

Eskom Pension and Provident Fund

30 June 2020 Valuation Results Summary

Background

Purpose

Retirement funds are required to submit statutory actuarial valuations to the Financial Sector Conduct Authority (“FSCA” or the “Authority”) once every three years. The Trustees of the Eskom Pension and Provident Fund (“EPPF” or the “Fund”) decided a number of years back to perform annual valuations to enhance governance processes. The main purposes of a valuation are to:

- to compare the value of the Fund’s assets with the value of its liabilities in order to assess the financial solvency of the Fund;
- to analyse the financial progress of the Fund over the valuation period;
- to analyse the extent to which the fixed contributions specified in the Fund’s Rules support the current benefit structure;
- to review the allocation of Fund assets to contingency reserve accounts and determine the actuarial surplus (if any) of the Fund;
- comment on the suitability of the investment strategy as well as the matching of the Fund’s assets and liabilities;
- to satisfy the requirements of PF Notice No. 2 of 2016 which sets out criteria to be used to determine financial soundness and the valuation bases in terms of which financial soundness will be assessed by the FSCA; and
- to satisfy the statutory requirements of the Authority.

Nature of the EPPF

When considering the sustainability and financial condition of the EPPF it is also important to keep in mind some very unique features of the Fund.

1. The Fund is a defined benefit fund meaning that the exact cost of the benefits is not known in advance. The valuation attempts to put a “price” or “cost” on the liabilities with these values being based on the actuary’s best estimate assumptions about how future experience will unfold.
2. The Fund is not a typical balance of cost defined benefit scheme. In a balance of cost scheme, the members contribute a fixed percentage of pensionable salary. When the actuary carries out the valuation, she determines the required future service contribution rate over the next year. The balance between this required cost and what the members contribute is what the employer is required to contribute, i.e. the balance of cost. However, the EPPF is a fixed contribution scheme meaning that the employer also contributes at a fixed rate. Therefore, there is usually a difference between what the actuary determines and what the employer and members contribute. Historically, this difference has most often amounted to a contribution shortfall, with occasional exceptions in the years 2012, 2017 and 2020 where there were modest contribution surpluses.
3. This means that, unlike typical defined benefit schemes where the employer carries the risk of the Fund falling into deficit (meaning that the accumulated assets of the Fund are less than the value of its accrued liabilities), it is the members who carry the risk and the burden of the financial position of the Fund deteriorating. The Employer is not required to provide additional funds to restore the financial health of the Fund.

How does the Fund protect against these risks?

The Fund has established several processes to protect against the risk of the Fund falling into a deficit. On top of the required amount of assets needed to cover the accrued benefit liabilities, there are further contingency reserve accounts which are established at each valuation. The contingency reserves at ideal levels provide early warning of possible future deficits. The Trustees, on advice from the actuary, have established a Solvency Reserve and a Contribution Reserve. The Fund also holds an Investment Reserve.

Solvency Reserve	Contribution Reserve	Investment Reserve
<ul style="list-style-type: none"> • primarily to protect the Fund against the possibility of poor future investment returns • protects the long term solvency of the Fund 	<ul style="list-style-type: none"> • maintains the defined benefit structure of the Fund • provides a buffer against the risks imposed when the required contribution rate is higher than the fixed contribution rate from the Employer and members 	<ul style="list-style-type: none"> • established to cushion members from a negative Fund interest rate over any 48-month period (the Fund smooths investment returns)

The Fund also uses an early warning system provided by the continuous asset-liability modelling carried out by the investment team and their advisors.

Progression of the Fund's Membership and Experience

Membership Summary

Membership statistics	Current valuation: 30 June 2020	Previous valuation: 30 June 2019
In-service members		
Number of active members	41 915	43 570
Salary-weighted average age	43 years 8 months	43 years 3 months
Salary-weighted average past service	15 years 3 months	14 years 11 months
Total annual Pensionable Salary (R million)	R 18 468	R 18 079
Average Annual Salary (R)	R 440 601	R 414 941
Total money purchase balances (R million)	R 6 166	R 6 433
Average money purchase balance (R)	R 153 628	R 153 146
Deferred members		
Number of deferred members	2 211	2 439
Total money purchase balances (R million)	R 3 235	R 3 603
Average money purchase balance (R)	R 1 462 938	R 1 477 161

Membership statistics	Current valuation: 30 June 2020	Previous valuation: 30 June 2018
------------------------------	--	---

Paid-up members*

Number of paid-up members	43	67
Total money purchase balances (R million)	R 30	R 95
Average money purchase balance (R)	R 711 367	R 1 411 488

Pensioners

Number of pensioners	32 754	32 896
Total annual pension (R million)	R 3 427	R 3 165
Average annual pension (R)	R 104 622	R 96 203
Pension-weighted average age (years)	68 years 0 months	67 years 8 months

* The Default Regulations came into effect from 1 March 2019. The paid-up category of members are members who automatically become paid-up on exit from the Fund, as they have neither been paid a benefit from the Fund nor exercised an option to become a deferred pensioner within three months of exit from the Fund.

Contribution Rates

The cost of the future service benefits is summarised in the table below. The rates at the previous valuation are included for comparative purposes.

	Current valuation % salaries	Previous valuation % salaries
Total required contribution rate	16.75	19.75
Retirement benefits	10.02	12.00
Withdrawal benefits	1.89	2.24
Death in service benefits	4.24	4.91
In service administration expenses	0.60	0.60
Fixed employer and member contribution rate	20.80	20.80
Contribution surplus	4.05	1.05
Minus:		
Additional solvency contribution	1.29	1.71
Effective contribution surplus / (shortfall)	2.76	(0.66)

The Employer contribution towards retirement benefits is 13.5% of annual pensionable salaries. Members contribute at 7.3% of annual pensionable salaries. There is a very small group of members who contribute at lower rates. At the current valuation there are 19 such members, 16 of whom contribute at 6% of annual pensionable salaries and three of whom contribute 4.0% of annual pensionable salaries.

At the current valuation date the fixed contribution rate of 20.80% is sufficient to fund the ongoing benefit accrual of 16.75% of annual pensionable salaries, with a surplus of some 4.05% of salaries. After allowing for the additional required contribution towards the solvency reserves there is a contribution surplus of 2.76% of annual pensionable salaries.

A history of the contribution surpluses/ deficits is shown in the table below. With the exception of the 2012, 2017 and 2020 valuation dates when there were contribution surpluses, the Fund has mostly experienced contribution shortfalls, as summarised in the table below.

Effective valuation date	Contribution (shortfall) / surplus (% of salaries)
2008	(1.17)
2009	(0.71)
2010	(0.56)
2011	(0.53)
2012	0.07
2013	(1.09)
2014	(1.60)
2015	(2.51)
2016	(3.47)
2017	0.60
2018	(0.72)
2019	(0.66)
2020	2.76

Pension Increases and Bonuses

The pension increase policy of the Fund is to target, but not guarantee, a pension increase on 1 January each year equal to the year-on-year increase in the Consumer Price Index (as published by Statistics South Africa). If the Fund's investment performance over the period to the preceding 30 June is such that it cannot afford such an increase, the Trustees will grant a lower increase that can be afforded without placing a strain on the Fund.

Therefore, the policy of the Fund restricts the increase if investment returns are insufficient. However, the restriction is over-riden by the Rules of the Fund, which specify the absolute level of the increase in certain circumstances.

In summary, Rule 32(5) states that:

- if the investment return for the year ended 30 June is greater than 6%, the pension increase taking effect on 1 January cannot be less than 3%, and
- if the investment return for the year ended 30 June is less than 6%, the pension increase taking effect on 1 January cannot be less than 2%.

It is important to note that the investment return used to assess affordability is the 48-month smoothed investment return and not the 1-year return to 30 June.

The table below compares the average increase granted to pensioners with the year-on-year increase in the Consumer Price Index (“CPI”) on the effective date of the increase.

Date of increase	Average increase, % p.a.	CPI inflation at 31 December, % p.a.
01 March 1999	6.0%	8.6%
01 March 2000	6.0%	2.3%
01 March 2001	7.0%	7.8%
01 March 2002	7.0%	5.8%
01 March 2003	11.0%	10.3%
01 March 2004	2.0%	0.7%
01 March 2005	3.5%	2.6%
01 January 2006	6.0%	3.6%
01 January 2007	6.0%	5.8%
01 January 2008	9.2%	9.0%
01 January 2009	2.0%	9.5%
01 January 2010	6.0%	6.9%
01 January 2011	3.8%	3.5%
01 January 2012	7.7%	6.1%
01 January 2013	8.0%	5.7%
01 January 2014	7.0%	5.4%
01 January 2015	6.5%	5.3%
01 January 2016	5.0%	5.2%
01 January 2017	6.1%	6.8%
01 January 2018	5.8%	4.7%
01 January 2019	4.0%	4.5%
01 January 2020	2.0%	4.0%
01 January 2021	3.0%	3.1%
Annual average	5.7%	5.5%

The total amount of bonuses paid is set out in the table below. The actuarial budget for the pensioner bonuses is 0.5% of the pensioner best estimate liability, although recent bonuses have somewhat exceeded this budget.

December	R'000
2006	125 000
2007	129 500
2008	122 300
2009	100 000
2010	100 000
2011	100 900
2012	100 000
2013	108 000
2014	150 000
2015	153 000
2016	166 000
2017	171 400
2018	180 000
2019	213 000
2020	217 200

Money Purchase Account Balances

The table below shows the smoothed annualised rates of Fund interest allocated to the money purchase balances from 1 July 2006. The money purchase balances are in respect of additional voluntary contributions, performance bonuses which are pensionable, the deferred pensioners and paid-up members as well as the unclaimed benefits in the Fund.

Start date	End date	Interest rate p.a.
01 July 2006	30 June 2007	17.86%
01 July 2007	30 June 2008	23.75%
01 July 2008	30 June 2009	14.39%
01 July 2009	30 June 2010	2.95%
01 July 2010	30 June 2011	7.00%
01 July 2011	30 June 2012	6.87%
01 July 2012	30 June 2013	10.67%
01 July 2013	30 June 2014	14.99%
01 July 2014	30 June 2015	15.29%
01 July 2015	30 June 2016	14.78%
01 July 2016	30 June 2017	12.64%
01 July 2017	30 June 2018	9.33%
01 July 2018	30 June 2019	5.49%
01 July 2019	30 June 2020	4.08%
Average annual interest rate		11.29%

Post-valuation Date Events – COVID Relief Bonus

In August 2020 the Fund made a payment of a special “relief bonus” to all pensioner households. The bonus amounted to 50% of the household bonuses paid in December 2019, and its purpose was to provide some relief from any reduction of disposable income in many Eskom Pension and Provident Fund pensioner households, perhaps due to a loss of livelihood of a household member, or increased cost of food and health-care items, all due to the COVID-19 crisis. The aggregate amount of the bonus was R104.3 million. The bonus was paid under actuarial advice and was in compliance with the Rules of the Fund.

Actuarial Assumptions

For consistency with the previous valuation, the financial and demographic assumptions for this valuation have been established using realistic “best estimate” assumptions taking account of market conditions at the valuation date, and past and anticipated future experience of the Fund.

The use of a realistic basis such as this implies that we are expecting a broadly equal chance of a surplus or deficit arising in future, based on these assumptions. That is, “best-estimate” implies that the valuation basis is realistic and has no margins of conservatism nor optimism included in the individual rates. There is thus a more or less 50/50 chance that the valuation basis will overstate or understate the liability.

Accordingly, to protect the financial position of the Fund, it is prudent that the Trustees establish appropriate contingency reserves where funds are available to do so. Such an approach is consistent with the previous valuations.

Whilst the individual items of the actuarial basis are important, the basis must be viewed as a whole, bearing in mind that the assumptions should be applicable over the long term.

It must be expected that in the short term, fluctuations around the assumptions will arise resulting in Fund surpluses and deficits, some of which may at times offset each other – for example salary increases in excess of those assumed may at times be offset by investment performance in excess of the assumptions.

A summary of the financial assumptions at the 30 June 2020 valuation is shown in the table below.

Item	Best Estimate Basis % p.a.
Nominal bond yield (15 to 20 years)	14.16%
Index-linked bond yield (15 to 20 years)	4.82%
Inflation risk premium	0.75%
Inflation assumption	8.6%
Discount rate (investment return assumption)	14.6%
Long term salary inflation	8.6%
Net pre-retirement return (in-service members)	5.5%
Pension increase assumption	8.6%
Net post-retirement return (pensioners)	5.5%

The actuary also makes assumptions about the likely future demographic experience of the Fund. These are assumptions about the membership, specifically:

- pre-retirement and post-retirement mortality assumptions;
- rates of withdrawal and rates of ill-health retirement;
- promotional salary increase scale;
- Commutation rates; and
- Proportion of members who are married and the age difference between member and spouse.

Valuation Results

Derivation of net assets of the Fund

The net assets for valuation purposes as at the current and previous valuation dates were derived according to the table below. The figures were extracted from the unaudited financial statements of the Fund.

Asset class	30 June 2020		30 June 2019	
	Market value R million	%	Market value R million	%
Domestic				
Interest-bearing assets	24 308	16.96	25 285	17.60
Cash and deposits	4 859	3.39	5 252	3.65
Equities	55 171	38.48	64 361	44.79
Property	117	0.08	119	0.08
Debentures	2 286	1.59	2 399	1.67
Collective investment schemes/other ¹	1 348	0.95	977	0.68
Sub-total	88 089	61.45	98 393	68.47
Offshore				
Equities	37 657	26.27	32 086	22.33
Interest bearing	1 454	1.01	3 262	2.27
Collective investment schemes/other ¹	17 205	12.00	10 952	7.62
Sub-total	56 316	39.28	46 300	32.22
Total investments (per financial statements)	144 405		144 693	
Net current assets/(liabilities) less unclaimed benefits	(1 047)	(0.73)	(994)	(0.69)
Grand total	143 358	100.00	143 699	100.00

¹ This includes private equity, hedge funds, commodities, derivative market instruments and insurance policies.

Valuation Balance Sheet

The total past-service liabilities as at the current and previous valuation dates are shown in the table below.

	Current valuation		Previous valuation	
	R million	R million	R million	R million
Total liabilities and contingency reserves		105 808		125 159
Liabilities:		101 112		104 926
Retirement and death benefits	47 339		49 505	
Withdrawal benefits	3 422		3 684	
Money purchase balances	9 432		10 131	
Pensioners	40 919		41 606	
Contingency reserves – in service:		-		13 036
Solvency reserve	-		8 484	
Contribution reserve	-		4 552	
Contingency reserves – pensioners:		4 696		7 197
Solvency reserve	4 696		7 197	
Pension increase affordability reserve	-		-	
Assets at actuarial value		143 358		143 395
Market value	143 358		143 699	
<i>Minus:</i> Investment reserve	-		(304)	
Actuarial surplus before contingency reserves		42 246		38 469
Funding level before contingency reserves		142%		137%
Actuarial surplus after contingency reserves		37 550		18 236
Funding level after contingency reserves		135%		115%

The funding level has increased significantly from 115% to 135% since the previous valuation, and there is a substantial actuarial excess of assets over liabilities. The Fund is financially sound in that its assets are sufficient to cover its accrued liabilities.

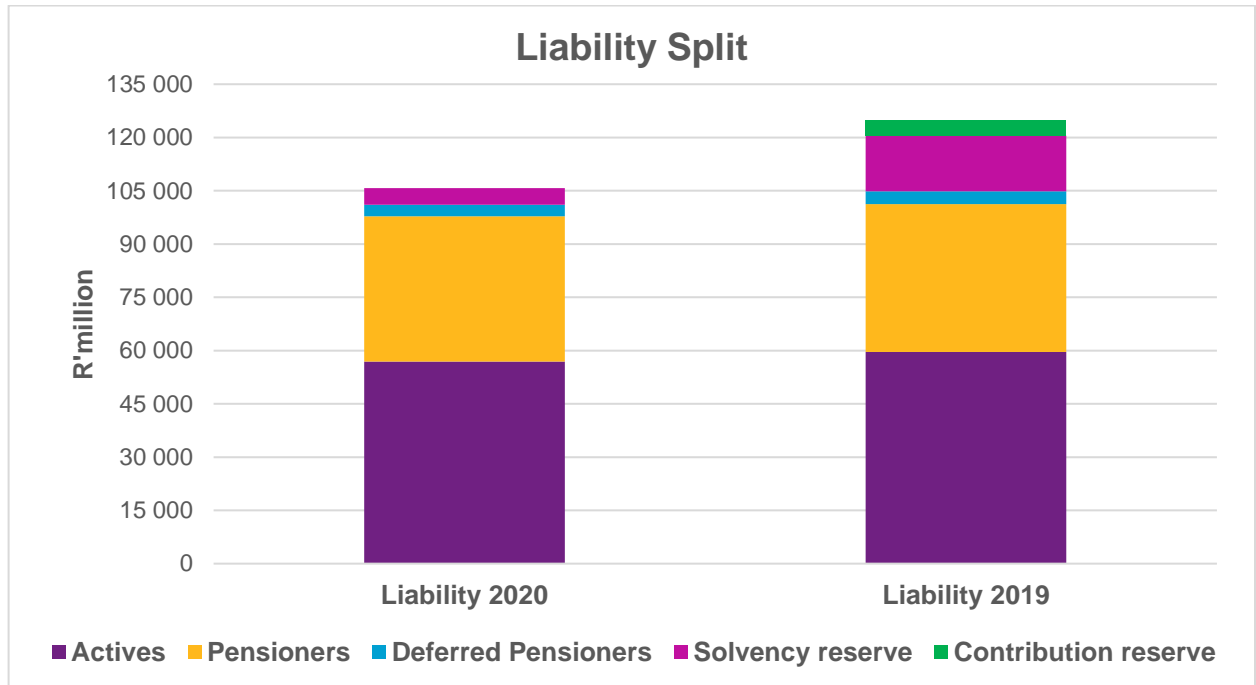
The main reasons for the increase in the funding level are the impact of the weaker actuarial assumptions, and the associated decrease in the Fund's contingency reserve requirement. These factors were partially offset due to investment returns being substantially lower than assumed.

It is important to note that, built into the active member liability, is the full allowance for the statutory minimum benefits as set out in the Pension Funds Act. The actuary carries out a calculation to compare the minimum individual reserves for all members with the actuarial reserves in respect of accumulated benefits, on the assumption that the Fund is discontinued at the valuation date. It was found that the total minimum individual reserves for in-service members (excluding money purchase balances) were higher than the actuarial reserves for accrued retirement, death and withdrawal benefits by R8 989 million. The reason for this is that the prescribed net investment return for the minimum individual reserves was lower than the assumed net investment return in the valuation of the actuarial reserves.

There is therefore an additional liability of R8 989 million in respect of the minimum individual reserves in the event of a termination of the Fund at the valuation date. The actuary has therefore increased the in-service member liabilities (the “retirement and death benefits” line in the actuarial balance sheet above) by this amount. However, given that this is a discontinuance test similar to the solvency test, this amount should be offset against the in-service solvency reserve.

For the 2020 valuation, in contrast to previous valuations, the minimum benefit requirement discussed above actually exceeded the “discontinuance matching” solvency /reserve requirement and therefore, the solvency reserve requirement for in-service members was nil for the 30 June 2020 year. This is the first time that such an anomalous result presented itself and it was purely as a result of the fact that the 30 June 2020 bond yield curve, which is used to set the actuarial assumptions, had shown a significant increase compared to the yield curve one year ago to 30 June 2019.

A split of the liabilities as at the current and previous valuation dates is shown below.

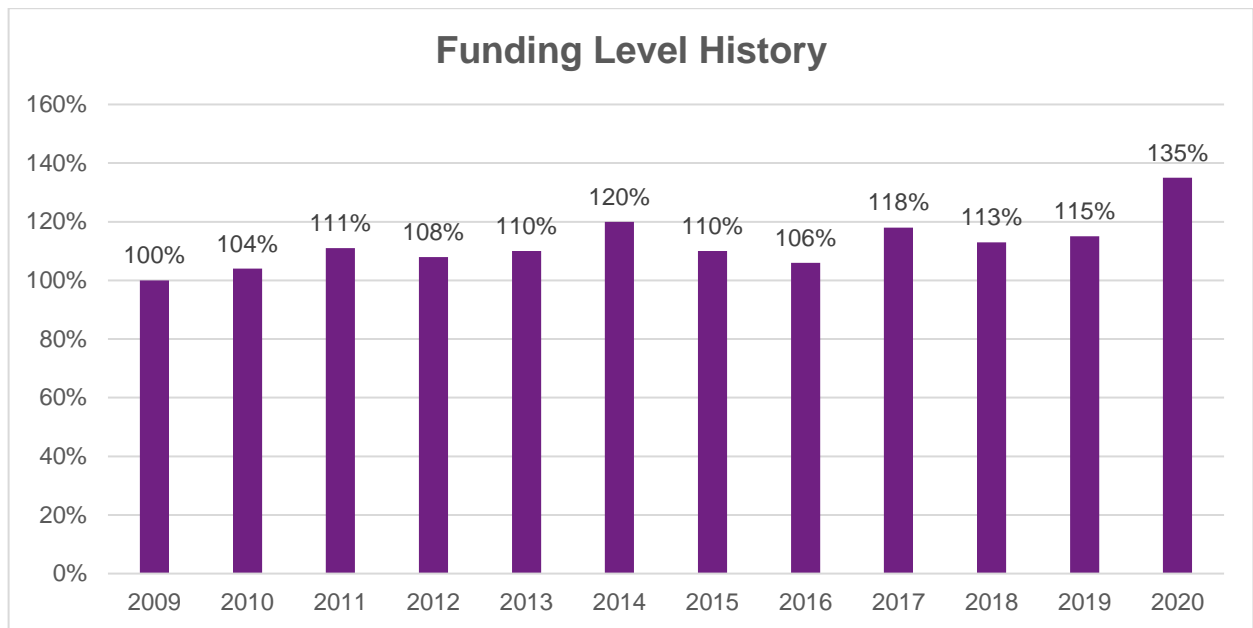


Why don't the Trustees distribute the actuarial surplus to members?

Members might question why the Trustees have not distributed the actuarial surplus to members given that the funding level is the strongest in many years. To answer this question, there are many factors to consider.

- The funding level is volatile from year to year because the valuation assumptions are based on market conditions at 30 June – therefore surpluses in one year can very easily disappear the following year, depending on changes in the membership and what market conditions prevail at the time.

The chart below shows a history of the funding level since 2009.



To demonstrate to the Trustees the sensitivity of the valuation results to changes in the assumptions, and the resultant sensitivity of the funding level, the actuary carried out the same valuation but assuming that there was no change in the bond yield curve from 30 June 2019. The resulting funding level as at 30 June 2020, but based on the 2019 valuation assumptions, was 111%. That is, the funding level would have *decreased* from 115% in 2019 to 111% in 2020 if there was no change in the assumptions.

Therefore it is considered prudent not to “spend” surplus given that the financial position of the Fund at any point in time is heavily dependent on market conditions and member movements, which are both out of the control of the Trustees.

- The surplus (or deficit) only crystallises on the date that the Fund winds-up or discontinues. In the event of a wind-up, the Trustees must apply the assets of the Fund in the manner laid down in the Fund’s Rules. Whilst the Fund is a going concern, any appropriation of the actuarial surplus would reduce the security of accrued benefits for all members, because the employer is not obliged to meet any deficit that might arise in future.
- The Trustees need to balance the long-term sustainability of the Fund with meeting short term benefit expectations. The Fund is an open scheme meaning that there is no final member or last liability as new members are constantly coming into the Fund. Benefits therefore need to be able to be paid to all existing and future members, their spouses and beneficiaries.
- Should the Trustees take a decision to allocate a portion of the actuarial surplus to members there are also fairness factors to consider, such as the fairness between different cohorts of members as well as fairness between different member groups, i.e. active members, pensioners and former members.

Actuarial Opinion and Certification of Assets and Insurance Arrangements of the Fund

In my capacity as valuator to the Eskom Pension and Provident Fund, I certify that, in my opinion:

- The valuation method and assumptions are appropriate for the purpose of an actuarial valuation.
- Based on the current benefit and membership structure, we certify that the Fund is in a sound financial position as at the current valuation date in that the Fund's assets are sufficient to cover the accumulated liabilities on the best estimate basis, plus the required solvency reserves in respect of in-service members and pensioners.
- However, despite the Fund being in a financially sound position, the notional pensioner accumulation amount was not sufficient to enable the pension increase affordability reserve to be funded.
- There is an excess between the fixed contribution rate as specified in the Fund's Rules and the required contribution rate after making allowance for the future funding of a portion of the solvency reserves in respect of in-service members.
- The balances in the contingency reserve accounts are not greater than the provisions reasonably required for such contingencies, and overall the amounts set aside in these reserves are reasonable in the circumstances.
- We hereby certify that we are satisfied with the nature and structure of the assets of the Fund, as recorded in the Fund's draft financial statements as at 30 June 2020, and that the matching of the assets with the liabilities is, in our opinion, adequate.
- We further confirm that the Board has implemented an investment strategy which, in our opinion, is suited to the liability profile of the Fund, taking into account that there are solvency reserves in respect of the in-service and pensioner liabilities.
- Finally, we certify that we are satisfied with the policy of the Board, which is to self-insure the lump sum death-in-service benefits - the Fund's in-service membership is sufficiently large that it is appropriate to fund in advance for the expected value of the death-in-service benefits without the need for reinsurance of the benefits. In addition, we believe the level of risk to the Fund in relation to this policy of self-insurance is acceptable while the Fund holds a sufficient margin of assets in excess of the membership liabilities.

Yours sincerely



Liesel Ryan

B.Sc. FASSA

Associate Director, Willis Towers Watson
Fellow of the Actuarial Society of South Africa

in my capacity as the Valuator to the Eskom Pension and Provident Fund