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Section 1: Introduction and Summary of Results

1.1 INTRODUCTION

UMALUSI Council for Quality Assurance ('UMALUSI'), has requested us to prepare an actuarial valuation report on its post-employment health care liability as at 31 March 2020. The purpose of the report will be to disclose results that comply with the Generally Recognised Accounting Practice 25 ('GRAP 25') and guided by the APN301 note of the Actuarial Society of South Africa ('ASSA'). A prior report was compiled as at 31 March 2019.

1.2 SUMMARY OF RESULTS

Below we have summarised the reconciliation of the opening accrued liability as at the current valuation date of 31 March 2020. A projection to 31 March 2021 is also provided.

	Current 31 March 2020 R's	Projected 31 March 2021 R's
Opening accrued liability	4,661,000	7,820,000
Current service	481,000	637,000
Current interest cost	425,000	803,000
Medical subsidies paid to continuation pensioners	-214,000	-443,000
Projected accrued liability	5,353,000	8,817,000
Actuarial (gain)/loss over financial year	2,467,000	-
Closing actual accrued liability	7,820,000	8,817,000

The actual service and interest costs, and the net change in the accrued obligation over the financial year ending 31 March 2020 are determined as follows:

	31 March 2020 R's
Current service cost	481,000
Current interest cost	425,000
Actuarial (gain)/loss	2,467,000
Net expense recognised in income statement	3,373,000
Medical contributions subsidies for continuation pensioners	-214,000
Net change in the accrued liability over the financial year	3,159,000

It is important to note that the illustrated results are based on the valuation data supplied by UMALUSI and valuation assumptions applied to the data agreed with UMALUSI.

Section 2: Valuation Data and Data Validation

2.1 RELIANCES

The results and opinions contained in this report are subject to (but not exclusively to) the following data summary and limitations.

2.2 VALUATION DATA

This GRAP 25 actuarial valuation was based on the following participants:

Number of participants

	31 March 2019	31 March 2020
Active employees (currently on medical aid)	126	118
Continuation pensioners	11	12
Total participants	137	130

Active employees

Below we summarise the participants eligible for post-employment medical aid subsidy as at the current valuation date, 31 March 2020, as provided by UMALUSI. It is important to note that the average monthly subsidy is that which is payable to an employee in retirement, at the current rates.

	Male	Female	Total
Number of active employees	52	66	118
Active employees average age (years)	43.62	42.27	47.76
Average monthly subsidy payable during retirement	2,900	2,900	2,900

*The active employees were assumed to have a 90% chance of being married at retirement. Those that were currently married were assumed to remain married until retirement age.

Continuation pensioners

The following table is a summary of the continuation pensioners details.

	Male	Female	Total
Number of continuation pensioners	7	5	12
Continuation pensioners average age (years)	64.75	66.00	63.1
Average monthly subsidy payable during retirement	3,227	2,900	3,090

*The actual marital status of the continuation pensioners was used to compute the valuation results.

Section 2: Valuation Data and Data Validation

The table below summarises the profile of UMALUSI's active employees who have been used for the actuarial valuation.

Age Band	Number of active employees	Average past service (years)
<25	-	-
25 – 29	6	2.45
30 – 34	25	4.40
35 – 39	22	5.39
40 – 44	13	9.50
45 – 49	16	7.65
50 – 54	17	6.66
55 – 59	16	7.46
60 – 64	3	13.05
>65	-	-
Total	118	6.45

The table below summarises the profile of the continuation pensioners subsidised by UMALUSI as at 31 March 2020.

Age Band	Number of continuation pensioners
<49	-
50 – 54	1
55 – 59	1
60 – 64	2
65 – 69	6
70 – 74	1
75 – 79	-
80 – 84	1
>85	-
Total	12

Section 2: Data Validation and Valuation Data

2.3 DATA CHECKS

The following variables in the current valuation data, supplied by UMALUSI, were analysed and checked against the previous valuation data:

- Dates of Births; Dates of Engagements; Gender, Salaries; and Movements in the number of participants.

We also performed the following reasonability checks on the data fields:

- Dates are valid; ages are within reasonable ranges; salaries are within reasonable ranges; and years of service are within reasonable ranges.

2.4 RESULTS VALIDATION

An analysis of surplus was performed to reconcile the previous valuation results with the current. We were satisfied with the final data supplied by UMALUSI for the purposes of compiling this GRAP 25 report. Should there be any changes to the data that are not reflected in this report, our results contained in this report will have to be adjusted accordingly.

2.5 LIMITATIONS

The accuracy of any values quoted in this report and the conclusions reached are limited to the accuracy of the underlying data and information (listed above) on which this report is based.

Section 3: Medical Contributions Table

It was assumed that continuation pensioners are receiving a subsidy amount of **R2,900** per continuation pensioner per month if the employee was appointed at Umalusi on or before 30 April 2019 and has completed a minimum of ten (10) years unbroken service at Umalusi.

These contribution amounts offered by UMALUSI were assumed to increase with inflation. Furthermore, it was assumed that all active employees currently on medical aid would remain on medical aid to retirement.

Whilst in retirement, the medical subsidy is R2,900 as at 31 March 2020 and is expected to increase with inflation. As a result, the medical options opted for by the continuation pensioners have no bearing on the determination of the accrued liability.

Section 4: Summary of the Post-Retirement Medical Subsidy Policy

4.1 POST EMPLOYMENT MEDICAL SUBSIDY

The employer's post-employment health care liability consists of a commitment to pay a portion of the continuation pensioners' post-employment medical scheme contributions. The subsidy stops on death of the continuation pensioner.

UMALUSI is committed to paying subsidies as follows:

UMALUSI offers active employees and continuation pensioners the opportunity of belonging to one of several medical aid schemes, most of which offer a range of options pertaining to levels of cover. Upon retirement, a continuation pensioner may continue membership of the medical aid scheme. UMALUSI will provide a contribution of R 2,900 to retirees who were permanently employed before 30 April 2016, and belonging to a medical aid scheme, and R 2,900 to active employees permanently employed before the 30 April 2019 and who belong to a medical aid scheme. These amounts increase with inflation.

There was however one pensioner who was eligible to receive 50% of the prescribed medical aid contributions.

Section 5: Valuation Method and Valuation Assumptions

5.1 VALUATION METHOD

In accordance with the requirements of GRAP 25, the Projected Unit Credit method has been applied. The assumption underlying the funding method is that the employer's post-employment medical scheme costs in respect of an employee should be fully recognised by the time that the employee reaches fully accrued age. The valuation has been made with reference Actuarial Society of South Africa (ASSA) guidelines, in particular, the Advisory Practice Note 301, and is consistent with the requirements of GRAP 25.

5.2 VALUATION ASSUMPTIONS

NET DISCOUNT RATE

The key assumptions used in the valuation, with the prior years' assumptions shown for comparison, are summarised below:

Assumption	31 March 2019	31 March 2020
Discount rate (D)	Yield Curve	Yield Curve
Consumer price inflation (C)	Difference between nominal and yield curves	Difference between nominal and yield curves
Health care cost inflation (H)	CPI +1%	CPI +1%
Net discount rate $((1+D)/(1+H)-1)$	Yield curve based	Yield curve based

It is the relative levels of the discount rate and health care cost inflation to one another that is important, rather than the nominal values. The assumption regarding the relative levels of these two rates is our expectation of the long-term average.

GRAP 25 defines the determination of the investment return assumption to be used as the rate that can be determined by reference to market yields (at the balance sheet date) on government bonds. The currency and term of the government bonds should be consistent with the currency and estimated term of the obligation.

The discount rate was therefore set as the yield of the BEASSA Yield Curve sourced from the JSE as at 27 March 2020.

The medical aid inflation rate was set with reference to the past relationship between CPI and medical aid contribution rate Inflation. We have derived the underlying future rate of consumer price index inflation (CPI inflation) from the relationship between the Nominal Zero Bond Curve and the Real Zero Bond Curve as at the same date of 27 March 2020. The healthcare cost inflation rate was then assumed to be at a premium of 1.00% of the CPI.

Section 5: Valuation Method and Valuation Assumptions

DEMOGRAPHIC AND DECREMENT ASSUMPTION

The demographic and decrement assumptions were consistent in the previous and current valuation period, and are as follows:

	Active employees	Pensioners
Normal retirement age	60*	-
Employment age used for past service period	Actual service entry ages	
Mortality	SA85-90 (Normal)	PA (90)

* An average retirement age of 60 years implicitly allows for ill-health and early retirements.

WITHDRAWAL RATES

We used the same withdrawal rates assumption used by the previous actuary to be consistent between valuations.

Example at the stated age	Withdrawal rates	
	Males	Females
20	16.0%	24.0%
25	12.0%	18.0%
30	10.0%	15.0%
35	8.0%	10.0%
40	6.0%	6.0%
45	4.0%	4.0%
50	2.0%	2.0%
55	1.0%	1.0%
60+	0.0%	0.0%

CONTINUATION PERCENTAGES

We have assumed continuation of the post-employment health care subsidy, into retirement, would be at 100% of active employees.

Section 6: Valuation Results

6.1 PROGRESSION OF THE ACCRUED LIABILITY

The current actual accrued liability, and the projected accrued liability progressed as shown in the table below:

	31 March 2020 Actual R's	31 March 2021 Projected R's
Opening accrued liability	4,661,000	7,820,000
Service cost	481,000	637,000
Interest cost	425,000	803,000
Actual medical contributions subsidies for continuation pensioners	-214,000	-443,000
Projected closing accrued liability	5,353,000	8,817,000
Actuarial (gain)/loss	2,467,000	
Actual accrued liability	7,820,000	8,817,000

6.2 ANALYSIS OF THE ACTUARIAL (GAIN)/LOSS

The table below shows a reconciliation of the projected liability, determined in the previous valuation as at 31 March 2019 to the accrued liability as at 31 March 2020.

	R's
Projected accrued liability as at 31 March 2020	5,353,000
(1) Discount rate changes	-912,000
(2) Changes to participants	-234,000
(3) Effect of increase in subsidy and medical inflation	3,386,000
(4) Miscellaneous	227,000
Actual accrued liability Actual accrued liability as at 31 March 2020	7,820,000

1. Changes to the yield curve resulted in a decrease to the accrued liability.
2. Movement in participants resulted in an increase in the liability.
3. The medical inflation assumption in the previous valuation period was lower than the actual increase in medical contributions; and the increase in the medical subsidy to R2,900 resulted in an increase in the liability.
4. The miscellaneous items in the data resulted in an increase in the liability by R227,000. Factors that make up the miscellaneous items are changes to membership composition, data changes, and variations from demographic assumptions (i.e. rates of withdrawal).

Section 6: Valuation Results

6.3 PROPOSED ACCOUNTING DISCLOSURE

GRAP 25 Statement sets out the measurement, recognition and disclosure in accounting for defined benefit arrangements. We recommend that the actuarial (gains)/losses be recognised immediately and in full, as has been UMALUSI's experience. Below we illustrate the disclosure items

BALANCE SHEET ACCRUED LIABILITY

	31 March 2019 R's	31 March 2020 R's	31 March 2021 R's
Active employee accrued liability	3,094,000	4,685,000	5,817,000
Continuation pensioner accrued liability	1,567,000	3,135,000	3,000,000
Employer's accrued liability	4,661,000	7,820,000	8,817,000

FUNDING LEVEL

	31 March 2019 R's	31 March 2020 R's	31 March 2021 R's
Employer's accrued liability	4,661,000	7,820,000	8,817,000
Fair value of plan assets	-	-	-
Funded status at valuation date	-4,661,000	-7,820,000	8,817,000

RECOGNITION OF NET EXPENSE

	31 March 2020 R's	31 March 2021 R's
A: Opening accrued liability	4,661,000	7,820,000
Service cost	481,000	637,000
Interest cost	425,000	803,000
Actuarial (gain)/loss	2,467,000	-
B: Net expense recognised in income statement	3,373,000	1,440,000
C: Medical contributions subsidies for continuation pensioners	-214,000	-443,000
Closing accrued liability = A + B + C	7,820,000	8,817,000

Section 7: Sensitivity Analysis

The accrued liability is a function of the valuation assumptions in Section 4, and which may or may not be borne out in practice. Variations from these assumptions will emerge in future years as experience gains or losses recognised immediately in the income statement by UMALUSI. The valuation results are sensitive to changes in the underlying assumptions. The effects of varying these assumptions are illustrated below.

7.1 HEALTHCARE INFLATION RATE

The effect of a one percent increase and decrease in the healthcare inflation rates is as follows:

	1% decrease R's	31 March 2020 Valuation basis R's	1% increase R's
Employer's accrued liability	7,808,000	7,820,000	7,833,000
Employer's service cost	637,000	637,000	637,000
Employer's interest cost	801,000	803,000	804,000

As illustrated in the table above, a 1% increase in the healthcare inflation rate results in a 0.17% increase in the accrued liability whilst a 1% decrease in the healthcare inflation rate will result in an 0.15% decrease in the accrued liability.

7.2 MORTALITY

The table that follows shows the impact of a change in the mortality assumption by 20% from the mortality basis of PA(90).

	-20% Mortality rate R's	31 March 2020 Valuation basis R's	+20% Mortality rate R's
Employer's accrued liability	8,094,000	7,820,000	7,582,000
Employer's service cost	650,000	637,000	625,000
Employer's interest cost	831,000	803,000	777,000

Applying a positive 20% onto the mortality results in a heavier mortality to the participants implying that their chances of survival have reduced as compared to the mortality basis. Inversely, applying a negative 20% will allow the participants to live longer than the mortality basis.

The above table highlights the effects of the 20% adjustment to the mortality assumption as at 31 March 2020. A positive 20% adjustment on the mortality basis would result in a 3.04% decrease in the accrued liability, whilst a negative 20% adjustment on the mortality basis will result in a 3.50% increase in the accrued liability.

Section 8: Conclusion and Recommendations

We have carried out an actuarial valuation for the post-employment health care liability of UMALUSI as at 31 March 2020.

Based on our results, UMALUSI's accrued liability is R7,820,000. UMALUSI does not have any funds set aside to fund the subsidy arrangement and as such the fair value of plan assets is nil. Thus, recognised funded status of the liability as at 31 March 2020 is therefore R-7,820,000.

The net expense for the 2019/20 financial year was R3,373,000. The projected net expense for the 2020/21 financial year is R1,440,000.

We recommend the next valuation should be undertaken with an effective date of 31 March 2021 in order to determine the actual accrued liability as at 31 March 2021.