

Northern Territory Administrators Pension Scheme

Actuarial Review as at 30 June 2016

July 2016

Administrators Pension Scheme Triennial Actuarial Review as at 30 June 2016

1. Introduction

I have been asked to perform an actuarial review of the Administrators Pension Scheme as at 30 June 2016 by Sarah Rummery, the Commissioner of Superannuation, in her letter of 1 July. The previous triennial review was conducted as at 30 June 2013 by me, and presented in a report dated 25 July 2013.

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

2. Background

The rules of the scheme are set out in the Administrators Pension Act 1981. The scheme provides pension benefits to retired administrators and reversionary pensions to their widow(er)s. A pension of up to 60% of pre-retirement salary is available on retirement after five years' service, or on ill-health retirement. A lower pro-rated pension is available for shorter service periods. A two-thirds reversionary pension is payable on the death of the member to a surviving spouse. Pensions are indexed to either judicial wages or CPI, depending on the actual circumstances. The scheme was closed to new members in 2006. No contributions are payable by members and benefits are met from the Consolidated Revenue Fund, so there is no fund of assets and no concerns about liquidity or the ability to meet benefit payments as they fall due. Death and invalidity benefits are self insured (and there are no remaining contributors in any case), as is appropriate.

Tax is not paid on either investment income or contributions, so all benefits come from an untaxed source.

The scheme has no Trustees and is administered by NT Treasury.

3. Financial and membership data

I have been provided with details of payments and in-force pensions at 30 June 2016 of members, as well as details of legislation and remuneration rulings over recent years.

There are currently 4 members – three former administrators and a reversionary spouse, all in receipt of pensions. There have been no deaths of members for several years. The four pension recipients were receiving annual pensions of \$323,600 in total at 30 June 2016. Pension payments have increased by 2.4% since 2013, significantly lower than assumed. Recent remuneration rulings have given low increases for the last three years, meaning pensions have also only increased slowly.

I am satisfied that the data is suitable for valuation purposes.

4. Valuation assumptions

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. NT Treasury currently assumes salary growth of 3.0% for 2016/17 and 4.0% per annum thereafter, and a CPI growth rate of 2.0% per annum. These assumptions are broadly consistent with external forecasts, although the salary growth assumption is slightly above recent very low growth. I am satisfied that these are reasonable assumptions for valuation purposes for this scheme. I have adopted 4.0% per annum, but with a lower rate of 3.0% in 2016/17, as the wage and wage-linked pension growth assumption at this valuation, and 2% as the CPI-linked pension growth assumption.

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 2016 was about 2.0% pa, very low in historical terms, while NT's long term borrowing costs would be slightly higher currently. NT Treasury assume a longer term risk free rate of 4.0% pa.

NT Treasury's assumptions for risk free rate and CPI inflation infer a real rate of return of about 2% 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 2% 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 zero in the long term on Treasury's assumed basis. This is slightly lower than longer term national average gaps of around 1-2%, and partly reflects Treasury's view that NT public sector wage growth will rebound in coming years after quite low rates over the recent past. While a long term wage-discount gap of zero sits towards the low end of historical relativities, it 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 4% 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:

- 4% pa discount rate;
- 4% pa salary inflation rate, but with 3.0% salary growth assumed for 2016/17;
- 2% CPI inflation.

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 2% pa (www.rba.gov.au 1/7/16), 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

There is no reliable scheme mortality experience, so I have relied on the latest population mortality tables published by the Australian Government Actuary, 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. These rates have been updated from the population table used in the previous valuation (Australian Life Tables 2005-07), and are based on the latest published tables from the Australian Government Actuary. The new rates are slightly higher than those from the previous table (after allowing for assumed population mortality improvements) and so liability results are slightly lower using the new rates.

I have assumed 80% of pensioners were married at age 60, with reducing proportions married after that age, and have assumed that female spouses are between 3 and 5 years younger than pensioners, depending on age of pensioner.

Summarised demographic assumptions

Age	Death of Male	Death of Female	Proportion married	Rate of mort Improvement
50	0.0029	0.0018	0.80	0.0205
55	0.0044	0.0026	0.80	0.0243
60	0.0066	0.0040	0.80	0.0271
65	0.0105	0.0062	0.79	0.0286
70	0.0167	0.0103	0.77	0.0286
75	0.0289	0.0181	0.72	0.0268
80	0.0519	0.0332	0.63	0.0228
85	0.0934	0.0664	0.54	0.0172
90	0.1612	0.1281	0.40	0.0102
95	0.2478	0.2188	0.26	0.0021

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

5. Valuation method and results

I have valued members' benefits by projecting payments into the future using the assumed mortality rates and rates of pension increase. These future payments have then been discounted to the valuation date using the assumed discount rate. Reversionary spouse benefits are also valued in the same way.

Accrued liabilities at 30 June 2016, as well as at the last triennial valuation, are shown below.

	Membership at 2016	2013 3.8% discount \$M	2016 2% discount \$M	2016 4% discount \$M
Pens (incl. reversions)	3 pensioners 1 reversion	4.979	4.684	3.929
Total		4.979	4.684	3.929

The accrued liability has decreased from \$5.0M to \$3.9M in the last three years. The progression from 2013 to 2016 is as follows:

Progression from 2013 to 2016	\$M
Liability at 2013	4.98
Expected liability at 2016	4.58
Change in discount rate at 2016 from 3.8% to 4% pa	-0.07
Change in salary/pension inflation rate from 4.5% to 4% pa	-0.20
Change in assumed mortality	-0.16
Salary & CPI inflation lower than expected 2013-2016	-0.35
Other experience variations (fewer deaths than expected, zero vs 0.4 expected)	+0.14
Actual liability at 2016	3.93

The valuation result is based on the assumptions made. The sensitivity of the valuation result to changes in assumptions is demonstrated below.

Assumptions	Impact of change	Liability \$M
Base triennial assumptions		3.93
Discount rate +1%	-7.7%	3.63
CPI inflation rate +1%	+2.2%	4.02
Wage inflation rate +1%	+6.6%	4.19
Mortality -10%	+4.4%	4.10

The valuation result is moderately sensitive to the discount rate and wage inflation assumptions. While the sensitivity analysis demonstrates relatively low sensitivity to the mortality assumptions, the reality is that the valuation result is highly dependent on the actual time of death of the four remaining pensioners.

6. Projection of payments and liability

The table below sets out expected future payments in each financial year and expected accrued liabilities at the end of each year, using a discount rate of 4.0% pa. The scheme is closed to new entrants, so only existing pensioners and potential spouse reversions are included in the projection. Amounts are expressed in dollars of the projection year.

	Projected Payments \$M	Accrued Liability \$M
2016		3.93
2017	0.32	3.76
2018	0.32	3.58
2019	0.32	3.39
2020	0.31	3.20
2021	0.31	3.01
2022	0.30	2.81
2023	0.30	2.62
2024	0.29	2.42
2025	0.28	2.23
2026	0.27	2.04
2027	0.25	1.86
2028	0.24	1.68
2029	0.23	1.51
2030	0.21	1.35
2035	0.14	0.71
2040	0.08	0.31
2045	0.03	0.09
2050	0.01	0.02
2055	0.00	0.00

The only changes in future will be due to indexation of pensions and reductions due to the death of pensioners.

7. Summary and Recommendations

Based on the assumptions set out in this review the accrued liability at 30 June 2016 is \$3.929M, and cash flows over the next 3 financial years, in inflated terms, are expected to be \$0.32M, \$0.32M and \$0.32M.

Actuarial reviews aid financial reporting and policy analysis, and comply with the spirit of SIS. I recommend that the next review be carried out as at 30 June 2019.



John Rawsthorne
Actuary
19 July 2016