

***South Carolina Retirement System
(SCRS)
Actuarial Valuation
as of July 1, 2004***



A MILLIMAN GLOBAL FIRM

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Consultants and Actuaries

June 2005

TABLE OF CONTENTS

Section	Page
Letter of Transmittal	(i)
I. Board Summary.....	I-1
II. Assets	II-1
III. Valuation Results	III-1
IV. Accounting Statement Information	IV-1
V. Membership Information	V-1

APPENDICES

A. Actuarial Assumptions and Methods.....	A-1
B. Summary of Plan Provisions.....	B-1



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June 1, 2005

State Budget and Control Board
South Carolina Retirement System
P.O. Box 11960
Columbia, SC 29211-1960

Dear Members of the Board:

At your request, we have conducted our first annual actuarial valuation of the South Carolina Retirement System. The results of the valuation are contained in the following report.

The actuarial assumptions used in performing this valuation have been recommended by the actuary and adopted by the State Budget and Control Board based on the most recent review of the System's experience completed during Fiscal Year 2004. The assumptions used, in the aggregate, reflect our best estimate of anticipated future experience of the plan. The results of this report are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from these assumptions, the true cost of the plan could vary from our results.

The assumptions and methods used in performing this valuation meet the parameters set by Government Accounting Standards Board (GASB) Statement No. 25, *Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contributions Plans*.

The purpose of this report is to determine if the contribution rate for FY 2006 is adequate to amortize the unfunded actuarial liability over no more than 30 years as required by GASB Statement No. 25, to review the experience for the previous year, and to provide information for financial disclosures. This report may not be used for purposes other than those listed above without Milliman's prior written consent.

Milliman's work is prepared solely for the use and benefit of the State of South Carolina in accordance with its statutory and regulatory requirements. Milliman recognizes that materials it delivers to the State of South Carolina may be public records subject to disclosure to third parties; however, Milliman does not intend to benefit and assumes no duty or liability to any third parties who receive Milliman's work in this fashion and may include disclaimer language on its work product so



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In preparing our report we relied, without audit, on information (some oral and some written) supplied by the Retirement System's staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. Census data provided to us by the System has been reviewed for reasonableness, and for consistency with the data from the prior year. If any data or other information is inaccurate or incomplete, our calculations may need to be revised.

I, Hassan Ghazi, am an associate actuary and I, Robert S. Dezube, am a consulting actuary for Milliman. We are also members of the American Academy of Actuaries and meet their Qualification Standards to render the actuarial opinion contained herein.

We hereby certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the applicable Guides to Professional Conduct, Amplifying Opinions, and Supporting Recommendations and Interpretations of the American Academy of Actuaries.

Sincerely,

Milliman, Inc.

A handwritten signature in blue ink, appearing to read 'Hassan Ghazi'.

Hassan Ghazi, ASA
Associate Actuary

Robert S. Dezube, FSA
Principal and Consulting Actuary

Section I

Board Summary

BOARD SUMMARY

This report presents the results of the July 1, 2004 actuarial valuation of the South Carolina Retirement System (SCRS). The primary purposes of performing the annual actuarial valuation are to:

- 1) Determine whether the **contributions** to be paid by the State in Fiscal Year 2006 **are adequate** to amortize the unfunded actuarial liability over no more than 30 years;
- 2) **Measure and disclose**, as of the valuation date, the financial condition of the plan;
- 3) **Indicate trends** in the financial progress of the plan;
- 4) **Provide specific information** and documentation required by the Government Accounting Standards Board (GASB).

In this section of the report, we present a summary of the above information in the form of:

- The actuary's comments;
- The prior year's experience of the plan's assets, liabilities, and membership;
- A series of graphs which highlight key trends experienced by the plan; and
- A summary of all the principal results from this year's valuation, compared to the prior year's, in a single table, intended for quick reference purposes.

The July 1, 2004 valuation is the first valuation performed by Milliman for SCRS. Before performing the July 1, 2004 valuation, Milliman performed a parallel valuation comparing the principal valuation results of the July 1, 2003 valuation as reported by the System's prior actuary, Gabriel, Roeder, Smith & Company (GRS), with the results we would have obtained based on the demographic data sent to us by SCRS and the actuarial assumptions described in GRS' valuation report. We have included both sets of July 1, 2003 valuation results in the comparison tables.

Actuary's Comments

The employer contribution rate for the System is 7.70%, including a 0.15% contribution for the Group Life Fund. The 7.55% net contribution is used to pay the normal cost and to amortize the unfunded actuarial liability. The Board sets the contribution rate based on the actuarial valuation of the plan. The amortization period for the unfunded actuarial liability varies, depending on the amount of the liability and the net contribution towards the liability after paying the normal cost contribution.

BOARD SUMMARY

The July 1, 2004 valuation develops the contribution rates for FY 2006. The actuarially determined employer normal cost contribution rate decreased from 4.31% for FY 2005 to 3.80% for FY 2006. As a result, the net contribution towards the unfunded actuarial liability increased from 3.24% to 3.75%. The unfunded actuarial liability increased from \$4.2 billion to \$5.1 billion. The net result is that the amortization period for the unfunded actuarial liability increased from 25 years to 27 years. There were several reasons for this increase:

- The actuarial valuation method was changed from an entry age normal cost method that uses a new entrant profile to the standard entry age normal cost method. This decreased the normal cost rate, which increased the net contribution towards the unfunded actuarial liability. Although the unfunded actuarial liability increased by \$318 million, the higher contribution decreased the amortization period by 3.3 years.
- We changed the way the prior actuary valued the Teacher and Employee Retention Incentive (TERI) account balances to make the liabilities consistent with the assets. This increased the unfunded actuarial liability by \$433 million, and the amortization period by 3.4 years.
- The plan granted a 1.6% COLA effective July 1, 2004. This increased the unfunded actuarial liability by \$209 million, and the amortization period by 1.7 years. Because future COLAs are not reflected in the system's valuation assumptions, every time an ad hoc COLA is granted, the unfunded actuarial liability is increased. This increases the amortization period.
- The plan experienced an actuarial gain on plan liabilities resulting primarily from lower than expected increases in participant salaries. The gain decreased the unfunded actuarial liability by \$274 million, and the amortization period by 2.2 years. This type of activity is normal in the course of plan experience. The plan will experience actuarial gains and losses over time because we cannot predict exactly how people will behave. When a plan experiences alternating gains and losses that are small compared to the total actuarial liability, then the plan's actuarial assumptions are reasonable.
- The plan experienced an actuarial loss on plan assets. There was a loss of \$228 million as a result of investment return on the actuarial value of assets being less than the assumed rate. The loss increased the amortization period by 1.8 years.
- Other factors, such as changes in the applications of actuarial mathematics as described in Milliman's parallel valuation and the expected one-year decrease in the amortization period due to the massing of time, increased the amortization period by 0.5 years.

As of the July 1, 2004 actuarial valuation, the plan's unfunded actuarial liability was **\$5.1 billion**. This is an increase from last year's unfunded actuarial liability of \$4.2 billion.

BOARD SUMMARY

As part of this valuation, we tested the adequacy of the 0.15% contribution rate to fund the Group Life Insurance benefits. There is a separate fund for these benefits with assets at market value of \$111 million as of July 1, 2004. The 0.15% contribution rate is reasonable and, together with assets on hand, will adequately fund the expected benefit payments for FY 2006.

The balance of this section presents summarized information regarding plan trends, details on the 2003/2004 experience, and tables presenting a summary of the principal results.

Prior Year Experience

ASSETS

The Plan has two measures of plan assets: (i) the market value and (ii) the actuarial value. The market value is a snapshot of the asset value as of July 1, 2004. The actuarial value is a smoothed asset value that recognizes 20% of the difference between the expected investment return and actual investment return each year for five years. The expected investment return equals the prior year's actuarial value of assets adjusted with contributions, and payments using investment earnings of 7.25%. This method tempers the volatile fluctuations in market value.

The actuarial value of assets as of July 1, 2004 exceeds the market value by a minimal amount (\$13 million). This represents an accumulation of unrecognized investment losses as a result of several years of investment returns lower than the assumed rate. The amount of accumulated asset losses decreased from last year's amount of \$532 million. The decrease is due to the investment performance on the market value of assets having been greater than the assumed rate. However, since accumulated losses still exist, if the market value earns 7.25% (the current investment return assumption) in the upcoming fiscal year, the return on the actuarial value will lag the return on the market value and result in another loss on the actuarial value of assets. This will increase the amortization period.

For the plan year ending July 1, 2004, the plan earned 9.0%¹ on a market value basis and 6.1% on an actuarial value basis. These returns resulted in an actuarial gain to the fund of \$331 million on a market value basis and actuarial loss to the fund of \$228 million loss on an actuarial value basis. The specific changes between the prior year's amounts and this year's are presented below.

Item (In Thousands)	Market Value	Actuarial Value
July 1, 2003 value	\$ 19,665,571	\$ 20,197,936
Employer Contributions	508,078	508,078
Member Contributions	414,898	414,898
Transfer of Assets	(2,608)	(2,608)
Benefit Payments and Expenses	(1,472,463)	(1,472,463)
Expected Investment Earnings (7.25%)	1,405,741	1,444,337
Expected Value July 1, 2004	20,519,217	21,090,178
Investment Gain (Loss)	330,912	(227,519)
July 1, 2004 value	\$ 20,850,129	\$ 20,862,659

¹ Differs from the CAFR report rate of return because assumes cash-flow occurs mid-year.

LIABILITIES

Two different measures of liabilities are calculated for this plan: a total value of future benefits and an actuarial liability. Section III of this report describes the development of each. The actuarial liability is used to determine the adequacy of the State's contribution rate and the Government Accounting Standards Board (GASB) disclosures. Plan experience is measured by changes in the actuarial liability. During the plan year ending in 2004, the plan experienced an actuarial gain on liabilities of **\$274 million**, which is 1.1% of the total actuarial liability. The liability increased by \$318 million due to the change to using the standard entry age normal actuarial valuation method.

Liabilities (In Millions)	Total Value of Future Benefits	Actuarial Liability
July 1, 2003 (GRS results)	\$ 29,426	\$ 24,399
July 1, 2003 (Milliman results from parallel valuation)	\$ 29,798	\$ 25,089
July 1, 2004	\$ 30,864	\$ 25,978

UNFUNDED LIABILITIES AND FUNDING RATIOS

The difference between the actuarial liability and the actuarial value of assets is the unfunded actuarial liability. Here we show the July 1, 2003 and July 1, 2004 unfunded actuarial liability/(surplus) amounts, as well as the corresponding funding ratios (assets divided by liabilities).

In Millions	Unfunded Actuarial Liability
July 1, 2003 (old entry age normal method) net unfunded / (surplus)	\$ 4,201
Funding ratio	82.8%
July 1, 2003 (new entry age normal method) net unfunded / (surplus)	\$ 4,891
Funding ratio	80.5%
July 1, 2004 net unfunded / (surplus)	\$ 5,115
Funding ratio	80.3%

BOARD SUMMARY

MEMBERSHIP

There are four types of plan members: (i) current active members; (ii) inactive members who retain a right to either a refund of contributions or a deferred vested benefit; (iii) TERI members; and (iv) retired members and beneficiaries in pay status. In Section V we present details on membership statistics. Below, we compare totals in each group between July 1, 2003 and 2004.

There was an overall increase in membership during the year.

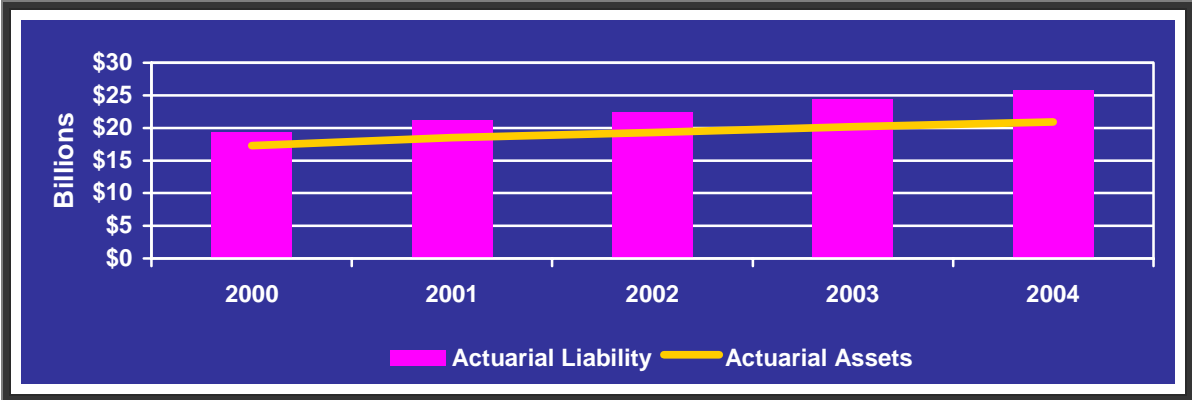
	7/1/2004	7/1/2003	Change
Active Members	181,827	185,538	(2.0%)
Inactive Members	146,718	142,245	3.1%
TERI Members	12,663	10,495	20.7%
Retired Members and Beneficiaries	76,944	73,925	4.1%
Total Members	418,152	412,203	1.4%

Trends

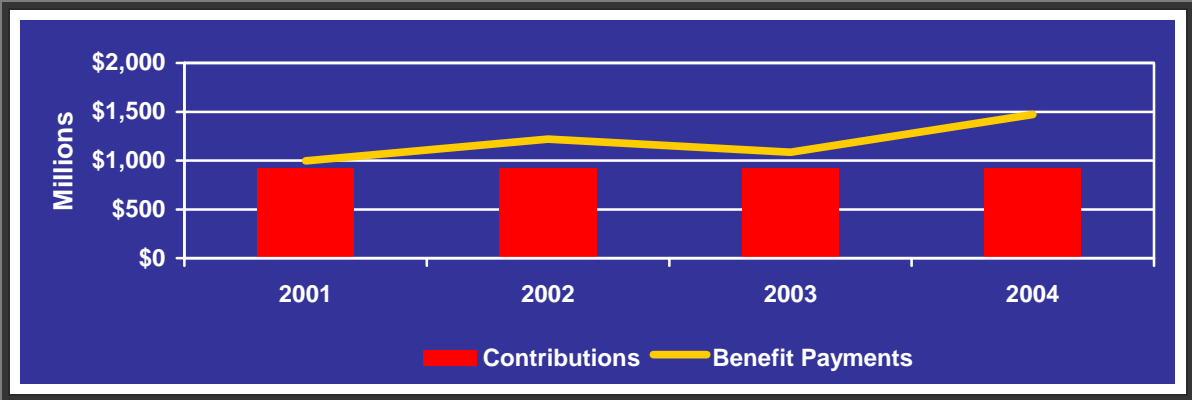
To truly understand the financial condition of the pension plan, a review of the prior year's funded status is helpful in seeing the big picture and general trend evolving. Below, we present three charts that present trend information from 2000 through 2004.

The first graph shows an increase in both actuarial liability and actuarial assets. Since the gap between actuarial liability and actuarial assets increases in each of these years, the unfunded actuarial liability increases. The second graph shows that contributions are level, while the benefit payment level increased in 2004 after a slight decrease in 2003. The third graph shows that the funding period for unfunded actuarial liability continues to move toward 30 years. The funding period will increase if the plan experiences actuarial losses or if an ad hoc COLA is granted and the contribution rate is not changed.

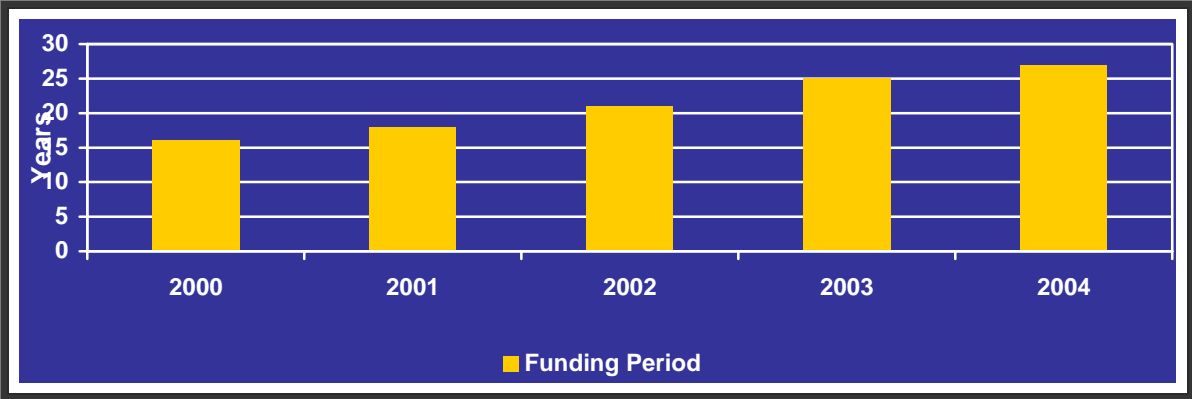
Assets and Liabilities



Cash Flows



Unfunded Actuarial Liability Funding Period



BOARD SUMMARY

PRINCIPAL RESULTS			
	July 1, 2004	July 1, 2003 (Milliman Method)	July 1, 2003 (GRS Method)
Membership			
Number of:			
Active Members	181,827	185,540	185,538
TERI Members	12,663	10,495	10,495
Retirees and Beneficiaries	76,944	73,567	73,925
Inactive Members	<u>146,718</u>	<u>143,317</u>	<u>142,245</u>
Total	418,152	412,919	412,203
Payroll (excludes ORP & TERI members)	\$ 6.2 billion	\$ 6.2 billion	\$ 6.2 billion
Statutory Contribution Rate (Including Group Insurance)			
Member	6.00%	6.00%	6.00%
Employer			
Retirement Contribution	7.55%	7.55%	7.55%
Group Life Insurance Contribution	<u>0.15%</u>	<u>0.15%</u>	<u>0.15%</u>
Total	7.70%	7.70%	7.70%
Assets			
Market Value	\$ 20.9 billion	\$ 19.7 billion	\$ 19.7 billion
Actuarial Value	\$ 20.9 billion	\$ 20.2 billion	\$ 20.2 billion
Return on Market Value	9.0%	9.0%	9.0%
Return on Actuarial Value	6.1%	6.2%	6.2%
Ratio of Actuarial to Market Value	100.1%	102.7%	102.7%
Actuarial Information			
Employer Normal Cost %	3.80%	3.78%	4.31%
Unfunded Actuarial Liability (UAL)	\$ 5.1 billion	\$ 4.9 billion	\$ 4.2 billion
Funded Ratio	80.3%	80.5%	82.8%
Funding Period	27 years	26 years	25 years
Change in Unfunded Actuarial Liability (in millions)			
Beginning of Year Unfunded Actuarial Liability	\$ 4,201		\$ 3,149
Interest on Unfunded Actuarial Liability	305		228
Amortization Payment	(244)		(245)
Asset Experience	228		120
Salary Experience	(150)		(188)
Other Liability Experience	(124)		460
COLA	209		278
Benefit Changes	0		0
Assumption/Method Changes	690		399
Total Increase / (Decrease)	\$ 914		\$ 1,052
End of Year Unfunded Actuarial Liability	\$ 5,115		\$ 4,201

Section II

Assets

Pension plan assets and the decisions the Board may make with respect to future deployment of those assets play a key role in the financial operation of the plan. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely affect benefit levels, negotiated contributions, and the ultimate security of participants' benefits.

In this section we present:

- Statement of the **changes** in market value during the year; and
- Development of the **Actuarial Value of Assets**.

Changes in Market Value:

The components of asset change are:

- Contributions
- Benefit Payments
- Expenses
- Investment Income (realized and unrealized)

The first three components represent the net external cash flow during the year. The specific changes during 2004 and the three prior years are presented in Table II-1.

Actuarial Value of Assets:

The Actuarial Value of Assets represents a "smoothed" value developed by the actuary to reduce, or eliminate, erratic results which could develop from short term ups and downs in the Market Value of Assets. For this plan, the Actuarial Value has been calculated by recognizing 20% of the difference between expected investment return and actual investment return each year for five years. Table II-2 shows the calculation of the Actuarial Value of Assets for the July 1, 2004 valuation.

TABLE II-I
CALCULATION OF EXCESS INVESTMENT INCOME
FOR ACTUARIAL VALUE OF ASSETS

PLAN YEAR ENDING JUNE 30,

Item	2004	2003	2002	2001
1. Market Value of Assets at Beginning of Year	\$ 19,665,571	\$ 18,439,431	\$18,585,912	\$ 17,386,719
2. Net External Cash Flow During the Year	(552,095)	(414,748)	(303,213)	(74,657)
3. Market Value of Assets at End of Year	20,850,129	19,665,571	18,439,431	18,585,912
4. Actual Investment Income During the Year Based on Market Value:	1,736,653	1,640,888	156,732	1,273,850
5. Assumed Earnings Rate	7.25%	7.25%	7.25%	7.25%
6. Expected Earnings for the Year				
a. Market Value of Assets, Beginning of Year: (5) x (1)	1,425,754	1,336,859	1,347,479	1,260,537
b. Net External Cash Flow: (5) x .5 x (2)	<u>(20,013)</u>	<u>(15,035)</u>	<u>(10,991)</u>	<u>(2,706)</u>
c. Total: (a) + (b)	1,405,741	1,321,824	1,336,487	1,257,831
7. Excess Investment Income for Year: (4) – (6)	\$ 330,912	\$ 319,064	\$ (1,179,755)	\$ 16,019
All dollar amounts in thousands				

**TABLE II-2
DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS**

Item	Valuation as of July 1, 2004
1. Excess (Shortfall) of Investment Income for Current Year and Previous Three Years	
a. Current Year	\$ 330,912
b. Current Year - 1	319,064
c. Current Year - 2	(1,179,755)
d. Current Year - 3	16,019
2. Deferral of Excess (Shortfall) of Investment Income for:	
a. Current Year (80% Deferral)	\$ 264,730
b. Current Year - 1 (60% Deferral)	191,438
c. Current Year - 2 (40% Deferral)	(471,902)
d. Current Year - 3 (20% Deferral)	<u>3,204</u>
e. Total Deferred for Year	\$ (12,530)
3. Market Value of Plan Assets, End of Year	\$ 20,850,129
4. Preliminary Actuarial Value of Plan Assets, End of Year (Item 3 – Item 2.e.)	\$ 20,862,659
5. Actuarial Value of Assets Corridor	
a. 80% of Market Value of Assets, End of Year	\$ 16,680,103
b. 120% of Market Value of Assets, End of Year	\$ 25,020,155
6. Final Actuarial Value of Plan Assets, End of Year (Item 4, But Not Less Than Item 5.a., or Greater Than Item 5.b.)	\$ 20,862,659

Section III

Valuation Results

VALUATION RESULTS

In this section we present the principal valuation results. A pension plan is in actuarial balance if the assets on hand plus future employer and employee contributions are equal to the total value of future plan benefits. The System has assets on hand in the employee fund and the employer fund. It receives contributions from employees of 6.00% of pay. It receives contributions from the employer of 7.55% of pay, after subtracting the 0.15% of pay contribution for the group life fund.

The employer contribution is used to pay the normal cost and to fund the unfunded portion of the actuarial liability. The normal cost is the regular ongoing cost of the plan. The unfunded actuarial liability represents costs allocated to prior years that have not been paid by prior employer or employee contributions. The Employer's intent is to make sufficient contributions to fund the unfunded actuarial liability over no more than 30 years.

Valuation Balance Sheet

Table III-1 demonstrates that the System is in actuarial balance. The assets of the System together with future employer and employee contributions are sufficient to fund all liabilities of the System.

Summary of Actuarial Valuation Results

Table III-2 is a summary of the July 1, 2004 actuarial valuation results compared to similar results from the prior valuation. An employer contribution rate of 7.70% including the 0.15% contribution to the Group Life Fund is sufficient to fund the unfunded actuarial liability over 27 years. Changes from last year include:

- The number of active members decreased 2.0% and payroll of active members decreased 1.0%.
- The number of retirees, including TERI members increased 6.1%. Retirees received a 1.6% COLA effective July 1, 2004. Including the COLA, the total benefit amount for retirees increased 9.6%. The number of TERI members increased 20.7%.
- We modified the way the prior actuary valued TERI account balances to make the liabilities consistent with the assets. This increased the unfunded actuarial liability by \$433 million, and the amortization period by 3.4 years.
- We changed the actuarial valuation method from an entry age normal cost method that uses a new entrant profile to the standard entry age normal cost method. This decreased the normal cost rate, which increased the net contribution towards the unfunded actuarial liability. Although the unfunded actuarial liability increased by \$318 million, the higher contribution toward the unfunded actuarial liability decreased the amortization period by 3.3 years.

VALUATION RESULTS

- The funding period for the unfunded actuarial liability increased from 25 years to 27 years.

Determination and Amortization of Unfunded Liability

In Table III-3 we show the determination of the unfunded actuarial liability and the contribution to amortize the liability. We determined the portion of the employer contribution for active members and TERI members by taking the total employer contribution rate and subtracting the contribution to the Group Life Fund and the normal cost contribution. We determined the employer contribution for ORP members by taking the total employer contribution rate and subtracting the contribution to the Group Life Fund and the 5% contribution to the ORP. The employer contribution for reemployed retirees is the full employer contribution rate.

VALUATION RESULTS

TABLE III-1		
VALUATION BALANCE SHEET		
	JULY 1, 2004	JULY 1, 2003
Assets		
1. Current Assets (Actuarial Value)		
a. Employee Annuity Savings Fund	\$ 4,750,077	\$ 4,627,360
b. Employer Annuity Accumulation Fund	<u>16,112,582</u>	<u>15,570,576</u>
c. Total Current Assets	\$ 20,862,659	\$ 20,197,936
2. Present Value of Future Member Contributions	\$ 2,743,400	\$ 2,781,610
3. Present Value of Future Employer Contributions		
a. Normal Cost Contributions	\$ 2,142,726	\$ 2,245,053
b. Accrued Liability Contributions	<u>5,115,193</u>	<u>4,200,995</u>
c. Total Future Employer Contributions	\$ 7,257,919	\$ 6,446,048
4. Total Assets	<u>\$ 30,863,978</u>	<u>\$ 29,425,594</u>
Liabilities		
1. Employee Annuity Savings Fund		
a. Past Member Contributions	\$ 4,750,077	\$ 4,627,360
b. Present Value of Future Member Contributions	<u>2,743,400</u>	<u>2,781,610</u>
c. Total Contributions to Employee Annuity Savings Fund	\$ 7,493,477	\$ 7,408,970
2. Employer Annuity Accumulation Fund		
a. Benefits Currently in Payment	\$ 14,184,765	\$ 13,240,368
b. Benefits to be Paid to Current Active Members	<u>9,185,736</u>	<u>8,776,256</u>
c. Total Benefits Payable from Employer Annuity Accumulation Fund	\$ 23,370,501	\$ 22,016,624
3. Total Liabilities	<u>\$ 30,863,978</u>	<u>\$ 29,425,594</u>

All dollar amounts in thousands.

VALUATION RESULTS

TABLE III-2			
SUMMARY OF ACTUARIAL VALUATION RESULTS			
	JULY 1, 2004	JULY 1, 2003 (MILLIMAN METHOD)	JULY 1, 2003 (GRS METHOD)
Number of Active Members and Compensation			
Active Members			
1. Number of State Employees	54,367	56,668	56,382
2. Compensation of State Employees	\$ 1,990,543	\$ 2,053,476	\$ 2,052,664
3. Number of Public School Districts	79,665	81,723	81,723
4. Compensation of Public School Districts	\$ 2,681,269	\$ 2,724,729	\$ 2,725,597
5. Number of Others	47,795	47,149	47,433
6. Compensation of Others	\$ 1,508,787	\$ 1,437,679	\$ 1,462,507
Total Number	181,827	185,540	185,538
Total Compensation	\$ 6,180,599	\$ 6,215,884	\$ 6,240,768
Active TERI Members			
Number	12,663	10,495	10,495
Total Compensation	\$ 690,638	\$ 567,922	\$ 567,922
Rehired Retired Members			
Number	8,728	Not Available	Not Available
Total Compensation	\$ 161,269	\$ 107,663	\$ 107,663
ORP Members			
Number	Not Available	Not Available	Not Available
Total Compensation	\$ 386,470	\$ 324,900	\$ 324,900
Number of Persons Receiving Benefits and Benefits (Including TERI Members)			
Total Number Receiving Benefits	89,607	84,062	84,420
Total Amount of Benefits	\$ 1,466,206	\$ 1,330,742	\$ 1,337,385
Trust Fund Assets			
Market Value	\$ 20,850,129	\$ 19,665,571	\$ 19,665,571
Actuarial Value	\$ 20,862,659	\$ 20,197,936	\$ 20,197,936
Unfunded Actuarial liability (UAL)			
Amount	\$ 5,115,193	\$ 4,891,256	\$ 4,200,995
Remaining Years in Amortization Period	27	26	25
Required Contribution as a Percent of Compensation			
Normal Cost Contribution	3.80%	3.78%	4.31%
UAL Contribution	3.75%	3.77%	3.24%
Group Life Insurance Contribution	<u>0.15%</u>	<u>0.15%</u>	<u>0.15%</u>
Total	7.70%	7.70%	7.70%

All dollar amounts in thousands. Compensation shows amounts for ORP members separately.

VALUATION RESULTS

TABLE III-3			
DETERMINATION AND AMORTIZATION OF UNFUNDED ACTUARIAL LIABILITY			
	JULY 1, 2004	JULY 1, 2003 (MILLIMAN METHOD)	JULY 1, 2003 (GRS METHOD)
1. Actuarial Present Value of Future Benefits			
a. Present Retired Members and Beneficiaries	\$ 14,184,765	\$ 13,161,177	\$ 13,240,368
b. Present Active and Inactive Members	<u>16,679,213</u>	<u>16,636,860</u>	<u>16,185,226</u>
c. Total Actuarial Present Value	\$ 30,863,978	\$ 29,798,037	\$ 29,425,594
2. Present Value of Future Normal Contributions			
a. Employees at 6.00%	\$ 2,743,400	\$ 2,757,108	\$ 2,781,610
b. Employer at 3.80% (4.31% for July 1, 2003 – GRS Method)	<u>2,142,726</u>	<u>1,951,737</u>	<u>2,245,053</u>
c. Total Future Normal Contributions	\$ 4,886,126	\$ 4,708,845	\$ 5,026,663
3. Actuarial Liability	\$ 25,977,852	\$ 25,089,192	\$ 24,398,931
4. Current Actuarial Value of Assets	\$ 20,862,659	\$ 20,197,936	\$ 20,197,936
5. Unfunded Actuarial Liability	\$ 5,115,193	\$ 4,891,256	\$ 4,200,995
6. Unfunded Actuarial Liability Rates			
a. Active Members	3.75%	3.77%	3.24%
b. TERI Members	3.75%	3.77%	3.24%
c. ORP Members	2.55%	2.55%	2.55%
d. Reemployed Members	7.55%	7.55%	7.55%
7. Unfunded Actuarial Liability Liquidation Period	27 years	26 years	25 years

All dollar amounts in thousands.

Section IV

Accounting Statement Information

ACCOUNTING STATEMENT INFORMATION

Statement No. 25 of the Governmental Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The GASB Statement #25 actuarial liability is the same as the actuarial liability amount calculated for funding purposes. The GASB Statement #25 liability is compared to the actuarial value of assets to determine the funding ratio. The actuarial liability is determined assuming that the employer is on going and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.25% per annum.

GASB Statement #25 requires the actuarial liability be compared with the actuarial value of assets for funding purposes. The relevant amounts as of July 1, 2004 are exhibited in Table IV-1. Table IV-2 shows the schedule of funding progress as required by GASB Statement #25.

TABLE IV-1		
ACCOUNTING STATEMENT INFORMATION		
	July 1, 2004	July 1, 2003
1. Actuarial Liabilities for Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits	\$ 14,976,659	\$ 13,968,402
2. Actuarial Liabilities for Current Employees	<u>11,002,193</u>	<u>10,430,529</u>
3. Total Actuarial Liability (1 + 2)	\$ 25,977,852	\$ 24,398,931
4. Net Actuarial Assets Available for Benefits	20,862,659	20,197,936
5. Unfunded Actuarial Liability (3 – 4)	\$ 5,115,193	\$ 4,200,995

All dollar amounts in thousands.

ACCOUNTING STATEMENT INFORMATION

TABLE IV-2

INFORMATION FOR COMPREHENSIVE ANNUAL FINANCIAL REPORT

Member and Payroll Information ²							
Actuarial Valuation Date	Number of Employers	Number of Active Members	Annual Payroll (in thousands)	Annual Average Pay	Percentage Increase in Average Pay		
July 1, 2004	763	181,827	\$ 6,180,599	\$ 33,992	1.06%		
July 1, 2003	763	185,538	6,240,768	33,636	3.50%		
July 1, 2002	746	189,166	6,147,712	32,499	3.42%		
July 1, 2001	739	191,494	6,017,537	31,424	5.15%		
July 1, 2000	729	196,825	5,881,847	29,884	5.49%		
July 1, 1999	726	193,213	5,473,759	28,330	3.83%		
July 1, 1998	720	190,259	5,191,048	27,284	2.78%		
July 1, 1997	725	185,597	4,927,124	26,547	4.40%		
July 1, 1996	713	178,540	4,540,100	25,429	3.28%		
July 1, 1995	718	175,410	4,318,800	24,621	4.80%		

Schedule of Retirants Added to and Removed from Rolls ³								
Year Ended	Added to Rolls		Removed from Rolls		Rolls End of the Year		%Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		
July 1, 2004	7,319	\$ 151,477	2,132	\$ 22,656	89,607	\$ 1,466,206	9.6%	\$ 16,363
July 1, 2003	7,866	163,867	2,510	27,662	84,420	1,337,385	11.3%	15,842
July 1, 2002	7,344	140,077	2,334	24,531	79,064	1,201,180	10.6%	15,193
July 1, 2001	12,523	284,739	2,474	23,735	74,054	1,085,634	31.7%	14,660
July 1, 2000	4,772	93,459	1,830	17,139	64,005	824,630	10.2%	12,884
July 1, 1999	4,961	68,522	2,436	12,175	61,063	748,310	8.1%	12,255
July 1, 1998	4,580	61,751	2,169	13,592	58,538	691,963	7.5%	11,321
July 1, 1997	4,601	78,201	2,346	10,928	56,127	643,804	11.7%	11,470
July 1, 1996	3,368	49,605	1,572	11,383	53,872	576,531	7.1%	10,702
July 1, 1995	4,153	58,435	1,399	9,970	52,076	538,289	9.9%	10,337

² Does not include TERI members.

³ Includes TERI members.

ACCOUNTING STATEMENT INFORMATION

TABLE IV-2 (CONT.)

INFORMATION FOR COMPREHENSIVE ANNUAL FINANCIAL REPORT

Schedule of Funding Progress

Actuarial Valuation Date	Valuation Assets	Actuarial Liability (AL)	Actuarial Assets as a % of Actuarial Liabilities	Unfunded AL (UAL)	Annual Active Member Payroll	UAL as a % of Active Member Payroll
July 1, 2004	\$ 20,862,659	\$ 25,977,852	80.3%	\$ 5,115,193	\$ 6,180,599	82.8%
July 1, 2003	20,197,936	24,398,931	82.8%	4,200,995	6,240,768	67.3%
July 1, 2002	19,298,174	22,446,574	86.0%	3,148,400	6,147,712	51.2%
July 1, 2001	18,486,773	21,162,147	87.4%	2,675,374	6,017,537	44.5%
July 1, 2000	17,286,108	19,414,972	89.0%	2,128,864	5,881,847	36.2%
July 1, 1999	16,120,513	16,298,438	98.9%	177,925	5,473,759	3.3%
July 1, 1998	14,946,070	15,952,345	93.7%	1,006,275	5,191,048	19.4%
July 1, 1997	13,621,362	14,977,179	90.9%	1,355,817	4,927,124	27.5%
July 1, 1996	12,499,235	14,062,092	88.9%	1,562,857	4,540,100	34.4%
July 1, 1995	11,453,462	12,980,497	88.2%	1,527,035	4,318,827	35.4%

Solvency Test

Valuation Date	(1) Active Member Contributions	(2) Retirants & Beneficiaries	(3) Active Members (Employer Funded Portion)	Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
					(1)	(2)	(3)
July 1, 2004	\$ 4,750,077	\$ 14,184,765	\$ 7,043,010	\$ 20,862,659	100%	100%	27.4%
July 1, 2003	4,627,360	13,240,368	6,531,203	20,197,936	100%	100%	35.7%
July 1, 2002	4,512,402	11,600,395	6,333,777	19,298,174	100%	100%	50.3%
July 1, 2001	4,339,747	10,367,913	6,454,487	18,486,773	100%	100%	58.6%
July 1, 2000	4,563,513	7,484,050	7,367,149	17,286,108	100%	100%	71.1%
July 1, 1999	4,278,861	6,944,021	5,075,556	16,120,513	100%	100%	96.5%
July 1, 1998	3,972,263	6,305,903	5,674,179	14,946,070	100%	100%	82.3%
July 1, 1997	3,657,217	5,866,156	5,453,806	13,621,362	100%	100%	75.1%
July 1, 1996	3,399,816	5,349,968	5,312,308	12,499,235	100%	100%	70.6%
July 1, 1995	3,085,531	4,950,378	4,944,588	11,453,462	100%	100%	69.1%

All dollar amounts in thousands

ACCOUNTING STATEMENT INFORMATION

RETIRED MEMBERS AND BENEFICIARIES AS OF JULY 1, 2004		
Group	Number	Annual Retirement Allowances
Service Retirements:		
Employees:		
Men	17,772	\$ 369,994
Women	<u>19,290</u>	<u>277,026</u>
Total	37,062	\$ 647,020
Teachers:		
Men	7,251	\$ 165,845
Women	<u>28,936</u>	<u>483,400</u>
Total	36,187	\$ 649,245
Disability Retirements:		
Employees:		
Men	2,730	\$ 30,861
Women	<u>3,187</u>	<u>32,987</u>
Total	5,917	\$ 63,848
Teachers:		
Men	788	\$ 10,005
Women	<u>3,114</u>	<u>34,911</u>
Total	3,902	\$ 44,916
Beneficiaries of Deceased Retired Members and Active Members		
Men	1,718	\$ 11,239
Women	<u>4,821</u>	<u>49,938</u>
Total	6,539	\$ 61,177
Grand Total	<u>89,607</u>	\$ <u>1,466,206</u>

All dollar amounts in thousands. Includes TERI members.

Section V

Membership Information

TABLE V-1
NUMBER OF ANNUAL RETIREMENT ALLOWANCES
OF BENEFIT RECIPIENTS AS OF JULY 1, 2004
(DOLLARS IN THOUSANDS)

	NUMBER	ANNUAL RETIREMENT ALLOWANCES
Service Retirement		
a. Employees		
Life Annuity	23,151	\$ 354,747
10 Year Certain and Life	612	8,761
100% J & S	1,752	31,711
100% Pop-up	3,521	70,503
50% J & S	1,133	28,322
50% Pop-up	3,674	91,950
Level Off	<u>3,219</u>	<u>61,026</u>
Total Employees	37,062	\$ 647,020
b. Teachers		
Life Annuity	24,809	\$ 411,545
10 Year Certain and Life	701	10,715
100% J & S	654	9,387
100% Pop-up	1,719	31,920
50% J & S	464	10,331
50% Pop-up	2,262	52,332
Level Off	<u>5,578</u>	<u>123,015</u>
Total Teachers	36,187	\$ 649,245
c. Total		
Life Annuity	47,960	\$ 766,294
10 Year Certain and Life	1,313	19,476
100% J & S	2,406	41,097
100% Pop-up	5,240	102,423
50% J & S	1,597	38,653
50% Pop-up	5,936	144,281
Level Off	<u>8,797</u>	<u>184,041</u>
Total	73,249	\$ 1,296,265

Includes TERI members

TABLE V-1 (Continued)
NUMBER OF ANNUAL RETIREMENT ALLOWANCES
OF BENEFIT RECIPIENTS AS OF JULY 1, 2004
(DOLLARS IN THOUSANDS)

		NUMBER	ANNUAL RETIREMENT ALLOWANCES
Disability Retirement			
a.	Employees		
	Life Annuity	4,528	\$ 49,368
	10 Year Certain and Life	177	1,828
	100% J & S	409	3,446
	100% Pop-up	347	3,107
	50% J & S	156	1,961
	50% Pop-up	300	4,138
	Level Off	<u>0</u>	<u>0</u>
	Total Employees	5,917	\$ 63,848
b.	Teachers		
	Life Annuity	3,300	\$ 38,227
	10 Year Certain and Life	103	1,189
	100% J & S	160	1,284
	100% Pop-up	137	1,213
	50% J & S	62	821
	50% Pop-up	140	2,182
	Level Off	<u>0</u>	<u>0</u>
	Total Teachers	3,902	\$ 44,916
c.	Total		
	Life Annuity	7,828	\$ 87,594
	10 Year Certain and Life	280	3,017
	100% J & S	569	4,730
	100% Pop-up	484	4,320
	50% J & S	218	2,782
	50% Pop-up	440	6,321
	Level Off	<u>0</u>	<u>0</u>
	Total	9,819	\$ 108,764
Beneficiaries of Deceased Retired Members and Active Members			
a.	Employees	4,526	\$ 43,396
b.	Teachers	<u>2,013</u>	<u>17,781</u>
c.	Total	6,539	\$ 61,177
Total			
GRAND TOTAL		89,607	\$ 1,466,206

MEMBERSHIP INFORMATION

TABLE V-2
DISTRIBUTION OF ACTIVE MEMBERS AND AVERAGE COMPENSATION
BY AGE GROUPS AND SERVICE GROUPS AS OF JULY 1, 2004
YEARS OF SERVICE

Age Group	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 & Over	Total
Under 25	5,071	65	0						5,136
	\$ 22,470	\$ 23,564							\$ 22,484
25 - 29	11,389	3,173	18						14,580
	\$ 27,711	\$ 32,132	\$ 32,728						\$ 28,679
30 - 34	9,357	8,749	1,933	40					20,079
	\$ 27,949	\$ 35,443	\$ 38,518	\$ 34,532					\$ 32,245
35 - 39	8,162	6,410	5,210	1,959	46				21,787
	\$ 26,904	\$ 33,020	\$ 39,848	\$ 40,077	\$ 36,429				\$ 33,003
40 - 44	8,471	6,438	4,465	5,589	2,263	94			27,320
	\$ 26,254	\$ 31,105	\$ 37,433	\$ 42,946	\$ 45,171	\$ 36,861			\$ 34,242
45 - 49	7,483	6,517	4,622	4,726	5,019	2,720	21		31,108
	\$ 27,333	\$ 30,833	\$ 35,944	\$ 41,162	\$ 47,400	\$ 47,796	\$ 37,556		\$ 36,480
50 - 54	6,258	5,669	4,530	4,352	3,678	3,738	321	3	28,549
	\$ 27,988	\$ 32,256	\$ 35,401	\$ 40,314	\$ 46,594	\$ 50,115	\$ 52,885	\$ 39,246	\$ 37,466
55 - 59	4,647	4,007	3,480	3,513	2,771	1,749	284	44	20,495
	\$ 28,110	\$ 32,317	\$ 35,285	\$ 38,635	\$ 43,331	\$ 47,139	\$ 61,224	\$ 57,904	\$ 36,159
60 - 64	2,181	2,044	1,593	1,536	1,176	715	98	50	9,393
	\$ 25,224	\$ 30,777	\$ 34,165	\$ 37,792	\$ 42,232	\$ 44,898	\$ 59,383	\$ 48,558	\$ 34,111
65 & Over	1,219	980	484	305	193	112	50	37	3,380
	\$ 16,382	\$ 20,089	\$ 26,301	\$ 34,931	\$ 37,580	\$ 39,372	\$ 52,561	\$ 46,509	\$ 23,388
TOTAL	64,238	44,052	26,335	22,020	15,146	9,128	774	134	181,827
	\$ 26,750	\$ 32,266	\$ 36,690	\$ 40,614	\$ 45,567	\$ 48,177	\$ 56,330	\$ 50,852	\$ 33,992

	Prior Year	Current Year
Average Age	43.90 Years	44.19 Years
Average Service	9.76 Years	9.83 Years
Average Pay	\$ 33,636	\$ 33,992
Percent Female	69.7%	69.5%

MEMBERSHIP INFORMATION

TABLE V-3			
DISTRIBUTION OF PARTICIPANTS RECEIVING BENEFITS AS OF JULY 1, 2004			
SERVICE RETIREMENT⁴			
Current Age Group	Number	Total Annual Benefit	Average Annual Benefit
Under 50	875	\$ 16,515,295	\$ 18,875
50 - 54	6,560	159,491,846	24,313
50 - 59	10,839	286,301,684	26,414
60 - 64	11,592	239,078,634	20,624
65 - 69	12,549	190,251,068	15,161
70 - 74	10,980	154,603,402	14,080
75 - 79	8,651	116,561,982	13,474
80 & Over	<u>11,203</u>	<u>133,459,686</u>	<u>11,913</u>
Total	73,249	\$ 1,296,263,598	\$ 17,697
DISABILITY RETIREMENT			
Current Age Group	Number	Total Annual Benefit	Average Annual Benefit
Under 50	1,372	\$ 13,497,912	\$ 9,838
50 - 54	1,410	17,476,173	12,394
50 - 59	2,000	24,652,261	12,326
60 - 64	1,937	21,946,259	11,330
65 - 69	1,296	12,859,241	9,922
70 - 74	787	7,830,957	9,950
75 - 79	512	5,337,060	10,424
80 & Over	<u>505</u>	<u>5,165,469</u>	<u>10,229</u>
Total	9,819	\$ 108,765,332	\$ 11,077
BENEFICIARIES			
Current Age Group	Number	Total Annual Benefit	Average Annual Benefit
Under 50	1,040	\$ 6,278,371	6,037
50 - 54	371	3,383,085	9,119
50 - 59	513	4,924,401	9,599
60 - 64	578	5,793,041	10,023
65 - 69	684	6,929,376	10,131
70 - 74	776	7,847,541	10,113
75 - 79	921	10,150,283	11,021
80 & Over	<u>1,656</u>	<u>15,870,873</u>	<u>9,584</u>
Total	6,539	\$ 61,176,972	\$ 9,356

⁴ Includes TERI members.

Appendix A

Actuarial Assumptions and Methods

ACTUARIAL ASSUMPTIONS

1. Investment Return to be Earned by Fund

7.25% per annum, compounded annually, composed of an assumed 3.00% inflation rate and a 4.25% real rate of return, net of investment and administrative expenses.

2. Salary Increases

Salary increases are assumed in accordance with the following representative rates:

ANNUAL INCREASE		ANNUAL INCREASE			
Years of Service	General Employees	Teachers	Years of Service	General Employees	Teachers
0	8.00%	8.00%	8	4.50%	4.75%
1	5.75%	8.00%	9	4.50%	4.75%
2	5.00%	5.50%	10	4.25%	4.75%
3	4.75%	5.25%	11	4.25%	4.50%
4	4.50%	5.00%	12	4.25%	4.40%
5	4.50%	5.00%	13	4.25%	4.40%
6	4.50%	5.00%	14	4.25%	4.40%
7	4.50%	4.75%	15+	4.00%	4.00%

ACTUARIAL ASSUMPTIONS

3. Decrement Rates

a. Service Retirement

		ANNUAL RATES OF UNREDUCED SERVICE RETIREMENT*		REDUCED SERVICE RETIREMENT	
Employees	Age	Male	Female	Male	Female
	50	12%	14%		
	55	15%	18%	5%	10%
	60	20%	20%	5%	11%
	61	20%	20%	15%	15%
	62	30%	35%	27%	28%
	63	30%	30%	16%	20%
	64	30%	35%	22%	20%
	65	40%	40%		
	66	20%	25%		
	67	20%	25%		
	68	20%	25%		
	69	20%	25%		
	70	100%	100%		
Teachers	Age	Male	Female	Male	Female
	50	14%	15%		
	55	18%	25%	6%	9%
	60	25%	25%	14%	15%
	61	30%	40%	18%	20%
	62	20%	35%	25%	25%
	63	20%	25%	28%	20%
	64	35%	30%	28%	30%
	65	45%	40%		
	66	23%	23%		
	67	23%	23%		
	68	23%	23%		
	69	23%	23%		
	70	100%	100%		

* Plus the following percentage in year when first become eligible for unreduced service retirement before age 65.

	General Employees	Teachers
Male	30%	40%
Female	45%	40%

ACTUARIAL ASSUMPTIONS

b. In-service Mortality and Disability

IN SERVICE MORTALITY AND DISABILITY								
ANNUAL RATES OF:								
MORTALITY					DISABILITY			
Age	Employees		Teachers		Employees		Teachers	
	Male	Female	Male	Female	Male	Female	Male	Female
25	0.04%	0.01%	0.03%	0.01%	0.06%	0.05%	0.04%	0.05%
30	0.04%	0.02%	0.03%	0.01%	0.12%	0.07%	0.06%	0.07%
35	0.08%	0.03%	0.06%	0.03%	0.17%	0.15%	0.08%	0.07%
40	0.11%	0.05%	0.08%	0.04%	0.29%	0.19%	0.16%	0.13%
45	0.15%	0.07%	0.11%	0.06%	0.40%	0.27%	0.26%	0.26%
50	0.21%	0.11%	0.16%	0.09%	0.58%	0.46%	0.42%	0.42%
55	0.30%	0.16%	0.23%	0.14%	0.92%	0.74%	0.68%	0.68%
60	0.49%	0.26%	0.37%	0.22%	1.15%	1.12%	1.05%	1.05%
64	0.70%	0.35%	0.53%	0.30%	1.44%	1.56%	1.31%	1.31%

c. Withdrawal Rates

PROBABILITY OF DECREMENT DUE TO WITHDRAWAL											
Years of Service – Male Teachers											
Age	0	1	2	3	4	5	6	7	8	9	10+
25	0.2964	0.2029	0.1384	0.0973	0.0721	0.0578	0.0513	0.0508	0.0518	0.0538	0.0560
30	0.2721	0.1922	0.1356	0.0990	0.0776	0.0662	0.0607	0.0577	0.0538	0.0477	0.0387
35	0.2531	0.1823	0.1316	0.0990	0.0805	0.0708	0.0657	0.0611	0.0540	0.0429	0.0273
40	0.2371	0.1730	0.1271	0.0979	0.0817	0.0730	0.0679	0.0619	0.0529	0.0390	0.0199
45	0.2239	0.1649	0.1228	0.0960	0.0811	0.0726	0.0669	0.0600	0.0503	0.0359	0.0167
50	0.2135	0.1587	0.1192	0.0936	0.0787	0.0698	0.0628	0.0553	0.0460	0.0335	0.0174
55	0.2063	0.1549	0.1168	0.0908	0.0742	0.0645	0.0557	0.0479	0.0401	0.0317	0.0222
60	0.1996	0.1518	0.1143	0.0865	0.0669	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PROBABILITY OF DECREMENT DUE TO WITHDRAWAL											
Years of Service – Female Teachers											
Age	0	1	2	3	4	5	6	7	8	9	10+
25	0.2299	0.1608	0.1209	0.1006	0.0892	0.0841	0.0827	0.0802	0.0731	0.0660	0.0601
30	0.2269	0.1664	0.1260	0.1015	0.0878	0.0802	0.0751	0.0696	0.0618	0.0527	0.0426
35	0.2171	0.1597	0.1208	0.0966	0.0830	0.0748	0.0682	0.0615	0.0536	0.0434	0.0303
40	0.2045	0.1477	0.1106	0.0885	0.0759	0.0683	0.0616	0.0551	0.0475	0.0368	0.0215
45	0.1930	0.1361	0.1001	0.0798	0.0685	0.0619	0.0561	0.0504	0.0435	0.0329	0.0163
50	0.1866	0.1296	0.0937	0.0738	0.0633	0.0570	0.0523	0.0478	0.0417	0.0317	0.0154
55	0.1879	0.1308	0.0935	0.0727	0.0626	0.0543	0.0509	0.0474	0.0420	0.0331	0.0190
60	0.1948	0.1379	0.0986	0.0758	0.0660	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

ACTUARIAL ASSUMPTIONS

PROBABILITY OF DECREMENT DUE TO WITHDRAWAL											
Years of Service – Male Employees											
Age	0	1	2	3	4	5	6	7	8	9	10+
25	0.3288	0.2466	0.1902	0.1554	0.1345	0.1166	0.0963	0.0783	0.0650	0.0595	0.0662
30	0.2939	0.2211	0.1726	0.1425	0.1236	0.1089	0.0951	0.0821	0.0704	0.0603	0.0530
35	0.2678	0.1997	0.1553	0.1285	0.1122	0.1010	0.0916	0.0822	0.0716	0.0586	0.0424
40	0.2456	0.1804	0.1384	0.1140	0.1002	0.0922	0.0861	0.0791	0.0695	0.0549	0.0335
45	0.2257	0.1636	0.1233	0.1003	0.0882	0.0825	0.0781	0.0727	0.0639	0.0493	0.0266
50	0.2082	0.1501	0.1115	0.0891	0.0774	0.0717	0.0675	0.0626	0.0547	0.0419	0.0224
55	0.1942	0.1410	0.1041	0.0814	0.0691	0.0600	0.0543	0.0488	0.0419	0.0328	0.0212
60	0.1827	0.1351	0.1002	0.0770	0.0632	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PROBABILITY OF DECREMENT DUE TO WITHDRAWAL											
Years of Service – Female Employees											
Age	0	1	2	3	4	5	6	7	8	9	10+
25	0.2981	0.2459	0.2060	0.1772	0.1560	0.1385	0.1248	0.1159	0.1094	0.1030	0.0940
30	0.2710	0.2236	0.1864	0.1591	0.1395	0.1253	0.1145	0.1059	0.0970	0.0853	0.0688
35	0.2506	0.2015	0.1657	0.1410	0.1244	0.1130	0.1042	0.0958	0.0857	0.0712	0.0505
40	0.2329	0.1803	0.1451	0.1233	0.1101	0.1010	0.0935	0.0854	0.0748	0.0592	0.0367
45	0.2172	0.1622	0.1275	0.1080	0.0972	0.0894	0.0825	0.0746	0.0644	0.0493	0.0276
50	0.2041	0.1493	0.1151	0.0966	0.0864	0.0787	0.0715	0.0637	0.0543	0.0414	0.0234
55	0.1946	0.1429	0.1091	0.0895	0.0778	0.0688	0.0605	0.0526	0.0445	0.0353	0.0240
60	0.1873	0.1412	0.1079	0.0855	0.0701	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Note: No probability of withdrawal is applied to members eligible to retire.

ACTUARIAL ASSUMPTIONS

4. Mortality After Retirement

For healthy retirees and beneficiaries, the UP-94 Mortality Table rates, with the female rates set back one year. A separate table of mortality rates is used for disabled retirees. The following are sample rates:

Age	HEALTHY		DISABLED	
	Male	Female	Male	Female
50	0.28%	0.14%	3.06%	2.31%
55	0.48%	0.22%	3.86%	2.66%
60	0.86%	0.42%	4.82%	2.98%
65	1.56%	0.82%	5.42%	3.33%
70	2.55%	1.37%	5.91%	3.70%
75	4.00%	2.19%	6.74%	4.43%
80	6.67%	3.80%	9.02%	6.71%
85	10.46%	6.56%	13.45%	10.15%

5. Marriage Assumption

100% of all active members are assumed to be married, with female spouses being 3 years younger.

6. Asset Valuation Method

The actuarial value of assets is equal to the market value of assets less a five-year phase in of the excess (shortfall) between expected investment return and actual net income (both based on market value) with the resulting value not being less than 80% or more than 120% of the market value of assets.

7. Cost Methods

a. Normal Retirement, Termination, Death and Disability Benefits

The contribution rate is set by statute for both employees and for the employers. The funding period is determined, as described below, using the Entry Age Normal actuarial cost method.

ACTUARIAL ASSUMPTIONS

The Entry Age Normal actuarial cost method assigns the plan's total unfunded liabilities (the actuarial present value of future benefits less the actuarial value of assets) to various periods. The unfunded actuarial liability is assigned to years prior to the valuation, and the normal cost is assigned to the year following the valuation. The remaining costs are the normal costs for future years. Then each year's contribution is composed of (i) that year's normal cost, plus (ii) a payment used to reduce the unfunded actuarial liability.

The normal cost is the level (as a percentage of pay) contribution required to fund the benefits for all current members. Part of the normal cost is paid from the employees' own contributions. The employers pay the balance from their contributions. The method used for this valuation sets the present value of future normal costs that are to be paid by the employees as 6% of their present value of future earnings.

The actuarial liability is the difference between the total present value of future benefits and the actuarial present value of future normal costs. The unfunded actuarial liability is the excess of the actuarial liability over the actuarial value of assets.

The balance of the employers' contributions – the remainder after paying their share of the normal cost – is used to reduce the unfunded actuarial liability. The funding period is the length of time required for the unfunded actuarial liability to be completely amortized, assuming that the portion used to reduce the unfunded liability remains level as a percentage of total payroll, which is assumed to grow 4.00% per year.

The calculation of the funding period reflects additional contributions the System receives with respect to both ORP participants and return to work retirees. These contributions are assumed to grow at the same payroll growth rate as for active SCRS employees.

It is assumed that amortization payments are made monthly at the end of the month.

b. Group Life Insurance Benefit

One-year term cost method.

8. **Unused Annual Leave**

To account for the effect of unused annual leave on Annual Final Compensation, liabilities for active members are increased 2.50%.

9. **Unused Sick Leave**

To account for the effect of unused sick leave on members' final credited service, the service of active members who retire is increased 3 months.

ACTUARIAL ASSUMPTIONS

10. Future Cost-of-living Increases

None assumed.

11. Administrative and Investment Expenses

The investment return assumption represents the expected return net of all administrative and investment expenses.

12. Payroll Growth Rate

4.00% per annum.

13. Valuation of Teachers and Employees Retention Incentive (TERI)

We have assumed 80% of all members elect TERI coverage when they are first eligible for an unreduced retirement benefit before age 65. We assume members in the TERI are exposed to adjusted retirement rates during TERI coverage and we assume 100% terminate employment at the end of the TERI period (5 years). The retirement rate is adjusted by the following schedule based on number of years since entering TERI:

YEARS SINCE ENTERING TERI PROGRAM	MULTIPLE OF UNREDUCED RETIREMENT TABLE
0.00 – 0.99	50%
1.00 – 1.99	65%
2.00 – 2.99	80%
3.00 – 3.99	90%
4.00 – 4.99	100%
5.00	All members assumed to retire immediately

14. Changes from Prior Valuation

In the prior valuation, the normal cost was determined as the level (as a percentage of pay) contribution required to fund the benefits for a **new member**. This was determined based upon a hypothetical group of new entrants. This group was based on the age-pay-sex distribution of new members joining SCRS during the six-year period ending July 1, 2003.

15. Adoption Date

The State Budget and Control Board adopted current actuarial assumptions and methods on April 20, 2004.

Appendix B

Summary of Plan Provisions

SUMMARY OF PLAN PROVISIONS

1. Effective Date

July 1, 1945

2. Eligibility Requirements

All full-time, part-time, or temporary personnel who fill a permanent position as a public school employee, public higher education personnel, state employees, and city, county and other local public employees of participating employers must join as a condition of employment as of the effective date of employment, unless they elect to participate in one of the Optional Retirement Plans (ORP).

Employees in non-permanent positions may choose to join.

3. Creditable Service

The sum of “prior service” and “membership service.” Prior service means service rendered prior to membership for which credit is allowed. Membership service means service during which contributions have been made. This is counted in years, months, and days.

There are a number of different types of services that may be purchased by an employee under special rules, such as military service.

4. Average Final Compensation (AFC)

The total of the highest 12 consecutive quarters of compensation earned divided by 3. Compensation generally includes gross salary or wages, overtime, sick pay, wage deferrals, and termination pay for unused annual leave. The unused annual leave is added to the sum of the highest 12 consecutive quarters prior to dividing by 3. For members who joined the system on or after January 1, 1997, compensation for benefit and contribution purposes is limited. The 2004 limit is \$205,000, and this limit will be increased in the future as cost-of-living increases occur.

5. Normal Retirement

- a. Eligibility Attainment of age 65, or completion of 28 years of creditable service.
- b. Benefit 1.82% of AFC times creditable service.

6. Early Retirement

- a. Eligibility Attainment of age 60, or attainment of age 55 with 25 years of creditable service.
- b. Benefit Benefit accrued to date of retirement, reduced 5% for each year prior to 65 (for age 60 eligibility), or 4% for each year prior to 28 years (for age 55 with 25 years eligibility).

7. Teachers and Employees Retention Incentive (TERI)

Upon meeting normal retirement eligibility, a member can elect to enter the TERI for a maximum of five (5) years, after which employment will cease. The retirement benefits will be accumulated in TERI accounts and will be paid to the members upon the earlier of actual retirement or the end of participation period. The amount credited to the TERI account is based upon the calculation and form of benefit selected by the member at TERI entry. No interest is credited to the TERI account. Member contributions cease, but employer contributions continue during TERI participation.

8. Disability Retirement

- a. Eligibility Disability prior to normal retirement age with at least 5 years of creditable service. The service requirement is waived for job related disability.
- b. Benefit Benefit equal to the amount that would have been payable at age 65 assuming continued employment and AFC at date of disability, less the equivalent benefit that would have been provided by the employee contributions that would have been made until age 65.

9. Death Benefits

- a. Death prior to age 60 or 15 years of creditable service

Refund of employee contributions with interest plus Group Life Insurance in a lump sum equal to annual earnable compensation at time of death. Group Life Insurance payable only to those with at least 1 year of creditable service, unless death is job related, and whose employer participates.

- b. Death after age 60 or with 15 years of creditable service

Same as above. However, instead of the refund of employee contributions with interest, the beneficiary may elect to receive an annuity equal to the amount that would have been payable had the employee retired the day before death under Option B described below.

10. Employee Contributions

6% of earnable compensation.

11. Vested Benefit Upon Termination

- a. Eligibility 100% vesting upon completion of 5 years of creditable service.
- b. Benefit Accrued benefit as of date of termination payable as of age 60.

12. Termination Benefit

- a. Eligibility Elect return of accumulated employee contributions.
- b. Benefit Return of employee contributions plus interest.

13. Optional Forms of Retirement Income

- Option A Monthly life annuity with guaranteed return of employee contributions plus interest. (This is the normal form of payment).
- Option B Monthly life annuity with 100% of reduced benefit continued to beneficiary upon death, reverting to maximum option if beneficiary predeceases retiree.
- Option C Monthly life annuity with 50% of reduced benefit continued to beneficiary upon death, reverting to maximum option if beneficiary predeceases retiree.

14. Cost of Living Adjustment

Granted upon approval of State Budget and Control Board if funding objectives are met. The amount is the increase in the calendar year CPI not in excess of 4%.

15. Changes from Prior Valuation

None.