

# **Northern Territory Police Supplementary Benefits Scheme**

## **Report on the Triennial Actuarial Valuation of the Scheme as at 30 June 2018**

## 1. INTRODUCTION

This report has been prepared as at 30 June 2018 at the request of James Richards, Commissioner for Superannuation. The previous review as at 30 June 2015 was carried out by me and presented in a report dated 17 August 2015.

This scheme started in 1984 and provides benefits that supplement those provided by the Commonwealth Superannuation Scheme (CSS). The scheme design intended provision of total superannuation benefits as if retiring members were five years older than their actual age at retirement as the *Police Administration Act* mandated retirement for police members at 60 years. This was five years earlier than the requirement age for other public servants. The scheme was closed to new entrants on 1 January 1988.

The scheme is an exempt public sector superannuation fund under the Superannuation Industry (Supervision) Act 1993 (SIS), and is deemed to be a complying superannuation fund for tax purposes. It is an unfunded scheme, and it does not hold an Operational Risk Financial Requirement (ORFR). Employer-funded benefits are paid from an untaxed source. Employer contributions are made from the Central Holding Authority on a pay-as-you-go basis, as guaranteed in the Scheme Trust Deed.

The scheme benefits are defined in the Trust Deed and Rules of the Fund, dated 2 June 2015. This report and valuation comply with PS400 of the Institute of Actuaries of Australia.

## 2. DATA

I have used the following data in conduct of this review:

- details of all contributors, deferred members and pensioners, plus details of movements during the review period;
- details of CSS accumulations as at 30 June 2017 for members who may be eligible to receive deferred benefits;
- annual reports for 2015-17, plus draft accounts for 2018 supplied by Teresa Rynski on 23 July 2018;
- current Trust Deed and Rules current as at 2 June 2015; and
- the previous actuarial report prepared by me and supporting material referred to therein.

I have reconciled data with previous extracts and am satisfied that the membership data is suitable for valuation purposes.

There were no Rule changes in NTPSBS that affected benefits in the last three years.

### 3. SCHEME DESIGN AND OPERATION

Pension benefits are closely linked to CSS pension benefits. Between ages 55 and 60 the pensions are a percentage of the employer component of CSS pensions. The percentages, based on attained ages in complete years at retirement, are:

Age	%	Age	%
55	25.00	58	15.94
56	21.69	59	13.43
57	18.69	60	11.11

Originally these increases resulted in members getting a total benefit equal to what they would have received from the CSS if they had been five years older. From 1 July 1990 CSS discount factors were reduced but the Police scheme benefits were unchanged, resulting in higher benefits in each scheme.

Member contributions of 1 per cent of salaries are invested in a fund. On age retirement the accumulated contributions are paid to the Territory and the Territory makes all benefit payments. On exit without becoming eligible for a deferred or immediate pension the accumulated contributions are paid to the member.

The scheme was modified from 17 November 1995 to encourage earlier retirement by allowing police, who have completed 25 years' service or attained age 50, to retire with an entitlement to a deferred pension. This also allows members to take advantage of a discontinuity in the CSS benefits. Members of the CSS are able to leave the CSS with a deferred pension benefit that becomes payable after attaining age 55, and this is the most frequent method of exit due to a design feature that results in higher benefits being available just before age 55 than just after age 55.

The benefit is payable when the CSS pension becomes payable and the percentage of the CSS benefit is determined by the age on ceasing to be an eligible employee for CSS purposes or the age on leaving the Police Force, whichever is greater. Below age 55 the factor is 25 per cent.

The employer component of the CSS retirement benefit is a multiple of final salary that increases with the length of service. The employer component of the CSS benefit on taking a deferred benefit before age 55 is linked to the accumulation of member contributions at the time of pension commencement. The first type of benefit therefore increases with salary increases and the second increases in line with the earning rates of the CSS.

The scheme pension benefit may be commuted. A reversionary pension benefit of 67 per cent is payable to a surviving spouse. Pension benefits are increased on 1 January and 1 July in line with increases in the consumer price index (CPI).

There are no insurance arrangements in place for death or disability benefits in the fund. This is appropriate.

## 4. MEMBERSHIP

### Contributors

As at 30 June 2018 there were 10 female and 20 male contributors, with average superannuation salaries of \$163,300 per annum. At 2015 there were 15 female and 38 male contributors, with average superannuation salaries of \$152,100 per annum. For those who were contributors at both dates the annualised rate of increase in salary was 2.9% pa, including both general and promotional increases.

All remaining members now have over 25 years of service and so have now qualified for a deferred or immediate retirement pension.

Details of the decline in contributory membership over the last five triennial periods are summarised below:

	2003-06	2006-09	2009-12	2012-15	2015-18
Membership at start of period	182	135	97	77	53
Resignation	4	3	0	0	0
Deferred*	2	3	0	2	3
Invalidity	1	1	3	0	0
Retirement Commute*	5	5	3	2	1
Retirement Pension*	35	26	14	20	19
Membership at end of period	135	97	77	53	30

\*A large number of retirements occurred immediately before the 55<sup>th</sup> birthday but are shown above as retirements rather than deferred benefits because the period of deferral was very brief.

The age distribution of remaining members continues to increase as shown below:

Age	2003	2006	2009	2012	2015	2018		Total
						Male	Female	
30-32	1							
33-35	8							
36-38	17	8						
39-41	23	16	8					
42-44	24	24	16	8				
45-47	28	21	22	16	8			
48-50	24	23	19	22	15	5	2	7
51-53	41	23	22	19	21	9	4	13
54-56	14	19	10	13	5	4	3	7
57+	2	1		2	4	2	1	3
Total	182	135	97	80	53	20	10	30

It is clear from the progression of membership and exit statistics that the majority of current membership will remain until age 55, or will preserve their benefit beforehand. There were four exits under age 54 during the last three years, all of whom preserved their entitlement within the scheme. It is likely that the contributory membership will tail off to zero within the next 10 years, and the majority will become pensioners on exit. There have been no resignations in recent years, and future cash resignations from the group now appear to be unlikely, given the much larger benefit available on preservation or age retirement, both in this scheme and in CSS.

There are currently 5 ex-contributors with deferred pension entitlements that will probably commence on reaching age 55, and two pending pensions that being processed for pension commencement. At the previous triennial review there were 7 unpaid refund balances, all of which have since been either paid out or transferred to a different scheme, and 3 deferred pensioners.

## Pensioners

There are 176 member pensioners and 20 spouse pensioners. The average annual pension in payment is \$13,071, although more recent pensioners are generally starting with higher pension benefits. There are also five members with deferred pension entitlements and two pending pensioners.

Details of pensioners are summarised below:

	Pensioners	Spouse pensioners	Rate of payment at balance date
1 July 1997	38	1	\$221,507
New pensioners	22	-	
Deaths	-	-	
30 June 2000	60	1	\$376,249
New pensioners	26	4	
Deaths	4	-	
30 June 2003	82	5	\$633,380
New pensioners	34	6	
Deaths	6	-	
30 June 2006	110	11	\$987,494
New pensioners	25	1	
Deaths	2	2	
30 June 2009	133	10	\$1,408,198
New pensioners	18	1	
Deaths	2	-	
30 June 2012	149	11	\$1,750,925
New pensioners	22	6	
Deaths	6	1	
30 June 2015	165	16	\$2,178,613
New pensioners	18	5	
Deaths	7	1	
30 June 2018	176	20	\$2,561,896

As expected the number of pensioners and the amounts of pension payments have continued to increase. Note that the rate of payment at balance date does not correspond to the actual payments made in the previous year, due to movements in and out of membership during the year and pension indexation.

## 5. ACCOUNTS AND INVESTMENTS

The Fund consists of accumulated member contributions, and receives no employer contributions. Employer-provided benefits are paid direct from consolidated revenue as set out in the final table of this section, so do not show up in the following accounts summary. There is no Operational Risk Financing Requirement balance. The discussion below relates solely to the invested member accumulation balances.

Movement in accumulated funds over the last three years are shown below. Figures for 2016 and 2017 are taken from audited accounts, while 2018 figures are based on draft accounts. Asset values are market values.

	2015/16	2016/17	2017/18
	\$	\$	\$
Balance at start	2,512,575	2,321,631	2,091,205
plus Contributions	76,598	63,235	56,119
Surcharge debts paid	4,988	5,978	2,192
Interest	1,178	910	1,027
Appreciation	32,057	289,749	211,527
less Refunds	25,591	284	65,373
Payments to Territory	276,074	575,444	421,956
Taxes	2,061	7,309	61,752
Other expenses	2,037	7,262	4,516
Balance at end	2,321,631	2,091,205	1,808,473

The Fund balance sheet over time is summarised as follows:

	2009	2012	2015	2018
	\$	\$	\$	\$
Assets				
Cash	130,189	150,151	83,933	62,811
Units in PST	2,513,382	2,446,582	2,671,769	2,260,100
Deferred tax asset	247	263	343	295
Total assets	2,643,818	2,596,996	2,756,045	2,323,206
less Liabilities				
Benefits payable	288,223	213,137	213,869	432,605
Sundry liabilities	1,651	1,760	2,046	2,080
Surcharge liability	41,017	34,611	27,555	15,090
Current & deferred tax liability	56	234	-	64,958
Total liabilities	330,947	249,743	243,470	514,733
Net assets available to pay benefits	2,312,871	2,347,252	2,512,575	1,808,473

With one exception the accrued liability of the Fund should always be equal to the amount of the Fund, because its liability is just to pay each member's account balance, either to the member or to the Territory. The exception is the provision of \$15,090 for surcharge contributions tax, which is a tax that will be met by the members, apart from any minor reductions due to the application of the 15 per cent surcharge cap. Thus the net assets available to pay benefits, after adding back surcharge liabilities, are \$1.824M, compared to contributors' accumulation balances of \$1.823M.

The benefits payable figure of \$432,605 in the above balance sheet consists of 7 member balances for members that have exited from the scheme and have not yet claimed their benefit. Five of these balances have been formally deferred, while two are expected to become pensions in payment shortly. These balances continue to receive fund earnings over time.

The bulk of assets in the fund are invested in the JANA Moderate Trust. The investment return from the JANA Moderate Trust is a gross-of-tax return suitable for superannuation assets in the growth phase such as these, and appears to be appropriate. Previously the investment was in a different tax-paid product, but now NT Superannuation Office makes tax calculations for the fund and pays tax on the earnings of the investment.

Crediting rates for members over recent years are based on actual net investment earnings, and are shown below. The compound crediting rate over the last three years has been 6.7 per cent per annum and 6.0% pa over the last ten years.

Year	NTPSBS Crediting Rate	Year	NTPSBS Crediting Rate	Year	NTPSBS Crediting Rate
2000/01	5.0%	2006/07	13.7%	2012/13	14.7%
2001/02	-3.0%	2007/08	-10.0%	2013/14	13.2%
2002/03	-2.2%	2008/09	-11.2%	2014/15	10.1%
2003/04	13.9%	2009/10	10.6%	2015/16	1.3%
2004/05	13.4%	2010/11	9.5%	2016/17	10.9%
2005/06	14.0%	2011/12	-3.9%	2017/18	8.0%

As all contributing members will most likely receive a pension benefit (or commutation thereof) the investment strategy and performance within the Fund is of little consequence to contributing members. It is only for the (now unlikely) circumstance of a member claiming a refund benefit without preserving (either through voluntary resignation or ill-health retirement) that the member accumulation becomes significant in determining the member's benefit entitlement in the scheme.

It is most likely that all remaining assets in the scheme will at some stage be transferred to the Territory in return for pension benefits (or commutations thereof) over time. Therefore the investment strategy, while not relevant to members, is relevant to the Territory. The investment strategy can be set with the view that the assets, while not currently owned by the Territory, will be used to offset Territory pension liabilities in future.

### Territory payments

Territory payments in respect of the scheme have risen steadily over the last decade as shown below. Commutations are lumpy but relatively small, as are payments to the Territory when members claim a pension. Both of these components will decrease in the medium term, while pension payments will increase.

	Pension payments	Commutation payments	Less payments to Territory	Net Territory payments
2003/04	714,316	88,150	244,642	557,824
2004/05	788,528	352,474	281,737	859,265
2005/06	935,070	90,820	392,456	633,434
2006/07	1,090,558	481,329	445,206	1,126,681
2007/08	1,219,404	141,353	255,684	1,105,073
2008/09	1,354,824	0	227,433	1,127,391
2009/10	1,487,481	0	198,945	1,288,536
2010/11	1,573,317	119,772	158,744	1,534,345
2011/12	1,709,293	250,209	286,916	1,672,586
2012/13	1,840,160	0	221,480	1,618,680
2013/14	1,931,131	165,321	168,040	1,928,412
2014/15	2,087,449	178,287	672,626	1,593,110
2015/16	2,278,682	75,275	249,522	2,104,435
2016/17	2,352,052	5,978	575,444	1,782,586
2017/18	2,524,884	132,875	421,956	2,235,803

## 6. FINANCIAL AND EXPERIENCE ASSUMPTIONS AND VALUATION METHOD

### Financial assumptions

At this triennial review I have assumed that future general salary increases will be 3.0% per annum in the long term, but at a higher rate of 3.5% per annum for the next three years. I have assumed CPI increases will be 2.0% per annum in the long term but with a short term lower rate of 1.5% for 2018/19. These salary escalation and CPI inflation rates are Department of Treasury & Finance's (DTF's) preferred rates; they are consistent with a range of external forecasts and lie within what I consider to be a reasonable range. The long term salary growth and CPI inflation assumptions are reduced from the rates used in 2015 (4.5% pa salary growth and 2.5% pa CPI growth), consistent with changes in the economic environment in the interim.

The particular discount rate adopted will depend on the specific question being addressed. For example, to consider funding scenarios a discount rate based on potential earnings of employer assets would be appropriate, but for annual reporting under AASB119 a discount rate based on the long term bond rate would be appropriate. In the current context there are no employer assets, and so it is appropriate to also use a risk-free discount rate for all forms of external reporting, eg if reporting was made under AASB1056. I have adopted a discount rate of 2.6% pa for results in this valuation report, consistent with currently prevailing yields on long term Commonwealth government bonds. However, this rate is near historical lows and may not be a sensible indication of future liabilities depending on the context. Thus I have presented a second scenario in this report with a discount rate of 4.0% pa, consistent with DTF's view (and within what I think is a reasonable range) about the likely long term yield on Government bonds. DTF's preferred discount rate has reduced from 5.0% pa at 2015 to 4.0% pa at 2018.

I have assumed that investment earnings on member balances will be at the same rate as the discount rate, consistent with the requirements of AASB119.

Promotional salary increases remain a significant part of experience. Promotional increases do not tend to vary by age amongst the remaining scheme workforce (all are now long-serving) and so a promotional scale that varies little by age is appropriate. The experience in recent years suggests promotional increases averaged a little over 1% per annum across the remaining workforce. I have retained the promotional salary scale from the previous valuation, of 1% pa below age 60. Because most pension benefits are assumed to be based on member accumulations rather than final salary the valuation result is not very sensitive to changes in the promotional salary scale.

### Contributor demographic experience and assumptions

The following table summarises the actual and expected movements of contributors during recent years.

	2009-12		2012-15		2015-18	
	Actual	Expected	Actual	Expected	Actual	Expected
Death & Invalidity	3	2.7	0	1.9	0	1.4
Resignation	0	5.0	2	1.1	3	0.6
Retirement	17	12.3	22	25.0	20	20.7

Death and invalidity experience was better than expected, but based on a small sample size. The contributor death and ill-health retirement assumptions from the previous valuation have been retained.



The contributor resignation experience was slightly higher than expected, but based on very few resignations. I have retained the resignation rates from the previous assessment. I note that the financial importance of this assumption is not great, as all resignations now are assumed to take the available preserved benefit.

Perhaps the most notable aspect of contributor demographic experience in the last three years is that members consistently retired at around 55, rather than remaining in the workforce beyond that age. Of 18 contributors aged over 52 in 2015 all apart from one retired at or before age 55 in the last three years; there are currently only 4 contributors over age 55 in the scheme. I expect this early retirement feature to remain, and so have also maintained the high retirement rates at ages 54-56 adopted at the previous valuation, with all members assumed to retire at the later of current age or age 60.

Commutation of pensions has a substantial impact on both the liabilities and the cash flows, because the value of the lump sum is only about 50 per cent of the value of the pension foregone and the cash impact of a single commuted lump sum is high compared to annual pension payments. Over the last nine review periods the percentages commuting have been 17, 22, 30, 38, 22, 13, 16, 14, 8 and 6 per cent respectively, although the total number of exits in recent years has been quite small. The assumption from the 2015 triennial review was that 15% of pensions would be commuted. I have retained that assumption at 15% at the 2018 triennial review.

### **Pensioner experience and assumptions**

There were seven member pensioner deaths and one reversionary pensioner death in the last three years, compared to about 9.8 expected during the three years. The number of pensioners is very small, and there is insufficient data on which to make any judgement about mortality of pensioners. I have continued to base mortality assumptions on the most recent Australian population mortality tables. I have used 90 per cent of the Australian Government Actuary's Australian Life Tables 2010-12 as the pensioner mortality rates (with a base year of 2015). The 90 per cent ratio allows for the selection effect of being able to choose a commutation if in poor health, and for mortality improvement between 2011 and 2015. I have incorporated allowance for mortality improvements after 2015 for pensioners at the 125-year rates of improvement set out in the Australian Life Tables 2010-12. These mortality and improvement rates are unchanged from the 2015 review.

Of seven pensioner deaths, five resulted in a reversionary pension. I have assumed that 90 per cent of pensioners are married for ages up to 60. Lower rates apply after that, to recognise the fact that many spouses will predecease the member.

I have assumed that male pensioners are about three years older than their spouses up to age 60, with the age difference increasing with increasing age.

Details of assumptions are shown in the Appendix to this report.

## **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 portion of each contributor's benefit regarded as accrued is the ratio of scheme service to 30 June 2018 to total scheme service at the time of benefit emergence. This apportionment method is consistent with the requirements of paragraph 67 of AASB119 and is the proportionate method of Professional Standard 402.

Current pensioners' and deferred members' 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 whole liability for each pensioner and deferred member is an accrued liability.

## 7. TERRITORY LIABILITIES

The present values of Territory liabilities, calculated on the basis described, are set out below.

	Membership at 2018	2015 3% discount \$ million	2018 4% discount \$ million	2018 2.6% discount \$ million
Contributors accrued benefits				
member-financed	30 contributors	2.541	1.824	<b>1.824</b>
Territory-financed		17.470	8.633	<b>11.284</b>
Pensioners	196 pensioners	49.640	46.040	<b>54.978</b>
Deferred pensioners	7 deferred/pend	1.289	2.864	<b>3.842</b>
Total accrued liability		70.940	59.361	<b>71.928</b>
member-financed		2.541	1.824	<b>1.824</b>
Territory-financed		68.399	57.537	<b>70.105</b>

The sum of member balances for deferred and pending pensioners is shown as a creditor liability in the scheme balance sheet, and so I have removed the member component of liability for these seven members (a total of \$0.432M) from the deferred pension superannuation liabilities at 2018 shown above, to ensure that this amount is not double counted.

In addition to the accrued employer liability of \$70.1 million, a further \$1.0 million of employer liability is expected to accrue in future in respect of current contributors. The expected present value of future salaries is \$14.6 million, and so this future accruing employer liability could be funded with a contribution of 6.8% of future salaries.

Scheme vested benefits total \$73.6M using a 2.6% discount rate, including member-financed balances for contributors of \$1.8M. Employer-financed vested benefits are \$71.8M, slightly higher than accrued liability of \$70.1M. Now that all contributory members have a vested pension entitlement, the vested benefit will tend to be higher than the accrued benefit for contributors because:

- For those under age 55, the benefit immediately after age 55 is generally smaller than the benefit immediately before age 55 (this is the general incentive to take the 54/11 benefit);
- The benefit for those that stay in service beyond age 55 drops each year until age 60 (this is part of the NTPSBS benefit design).

I consider it unlikely that the vested benefits for all of these members will be immediately claimed, and in any case the funding arrangement and nature of the employer sponsor mean that even if this did occur any liquidity or funding problem is unlikely. I am satisfied that it is not necessary to increase the accrued liability towards the vested benefit to cater for this feature.

## Changes since 2015

The accrued liability has increased from \$68.4M at 30 June 2015 to \$70.1M now, an increase of \$1.7M. The projected liability at 2018, determined at the 2015 valuation, was about \$69.6 million in current dollars. The additional \$0.5M of liability at 2018 is explained as follows:

- Lower commutations of pension than expected increased 2018 liability by about +\$0.8M;
- Higher investment earnings than assumed increased liability by about +\$1.9M;
- CPI growth on pensions was lower than expected, reducing liability by about -\$1.3M;
- Other elements of experience, including salary growth, pensioner deaths and the rate of exit around age 55 were largely in line with expectations;
- The change in discount rate and assumed investment return on member balances from 3.0% to 2.6% pa increased the employer liability by +\$4.4M.
- The change in salary growth assumptions decreased liability by less than -\$0.1M.
- The reduction in CPI growth from 2.5% pa to 2.0% pa decreased liability by -\$5.3M.

## Sensitivity Analysis

The assumptions made in valuing the liability can dramatically impact the estimated liability. The following scenarios demonstrate the sensitivity of the liability to changes in various elements of the valuation basis. This sensitivity analysis is intended to show foreseeable outcomes, but is not intended to demonstrate the limits to variability in the liability.

Sensitivity Analysis		Liability	Impact
		\$M	\$M
Base case (2.6% discount)		70.1	
Higher salary growth	+1% pa for all years	70.2	+0.2%
Lower salary growth	-1% pa for all years	70.0	-0.2%
Higher CPI growth	+1% to 3.0% pa	81.2	+15.9%
Lower CPI growth	-1% to 1.0% pa	61.0	-13.0%
Higher discount/earning rate	+1% to 3.6% pa	60.7	-13.3%
Lower discount/earning rate	-1% to 1.6% pa	81.9	+16.8%
Higher commutation rate	+15% to 30% commutation	68.6	-2.1%
Lower commutation rate	-15% to 0% commutation	71.6	+2.1%
Higher pension mortality	increase mortality rates by 10%	68.4	-2.4%
Lower pension mortality	reduce mortality rates by 10%	72.0	+2.7%
Lower retirements at age 55	reduce age-55 ret rate by 50%	68.2	-2.7%

The most important determinants of liability are CPI growth, commutations and pensioner mortality (which impact actual pension cash flows) and the discount rate (which impacts the present value mechanism used to value scheme liabilities).

The sensitivity analysis shows that most parts of contributor experience will have very little impact on liability. Changes in earning rates on accumulations, salary growth rates and resignation rates make only slight differences to liability. The proportion of people assumed to retire around age 55 makes a moderate difference, as the pre-55 benefit is larger than the post-55 benefit.

## 8. PROJECTIONS OF TERRITORY EMERGING COSTS AND ACCRUED LIABILITIES

Projections of Territory future emerging costs and accrued liabilities are set out below, together with comparisons with estimates made at 30 June 2015. All figures are shown in inflated values of the projection year. 2018 liability figures on two different discount rates are shown.

Accrued employer liabilities are expected to decline slowly in real terms for the next few years, and will decline more quickly as current contributors exit and pensioners age. Employer emerging costs will continue to climb slightly in real terms over the next 15 years or so as the number of pensions in payment increases.

	2015 valuation		Current valuation		
	Emerging costs	Accrued liability	Emerging costs	Accrued liability	Accrued liability
		3.0% disc		2.6% disc	4.0% disc
	\$M	\$M	\$M	\$M	\$M
2018		69.592		70.105	57.537
2019	2.465	69.527	2.197	70.021	57.848
2020	2.567	69.298	2.430	69.633	57.889
2021	2.716	68.849	2.594	69.009	57.720
2022	2.853	68.186	2.862	68.041	57.222
2023	2.999	67.301	2.989	66.869	56.532
2024	3.138	66.208	3.106	65.513	55.664
2025	3.237	64.947	3.207	63.997	54.638
2026	3.343	63.518	3.279	62.351	53.480
2027	3.413	61.966	3.332	60.600	52.212
2028	3.466	60.310	3.366	58.768	50.855
2029	3.496	58.573	3.382	56.872	49.427
2030	3.526	56.960	3.391	54.916	47.931
2035	3.539	46.900	3.331	44.451	39.598
2040	3.327	35.864	3.072	33.491	30.418
2045	2.875	24.985	2.617	23.043	21.321
2050	2.238	15.431	2.020	14.070	13.253
2055	1.515	8.113	1.358	7.296	6.991
2060	0.840	3.435	0.745	3.028	2.948
2065	0.355	1.100	0.308	0.938	0.928
2070	0.107	0.243	0.090	0.196	0.197

Emerging payments are similar to those projected at the previous valuation, although lower long term inflation at this valuation reduces payments in the outer projection years. The prevailing discount rate causes a change in the projected liabilities.

## 9. CONCLUSION

Although the scheme was closed in 1 January 1988 and contributory membership has reduced considerably the scheme's pension benefits will be paid for many years.

In accordance with Regulation 9.32 of the SIS Regulations, I state that the scheme has net assets available to pay benefits of \$1.824 million. This is the same as the accumulated member contributions, and there are no employer contributions in the Fund. This is appropriate given the funding of benefits by NT Government on a pay-as-you-go basis. I am satisfied that the pay-as-you-go funding is appropriate given the NT Government undertakes to pay benefits on an emerging cost basis.

The accrued employer liability at 30 June 2018 is \$70.105 million using a discount rate of 2.6% pa, or \$57.537 million using a discount rate of 4.0% pa. Scheme membership is now quite stable. Liabilities are now also quite stable, with salary and investment market fluctuations having less impact on liabilities over time, and pensioner mortality and CPI indexation becoming the dominant determinants of future outcomes.

A handwritten signature in blue ink, appearing to read 'John Rawsthorne', with a long horizontal flourish extending to the right.

John Rawsthorne FIAA

14 August 2018

## APPENDIX

The demographic assumptions from the review are summarised below.

### Contributors

Age	Mortality	Invalidity	Retirement	Resignation	Promotion (%)
40	0.0008	0.0029		0.0132	1.00
45	0.0012	0.0043		0.0104	1.00
50	0.0019	0.0080		0.0064	1.00
55	0.0028	-	0.70	-	1.00
56	0.0030	-	0.50	-	1.00
57	0.0033	-	0.25	-	1.00
58	0.0036	-	0.25	-	1.00
59	0.0039	-	1.00	-	1.00
60					

In-service decrement rates do not vary by gender

### Pensioners

Age	Mortality		Proportion Married %	Mortality Improvements
	Male	Female		%
55	0.0039	0.0024	90	1.5
60	0.0059	0.0036	90	1.3
65	0.0095	0.0056	87	1.3
70	0.0151	0.0093	83	1.2
75	0.0260	0.0163	76	1.0
80	0.0467	0.0298	66	0.9
90	0.1451	0.1153	31	0.5
100	0.2813	0.2729	4	0.1

Mortality rates are as at 2015, with mortality improvement applying after that time  
Pensioner mortality rates vary by gender