Northern Territory Legislative Assembly Members Superannuation Fund

Actuarial Review
as at 30 June 2019

August 2019

Legislative Assembly Members Superannuation Fund Actuarial Review as at 30 June 2019

1.   Introduction

I have been asked to perform an actuarial review of the Legislative Assembly Members Superannuation Scheme (LAMS) as at 30 June 2019 by James Richards, the Commissioner of Superannuation. The previous review was conducted by me as at 30 June 2016, and was dated 26 July 2016.

This report complies with relevant parts of Professional Standard 400 and 402 of the Institute of Actuaries of Australia.

2.   Background

The scheme started on 23 September 1979. LAMS is an "exempt public sector superannuation scheme", but complies with the spirit of SIS legislation. The scheme was closed to new entrants several years ago.

The scheme's financial operation was modified on 12 April 2019; the Fund which held scheme assets ceased to exist, and assets were transferred to the Consolidated Holding Account (CHA). The obligation to make benefit payments now falls upon the CHA, to be made on an emerging cost basis, and member contributions are not paid directly into CHA.

Details of current benefits are summarised in Appendix 1, and are set out in the Legislative Assembly Members Pensions Act 1979.

The scheme is unfunded and the Territory makes contributions based on an emerging cost basis. Members contribute 11.5% of their basic and additional salaries to the CHA.

Death and ill-health benefits are self-insured which is appropriate.

Some current members of the scheme have accrued surcharge debts. Surcharge tax no longer applies to further benefit accruals, but the existing debts will remain until the members exit from service. At this point the scheme is liable to pay the surcharge amounts to the ATO, and member pension benefits are reduced as a means of recovering the surcharge debts. Appendix 3 to this report sets out surcharge capitalisation factors to be used when reducing members' benefits for surcharge debts.

3. Data and Membership

I have been provided with the following data:

- details of contributors at 30 June 2019, including histories of additional salary;
- details of member and reversionary pensioners at 30 June 2019;
- similar data for each year since 30 June 2016; and
- financial statements for 2016, 2017 and 2018, and draft financial statements for 2019.

There was one remaining current contributor as at 30 June 2019, down from two in 2016. This member has qualified for a pension, and is currently receiving additional salary, thereby continuing to accrue basic and additional pension.

Basic salary for members (and hence the level of pension for pensioners) has increased from $153,312 on 1 July 2016 to $162,696 on 30 June 2019, an annual rate of increase of 2.0%. This is 5% lower on an accumulated basis than was expected using the 2016 valuation assumptions.

The number of pensioners has increased in recent years as follows:

Date	Member	Spouse/FL	Total
1992	1	1	2
1995	3	2	5
1998	8	2	10
2001	17	2	19
2004	18	3	21
2007	23	2	25
2010	28	1	29
2013	31	3	34
2016	33	4	37
2019	33*	5	38

During the review period there was one new member pension, one pensioner death and one resulting reversionary pension. One member pension is currently suspended due to current parliamentary service. Total pensions in payment at the valuation date were $4.08M per annum.

With the maturing of the scheme and the increase in the tendency to take at least part of the benefits in pension form over the last decade the number of pensioners has increased considerably. The one contributor that exited between 2016 and 2019 opted to commute part of their original pension.

The pensioners are still quite young and pensions will still be payable for a long time, even after all contributors have exited from service.

The existence of contingent reversionary pension rights for those who had commuted their entire pension was clarified during 2018. As a result, no allowance is now made for any contingent pension liabilities in the scheme.

4.   Accounts and Investments

LAMS operated a fund for scheme assets continuously until 12 April 2019, at which time the fund was discontinued and assets were transferred to the Consolidated Holding Account. Now the CHA makes all benefit payments. The material below is included by way of historical information, up to the point of transfer of assets to CHA.

Revenue accounts and investment returns for the last 18 years are set out below. I have shown 18 years to demonstrate the volatility in this small scheme, particularly for investment returns and lump sum payments. The 2018/19 figures are taken from draft accounts supplied to me by Teresa Rynski on 26 April 2019.

Summary of Income Statements 2001 – 12 April 2019 ($000)

	2001-04 $000's	2004-07 $000's	2007-10 $000's	2010-13 $000's	2013-16 $000's	2016/17 $000's	2017/18 $000's	2018/19* $000's
Initial balance	33,212	37,144	55,986	46,739	56,599	65,130	69,549	72,223
Plus								
Member conts	1,049	1,012	697	475	149	22	20	*16*
Territory conts	8,200	6,657	7,327	4,200	5,000	1,000	0	*0*
Interest/asset appreciation	2,928	19,136	-8,302	13,910	15,031	7,724	6,409	*2,974*
Less								
Pensions	3,693	4,961	6,931	8,297	10,888	3,965	3,973	*3,098*
Lump sums	2,550	1,874	1,970	806	955	500	0	*0*
Expenses	18	47	9	13	24	10	6	*7*
Taxation	1,240	1,007	541	42	-96	-103	-225	*176*
Surcharge	745	73	-482	-433	-119	-45	0	0
Final balance	37,144	55,986	46,739	56,599	65,130	69,549	72,223	71,930

* 2018/19 is the part year to 12 April 2019, the date the fund assets were transferred to CHA. Income components do not represent a full year.

Investment rates of return over the last three financial years have been 12.6%, 9.8% and 4.0% (for the part-year to 12 April 2019) after investment tax. The time-weighted compound average return for the last three years has been 9.4% per annum, and for the last ten years it has been 9.8% per annum after investment tax.

Apart from investment returns, lump sums have been the biggest variable in the fund progression. In future, the only lump sums will be commutations of pensions at pension or reversionary pension commencement, and few lump sums are now expected.

5.   Valuation Assumptions

Both economic and demographic assumptions are required in order to estimate the amounts and values of future cash payments.

Economic assumptions

In order to assess the values of future payments it is necessary to allow for the likely extent of future salary increases and also to discount future amounts back to a present date value. The current government policy is for a wage freeze until 2021 for parliamentarians, which I have adopted for valuation purposes. Department of Treasury & Finance currently assumes salary growth of 3.0% per annum for 2021/22 and later years. These assumptions are broadly consistent with external forecasts and scheme experience. I am satisfied that these are reasonable assumptions for valuation purposes for this scheme and have adopted these assumptions at this valuation.

Promotional salary increases only occur if an existing contributor has a change in office. I have assumed that the current level of additional salary for each contributor will remain constant as a proportion of basic salary for future service.

The scheme has no assets on which to earn investment returns, but liabilities could be funded by borrowing by NT Government. It is appropriate to use a discount rate which reflects the cost of borrowing when valuing unfunded liabilities for budget/funding purposes. The 10 year Commonwealth bond yield as at 30 June 2019 was about 1.3% pa, very low in historical terms, while NT's long term borrowing costs would be slightly higher currently. DTF assume a longer term discount rate of 3.5% pa, which I have used to produce the primary results for this triennial review.

While not directly relevant for this scheme, DTF assumes CPI inflation will be at 1.5% for 2019/20, then 2% pa thereafter. This assumption appears reasonable and consistent with our expectations.

NT Treasury's assumptions for long term discount rate and CPI inflation infer a real rate of return of 1.5% per annum. Real rates of return inferred by indexed Commonwealth bond yields are relatively stable over time, and while yields on indexed bonds are currently below 1% pa they have ranged broadly between 1% and 3% pa over the last decade. NT Treasury's 1.5% pa real-return assumption appears to be a reasonable best estimate assumption for the long term.

The wage-discount gap (i.e. the excess of discount rate over assumed salary growth) is 0.5% pa in the long term on Treasury's assumed basis. This is slightly lower than longer term average gaps of around 1-2%, and is a broadly reasonable best estimate assumption taking into account NT-specific features.

Taking into account all of the above, a long term discount rate of 3.5% pa appears to be a reasonable rate to use in conjunction with Treasury's wage and CPI inflation assumptions. Thus the triennial economic valuation basis I have adopted for this valuation is:
- 3.5% pa discount rate;
- 3.0% pa salary inflation rate, but with zero growth assumed for two years.

For AASB119 financial reporting purposes, the requisite discount rate is the yield on long term government bonds. The yield on 10-year Commonwealth bonds is currently 1.32% pa (www.rba.gov.au 1/7/19), and I have used this discount rate with the above inflation assumptions in determining results for financial reporting purposes. Full financial reporting results are presented separately, and summarised below.

Demographic assumptions

These assumptions relate to the members of the scheme – ages at entry, rates of exit, spouse details, mortality rates as pensioners, etc. Assumptions are made based on the very limited scheme experience and more general information. Details of the assumptions adopted are summarised in Appendix 2.

Contributory exit rates

Exit at an election is the primary cause of exit from this scheme. The contributory membership has decreased to the point where statistical modelling of experience is becoming less meaningful, and more consideration can be given to specific circumstances. At 30 June 2019 there were two contributors, both of whom have qualified for a pension. I have maintained the previously developed age and service based retirement decrements, including an explicit election-related decrement of 40% at the expected 2020 election and in each subsequent fourth year when elections are due.

Ill-health retirement and death in service only incur an additional benefit within the first 8 years of membership. As all contributors now have more than 8 years of service there is no need to allow for future ill-health retirement within the scheme.

No contributors died in service during the last 18 years. In practice contributors will tend to retire if they become ill, so deaths in service can be expected to be rare, and at much lower levels than underlying population mortality rates. I have ignored any potential future deaths while in service in this valuation on grounds of materiality.

The net effect of the adopted contributory exit basis is that the one remaining contributor has a moderate chance of exiting during 2019/20, and otherwise is assumed to exit during 2020/21 if he has not already done so. This appears reasonable.

Pensioner mortality

There is no reliable scheme mortality experience, so I have relied on the latest population mortality tables, the Australian Government Actuary's Australian Life Tables 2010-12 for males and females, as the pensioner mortality rates. I have also incorporated allowance for mortality improvements from 2011 for pensioners at the 25-year rates of improvement set out in the Australian Life Tables 2010-12. I have adopted an assumption of 95% of those rates to allow for the slightly better average health of pensioners that have had a commutation option (those in poor health will tend to take a lump sum when it is available). The mortality rates are based on the latest published tables from the Australian Government Actuary, and are unchanged from the previous triennial review.

Commutation

Liability results for contributors are sensitive to the proportion of pension commuted because the value of a pension at commencement is much higher than the alternative commuted lump sum. Recent experience is sparse, but longer term experience suggests that a low proportion of available pension can be expected to be commuted at pension commencement, for both contributory exits and new spouse reversions. I have assumed that 15% of future pensions will be commuted when eligible to do so. This applies to member and spouse pensions at commencement of pension.

Proportions married and age differences between pensioners and their spouses

I have assumed that female spouses are three years younger than their male partner up to age 60, with a gradually increasing age difference thereafter. I have adopted proportions married at death which are 80% at age 60, reducing gradually to 40% at age 90, and further thereafter.

6.   Valuation Method

Each contributor's expected future benefits (including reversionary benefits) are projected using the assumed decrement rates and rates of salary increase. These future payments have then been discounted to the valuation date using the assumed discount rate.

The liability for future benefits payable to current contributors is split between past and future service by apportioning the accrual of benefit over the period between entry and the attainment of 18 years' service, when the maximum basic pension percentage is achieved. Once the maximum benefit accrual is reached, the benefit is considered to be fully accrued. This apportionment method is consistent with the requirements of paragraph 67 of AASB119 and is the proportionate method of Professional Standard 402.

Current pensioners' expected future benefits (and reversionary benefits) are projected in the same way as for current members, using assumed mortality rates, proportions married and future salary increases. The entire liability for each pensioner is an accrued liability.

7.   Valuation Results

Accrued and future liabilities at 30 June 2019, as well as at the 2016 review, are shown below. 2019 results are based on a discount rate of 3.5% pa, whereas 2016 results were based on an asset-based discount rate of 6.5% pa.

	Value at 2016 $M 6.5% discount	Value at 2019 $M 3.5% discount
Accrued liability		
Contributors	5.509	**2.730**
Pensioners	71.480	**88.265**
Accrued Liability	76.989	**90.994**
Future Service Liability	0.563	**0.021**
Less		
Future member contributions	0.094	**0.026**
Employer Future Service Liability	0.469	**nil**

Based on the current valuation results, the present value of future payments from CHA is $91.0M

Vested benefits at 30 June 2019 were $91.3M assuming current contributors do not commute any pension to lump sum on pension commencement, or a slightly lower amount with commutations. The level of vested benefits indicates the liability of the scheme for all members, if all current contributors were to leave on the valuation date. The vested liability for contributors is slightly greater than the accrued liability. This is a relatively uncommon situation which may require an increase in the accrued liability in some circumstances where solvency is a concern. I am satisfied that in the current context solvency is not a concern, so I have not increased the accrued liability to the level of vested benefits.

The accrued liability has increased from $77.0M to $91.0M on the triennial valuation basis in the last three years. The expected liability as at 2019, from the 2016 valuation, was $80.5M. The progression from 2016 to 2019 is as follows:

Liability at 2016	$77.0M
Expected liability at 2019	$80.5M
Actuarial basis change - lower discount rate	+$35.8M
Actuarial basis change - lower salary escalation	-$19.3M
Lower basic salary growth than expected 2016-19	-$4.8M
Other experience variations	-$1.2M
Actual liability at 2019	$91.0M

The most significant variations compared to expectations are related to the changes in economic basis and lower salary growth than expected in the interim. The "other" experience variations are primarily related to higher pension commutation than expected during the triennium. The liability at 2019 is significantly higher than expected in 2016 as a net result of all of these variations.

The employer liability measured in accordance with AASB119 is different to the triennial review liability above, due to a lower discount rate of 1.3% pa under AASB119, compared to

the triennial discount rate of 3.5% pa. The accrued liability under AASB119 is $126.389M. Complete valuation results under AASB119 are provided to DTF separately to this report.

Projected payments and accrued liabilities

The table below sets out expected future payments in each financial year and expected accrued liabilities and number of pensioners at the end of each year. All dollar amounts are expressed in nominal dollars of the projection year, and are shown in $million.

	Projected benefit payments	Projected accrued liability	Number of pensioners	
2019		$91.0M	38.0	2019
2020	$4.1M	$90.0M	38.0	2020
2021	$4.3M	$88.8M	38.5	2021
2022	$4.1M	$87.7M	38.2	2022
2023	$4.4M	$86.3M	37.8	2023
2024	$4.4M	$84.8M	37.4	2024
2025	$4.5M	$83.2M	37.0	2025
2026	$4.6M	$81.4M	36.6	2026
2027	$4.7M	$79.5M	36.1	2027
2028	$4.7M	$77.5M	35.6	2028
2029	$4.8M	$75.3M	35.0	2029
2030	$4.9M	$73.0M	34.3	2030
2031	$4.9M	$70.6M	33.6	2031
2032	$4.9M	$68.0M	32.9	2032
2033	$4.9M	$65.4M	32.0	2033
2034	$4.9M	$62.6M	31.1	2034
2035	$4.9M	$59.8M	30.1	2035
2040	$4.6M	$45.0M	24.2	2040
2045	$3.8M	$30.6M	17.4	2045
2050	$2.8M	$18.7M	11.1	2050
2055	$1.8M	$10.0M	6.3	2055
2060	$1.0M	$4.6M	3.2	2060

The scheme has been closed to new members for many years, and so the liability and expected payments are expected to decrease gradually in real terms as the remaining membership gradually ages and reduces.

Sensitivity of valuation results to assumptions

The liability as at 30 June 2019 set out above is a best estimate, but is based on many assumptions about future conditions. There is a range of possible outcomes, depending on the actual course of events. Below are the most significant sensitivities of the valuation result to different outcomes:

- The economic assumptions regarding discount rate and future salary growth are broad assumptions which are intended to be appropriate over the long term. The liability is quite sensitive to the long term economic assumptions because of the very long average term to payment of pension liabilities, associated with the young age profile of current and prospective pensioners. The valuation assumes a valuation discount rate

which is 0.5% higher than the salary growth rate in the long term. If this gap was increased by 1.0% to 1.5% (e.g. via a 3% salary growth rate and a 4.5% long term discount rate) the liability would **decrease by $11.1M or 12.3%.**

- Mortality rates determine the persistence of payments into the future. If mortality rates were increased by 10%, liability would **decrease by $2.3M or about 2.8%.**

Other assumptions such as proportions married and age differences for pensioners, or exit rates and commutation rates for contributors, are much less important in determining the overall liability.

8. Summary and Recommendations

Based on the assumptions set out in this review the accrued liability at 30 June 2019 is $91.0M, and benefit payments in upcoming years are expected to climb slowly in nominal terms from about $4.1M in 2019/20, peaking at around $4.9M per annum at around 2030.

The last remaining contributor is expected to exit in coming years, while the number of remaining pensioners will decline slowly in coming years.

Actuarial reviews aid financial reporting and policy analysis and comply with the spirit of SIS. I recommend that the next triennial review be carried out as at 30 June 2022.

John Rawsthorne FIAA
15 August 2019

Appendix 1: Benefit Design

This benefit summary only outlines the main benefits and is not a substitute for the LAMS Act.

Contributions: Members contribute 11.5% of basic and additional salary. Basic salary contributions cease after 20 years, and additional salary contributions can be suspended.

Pension benefits: Members are eligible for pensions after being elected 3 times and completing 8 years of membership or on ill-health. The pension in respect of basic salary is calculated as 50% of salary after eight years of service, plus 3% for each extra year of service, to a maximum of 80% of basic salary. An office-holder addition is calculated as 6.25% of additional office salaries, to a limit of 80% of the salary for the highest position attained.

Pensions are indexed to changes in basic salary, and may be commuted using a factor of 10 for ages up to 65 and reduced factors thereafter.

On ill-health retirement before completing 8 years' service the pension is calculated as if the member had completed 8 years.

Withdrawal: Members who leave without being eligible for pensions get 2.5 times their own contributions accumulated with interest.

Death: On the death of a member or former member a spouse receives 5/6ths of the pension the member was receiving or would have received on ill-health. Spouses may commute pensions using the higher of the basis used for members and 2.5 times the member accumulation.

On the death of a member without a spouse orphans receive a percentage of what would have been paid to a spouse - 1 child 45%, 2 children 80%, 3 children 90% and 4 or more children 100%. They may instead elect to receive 2.5 times the member accumulation, which is also the amount paid to the estate if there are no dependents.

Appendix 2: Demographic Assumptions

Contributors

Age	Age-based Retirement		Duration	Duration-based Retirement
69	0.1500		17	0.080
70	1.0000		18	0.100

- Males and females have the same in-service demographic assumptions;
- The age based retirement rates are only used when members have more than 8 years' service, and are then added to the duration-based retirement rates;
- In addition to age- and service-based retirement decrements, 40% of members are assumed to exit at the election due in 2020 and each subsequent election;
- Members are assumed to commute 15% of pension at pension commencement.

Pensioners and Spouses

Age	Death of Male	Death of Female	Proportion married	Rate of Mort Improvement
50	0.0027	0.0017	0.80	0.026
55	0.0042	0.0025	0.80	0.028
60	0.0063	0.0038	0.80	0.029
65	0.0100	0.0059	0.79	0.029
70	0.0159	0.0098	0.77	0.028
75	0.0274	0.0172	0.72	0.025
80	0.0493	0.0315	0.63	0.021
85	0.0887	0.0631	0.54	0.016
90	0.1532	0.1217	0.40	0.011
95	0.2354	0.2078	0.26	0.007

* mortality shown above is 95% of ALT2010-12. These rates are adjusted from 2011 to the projection date using the rates of mortality improvement.

- Spouses are assumed to be 4 years younger than pensioners up to age 90, after which they are assumed to be 5 years younger.

Appendix 3: Surcharge Capitalisation Factors

Below are factors appropriate for determining the capital value of pensions and determining appropriate reductions applying under Section 9 or 9A of the Legislative Assembly Members Pensions Act. These factors are based on the demographic basis this triennial review of the LAMS Scheme. I have assumed that future salary and pension growth will be 3% per annum, and I have discounted future payments at 3.5% per annum, consistent with the long term economic basis at this valuation.

The factors in the table below are for age last birthday at the relevant date, and no interpolation between integral ages is required. The factors apply for both males and females, and include an allowance for potential reversions to surviving spouses.

Age last birthday	Capitalisation factor		Age last birthday	Capitalisation factor	
	Member	Spouse		Member	Spouse
60	29.07	25.67	67	22.83	19.62
61	28.18	24.79	68	21.95	18.77
62	27.29	23.92	69	21.06	17.94
63	26.40	23.05	70	20.18	17.11
64	25.51	22.18	71	19.30	16.29
65	24.62	21.32	72	18.42	15.49
66	23.72	20.47	73	17.56	14.69

These factors can be applied either at pension commencement, based on the age of the pensioner at commencement, or at the pensioner's current age if the pension is already in payment. The "Member" factors should be used for retirement pensions, while the "Spouse" factors should only be used for determining reductions for death-in-service pensions, and should be based on the age of the widow at pension commencement.

As an example of the application of the factors, consider a male pensioner aged 65 last birthday with a surcharge debt of $25,000 and a pension of $100,000 per annum. The appropriate surcharge reduction is:

reduction = $25,000 / 24.62 = $1,015 per annum

The residual pension after surcharge reduction, to be paid from the pensioner's current age onwards, is:

residual = $100,000 - $1,015 = $98,985 per annum.

This residual is then indexed in the normal way from year to year. The spouse reversion is reduced by the same proportion.

The factors set out above can continue to apply until completion of the next triennial review, due in 2022.