assumptions reflect the estimated cost of purchasing immediate and deferred annuities as at the valuation date.

The method and assumptions used to calculate the Technical Provisions have been agreed by the Trustees and the Company and are set out in the Statement of Funding Principles dated 17 February 2020. A detailed summary of the actuarial assumptions used is set out in Appendix 4.

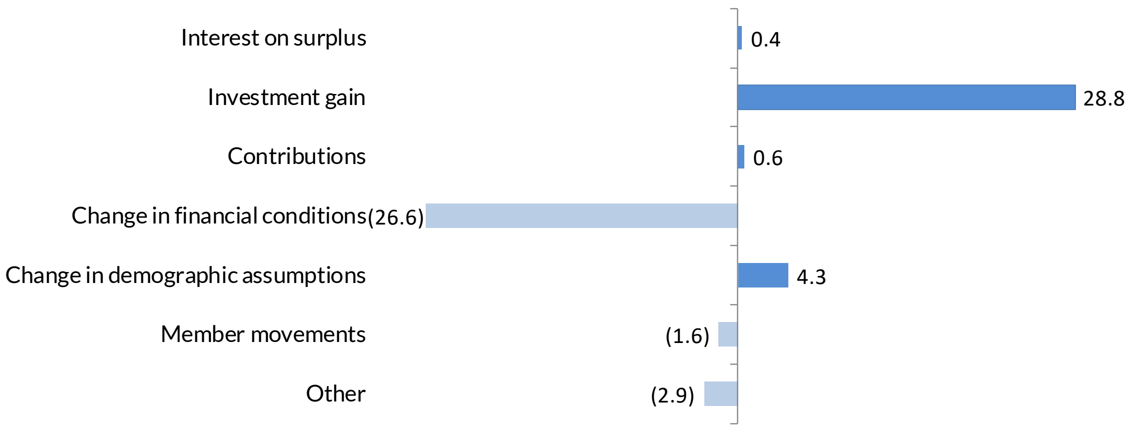
Valuation Results – Technical Provisions

The results of our calculation of the Technical Provisions are set out in the table below. For comparison, I have also shown the results of the previous valuation.

Balance Sheet – Technical Provisions

Valuation Date	31 March 2016 £M	31 March 2019 £M
Value of Assets	127.0	137.8
Technical Provisions		
- Deferreds	53.4	52.0
- Pensioners	70.0	79.2
Total	123.4	131.2
Surplus / (Deficit)	3.6	6.6
Funding Ratio	103%	105%

The surplus at the valuation date was £6.6M corresponding to a funding ratio of 105%. At the previous valuation the surplus was £3.6M corresponding to a funding ratio of 103%. The reasons for the change in the funding position are illustrated in the chart below.



As can be seen from the chart the principal reasons for the improvement in the funding position over the period were the higher than assumed investment returns achieved on the Scheme's assets and the change in demographic assumptions.

These factors were partially offset by the change in financial conditions which reflected the decrease in bond yields over the period, which increased the calculated value of the liabilities.

My certification of the calculation of the Technical Provisions is set out in Appendix 6.

Pension Funding – Sensitivities and Key Risks

The valuation results are very sensitive to the assumptions made. The information set out in Appendix 5 helps to illustrate the various risks inherent in pension scheme funding.

The main actions taken by the Trustees to help mitigate these risks are as follows:

- The Trustees receive regular updates on the Company's financial position. This helps the Trustees to take into account the strength of the Company's covenant.
- The Trustees' investment strategy has been developed taking into account the liabilities of the Scheme and the Trustees' and Company's attitude to the various risks.

PPF Valuation

I have also carried out a "section 179" valuation of the scheme. This valuation is required by the Pension Protection Fund (PPF) and is used by them to calculate the PPF levies due. The valuation is carried out using prescribed methods and assumptions. Our certificate setting out the results is provided in Appendix 7. I will submit these results, on behalf of the Trustees, to the PPF.

Valuation Results – Solvency Estimate

The results of our calculation of the solvency estimate are set out in the table below. For comparison, I have also shown the results of the previous valuation.

Balance Sheet – Solvency Estimate

Valuation Date	31 March 2016 £M	31 March 2019 £M
Value of Assets	127.0	137.8
Technical Provisions		
- Deferreds	83.1	79.4
- Pensioners	81.6	87.2
- Expenses	3.1	3.2
Total	167.8	169.8
Surplus / (Deficit)	(40.8)	(32.0)
Funding Ratio	76%	81%

The deficit at the valuation date was £32.0M corresponding to a funding ratio of 81%. At the previous valuation the deficit was £40.8M corresponding to a funding ratio of 76%.

In the actual event of the Scheme being wound-up, the Company would be required to make a contribution to the Scheme equal to the amount of the deficit on this basis.

In the event that the Company had insufficient resources to pay this contribution then the benefits for some members would be reduced. In this scenario there are two possible outcomes:

- If the Scheme did not have sufficient resources to secure benefits at least as great as those provided by the Pension Protection Fund (PPF), the Scheme would normally be admitted to the PPF.
- If the Scheme's resources exceeded those required to provide PPF benefits, then reduced benefits for members would be secured by purchase of immediate and deferred annuities.

Agreed Contribution Structure

Schedule of Contributions

As a result of the surplus, the Trustees and the Company have agreed no contributions will be paid by the Company.

Payments in respect of administration expenses of the Scheme, the Pension Protection Fund Levy and any other levies collected by the Pensions Regulator will continue to be met by the Company directly.

Impact of agreed contributions on funding level

On the basis of the agreement for no contributions to be paid by the Company, I estimate that the funding position of the Scheme as at the next valuation date (expected to be 31 March 2022) will be:

Technical Provisions basis: 106%

Solvency Estimate basis: 85%

For the purpose of these estimates I have assumed the Scheme's experience will be in line with the assumptions underlying the Technical Provisions with provision for investment returns to be 2.5% per annum, which is 1.1% per annum above gilt yields.

Appendix 1 – Membership Summary

Deferred Pensioners

		Number	Average Age	Total Pensions (£K p.a.)	Average Pension (£ p.a.)
Men	2019	133	53.4	1,323	9,948
	2016	166	52.4	1,918	11,554
Women	2019	35	52.3	178	5,087
	2016	40	50.6	191	4,763
Total	2019	168	53.2	1,501	8,935
	2016	206	52.0	2,109	10,236

Note: The deferred pension amounts shown above include revaluations up to the valuation date.

Pensioners

		Number	Average Age	Total Pensions (£K p.a.)	Average Pension (£p.a.)
Men	2019	162	75.3	3,569	22,028
	2016	161	74.6	3,594	22,324
Women	2019	99	77.7	1,523	15,389
	2016	106	77.6	1,281	12,087
Total	2019	261	76.2	5,092	19,510
	2016	267	75.8	4,875	18,260

Appendix 2 – Assets

Summary of Assets

Category	Market value (£M)	% of Total
Index-linked Gilts	61.4	44.5
Corporate Bonds	40.1	29.1
Diversified Growth Funds	35.5	25.8
Insured Pensions	0.7	0.5
Cash and Net current assets	0.1	0.1
Total	137.8	100.0

Note: Information on the Scheme's assets was obtained from the audited accounts as at 31 March 2019. This summary excludes assets held in respect of AVCs and the DC section of the Scheme.

Summary of Investment Strategy

Category	31 March 2016	31 March 2019
UK Equities	25%	0%
Overseas Equities	25%	0%
Index-Linked Gilts	34%	45%
Corporate Bonds	11%	30%
Diversified Growth Funds	0%	25%
Property	5%	0%
Total	100%	100%

Appendix 3 – Benefit Summary

The Scheme benefits valued for the purpose of the valuation are those set out in the consolidated Rules dated 11 February 2015 together with subsequent amending deeds. A summary of the benefit structure is provided below. The Scheme was closed in March 2006 and all active members were awarded deferred pensions at that time.

Normal Retiring Age (NRA)	60th Birthday: • Senior Executives • Brokers • Female members who joined before 17 May 1990 and left before 31 March 1994 65th Birthday: All other members
Pension at NRA	A member's deferred pension at date of ceasing pensionable service is increased between this date and Normal Retirement Date in accordance with statutory requirements. Part of the member's pension may be commuted for a tax-free lump sum subject to HMRC limits.
Early Retirement	A pension may be provided on retirement after the age of 55. This is reduced to allow for early payment.
Death after retirement	If a member dies within five years of retiring, a lump sum equal to the balance of five years' pension payments; plus A spouse's pension of one-half of the member's pension (before any commutation for lump sum) plus; benefits equal to the spouse's for any eligible children if the Qualifying Spouse subsequently dies.
Death in deferment	If a member dies in deferment, a lump sum equal to the member's contributions plus a spouse's pension are payable.

Pension increases after retirement	Pension Tranche	Increase Rate
	Guaranteed Minimum Pension (GMP)	Statutory
	Pre 06/04/97 pension in excess of GMP	In line with Retail Prices Index with a maximum of 4% per annum
	Pension accrued post 05/04/97	In line with Retail Prices Index with a maximum of 5% per annum
State Pension Integration	The Defined Benefit Section was contracted out of the State Second Pension (S2P) on a GMP and "Reference Scheme" basis.	
Equalisation	Benefits accrued in the period between 17 May 1990 and 31 March 1994 are subject to special terms in order to satisfy equalisation requirements.	

Appendix 4 – Assumptions

Financial Assumptions

	Technical Provisions		Solvency Estimate
Valuation date	31 March 2016	31 March 2019	31 March 2019
Discount Rate	Corporate bond yield	Gilts + 0.9%	
Pre-Retirement	3.30%	2.30%	0.70%
Post-Retirement	3.30%	2.30%	0.70% [1] /1.50%[2]
Price Inflation	Difference between fixed and index-linked gilt yields	Difference between fixed and index-linked gilt yields	
Retail Prices Index (RPI)	2.90%	3.60%	3.60%
Consumer Prices Index (CPI)	1.90%	2.60%	2.60%
Deferred Pension Increases	Linked to CPI assumption	Linked to CPI assumption	
Benefits in excess of GMP	1.90%	2.60%	2.60%
Pension Increases	Linked to RPI assumption	Linked to RPI assumption	
Pre April 97 tranche	2.70%	3.10%	3.10%
Post April 97 tranche	2.90%	3.40%	3.40%

[1]Rate for non-pensioners. [2]Rate for pensioners.

Appendix 4 (Continued)

Demographic Assumptions

	Technical Provisions		Solvency Estimate
Valuation date	31 March 2016	31 March 2019	31 March 2019
Post retirement mortality			
Base table	SAPS Light	SAPS 3	SAPS 3
Base table rating	100%	90%	90%
Short / medium term improvements	CMI 2014 core projections	CMI 2018 core projections	CMI 2018 core projections
Long term improvements	1.25% p.a.	1.25% p.a.	1.50%
Commutation			
Proportion of members exchanging pension for cash at retirement at current commutation rates	No allowance	No allowance	No allowance
Pre-retirement Mortality	Standard table AM/F92 all bases		
Family details	Same assumptions used for all bases. 90% of male and female members assumed to be married at retirement or earlier death. Husbands are assumed to be three years older than wives.		
Expenses	The Company meets the expenses of the Scheme directly.		A provision for the expenses of winding-up is included as an additional liability.

Appendix 5 – Sensitivity of the Results to Key Risks

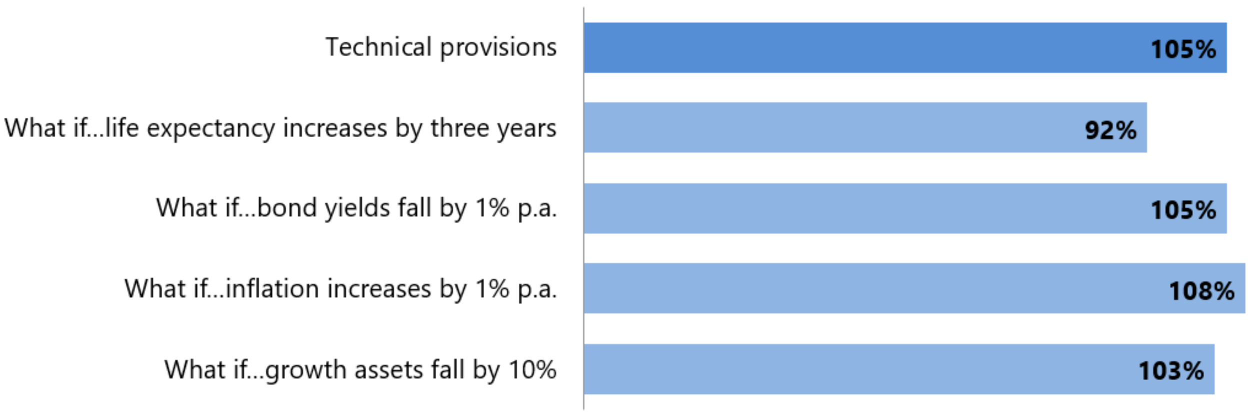
Pension scheme funding is exposed to a number of risks. The principal risks are:

- Covenant Risk. The risk that the sponsoring employer is unwilling or not able to pay contributions in the future.
- Investment Risk. The risk that the future investment returns achieved on existing assets and future contributions are insufficient to achieve the Trustees' funding objectives.
- Inflation Risk. The risk that future price inflation will be higher than assumed resulting in higher liabilities.
- Mismatching Risk. The risk that the value of the liabilities will change relative to the value of the assets following changes in financial conditions.
- Mortality Risk. The risk that pensioners will live longer than anticipated thus increasing the cost of benefits.
- Option Risk. The risk that members will exercise options in a way that leads to increased liabilities.

To help illustrate the susceptibility of the Scheme's funding position on the Technical Provisions basis to some of these risks, I have considered the approximate impact of the following one-off step changes.

- Life expectancy at age 65 is three years greater than anticipated (with corresponding increases at other ages).
- Yields on both gilts and corporate bonds decrease by 1% p.a. (with no change in equity markets).
- Real yields on index-linked gilts decrease by 1% p.a. (with fixed-interest gilt yields, corporate bond yields and equity markets unchanged)—this is equivalent to a 1% p.a. increase in the assumed rate of inflation.
- The Scheme's growth assets fall by 10% (with no change in bond markets).

Please see the chart below for the results. The scenarios considered are not 'worst case' scenarios, and could occur in combination (rather than in isolation). The buyout measure is also highly sensitive to these factors.



A risk register has been set up and is reviewed regularly to ensure the key risks to the Scheme are identified, with appropriate action taken to monitor, manage and mitigate these risks.

Appendix 6 – Certification of Technical Provisions

Actuarial Certificate given for the purposes of Regulation 7(4)(a) of the Occupational Pension Schemes (Scheme Funding) Regulations 2005

Name of Scheme: Clarkson PLC Pension Scheme

Calculation of technical provisions

I certify that, in my opinion, the calculation of the Scheme's technical provisions as at 31 March 2019 is made in accordance with regulations under section 222 of the Pensions Act 2004.

The calculation uses a method and assumptions determined by the Trustees of the Scheme and set out in the Statement of Funding Principles dated 17 February 2020.

Signature:		Date:	6 March 2020
Name:	Anthony Morgan	Qualification:	Fellow of the Institute and Faculty of Actuaries
Address:	29-32 College Gardens Belfast BT9 6BT	Name of employer:	Kerr Henderson (Consultants and Actuaries) Limited

Appendix 7 – Valuation for Pension Protection Fund

Section 179 Valuation Certificate

Plan / Section Details

Full name of Scheme	Clarkson PLC Pension Scheme
Pension Plan Registration Number	10144126
Address of Scheme	Clarkson PLC Commodity Quay St Katharine Docks London E1W 1BF

Section 179 valuation

Effective date of this valuation	31 March 2019

Guidance and assumptions

S179 guidance used for this valuation	G8
S179 assumptions guidance used for this valuation	A9

S179 valuation details

Total assets (this figure should not be reduced by the amount of any external liabilities and should include the insurance policies referred to below)	£137,800,000
Date of relevant accounts	31 March 2019

Liabilities

Please show liabilities, **excluding expenses**, for:

Deferred members	£44,530,000
Pensioner members	£61,451,000
Estimated costs of winding up	£2,560,000
Estimated expenses of benefit installation/payment	£330,000
External liabilities	£0
Total protected liabilities	£108,871,000

Insurance

Insurance policies and matched liabilities that are required to be included in the section 179 valuation.

Percentage of the assets shown above held in the form of a contract of insurance where this is not included in the asset value recorded in the relevant scheme accounts.	0.50%

Please provide the percentage of the liabilities shown above that are matched by insured annuity contracts for:

Deferred members	0.0%
Pensioner members	1.1%

Proportion of liabilities

Please show the proportion of liabilities which relate to each member type:

	Pre 6 April 1997	6 April 1997 – 5 April 2009	Post 5 April 2009
Deferred members	32.8%	67.2%	0.0%
Pensioner members	86.0%	14.0%	0.0%

Average ages

Please show the average age (weighted by protected liabilities) as at the effective date of this valuation, for each member type, rounded to the nearest whole year.

Deferred members	53
Pensioner members	74

I certify that this valuation has been carried out in accordance with the Pension Protection Fund (Valuation) Regulations 2005 and with the appropriate section 179 guidance and assumptions issued by the Board of the Pension Protection Fund. I also certify that the calculated value of the protected liabilities is, in my opinion, unlikely to have been understated.

Signature

Name	Anthony Morgan	Date	6 March 2020
Qualification	Fellow of the Institute and Faculty of Actuaries	Employer	Kerr Henderson (Consultants and Actuaries) Limited

Appendix 8 – Actuarial Compliance

'Technical Actuarial Standard 100: Principles for Technical Actuarial Work' ('TAS 100') and 'Technical Actuarial Standard 300: Pensions' ('TAS 300') apply to this report, and the work relating to it, and have been complied with. The compliance is on the basis that the Trustees are the addressee and only users of this report.

For the purpose of this report figures under the Technical Provisions basis are estimates of the amount of assets and future contributions required to fund future benefit payments from the Scheme. These calculations are intended to help the Trustees (in discussions with the Company) to plan and manage the future funding of the Scheme. The Solvency Estimate calculations represent an estimate of the cost of buying immediate and deferred annuities from an insurance company in respect of benefits accrued to the valuation date. The additional valuation results set out in Appendix 7 are produced solely for submission to the Pension Protection Fund.

The contents of this report have been reviewed in accordance with the principles set out in Actuarial Profession Standard X2 – Review of Actuarial Work.

This report should be read in conjunction with:

- My presentation 'Advice on actuarial method, assumptions and initial results', dated 1 July 2019; and
- My report 'Actuarial Valuation as at 31 March 2019: Initial Results', dated 16 October 2019.