22 March 2006

Actuarial Report as at 30 June 2005
Police Superannuation Scheme

MERCER
Human Resource Consulting

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Executive Summary

1.1. I have prepared this report at the request of the Minister, to satisfy the requirements of Section 15 of the Police Superannuation Act, 1990. This Section of the Act requires an Actuary to provide a report to the Minister:

(a) on the cost of the Police Superannuation Scheme to the State Government, and

(b) estimating the proportion of future benefits under this Act that can be met from the Fund.

1.2. This report continues the series of reports that have been prepared to address these issues in the past. These reports have been prepared on a regular basis, generally every three years, and have provided information about the funding and cost of the superannuation scheme which is used for members of the police force in South Australia.

1.3. The previous report was prepared by myself as at 30 June 2002, with that report dated 30 June 2003.

1.4. I have prepared this report with the assistance of Mr John Barrett and Mr John Charles, Actuarial Officers, Department of Treasury and Finance. I have used computer analyses prepared by Mr Barrett and Mr Charles, which derive their information from the administration computer system that is used by the Police Superannuation Board. I have been grateful for the assistance provided in this exercise and for access to their extensive knowledge of the operations of the Scheme.

1.5. In this report, I have:

- provided information about the current funding status of the Scheme,
- commented on the funding proportion of benefit payments, and
- produced estimates of the future cost of the Scheme.

1.6. The major conclusions which I have made in this report are that -

(i) the funding proportion for the New Scheme should be retained at 30%,

(ii) the funding proportion for the Old Scheme should be increased to 22%,

(iii) the Government contribution for future service liabilities for the New Scheme should be increased from 12.0% to 12.5% of contributors' salaries,

(iv) the Government contribution for future service liabilities for the Old Scheme should be increased from 17.0% to 19.5% of contributors' salaries, and

(v) no allowance should be made at this stage for the strong investment performance for the 2005/06 year to date.

1.7. I confirm that this Report has been prepared to comply with Professional Standard PS400 of the Institute of Actuaries of Australia, relating to the Investigation of Defined Benefit Superannuation Funds. Where requirements of the Standard are not relevant or appropriate for the Scheme, I have omitted them.

2

Legislation Affecting the Scheme

Governing Legislation

2.1. The Police Superannuation Scheme is governed by the Police Superannuation Act, 1990 ("the Act"), which replaced the Police Pensions Act, 1971.

2.2. Under the Act, members who joined the Scheme before 1 June 1990 are able to receive benefits in pension form, while those members who joined on or after that date receive benefits in lump sum form. An overview of the benefits and contributions under the current legislation is provided in Appendix A.

Amendments to Legislation

2.3. Since the time of the previous report, there have been a number of amendments to the Act which are summarised in this section.

2.4. The amendments were effected by:

- The Statutes Amendment (Equal Superannuation Entitlements For Same Sex Couples) Act 2003 (operates from 3 July 2003);
- The Statutes Amendment (Notification of Superannuation Entitlements) Act 2003 (operates from 17 August 2003);
- The Statutes Amendment (Division of Superannuation Interests under Family Law Act) Act 2003 (operates from 18 December 2003);
- The Statutes Amendment (Miscellaneous Superannuation Measures) Act 2004 (operates from 19 August 2004); and

- The Statutes Amendment (Miscellaneous Superannuation Measures No 2) Act 2004 (operates from 13 January 2005).

2.5. The Statutes Amendment (Equal Superannuation Entitlements For Same Sex Couples) Act 2003 provides for a putative partner of the same sex, when declared by the District Court to be a putative spouse, to be entitled to reversionary spouse benefits on the death of a member.

2.6. The Statutes Amendment (Notification of Superannuation Entitlements) Act 2003 provides that the Board must notify preserved members, not less than six months before their 55th birthday, that their entitlements are about to become available for payment .

2.7. The Statutes Amendment (Division of Superannuation Interests under Family Law Act) Act 2003 provides for the division of superannuation benefits in the same way as other assets in the event of a breakdown in marriage.

2.8. The Statutes Amendment (Miscellaneous Superannuation Measurers) Act 2004 provides for the commutation of benefits for the payment of a deferred superannuation surcharge debt for members of the New Scheme.

2.9. The Statutes Amendment (Miscellaneous Superannuation Measurers No 2) Act 2004 provides for the acceptance of co-contribution payments from the Commonwealth Government and the establishment of co-contribution accounts.

2.10. These changes have largely been procedural and have had no material impact on benefits and therefore the cost to the Scheme.

Superannuation Surcharge

2.11. The “Superannuation Surcharge” is a tax which was introduced by the Federal Government from 20 August 1996. The Surcharge was intended to apply to “high income earners”, and is generally levied and applied through the superannuation funds in which those employees are members.

2.12. Since the Police Superannuation Scheme is a Constitutionally protected scheme, the Surcharge operates in a different manner to private sector superannuation funds.

2.13. For this Scheme, advice is provided to the Australian Taxation Office of the "notional" contribution that applies to each member of the Scheme. When the Tax Office receives the information, this is matched with the income information already held by the Tax Office to determine the amount (if any) of Surcharge liability relating to each person.

2.14. If there is a liability, the Tax Office creates and maintains a "debt account" of that amount for that person. That debt account is accumulated with the long term (Federal) Treasury bond rate until the person becomes eligible for a benefit entitlement under the Act, at which time the accumulated balance is required to be paid to the Australian Tax Office.

2.15. The Surcharge and the notional debt account have no direct financial effect on the value of the liabilities under the Act, since any liability is paid for by the person receiving the eventual benefit entitlement.

2.16. Legislation has now been passed which has abolished the Surcharge with effect from 30 June 2005. However, the administration of debit accounts in relation to prior year surcharge assessments will need to continue for some time.

3

Funding of the Scheme

Member Contributions

3.1. Contributions are made by members at rates that are fixed according to their age at entry. For the New Scheme, members who joined after their 25th birthday contribute at 6% of salary, while members who joined before their 20th birthday contribute at 5% of salary. For members who joined between these ages, the contribution rate is interpolated between these two rates. For the Old Scheme, the rate of contribution follows a similar spread from 5% to 6% of salaries, but varying from age 20 to age 30 at entry.

3.2. The average rate of member contribution for current members at 30 June 2005 was 5.2% for the New Scheme and 5.1% for the Old Scheme.

3.3. An amount equal to the member contributions is paid by the Treasurer into the Police Superannuation Fund. This Fund is managed and invested by Funds SA (the business name of the Superannuation Funds Management Corporation of South Australia).

3.4. The Fund retains separate divisions for the Old Scheme (pension) and New Scheme (lump sum) contributors. The amount of assets in the two divisions generally corresponds with the total of individual contribution accounts maintained for the members of the respective Schemes.

3.5. The Fund is required to meet its share of administration costs and benefit payments.

3.6. Roll-ins and voluntary contributions were introduced into the Scheme during the 2001/02 year. Since that time the level of such contributions has increased significantly each year.

For the three years ending 30 June 2005, roll-ins and voluntary contributions of $2,294,000 were paid into the Old Scheme, and roll-ins and voluntary contributions of $358,000 were paid into the New Scheme. These amounts are not available to meet the fund share of benefits and are therefore excluded from the calculation of the funding proportion. Furthermore, as roll-ins and voluntary contributions are credited with the net earning rates of the Schemes each year, their impact on the Schemes is neutral.

Funding of Public Sector Superannuation

3.7. Since 1 July 1994, the State Government has undertaken a program that is intended to progressively fund its accumulated superannuation liabilities. This program has been set out over a 40 year period, with the intention of achieving complete funding of accumulated superannuation liabilities by the year 2034.

3.8. This program will produce a specific pool of externally invested assets, which are currently managed by Funds SA. These assets are maintained in distinct accounts for each of the State schemes that are supported by the State Government. The assets of the Police Superannuation Scheme – Employer Contribution Account are shown in the table in paragraph 4.1 below.

3.9. The payments that are being made into the investment pool are intended to meet the cost of newly accruing benefits each year, as well as to meet a portion of the existing past service liability.

3.10. During the three years to 30 June 2005, total payments of $66,700,000 were made in respect of the past service liability for members of the Police Superannuation Scheme. These contributions are paid into Employer Account for the Scheme and are not taken into account in setting the future contribution levels or funding proportions.

Cost Sharing Proportion

3.11. The proportion of benefits met from the relevant division of the Fund is set by the Board under sub-section 14(3) of the Act. This is effectively the proportion of lump sum and pension benefits that must be funded out of the assets held in the Police Superannuation Fund. As mentioned in paragraph 1.1, this report must provide estimates of these proportions.

3.12. For members of both Schemes, the prescribed proportion is 100% for all resignations involving a return of the member's contribution account balance (with the balance of this

benefit being fully met by the Government). For other types of entitlement, different prescribed proportions apply.

3.13. For members of the New Scheme (lump sum benefits), the prescribed proportion is currently 30%. This means that the Government is responsible for meeting the remaining 70% of New Scheme benefits.

3.14. For members of the Old Scheme (pension benefits), the prescribed proportion is currently 21%. This means that the Government is responsible for meeting the remaining 79% of Old Scheme benefits.

Share of Administration Costs

3.15. Regulation 12, pursuant to Section 10(7)(b) of the Act, specifies the proportion of administration costs that must be met by the Fund. The balance of these costs is met by the Government.

3.16. The prescribed percentage is 30%. The current practice in applying this proportion of administration costs is to reduce the earning rate of the Old and New Scheme sections of the Fund before it is applied to member contribution accounts. As a result, the crediting rate for contribution accounts is net of the prescribed proportion of the Fund's share of administration costs.

4

Assets of the Fund

Details of Assets

4.1. At 30 June 2005, the assets of the Fund and the Employer Account were invested with Funds SA in the following major asset classes:

Asset Type	Old Scheme ($'000)	New Scheme ($'000)	Employer ($'000)	Total ($'000)
Inflation Linked Investments	29,371	1,733	29,590	60,694
Property	22,969	1,355	23,140	47,464
Equities – Australian	100,783	5,945	101,534	208,262
Equities – International	99,926	5,895	100,671	206,492
Fixed Interest	16,581	978	16,704	34,263
Diversified Strategies – Growth	5,211	308	5,250	10,769
Diversified Strategies – Income	7,538	445	7,595	15,578
Cash	7,098	418	7,151	14,667
Total Investments	**289,477**	**17,077**	**291,635**	**598,189**
Other Assets Less liabilities	-1,138	16	-1,183	-2,305
NET ASSETS	**288,339**	**17,093**	**290,452**	**595,884**
Voluntary Contributions, Rollins and Co-contributions	2,812	445	-	3,257
NET ASSETS TO PAY DEFINED BENEFITS	**285,527**	**16,648**	**290,452**	**592,627**

4.2. At 30 June 2002 the net assets were $222.7 million for the Old Scheme, $10.2 million for the New Scheme and $179.8 million for the Employer Account.

4.3. The amount held in the Employer Account is intended to be used for the purpose of paying the Government's share of the benefits as they fall due.

4.4. I have used the market value of the assets of the Fund for the purposes of my projections and assessment of the funding position of the Scheme. I consider that the market value is reasonable for this purpose, and this represents a continuation of the practice from previous reports.

Returns on Investments

4.5. One of the major objectives which Funds SA has for the management of the assets of the State's public sector superannuation schemes is the achievement of long term returns which are 4.5% per annum in excess of inflation. The assumptions that I have used to assess the financial position and emerging cost of the Scheme are consistent with this objective.

4.6. The assets of the Old and New Schemes have a significant emphasis on "growth" investments, which is consistent with the objective of achieving a high real rate of return. One of the results of this emphasis on "growth" investments is that returns will be variable over different years, as Australian and international economies fluctuate over time.

4.7. Rates of return on the assets for the Old and New Schemes (money weighted), allowing for the investment fees and administration expenses, for the last three years have been:

Scheme	2002/03	2003/04	2004/05
Old	-0.8%	17.9%	15.2%
New	-0.4%	17.6%	15.0%

4.8. Over the three years ending 30 June 2005, the average rate of return on the assets has been 10.4% per annum for the Old Scheme and 10.4% per annum for the New Scheme.

Returns Credited to Member Contribution Accounts

4.9. At the end of each financial year, the Police Superannuation Board determines a rate of return that will be used to increase each member's contribution account. The rate which is used allows for the rate of return earned by the assets of the respective section within the Fund and the Fund's share of administration costs, as well as for smoothing to reduce the level of fluctuation of the return on members' contribution accounts.

4.10. The rates of return which have been used to increase member contribution accounts during the period have been generally based on an average of the net returns over the previous three years. While these rates are below the actual returns achieved by the Scheme assets each year, in the previous three year period, the rates were higher than the actual returns in two of the three years. Over time, it is expected that the actual returns will be fully passed on to member contribution accounts.

Scheme	2002/03	2003/04	2004/05
Old	-1.0%	3.9%	10.7%
New	-1.0%	4.0%	10.9%

4.11. The rates of return which have been used to increase member voluntary contribution accounts and roll over accounts during the period were:

Scheme	2002/03	2003/04	2004/05
Old	-0.8%	17.9%	15.2%
New	0.0%	17.9%	15.1%

5

Valuation Assumptions

5.1. An actuarial investigation such as this involves using a model to project the experience of the members of the Scheme and the balance of the Fund into the future. The model allows for demographic factors (including rates of mortality, retirement, invalidity and resignation) and economic factors (including rates of investment returns, crediting rates and inflationary increases in benefits) as well as other factors such as rates of commutation and preservation.

5.2. I have used a projection and funding method known as "aggregate funding", that involves calculating the present value of all liabilities relating to present contributors, pensioners and preserved members, and comparing the prescribed proportion of this with the present value of future member contributions together with the value of the Fund's investments.

Economic Assumptions

5.3. Assumptions are required to be made about future crediting rates, salary increases and CPI increases. These assumptions are inter-related, since it would be expected that crediting and earning rates should normally be higher than salary increases, which in turn should be higher than CPI increases.

5.4. For the purpose of this investigation, I have retained the same assumptions as were used three years ago for each of general salary increases, future crediting rates and future CPI increases.

5.5. I have assumed a future general salary increase rate of 4% per annum. I have assumed that general salary increases will be 1.5% per annum in excess of CPI (as was assumed in 1999). I have assumed that investment returns will be 3.0% per annum in excess of general salary increases.

5.6. This "package" of assumptions produces an assumed real return of 4.5% above inflation in the long term and is consistent with the objectives of Funds SA and the real return used at the previous investigation. The main variation to the individual assumptions is an explicit assumption for the first year of the projection.

5.7. I have allowed for the actual indexation of pensions at 1 October 2005 and 1 April 2006, using a total increase in the CPI of 2.74% over this period.

5.8. I have allowed for the immediate general increase in salaries of 3.5% that occurred on 1 July 2005. Since member contributions are based on the contributor's salary at the 1 April preceding the financial year, this will not affect the member contributions paid during the year, but will have an immediate effect on benefit entitlements. Future general salary increases at the long term assumption of 4% are also assumed to occur on 1 July each year.

5.9. In addition to an assumed level of general salary increases, allowance is also made for promotional salary increases throughout a member's career. A promotional salary scale is derived from prior experience.

5.10. For this investigation, an increase to the previously assumed promotional salary scale has been adopted. This reflected an extension during this three year period of the previously observed increase in the level of promotional increases. While an increase in the level of promotional increases was assumed at 30 June 2002 (to about 0.8% per annum), it was below the actual experience observed of 1.9% per annum. Therefore, a higher increase has been adopted for this investigation. The changed assumption has generally added about 1.0% per annum to the previously assumed level of promotional salary increases.

5.11. Overall, the impact of the promotional salary increases is to add a further 0.6% per annum to the assumed level of standard salary increases.

Demographic Assumptions

5.12. The demographic assumptions that I have used in the projections and valuations were set after considering the experience of contributors and pensioners over the three year period to 30 June 2005, as well as the experience for prior periods. As the amount of experience for the Scheme is significant, the assumptions that are derived from the experience could be regarded as being reliable for the purpose of the calculations.

5.13. I have used the same assumptions for members of the Old and New Schemes.

5.14. I have attempted to retain the assumptions that were used in the previous valuation, unless they were inconsistent with the recent experience of the Scheme membership. In some cases, I have retained the major features of the assumptions, but used updated population mortality rates, which are based on more recent census and population experience in Australia.

5.15. The changes in assumptions related to:

- rates of mortality, including mortality improvement,
- rates of retirement due to invalidity,
- rates of resignation of contributors,
- rates of age retirement,
- proportions married, and
- rates of commutation of spouse pensions.

I have provided a brief discussion of the changes made to the assumptions below. Details of the experience and the rates adopted are given in Appendices C, D and E.

Mortality

5.16. Mortality rates in the past have been linked to prescribed percentages of the standard population mortality at the valuation date. I have retained this approach for this investigation and I have recognised that the standard population mortality applies at a date prior to the valuation date. As a result, I have made allowance for improvements in mortality up to 30 June 2005. This analysis has also resulted in some changes to the level of assumed mortality improvements into the future. The rates of mortality improvement have been set equal to the average of the previous assumptions in the 2002 review and rates derived from improvement factors in Appendix E of the Australian Life Tables 2000-02. The rates derived from the improvement factors in Appendix E of the Australian Life Tables 2000-02 represent the average of the 25 and 105 year mortality improvement experience.

5.17. The revised level of mortality improvements are lower than those adopted for the 2002 investigation.

Invalidity Retirements

5.18. An analysis of the invalidity retirement experience showed that the actual number of invalidity retirements was again significantly higher than that resulting from the assumptions. As a result, I have increased the assumed level of invalidity retirements by about 24% from those used for the 2002 investigation.

Resignations

5.19. An analysis of the resignation experience showed that the actual number of resignations was significantly greater than that resulting from the assumptions. This trend of increasing incidence of resignations has been observed in each of the last three review periods.

5.20. I am comfortable that this represents a genuine long term feature, rather than being solely a reflection of other issues which are prevalent at the time.

5.21. I have therefore increased the resignation rates further so that the current female resignation rates are applied to both males and females. The actual experience over the last three years for male contributors represents about 98% of the current female resignation rates.

Age Retirements

5.22. During the investigation period there was a significant reduction in the rates of age retirement, particularly between ages 50 to 55. As a result, I have now reduced these rates in line with the experience observed.

Proportions Married

5.23. Allowance is made for the proportion of pension scheme members who are married, since reversionary pensions depend on the existence of a spouse. The proportion of male member pensioners where a spouse pension is paid on death has been analysed using the total experience of the scheme. In the age range 40 to 69, the proportion has increased from 90% as at 2002 to 96% as at 2005. The number of female member pensioners is too small to analyse. Assuming 95% of member pensioners are married (85% for female) at age 50, proportions married at higher ages have been derived using mortality

assumptions. Proportions married for male member pensioners have accordingly been increased.

5.24. It is clear that there has been a trend among the population for marriage at later ages. This trend has been taken into account in revised assumptions for this Scheme.

Spouse Commutations

5.25. Allowance is made for pensioners and spouses to commute the pensions that they become entitled to. It was previously assumed that 30% of age and invalidity retirements and 20% of eligible spouses would commute their pensions to lump sums.

5.26. Over recent years there has been a continuing trend of a lower proportion of pension commutation. As a result, the above rates have been reduced to 20% for age and invalidity retirements and 10% for spouses.

Impact of Changes in Assumptions

5.27. Changes in economic assumptions are usually more significant in their impact than changes to demographic assumptions. The further increase in the promotional salary scale has had a detrimental impact on the valuation results. I have provided information about the effect of the economic and other changes on the valuation results in the next two Sections of the report.

5.28. Generally, the changes in the demographic assumptions have had a material negative impact on the valuation results. In particular, for the Old Scheme, the lower age retirements and the lower commutation rates have more than offset the reduction in assumed rate of mortality improvement.

5.29. For the New Scheme, the changes were generally neutral, with some changes offsetting others.

6

Valuation Results – New Scheme

6.1. There are two measures that I have used to assess the financial position of the New Scheme. These are:

(i) Calculation of the proportion of expected future benefit payments which will be able to be met from the Police Superannuation Fund and future member contributions (the "funding proportion"), and

(ii) Calculation of the projected long term cost of the Scheme.

Calculation of Funding Proportion

6.2. For this purpose, I have projected the future experience of current contributors and preserved members, and then discounted the prescribed proportion of the projected future benefit payments to the current date. The resulting values are the present value of the prescribed proportion of the benefit liabilities for members of the New Scheme.

6.3. I have shown the results of the calculations allowing for the current funding proportion of 30%.

1. Present Value of Prescribed Proportion of Liabilities

	$'000	$'000
Current Contributors		
Age Retirements	24,414	
Disability Retirements	192	
Invalidity Retirements	2,271	
Deaths	887	
Resignations with Cash Payments	1,773	**29,538**
Preserved Members		
Age Retirements	1,640	
Invalidity	135	
Deaths	29	**1,804**
Total Liability		**31,342**

2. Present Value of Assets

	$'000	$'000
Future Member Contributions	15,699	
Fund Investments	16,648	
		32,347
Surplus		**1,005**

6.4. These results show that, if the Fund is used to meet the prescribed proportion (30%) of benefit costs, the Fund will eventually have a small surplus of assets to meet its obligations. The present day value of this surplus of assets over liabilities is $1,005,000. This compares to a calculated surplus of $215,000 at 30 June 2002.

6.5. As this level of surplus is relatively small, and could be removed by a below average return relative to expectations, I recommend that the proportion of benefits that can be met from the Fund be retained at 30%.

6.6. I note that investment performance for the New Scheme has been well above expectations for the 2005/06 year to date, with returns of around 15% achieved. If allowance is made for this performance, with no correction in future years ie with 7% per annum returns in all subsequent years, the above surplus increases to about $2,000,000. I have not factored this positive return into the above recommendations, preferring to retain this notional surplus as an offset against potential future adverse experience.

Projected Long Term Cost of the Scheme

6.7. I have also considered the long term cost of supporting the benefits in respect of service after 30 June 2005 for members of the New Scheme. (Past service liabilities are being progressively funded by the State Government, as discussed earlier in this Report).

6.8. For this purpose, I have projected benefit payments based only on the future service of current contributors and then discounted the projected benefit payments to the current date. The resulting values are the present value of the future service benefit liabilities for members of the New Scheme.

6.9. I have shown the results of the calculations in the following table.

Present Value of Future Service Liabilities

	$'000	**$'000**
Current Contributor Benefits		
Age Retirements	46,409	
Disability	245	
Invalidity	3,369	
Deaths	1,277	
Resignations with Cash Payments	1,062	**52,363**
Preserved Benefits		
Age Retirements	1,612	
Invalidity	117	
Deaths	24	**1,754**
Total Liability		**54,116**
Future Member Contributions		15,699
Liability to be Funded by Government Contributions		**38,417**
Required Government Contribution Rate		**12.65%**

6.10. This means that, if an amount equivalent to 12.65% of contributors' salaries is set aside as a provision or invested each year, the projected future service benefits would be able to be totally met by those future provisions or investments together with future member contributions, based on the projection assumptions. I therefore recommend that Government contribution rate be increased to 12.5% of contributor salaries.

6.11. This compares to the contribution rate of 12.0% determined at the 30 June 2002 actuarial investigation.

6.12. The main reason for the increase in contribution rate reflects the increase in salary promotion assumptions in the current review.

Explanation of Change in the Financial Position of the Fund

6.13. I have analysed the change in the financial position, by considering the main contributing factors. In most cases, the effect of variations in experience against the assumptions over the three year period was relatively small when considered individually.

6.14. The following table sets out the major influences affecting the change in the financial position between 30 June 2002 and 30 June 2005:

Influence	***Impact $000***
Experience	
Salary and promotional increases	(750)
Investment returns	2,641
Other	49
Total Experience	**1,940**
Change in Valuation Assumptions	
Change in salary assumptions	(1,771)
Change in age retirement rates	433
Change in part time proportion assumption	275
Other changes to mortality, invalidity, withdrawal and proportion married assumptions	(87)
Total Change in Valuation Assumptions	**(1,150)**
Net Change in Surplus	**790**

7

Valuation Results – Old Scheme

7.1. The processes that are followed to assess the financial position of the Old Scheme are similar to that of the New Scheme.

Calculation of Funding Proportion

7.2. To assess the financial position of the Old Scheme, I have projected the future experience of current contributors and pensioners, and then discounted these benefit payments to the current date. The resulting values are the present value of projected liabilities for members of the Pension Scheme, the prescribed proportion (21.0% in this analysis) of which must be compared with the value of the assets of the Old Scheme division within the Fund and the present value of future member contributions.

7.3. I have set out below the results of the calculations using the current prescribed proportion of 21.0% of these liabilities:

1. Present Value of Prescribed Proportion of Liabilities

	$'000	$'000
Current Contributors		
Age Retirements	211,057	
Invalidity Retirements	13,403	
Spouse and Children's Benefits	17,249	
Resignations with Cash Payments	2,713	244,422
Current Pensioners		
Age Retirements	41,444	
Invalidity Retirements	16,010	
Pensioner Spouses	21,208	
Contributor Spouses and Children	5,455	84,209
Total Liabilities		**328,631**

2. Present Value of Assets

	$'000	$'000
Future Member Contributions	60,534	
Fund Investments	285,527	
Total Assets		346,061
Surplus		**17,430**

7.4. These results show that, if the Fund is used to meet the prescribed proportion (21.0%) of benefit costs, the Fund will eventually have a small surplus of assets to meet its obligations. The present day value of this surplus of assets over liabilities is $17,430,000. This compares to a deficit of $19,478,000 at 30 June 2002.

7.5. The size of this surplus is such that the Fund is able to increase the prescribed proportion to 22% and still retain a small surplus of $1.9m. I have therefore recommended that the proportion of benefits that can be met from the Fund be increased from 21% to 22%.

7.6. I note that investment performance for the Old Scheme has been well above expectations for the 2005/06 year to date, with returns of around 15% achieved. If allowance is made for this performance, with no correction in future years ie with 7% per annum returns in all subsequent years, the above revised surplus increases to about $20.9m (assuming a move to a prescribed proportion of 22%). I have not factored this positive return into the

above recommendations, preferring to retain this notional surplus as an offset against potential future adverse experience

Projected Long Term Cost of the Scheme

7.7. I have also considered the long term cost of supporting the benefits in respect of service after 30 June 2005 for members of the Old Scheme. (Past service liabilities are being progressively funded by the State Government, as discussed earlier in this Report).

7.8. For this purpose, I have projected the future benefit payments based only on the future service of current contributors, and then discounted the projected benefit payments to the current date. The resulting values are the present value of the future service benefit liabilities for members of the Old Scheme.

7.9. I have shown the results of the calculations in the following table.

Present Value of Future Service Liabilities

	$'000	**$'000**
Age Retirements	259,310	
Invalidity Retirements	13,445	
Spouse and Children's Benefits	18,612	
Resignations with Cash Payments	947	
Total Liabilities		**292,314**
Future Member Contributions		60,534
Liability to be Funded by Government Contributions		**230,813**
Required Government Contribution Rate		**19.4%**

7.10. This means that, if an amount equivalent to 19.4% of contributors' salaries is set aside as a provision or invested each year, the projected future service benefits would be able to be totally met by those future provisions or investments together with future member contributions, based on the projection assumptions. This compares to the contribution rate of 17.0% determined at the 30 June 2002 actuarial investigations. I therefore recommend that Government contribution rate be increased to 19.5% of contributor salaries.

7.11. The main reasons for the increase are:

(iii) the increase in salary promotion assumptions, and

(iv) less contributors retiring and taking a lump sum benefit either by commutation once they have reached pension age, or upon retirement between ages 50 and 55.

Explanation of Change in the Financial Position of the Fund

7.12. I have analysed the change in the financial position, by considering the main contributing factors. These factors relate to both experience and changes in the valuation assumptions. This analysis is set out on the following page.

7.13. The following table sets out the major influences affecting the change in the financial position between 30 June 2002 and 30 June 2005:

Influence	***Impact $m***
Experience	
Change in fund proportion from 22.6% to 21.0%	20.6
Salary and promotional increases / CPI increases	(12.8)
Investment Returns	49.9
Less members taking lump sum benefits	(1.5)
Higher pension increases	(1.2)
Other	(0.4)
Total Experience	**54.6**
Change in Valuation Assumptions	
Change in salary assumptions	(6.0)
Change in age retirement rates	(4.1)
Lower mortality improvement assumptions	3.7
Lower commutation assumptions	(9.4)
Other changes to mortality, invalidity, withdrawal and proportion married assumptions	(1.9)
Total Change in Valuation Assumptions	**(17.7)**
Net Change in Surplus	**36.9**

Note that these values have been rounded to the nearer $100,000 and this may result in a minor rounding error compared to the actual change in surplus.

8

Projected Cost to the State Government

8.1. I have projected the cost of the Old and New Schemes using the assumptions described in this Report, assuming that the recommended cost sharing arrangements apply in the future. I have recommended that the State Government be responsible for meeting 78% of the cost of benefits for members of the Old Scheme, and 70% for members of the New Scheme.

8.2. I have determined the projected costs of the combined Schemes to the State Government in future years. In the following table I have set out these projected costs (expressed in current salary terms) as well as the total cost of the Schemes, including member contributions.

State Government		
Year Ended	**Cost**	**Total Cost**
30 June	**$ m**	**$ m**
2006	38.6	50.5
2007	40.1	52.3
2008	41.1	53.5
2009	43.2	56.2
2010	45.6	59.1
2011	48.2	62.4
2012	49.2	63.5
2013	50.1	64.6
2014	52.5	67.5
2015	55.4	71.2
2020	64.6	83.0
2025	66.4	85.7
2030	62.4	81.7
2035	43.2	55.6
2040	35.4	45.4
2045	28.2	36.1
2050	20.9	26.8

8.3. I have not separated the cost into the Old and New Schemes, since the Old Scheme dominates the cost.

9

Conclusions

9.1. In this Report, I have set out my comments about the funding status of the Police Superannuation Scheme, in the Old and New Schemes.

9.2. I have concluded that the New Scheme funding proportion of 30% should be retained. The Government contribution which would be required to fund future service liabilities would be 12.5% (up from 12.0%) of contributor salaries.

9.3. I have concluded that the Old Scheme funding proportion of 21% should be increased to 22%. The Government contribution which would be required to fund future service liabilities would be 19.5% (up from 17.0%) of contributor salaries.

9.4. I have concluded that the strong investment returns for the 2005/06 year to date should not be taken into account in the above recommendations at this time.

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22 March 2006

Appendix A

Benefits and Contributions

Overview

A.1.1. The Police Superannuation Scheme is closed to new members. New members of the Police force must contribute to the Southern State Superannuation Scheme.

A.1.2. This description of the Scheme is intended to provide a general understanding of the benefit entitlements of contributors to the Scheme. It is not intended to be a complete summary of the legislation.

A.1.3. There are two distinct types of benefit payable under the Scheme, those payable to:

- Old Scheme or pension members, being members who were accepted as contributors before 1 June 1990; and
- New Scheme or lump sum members, being members who were accepted as contributors on or after 1 June 1990, and before the Scheme was closed to new contributors.

A.1.4. Benefits previously payable under the Police Occupational Superannuation Scheme are now paid as an additional lump sum benefit under the Police Superannuation Scheme. The merger of the occupational scheme into the Police Superannuation Scheme was effective from 1 July 2001. This additional benefit is equivalent to:

(a) 2.275% of final salary for each year of service for Old Scheme members, and

(b) 3.4% of final salary for each year of service for New Scheme members.

Contributions

A.1.5. Benefits are based on contribution points. One contribution point is awarded for each month of contribution, with proportional points awarded for part-time employees.

A.1.6. Members contribute at a constant contribution rate, based on their age at the time of entry to the Scheme. Member contribution rates are:

Age at Commencement	New Scheme Contribution Rate	Old Scheme Contribution Rate
less than 20	5.0%	5.0%
20	5.2%	5.1%
21	5.4%	5.2%
22	5.6%	5.3%
23	5.8%	5.4%
24	6.0%	5.5%
25	6.0%	5.6%
26	6.0%	5.7%
27	6.0%	5.8%
28	6.0%	5.9%
29 and over	6.0%	6.0%

A.1.7. Members who hold the rank of senior sergeant or a lower rank and who have worked on rostered shifts during the contribution period will have their salary increased by 10% for the purpose of determining contributions and benefits.

Old Scheme - Pension Benefits

Retirement Benefits

A.2.1. The retirement age is 55 for most members. A contributor who has reached this age is entitled to a pension and a lump sum.

(i) The pension is calculated as:

$$P = FS \times A \times \frac{2}{3} \times \mathrm{K} \times \left(1 + \frac{X}{600}\right)$$

FS is the contributor's actual or attributed salary;

A is the lesser of 1.0 and the numerical value obtained by dividing the number of the contributor's accrued contribution points by 360 or, if the contributor has not reached age 60, the total of 300 and the number of months by which the contributor's age exceeds 55;

X is the number of months by which the contributor's age at retirement exceeds age 60;

K is a reduction factor which varies with the contributor's age at retirement.

(ii) The lump sum is calculated as:

$$LS = Pn\left(\frac{FS \times 0.91 \times M}{480}\right)$$

FS is the contributor's actual or attributed salary;

M is the number of months of the contribution period after 31 December 1987;

Pn is the proportion of full-time employment during that part of the contribution period after 31 December 1987.

Early Retirement Benefits

A.2.2. A contributor who retires between age 50 and 55 is entitled to a lump sum benefit calculated as follows:

$$LS = 5.4545 \times A \times FS \times \left(1 + \frac{0.1667 \times X}{100}\right) + Pn\left(\frac{FS \times 0.91 \times M}{480}\right)$$

FS	is	the contributor's actual or attributed salary;
A	is	the lesser of 1.0 and the numerical value obtained by dividing the number of the contributor's accrued contribution points by 360;
X	is	the number of months by which the contributor's age at retirement exceeds age 50.
M	is	the number of months of the contribution period after 31 December 1987;
Pn	is	the proportion of full-time employment during that part of the contribution period after 31 December 1987.

Retrenchment Benefits

A.2.3. A contributor who has contributed to the Old Scheme for more than five years is entitled on retrenchment to receive a pension equal to the member's accrued pension and a lump sum.

Disability Pensions

A.2.4. A contributor who is temporarily or permanently incapacitated for work, who is not eligible for weekly workers compensation payments and who has used all available sick leave credits, is entitled to a temporary disability pension. The pension will not be paid for periods of less than one week, and may not be paid if the incapacity is expected to last less than six months. Usually the temporary disability pension will be paid for a maximum of twelve months.

The amount of the pension is calculated as follows:

$$P = A \times \frac{2}{3} \times FS$$

FS	is	the contributor's actual or attributed salary;
A	is	calculated in the same manner as for the retirement benefit at age 60 but with prospective service to age 60 being included.

While a temporary disability pension is being paid, a contributor is not required to make contributions to the Scheme.

Invalidity Benefits

A.2.5. When a contributor's employment is terminated because of invalidity, an invalidity benefit is payable. Where the incapacity is assessed as being likely to be permanent and at a level of 60% or more, the contributor is entitled to:

(i) a pension at the same level as the age 60 pension entitlement; and
(ii) a lump sum benefit.

Where the contributor's condition does not satisfy this requirement, a lump sum benefit is paid, equal to:

$$LS = 5.4545 \times A \times FS \times \left(1 + \frac{0.1667 \times X}{100}\right) + Pn\left(\frac{FS \times 0.91 \times M}{480}\right)$$

with a minimum of twice actual or attributed salary.

FS	is	the contributor's actual or attributed salary;
A	is	the lesser of 1.0 and the numerical value obtained by dividing the number of the contributor's accrued contribution points by 360;
X	is	the number of months by which the contributor's age at invalidity retirement exceeds age 50.
M	is	the number of months of the contribution period after 31 December 1987;
Pn	is	the proportion of full-time employment during that part of the contribution period after 31 December 1987.

Pensions Payable on Death of a Contributor

A.2.6. When a contributor dies, a surviving eligible spouse is entitled to a pension equal to two-thirds of the deceased contributor's notional pension, and if employed at death, a lump sum equivalent to the lump sum payable on retirement.

Children of a deceased contributor who are under the age of sixteen years, or who are undertaking full-time study and are under the age of twenty five years, are eligible for children's pensions. The rate of pension paid is dependent on the number of eligible children and on whether a spouse's pension is also payable.

Where a spouse's pension is payable, children's pensions vary from one ninth of the contributor's notional pension for one child to a maximum of one third of the contributor's notional pension divided among three or more eligible children.

Where no spouse's pension is payable, an orphan's benefit is payable varying from 45% of the decreased contributor's notional pension for one child to a maximum equal to 100% of the deceased contributor's notional pension divided among three or more eligible children. If employed at death, a lump sum equal to the greater of the balance of the contributor's contribution account and twice the contributor's final salary plus a lump sum equivalent to the lump sum payable on retirement. Otherwise a lump sum is paid equal to the balance of the contributor's contribution account.

Where no spouse or child pension is payable, a lump sum is payable equal to 7 times the actual or attributed salary reduced by the factor 'A' as used for early retirement benefit calculations plus a lump sum equivalent to the lump sum payable on retirement. If the contributor dies in the course of duty the minimum benefit is 3 times the actual or attributed salary.

Resignation Benefits

A.2.7. On resignation, contributors may elect either to receive a cash lump sum equal to a return of their contributions with interest, or to preserve their benefit until retirement at or after age 55. Preserved benefits include full vesting of the employer share of benefits.

A.2.8. If contributors elect to receive a cash lump sum, they are also entitled on retirement to a preserved lump sum consisting of a Superannuation Guarantee Minimum Requisite Benefit, and a component calculated as:

$$Pn\left(AFS \times \frac{0.91}{480} \times M\right)$$

AFS	is	the contributor's actual or attributed salary on resignation adjusted for changes in the CPI since the date of resignation;
M	is	the number of months of the contribution period from 1 January 1988 to 30 June 1992;
Pn	is	the proportion of full-time employment during that part of the contribution period from 1 January 1988 to 30 June 1992.

This preserved lump sum may also transferred to an approved fund, or paid on resignation if less than $200 in value.

A.2.9. Where contributors elect to preserve their entitlements, the form of the benefit is determined by the contributor's length of contributory membership before resignation. For contributors with ten years or more membership, the benefit is in the form of a pension and lump sum, while for contributors with less than ten years membership, the benefit is in the form of a lump sum.

A.2.10. The lump sum preserved benefit for less than ten years membership consists of:

(i) an amount equivalent to the amount standing to the credit of the contributor's contribution account; and

(ii) an employer component equal to $2\ ^1/_3$ times the balance of the contribution account; and

(iii) a lump sum calculated as:

$$LS = Pn\left(\frac{AFS \times 0.91 \times M}{480}\right)$$

AFS is the contributor's actual or attributed salary on resignation adjusted for changes in the CPI since the date of resignation;

M is the number of months of the contribution period after 31 December 1987;

Pn is the proportion of full-time employment during that part of the contribution period after 31 December 1987.

A.2.11. The preserved benefits for more than ten years membership consist of:

(i) a pension equal to:

$$P = 0.5181 \times A \times AFS$$

AFS is the contributor's actual or attributed salary at the date of resignation, adjusted for changes in CPI to the date of commencement of pension payment;

A is the numerical value obtained by dividing the number of the contributor's accrued contribution points by the greater of 300 and the number of months between the age at entry and 55.

and;

(ii) a lump sum equivalent to the benefit in part (iii) of A.2.10 above

Commutation

A.2.12. On commencement of an invalidity pension, up to 10% of the pension may be commuted for a lump sum, with further commutation available at age 55. Full commutation is available for retirement pensions. On attainment of age 55 in the case of invalidity or retrenchment pensioners, up to 50**%** of a pension entitlement may be commuted for a lump sum. The commutation basis is independent of sex or marital status, with the factor varying by age. The table below shows the amount of lump sum for each $1.00 of pension commuted.

Age	Factor
65	$9.50
64	$9.70
63	$9.90
62	$10.10
61	$10.30
60	$10.50
59	$10.70
58	$10.90
57	$11.10
56	$11.30
55 or less	$11.50

Spouses of deceased contributors have similar initial options to commute their pension entitlements. Commutation rates are $11.50 at ages below 50 reducing to $8.50 at age 65 and continuing to reduce progressively at older ages.

Indexation of Pensions

A.2.13. Indexation of pension payments occur at 1 October and 1 April each year, using the rate of change in the Consumer Price Index for Adelaide for the 6 month period to the last June and December quarter respectively. All pensions which commenced to be paid under the Police Pensions Act, 1971 are indexed at 1 1/3 times the change in the CPI index. Prior to April 2002, pensions were only adjusted in October.

New Scheme - Lump Sum Benefits

Retirement Benefits

A.3.1. A retirement benefit may be paid after age 55, calculated as:

$$LS = 6 \times FS \times A \times (1 + 0.2778 \times \frac{X}{100}) + Pn\left(\frac{FS \times 1.36 \times M}{480}\right)$$

FS	is	the contributor's actual or attributed salary;
A	is	the lesser of 1.0 and the numerical value obtained by dividing the number of the contributor's accrued contribution points by 420 or where the contributor has not reached the age of 60 by the total of 360 and the number of months by which the contributor's age exceeds 55;
X	is	the number of months by which the contributor's age at exceeds 55;
Pn	is	the proportion of full-time employment during that part of the contribution period after 31 December 1987;
M	is	the number of months of the contribution period after 31 December 1987.

A.3.2. A limited number of contributors may retire after reaching age 50 (and before age 55), with the entitlement calculated as:

$$LS = 5.4545 \times FS \times A \times (1 + 0.1667 \times \frac{X}{100}) + Pn\left(\frac{FS \times 1.36 \times M}{480}\right)$$

A	is	the lesser of 1.0 and the numerical value obtained by dividing the number of the contributor's accrued contribution points by 360;
X	is	the number of months by which the contributor's age at retirement exceeds 50;
Pn	is	the proportion of full-time employment during that part of the contribution period after 31 December 1987;
M	is	the number of months of the contribution period after 31 December 1987.

Resignation Benefits — Without Preservation

A.3.3. On resignation, if contributors elect not to preserve their entitlements but to receive an immediate cash payment of the balance of their contribution accounts, they are also entitled to a Superannuation Guarantee Minimum Requisite Benefit, and a component calculated as;

$$Pn\left(AFS \times \frac{1.36}{480} \times M \right)$$

AFS is the contributor's actual or attributed salary on resignation adjusted for changes in the CPI since the date of resignation;

M is the number of months of the contribution period from 1 January 1988 to 30 June 1992,.

Pn is the proportion of full-time employment during that part of the contribution period from 1 January 1988 to 30 June 1992.

This preserved lump sum may also transferred to an approved fund, or paid on resignation if less than $200 in value.

Resignation Benefits — With Preservation

A.3.4. On resignation, if contributors elect to preserve their entitlements, their benefits remain in the Fund and are only paid on death, becoming incapacitated and on attaining the retirement age. The benefits are calculated as if the member had remained in employment and retired at age 55 but had not paid any contributions from the date of resignation. The contributor's salary on resignation is adjusted for changes in CPI.

A.3.5. The benefit which is paid on the death of a preserved member before age 55 is calculated as:

$$LS = 4 \times A \times AFS + Pn\left(AFS \times \frac{1.36}{480} \times M \right)$$

AFS is the contributor's actual or attributed salary at the date of resignation, adjusted for changes in CPI to the date of commencement of pension payment;

A is the numerical value obtained by dividing the number of the contributor's accrued contribution points by the greater of 360 and the number of months between the age at entry and 55;

Pn is the proportion of full-time employment during that part of the contribution period after 31 December 1987;

M is the number of months of the contribution period after 31 December 1987.

Resignation Benefits — Transfers

A.3.6. On transfer to an approved superannuation scheme the amount transferred is the balance of the contributor's contribution account plus:

(i) an employer component equal to the lesser of twice the employee component and 3.86 times the contributor's actual or attributed salary on resignation adjusted for changes in the CPI since the date of resignation and for the proportion of full-time employment over the contribution period; and

(ii) a lump sum component calculated as.

$$LS = Pn\left(\frac{AFS \times 1.36 \times M}{480}\right)$$

AFS is the contributor's actual or attributed salary on resignation adjusted for changes in the CPI since the date of resignation;

M is the number of months of the contribution period after 31 December 1987;

Pn is the proportion of full-time employment during that part of the contribution period after 31 December 1987.

Retrenchment Benefits

A.3.7. On retrenchment a member can elect either to receive an immediate lump sum equal to the amount of the early retirement benefit, or to take a preserved resignation benefit.

Invalidity Benefits

A.3.8. A member aged less than 55 who is incapacitated is entitled, in the first instance, to a temporary disability pension of $^2/_3$ of salary for a period of up to 12 months. This may be extended to 18 months in special circumstances.

A.3.9. Where the Police Superannuation Board assesses the incapacity as being likely to be permanent and at a level of 60% or more, a lump sum benefit is paid, equal to:

$$LS = 6 \times A \times FS + Pn \left(\frac{FS \times 1.36 \times M}{480} \right)$$

FS is the contributor's actual or attributed salary;

A is the lesser of 1.0 and the numerical value obtained by dividing the number of the contributor's extrapolated contribution points (adjusted to allow for periods of workers compensation payments) by 360,

M is the number of months of the contribution period after 31 December 1987,

Pn is the proportion of full-time employment during that part of the contribution period after 31 December 1987.

A.3.10. Where the contributor's condition does not satisfy this requirement, two benefits are payable:

(i) a lump sum benefit equal to the greater of twice the actual or attributed salary, and

$$5.4545 \times A \times FS \times \left(1 + \frac{0.1667 \times X}{100} \right)$$

FS is the contributor's actual or attributed salary;

A is the lesser of 1.0 and the numerical value obtained by dividing the number of the contributor's accrued contribution points by 360;

X is the number of months by which the contributor's age at invalidity retirement exceeds age 50.

and;

(ii) a lump sum benefit equal to:

$$LS = Pn \left(\frac{FS \times 1.36 \times M}{480} \right)$$

FS is the contributor's actual or attributed salary;

M is the number of months of the contribution period after 31 December 1987;

Pn is the proportion of full-time employment during that part of the contribution period after 31 December 1987.

Death Benefits - for Surviving Spouses

A.3.11. The lump sum paid to a surviving spouse on death is the same as the invalidity benefit except that:

(a) the multiple of 6 is replaced by a multiple of 5; and

(b) in the calculation of 'A', contribution points are divided by 420 and not 360.

Death Benefits - for Eligible Children

A.3.12. Pensions payable to each eligible child are calculated as follows.

(1) Where a spouse's benefit is payable and there are less than 4 eligible children:

$$P = A \times .05 \times FS$$

(2) Where a spouse's benefit is payable and there are 4 or more eligible children:

$$P = \frac{A \times .15 \times FS}{number\ of\ children}$$

(3) Where there is no spouse's benefit payable and there are less than 4 eligible children:

$$P = A \times .15 \times FS$$

(4) Where there is no spouse's benefit payable and there are 4 or more eligible children:

$$P = \frac{A \times .45 \times FS}{number\ of\ children}$$

A is the lesser of 1.0 and the numerical value obtained by dividing the number of the contributor's extrapolated contribution points to age 60 by 420.

In (3) and (4) above a lump sum is also paid to the estate of the contributor equal to the balance of the contributor's contribution account plus:

(i) the greater of the balance of the deceased member's contribution account and twice the deceased contributor's actual or attributed salary; and

(ii) a lump sum component calculated as:

$$LS = Pn\left(\frac{FS \times 1.36 \times M}{480}\right)$$

FS is the contributor's actual or attributed salary;

M is the number of months of the contribution period after 31 December 1987;

Pn is the proportion of full-time employment during that part of the contribution period after 31 December 1987.

Death Benefits - with neither spouses nor eligible children

A.3.13. Where no spouse or child benefits are payable, a lump sum is payable equal to the aggregate of:

(i) 7 times the actual or attributed salary reduced by the factor 'A' as used for early retirement benefit calculations. If the contributor dies in the course of duty the minimum benefit is 3 times the actual or attributed salary; and

(ii) a lump sum for the contribution period after 31 December 1987, as in part 0 of Section A.3.10.

Appendix B

Membership Information

B.1 BACKGROUND

I have been able to use the membership data that has been extracted from the administration system used by the Police Superannuation Board for the ongoing administration of the Schemes.

I have been able to satisfy myself that the data is sufficiently accurate for the purpose of my calculations, and consider that any errors in the recording of member information would not have a material impact on my conclusions.

A number of checks have been performed on the member data, to ensure consistency between years and to ensure that contributor and pensioner information is consistent.

I have set out information about the membership and movement in membership over the three year period. The data has been obtained from a number of sources and it is possible that the tables below may not be totally consistent, with minor variations in numbers. These variations do not have an effect on the calculations that I have performed and are not material in this process.

B.2 CONTRIBUTOR RECORD DETAILS

The following records were obtained for contributing members:

- Identification
- Date of birth

- Date started service
- Date of joining the Scheme
- Salary
- Sex
- Exit code
- Contribution rate
- Accrued points
- Contribution account balance
- Amount of any Lump Sum payment
- Disability date

B.3 PENSIONER RECORD DETAILS

The following records were obtained for current pensioners:

- Identification
- Pension type
- Sex
- Dates of birth for member and spouse
- Date pension started and date spouse pension started
- Exit code and date of exit
- Details of children
- Commutation details
- Basic pension
- Supplementation pension

B.4 SUMMARY OF CONTRIBUTOR MOVEMENTS FOR THE THREE YEARS TO 30 JUNE 2005

Old Scheme	Males	Females	Total
2002 Contributors	2,074	282	2,356
Age Retirements	144	4	148
Invalidity / disability	27	1	28
Deaths	9	2	11
Resignations (with refund)	44	12	56
Resignations (preserved)	34	9	43
Total departures	**258**	**28**	**286**
2005 Contributors	**1,816**	**254**	**2,070**

New Scheme	Males	Females	Total
2002 Contributors	313	115	428
Age Retirements	1	—	1
Invalidity / disability	2	—	2
Deaths	—	—	—
Resignations (with refund)	15	9	24
Resignations (preserved)	4	1	5
Total departures	**22**	**10**	**32**
2005 Contributors	**291**	**105**	**396**

B.5 SUMMARY OF CONTRIBUTOR DETAILS AS AT 30 JUNE 2005

Old Scheme	Males	Females	Total
Contributors			
Number	1,816	254	2,070
	$'000	$'000	$'000
Annual salaries	120,391	15,893	136,284
Contributions	6,091	727	6,818
Account balances	175,546	16,500	192,046
Preserved members			
Number	140	37	177
	$'000	$'000	$'000
Account balances	8,699	1,645	10,344
SG preserved contributors			
Number	246	94	340

New Scheme	Males	Females	Total
Contributors			
Number	291	105	396
	$'000	$'000	$'000
Annual salaries	16,977	6,044	23,021
Contributions	929	263	1,192
Account balances	11,860	3,646	15,506
Preserved members			
Number	15	3	18
	$'000	$'000	$'000
Account balances	311	47	358
SG preserved contributors			
Number	92	45	137

B.6 SUMMARY OF CONTRIBUTORS BY AGE GROUPS

Males

Ages	2002 No.	2002 Average Salary $	2005 No.	2005 Average Salary $
25 - 29	60	46,247	1	55,782
30 - 34	341	47,920	171	59,448
35 - 39	406	50,504	337	61,257
40 - 44	633	51,281	455	64,203
45 - 49	452	53,207	570	65,102
50 - 54	341	56,407	383	68,357
55 - 59	150	60,328	190	73,691
Totals	**2,383**	**52,209**	**2,107**	**65,196**

Females

Ages	2002 No.	2002 Average Salary $	2005 No.	2005 Average Salary $
25 - 29	43	45,380	1	57,028
30 - 34	149	47,536	88	58,247
35 - 39	128	49,343	126	60,221
40 - 44	50	49,381	97	62,860
45 - 49	15	53,484	30	61,894
50 - 54	10	59,391	13	72,307
55 - 59	3	52,818	4	67,898
Totals	**398**	**48,678**	**359**	**61,104**

B.7 SUMMARY OF PENSIONER DETAILS AS AT 30 JUNE 2005

Type of Pension	Current Act		Repealed Act		Total	
	Number	Annual Pension $'000	Number	Annual Pension $'000	Number	Annual Pension $'000
Age	380	11,091	212	5,902	592	16,993
Invalidity and Disability	57	1,619	157	4,509	214	6,128
Spouses of —						
Contributors	36	684	46	979	82	1,663
Pensioners	23	397	220	4,479	243	4,876
Children	26	106	3	9	29	115
Total	522	13,897	638	15,878	1,160	29,775

B.8 DETAILS OF PENSIONER MOVEMENT FOR THE THREE YEARS TO 30 JUNE 2005

Type	2002 In Force	New Pensioners	Exits	2005 In Force
Age	530	123	61	592
Invalidity	229	18	33	214
Spouse	308	56	39	325
Child	37	9	17	29
Total	**1,104**	**206**	**150**	**1,160**

B.9 DETAILS OF AVERAGE PENSION AMOUNTS AS AT 30 JUNE 2005

Males

Ages	2002 No.	2002 Average Pension $	2005 No.	2005 Average Pension $
35 - 39	3	23,920	2	25,554
40 - 44	2	22,833	4	25,600
45 - 49	26	24,990	8	26,168
50 - 54	23	26,249	28	31,197
55 - 59	81	25,481	92	29,909
60 - 64	119	25,881	147	30,825
65 - 69	160	23,573	139	28,123
70 - 74	143	21,513	161	24,389
75 - 79	99	26,462	102	26,588
80 - 84	65	30,494	59	31,595
85 - 89	11	35,155	35	39,097
90 - 94	2	22,653	4	32,211
95 - 99	—	—	1	24,149
100 - 104	—	—	—	—
Totals	**734**	**25,063**	**782**	**28,711**

Females

Ages	2002 No.	2002 Average Pension $	2005 No.	2005 Average Pension $
30 - 34	1	9,558	1	10,496
35 - 39	6	15,828	3	17,637
40 - 44	7	14,225	7	18,996
45 - 49	12	18,281	10	18,852
50 - 54	28	19,072	22	20,729
55 - 59	17	20,242	36	22,116
60 - 64	27	19,209	20	22,605
65 - 69	37	16,381	35	20,444
70 - 74	43	17,397	48	18,342
75 - 79	59	19,671	51	20,453
80 - 84	47	18,344	63	23,253
85 - 89	23	17,215	31	21,794
90 - 94	10	12,287	13	16,457
95 - 99	11	13,323	7	13,591
100 - 104	—	—	2	14,445
Totals	**328**	**17,874**	**349**	**20,650**

Appendix C

Contributor Experience

C.1 The Lump Sum scheme has a relatively small number of contributors and consequently the experience analysis for the two Schemes has been combined.

C.2 The scheme was closed to new entrants in 1994. New members were accepted up to 3 May 1994 for Police Officers or 31 May 1994 in the case of Cadets.

C.3 The total years of exposure during the period were as follows:

	Males	Females
Years of exposure	6,774	1,155

Deaths

C.4 The mortality experience was as follows, with expected deaths determined according to the assumptions used in the previous investigation.

	Males	Females
Actual deaths	9	2
Expected deaths	10	1

The mortality rates have been retained at 60% of the Australian life tables for all ages. The Australian life tables used are Australian Life Tables 2000-02 adjusted for mortality improvement at the rates used in this review.

Invalidity Retirements

C.5 The invalidity experience was as shown below.

	Males	Females
Actual invalids	29	1
Expected invalids	22	1

The 30 invalidity retirements compare with 37 in the period 2000-02 and 15 in the period 1996-99. Higher rates have been adopted for this review because of the sustained increase in the number of invalidities experienced over the past two review periods.

Resignations

C.6 Resignations in the period 2002-05 were much higher than expected, higher than the numbers for both 1999-02 and 1996-99.

A comparison of actual and expected resignations and the rates of resignation, for the three years ending 30 June 2005, are shown below.

	Males			**Females**		
Age	Actual	Expected	Rate	Actual	Expected	Rate
25 - 29	—	1	—	2	1	0.064
30 - 34	18	19	0.025	9	12	0.026
35 - 39	32	24	0.029	14	12	0.034
40 - 44	28	21	0.018	4	5	0.016
45 - 49	12	9	0.007	2	1	0.031
50 - 54	7	1	0.006	—	—	—
Total	**97**	**75**		**31**	**31**	

To reflect the higher incidence of resignation for males, the females resignation rates have been adopted for all members.

Preservation

C.7 A summary of the numbers preserving and as a percentage of those eligible to preserve is as follows:

	Males		Females		Total	
Age	Actual	Percentage	Actual	Percentage	Actual	Percentage
30 - 34	3	17%	—	—	3	11%
35 - 39	9	28%	4	29%	13	28%
40 - 44	11	39%	4	100%	15	47%
45 - 49	8	67%	2	100%	10	71%
50 - 54	7	100%	—	—	7	100%
Total	**38**	**40%**	**10**	**32%**	**48**	**37%**

This experience is higher than that observed over the 1999-02 period, but below the assumed level of preservations. The current assumptions would have produced an average 47% preserving in 2002-05.

The existing assumptions about the proportions of resigning members who preserve have been retained.

Age Retirements — Current Contributors

C.8 Actual and expected age retirements for the three years to June 2005 were as follows:

	Males	Females
Actual retirements	145	4
Expected retirements	219	6

There were 149 age retirements compared with an expected number of 225.

The number at each age in the last three years and for the 1999-02 period are as follows:

	Actual Retirements		Rate	
Age	1999-02	2002-05	1999-02	2002-05
50	30	18	0.106	0.071
51	15	5	0.067	0.020
52	11	6	0.056	0.024
53	9	4	0.047	0.018
54	6	1	0.033	0.005
55	30	20	0.178	0.116
56	15	17	0.127	0.111
57	16	13	0.181	0.102
58	17	22	0.297	0.218
59	10	18	0.308	0.292
60	9	20	0.529	0.582
61	3	3	0.568	0.308
62	—	—	—	0.000
63	—	1	—	0.410
64	2	—	1.000	0.000
65	—	1	—	1.000
66	—	—	—	0.071
67	1	—	1.000	0.000
Total	**174**	**149**		

C.9 New lower rates of age retirement have been adopted which would have given an expected number of age retirements in 2002-05 of 153 instead of 225. The rates have been reduced at all ages between 50 and 59.

Age Retirements — Preserved Contributors

C.10 Actual and expected age retirements for the three years to June 2005 were as follows:

	Males	Females
Actual retirements	9	1
Expected retirements	11	1

Promotional Salary Increases

C.11 Promotional salary increases were significantly higher than expected, as was the level of general salary inflation. Promotional salary increases were 1.0% more than expected while total salary increases were 2.9% pa more than expected.

	Males % pa	Females % pa	Total % pa
Promotional Salary Increases			
Actual increase	1.7%	2.1%	1.8%
Expected increase	0.8%	1.3%	0.8%
Total Salary Increases			
Actual increase	7.8%	7.8%	7.8%
Expected increase	4.8%	5.3%	4.9%

The average annual increase in salaries over the three year period was 7.8% for members of the Old and New Schemes combined (Old Scheme was 7.8%, and New Scheme 7.8%). This does not include the 3.5% increase on 1 July 2005.

C.12 New rates of promotional salary increases have been adopted which are about 0.6% pa higher than the previous rates.

Commutation

C.13 Contributors can commute up to 100% of their pensions on age retirement or up to 10% on invalidity retirement. Invalid pensioners may also commute up to 50% of their pension on attaining age 55. New spouse pensioners may also commute up to 50%.

For the three years ended 30 June 2005 the commutation experience was as follows:

	Percentage of pensioners who commuted	Percentage of pension commuted by those who commuted	Average Percentage of pension commuted
	%	%	%
Age retirements:			
Males	68%	41%	28%
Females	40%	64%	20%
Invalidity retirements:			
at start of pension	58%	26%	16%
at age 55	63%	26%	17%
Spouses	13%	43%	4%

Details of the average percentage of all new pensions commuted over each of the three years are:

	2002-03 %	**2003-04 %**	**2004-05 %**
Age Retirements	30%	26%	28%
Invalidity retirements:			
at start of pension	5%	14%	24%
at age 55	18%	12%	20%
Spouses	4%	8%	—

I consider that there is a continuing trend for members to commute less of their pensions. As a result, I have reduced to 20% (from 30%) the commutation assumption in relation to age retirement pensions and invalidity pensions at age 55. I have further reduced the proportion for spouses from 20% to 10%.

Appendix D

Pensioner Experience

D.1 The mortality experience of pensioners during the three years to 30 June 2005 has been examined and compared with that assumed in the previous actuarial investigation.

Where appropriate the previous assumptions have been modified in light of this experience. Mortality rates have been expressed as a proportion of the underlying population mortality. For the purposes of this review I have taken the population mortality to be the Australian Life Tables 2000-02 updated by the rates of mortality improvement used in this review (referred to as adjusted ALT 2000-02).

Comments on individual aspects of the experience are detailed in the following sections of this Appendix and summaries of the rates adopted for the current investigation are set out in Appendix E.

Age Retirement Pensioners

D.2 The mortality experience was as follows, with expected deaths determined according to the assumptions used in the previous investigation.

	Males	Females
Actual deaths	41	1
Expected deaths	39	1

The new rates have been set as a proportion of the population mortality such that expected male deaths on the new assumptions would have approximately equalled actual deaths during the last three years. The same proportions have been used for females.

These proportions are the same as in the previous review and rise from 50% at ages below 65 to 100% from age 95.

Invalidity Pensioners

D.3 It is to be expected that invalidity pensioners will suffer higher rates of mortality than age retirement pensioners will, particularly in the first few years after retirement. The mortality experience of invalidity pensioners is summarised below:

	Males			**Females**		
	Year 1	Year 2	Later Years	Year 1	Year 2	LaterYears
Actual deaths	1	1	24	1	—	—
Expected deaths	1	1	13	*	*	*

* *less than one expected deaths.*

For durations over two years, the minimum value has been increased from 0.007 to 0.012. This means that the population based mortality rates apply from age 63 for males and 69 for females.

For early durations the mortality rate has been set at .075 in year one and .04 in year two for both males and females.

Spouse Pensioners

D.4 The mortality experience of spouse pensioners was as follows:

	Males	**Females**
Actual deaths	—	38
Expected deaths	*	31

* *less than one expected deaths.*

Spouse rates of mortality have been set to be the same as age pensioner rates.

Mortality Improvement

D.5 Rates of mortality improvement have been set equal to the average of the previous assumptions in the 2002 review and rates derived from improvement factors in Appendix E of the Australian Life Tables 2000-02. The rates derived from the improvement factors in Appendix E of the Australian Life Tables 2000-02 represent the average of the 25 and 105 year mortality improvement experience..

CPI Increases

D.6 As from April 2002, pensions are increased each 1 October and 1 April, according to the change in the Adelaide Consumer Price Index for the 6 months to the previous 30 June and 31 December respectively. Prior to 2002, increases were made on a yearly basis in October. Where the increase in CPI is negative, no adjustment to pensions is made and the pension increase for the following 6 months is based on the increase in CPI for the period since the last adjustment.

During the period, pensions were increased as follows:

Month of Increase	Current Act	Repealed Act
October 2002	1.83%	2.44%
April 2003	1.73%	2.31%
October 2003	1.98%	2.64%
April 2004	1.32%	1.76%
October 2004	1.64%	2.19%
April 2005	0.94%	1.25%
October 2005	1.20%	1.60%
April 2006	1.52%	2.03%

Proportion Married

D.7 For the purpose of determining assumptions for the proportions of members and pensioners who are married, I have constructed a population model using the 2005 review mortality rates and a selected starting proportion married and age. Since there are a relatively small number of pensioners, past experience is only a rough guide to this starting proportion. The starting proportions used at age 50 are 95% for males and 85% for females.

Appendix E

Demographic Assumptions

E.1 CONTRIBUTOR MORTALITY RATES

Age	Males	Females
20	0.00053	0.00020
25	0.00065	0.00021
30	0.00068	0.00025
35	0.00073	0.00034
40	0.00089	0.00049
45	0.00119	0.00072
50	0.00170	0.00112
55	0.00269	0.00176
60	0.00451	0.00276

E.2 CONTRIBUTOR INVALIDITY RETIREMENT RATES

Age	Males & Females
20	0.00058
25	0.00084
30	0.00121
35	0.00174
40	0.00251
45	0.00361
50	0.00519
55	0.00746
60	0.01074

E.3 CONTRIBUTOR RESIGNATION RATES

Age	Males & Females
20	0.03078
25	0.03402
30	0.03607
35	0.03343
40	0.02263
45	0.01129

E.4 PRESERVATION PROPORTIONS

Age	Proportion
20	0.024
25	0.088
30	0.156
35	0.280
40	0.489
45	0.783
50	1.000
55	1.000
60	1.000

E.5 RATES OF RETIREMENT

Age	Current Contributors (2005)	Current Contributors (2002)	Preserved Contributors
50	0.070	0.100	—
51	0.020	0.050	—
52	0.020	0.050	—
53	0.020	0.050	—
54	0.020	0.080	—
55	0.110	0.150	0.850
56	0.110	0.130	0.930
57	0.110	0.200	0.970
58	0.220	0.270	1.000
59	0.300	0.360	1.000
60	0.500	0.500	1.000

E.6 RATES OF PROMOTIONAL SALARY INCREASES

Age	Males & Females
20	1.000
25	1.219
30	1.437
35	1.641
40	1.822
45	1.973
50	2.090
55	2.172
60	2.223

E.7 FAMILY STATISTICS — MALES

Age	Percentage Married %	Age of Husband less Age of Wife	No. of Dependent Children	Average Age of Dependent Children
20	2	—	—	—
25	25	2	1	1
30	50	3	2	4
35	70	3	2	7
40	83	3	2	10
45	93	3	2	13
50	95	3	1	15
55	94	3	—	—
60	94	3	—	—
65	92	3	—	—
70	90	4	—	—
75	86	4	—	—
80	78	4	—	—
85	63	4	—	—
90	41	4	—	—

E.8 FAMILY STATISTICS — FEMALES

Age	Percentage Married	Age of Husband less Age of Wife	No. of Dependent Children	Average Age of Dependent Children
20	9	4	—	—
25	38	4	1	2
30	64	4	2	7
35	74	4	2	10
40	82	4	2	12
45	84	3	1	14
50	85	3	1	15
55	84	3	—	—
60	83	3	—	—
65	81	3	—	—
70	77	2	—	—
75	71	2	—	—
80	59	2	—	—
85	42	2	—	—
90	23	2	—	—

E.9 PENSIONER MORTALITY RATES

	Age Retirements		Invalidity Pensioners				Spouse Pensioners	
			Year 1	Year 2	Subsequent Years			
Age	Male	Female	M & F	M & F	Male	Female	Male	Female
20			.07500	.04000	.01200	.01200	.00044	.00017
25			.07500	.04000	.01200	.01200	.00055	.00018
30			.07500	.04000	.01200	.01200	.00057	.00021
35			.07500	.04000	.01200	.01200	.00061	.00029
40			.07500	.04000	.01200	.01200	.00074	.00041
45	.00100	.00060	.07500	.04000	.01200	.01200	.00100	.00060
50	.00142	.00093	.07500	.04000	.01200	.01200	.00142	.00093
55	.00224	.00147	.07500	.04000	.01200	.01200	.00224	.00147
60	.00376	.00230	.07500	.04000	.01200	.01200	.00376	.00230
65	.00627	.00356	.07500	.04000	.01504	.01200	.00627	.00356
70	.01269	.00718			.02504	.01417	.01269	.00718
75	.02534	.01465			.04271	.02470	.02534	.01465
80	.04801	.02995			.07094	.04426	.04801	.02995
85	.09025	.06325			.11927	.08359	.09025	.06325
90	.15198	.11763			.18238	.14116	.15198	.11763
95	.19418	.17392			.23302	.20870	.19418	.17392
100	.23660	.22620			.28392	.27144	.23660	.22620

E.10 RATES OF MORTALITY IMPROVEMENT

The table shows the annual rates of decrease of mortality rates at each age.

Age	Males %	Females %
60	3.103	2.565
70	2.862	2.584
80	1.999	2.276
90	1.189	1.691
100	0.853	1.347

E.11 COMMUTATION

Pension Type	Percentage Commuted
Age	20%
Invalid	20%
Spouse	10%

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