

**THE PUBLIC SCHOOL EMPLOYEES'  
RETIREMENT SYSTEM OF PENNSYLVANIA**

**ACTUARIAL VALUATION  
JUNE 30, 2003**



January 30, 2004

The Retirement Board  
Public School Employees'  
Retirement System of Pennsylvania  
P.O. Box 125  
Harrisburg, Pennsylvania 17108

Ladies and Gentlemen:

This report presents the results of the annual actuarial valuation of the Public School Employees' Retirement System of Pennsylvania as of June 30, 2003.

The valuation takes into account all of the promised benefits to which members are entitled, including pension and survivor benefits and establishes the contribution rate for the 2004/2005 fiscal year in conformance with the Retirement Code.

The valuation was based on the actuarial assumptions and methods as adopted by the Board of Trustees, including a valuation interest rate of 8½% per annum compounded annually. The actuarial assumptions are unchanged from the prior valuation. The method for determining the liability for vestees has been changed due to improved data reporting.

The actuarial cost method has changed in accordance with Act 40. The outstanding balance of the unfunded accrued liability as of June 30, 2001 and the decrease in the unfunded accrued liability due to the actuarial asset method change provided by Act 38 continue to be amortized over a 10-year period, with level dollar funding, beginning July 1 2002. The increases in the unfunded accrued liability due to the July 1, 2002 and July 1, 2003 cost-of-living adjustments provided by Act 38 continue to be amortized over a 10-year period, with level dollar funding, starting on July 1, 2003 and July 1, 2004, respectively. All other changes in the unfunded accrued liability at June 30, 2001, June 30, 2002, and June 30, 2003 – including the Act 9 benefit changes – are amortized over a 30-year period, with level dollar funding, starting on July 1, 2002, July 1, 2003, and July 1, 2004, respectively. Future benefit improvements for active members and retirees will be amortized over a 10-year period with level dollar funding. Future gains and losses will be amortized over a 30-year period with level dollar funding. Act 40 also provides a 4.00% floor on the employer pension rate.

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### **Assets and Membership Data**

The Retirement System reported the individual data for members of the System as of the valuation date to the actuary. While we did not verify the data at their source, we did perform tests for internal consistency and reasonableness. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the Retirement System.

### **Funding Adequacy**

The valuation results determine that the employer contribution rate for fiscal year 2004/2005 is 4.23%. The funded status of the plan determined as of June 30, 2003 based on the accrued liability and the actuarial value of assets is 97.2%.

### **Financial Results and Membership Data**

Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are shown in the valuation report. The actuary prepared supporting schedules included in the Actuarial and Statistical Section of PSERS Comprehensive Annual Financial Report. The actuary prepared the trend data schedules included in the Financial Section of PSERS Comprehensive Annual Financial Report.

Qualified actuaries completed the valuations in accordance with accepted actuarial procedures as prescribed by the Actuarial Standards Board. The qualified actuaries are members of the American Academy of Actuaries and are experienced in performing actuarial valuations of public employee retirement systems. To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice.

Respectfully submitted,

Kim M. Nicholl, F.S.A.  
Principal, Consulting Actuary

S. Lynn Hill  
Director, Retirement Consulting

KMN/SLH:pl

# THE PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM OF PENNSYLVANIA

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## **Executive Summary**

This report presents the actuarial valuation as of June 30, 2003 for the Public School Employees' Retirement System of Pennsylvania.

The principal valuation results include:

- The employer contribution rate for fiscal year 2004/2005 which is 4.23%.
- The funded status of the plan determined as of June 30, 2003 based on the accrued liability and the actuarial value of assets as of that date which is 97.2%.
- The determination of the actuarial gain or loss as of June 30, 2003 which is a loss of \$3.8 billion.
- Annual disclosure as of June 30, 2003 as required by Statement No. 25 of the Governmental Accounting Standards Board.

The valuation was completed based upon membership and financial data submitted by the Retirement System. Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are included in the valuation report. The actuary prepared supporting schedules included in the Actuarial and Statistical Section of PSERS Comprehensive Annual Financial Report. The actuary prepared the trend data schedules included in the Financial Section of PSERS Comprehensive Annual Financial Report.

## **Changes Since Last Year**

### **Legislative and Administrative Changes**

Act 38 provided for a split COLA to be paid commencing July 1, 2002 for members retired before July 2, 1990 and commencing July 1, 2003 for members retired from July 2, 1990 through July 1, 2003. The liability for both COLAs was recognized in the prior valuation. Funding for the COLAs will commence July 1 following each effective date.

The benefit provisions and contribution provisions are summarized in Table 13.

### **Actuarial Assumptions and Methods**

The actuarial assumptions are unchanged from the prior valuation with the exception of the method of determining the liabilities for inactive members entitled to deferred benefits and the actuarial cost method which has been revised in accordance with Act 40 of 2003.

The method for determining the liability of the vestees has been changed for this valuation. Under the prior method the liabilities were estimated based on the member contribution account balances. Under the new method, the liabilities are based on the deferred benefits payable, which were calculated using additional information provided for the first time for this valuation.

Act 40 of 2003 amended the actuarial cost method. Under Act 40, the outstanding balance of the unfunded accrued liability as of June 30, 2001 and the decrease in the unfunded accrued liability due to the actuarial asset method change provided by Act 38 continue to be amortized over a 10-year period, with level dollar funding, beginning July 1 2002. The increases in the unfunded accrued liability due to the July 1, 2002 and July 1, 2003 cost-of-living adjustments provided by Act 38 continue to be amortized over a 10-year period, with level dollar funding, starting on July 1, 2003 and July 1, 2004, respectively. All other changes in the unfunded accrued liability at June 30, 2001, June 30, 2002, and June 30, 2003 – including the Act 9 benefit changes – are amortized over a 30-year period, with level dollar funding, starting on July 1, 2002, July 1, 2003, and July 1, 2004, respectively. Future benefit improvements for active members and retirees will be amortized over a 10-year period with level dollar funding. Future gains and losses will be amortized over a 30-year period with level dollar funding. Act 40 also provides a 4.00% floor on the employer pension rate.

The actuarial assumptions and methods are outlined in Table 12.

## **Contribution Rates**

The results of the valuation as of June 30, 2003 determine the employer contribution rate for fiscal year 2004/2005. The total contribution rate payable by the employer is 4.23% of payroll. This includes 4.00% of payroll for pension benefits plus 0.23% of payroll for the health insurance premium assistance program.

The average contribution rate payable by the members is 7.12%. Effective January 1, 2002 the employee contribution rate for members who elect to have prior school service and intervening military service converted to Class T-D service increased by 1.25%. The average member contribution rate of 7.12% represents an average of the member rates that vary based on date of hire and Class T-D election.

## **Reasons for Change in the Rate**

The employer contribution rate increased from 3.77% for fiscal year 2003/2004 to 4.23% for fiscal year 2004/2005. The increase of 0.46% is due to the following reasons:

• Increase due to change in normal rate	.23
• Decrease due to method change for valuing the liability for vestees	(.36)
• Increase due to payroll growth	.19
• Increase due to July 1, 2003 COLA under Act 38	1.22
• Decrease due to 1.15% floor on 2002/2003 employer contribution rate under Act 38	(.46)
• Increase due to actuarial loss on assets	5.69
• Decrease due to actuarial gain on liabilities	(.03)
• Decrease due to change in health insurance contribution rate	(.56)
• Decrease due to Act 40	<u>(5.46)</u>
• Total	.46%

## Summary of Principal Results

Summarized below are the principal financial results for the Public School Employees' Retirement System based upon the actuarial valuation as of June 30, 2003. Comparable results from the June 30, 2002 valuation are also shown.

Item	June 30, 2003	June 30, 2002
<b>Demographics</b>		
Active Members		
• Number	246,700	242,616
• Average Annual Pay	\$ 39,128	\$ 38,658
Annuitants		
• Number	145,693	141,414
• Average Annual Benefit Payment	\$ 17,469	\$ 15,899
<b>Contribution Rates (as a Percentage of Payroll)</b>		
	(Fiscal Year 2004/2005)	(Fiscal Year 2003/2004)
Employer Contribution Rate:		
• Total Pension Contribution Rate	4.00%	2.98%
• Health Insurance Contribution Rate	<u>0.23</u>	<u>0.79</u>
• Total	4.23%	3.77%
Member Average Contribution Rate		
• Total Rate	<u>7.12</u> 11.35%	<u>7.08</u> 10.85%
<b>Actuarial Funded Status</b>		
• Accrued Liability	\$ 54,443.8 Mil	\$ 51,796.5 Mil
• Actuarial Value of Assets	<u>52,900.5</u>	<u>54,296.4</u>
• Unfunded Accrued Liability	\$ 1,543.3	\$ (2,499.9)
• Funded Ratio	97.2%	104.8%



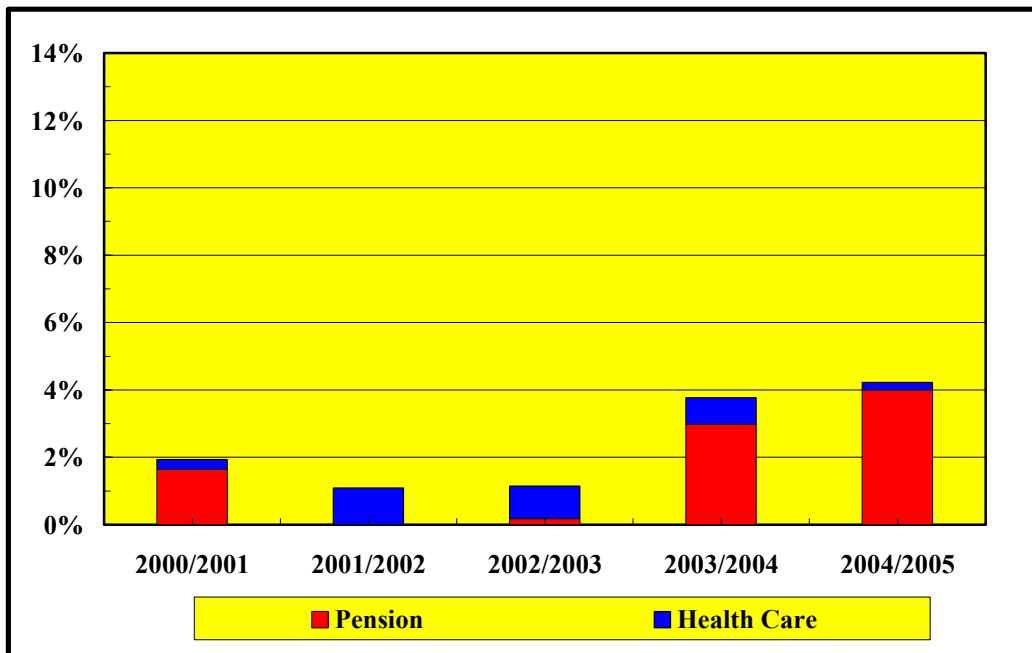
### Five-Year History of Principal Financial Results

#### Five-Year History of Contribution Rates (As a % of Payroll)

Fiscal Year	Member Contributions	Employer Contributions			
		Normal Cost	Unfunded Accrued Liability	Health Care	Total
2004/2005	7.12%	7.48%	(7.10)%	.23%	4.23%
2003/2004	7.08	7.25	(4.27)	.79	3.77
2002/2003	7.10	7.20	(10.03)	.97	1.15
2001/2002	6.43	5.63	(6.05)	1.09	1.09
2000/2001	5.77	6.29	(4.65)	.30	1.94

The following chart shows a five-year history of employer contribution rates:

#### Five-Year History of Employer Contribution Rates



## **Funded Ratio**

The financing objective of the System is to:

- Fully fund all current costs based on the normal contribution rate determined under the funding method; and
- Liquidate the unfunded accrued liability based on the amortization schedules as required by the retirement code, i.e., a schedule of 10 or 30 years for each change in the unfunded accrued liability according to Act 40.

The total contribution rate of 4.23% of payroll payable by employers, when taken together with the contributions payable by the members and asset returns, is sufficient to achieve the financing objective.

The System's funded status on the funding basis is measured by comparing the actuarial value of assets (based on a 5-year moving average market value) with the accrued liability. The accrued liability is the present value of benefits accumulated to date under the System's funding method and reflects future pay increases for active employees.

On this basis, the System's funded ratio is 97.2% as of June 30, 2003. The funded ratio is based on an actuarial value of assets of \$52.9 billion and an accrued liability of \$54.4 billion.

### **Reasons for Change in the Funded Ratio**

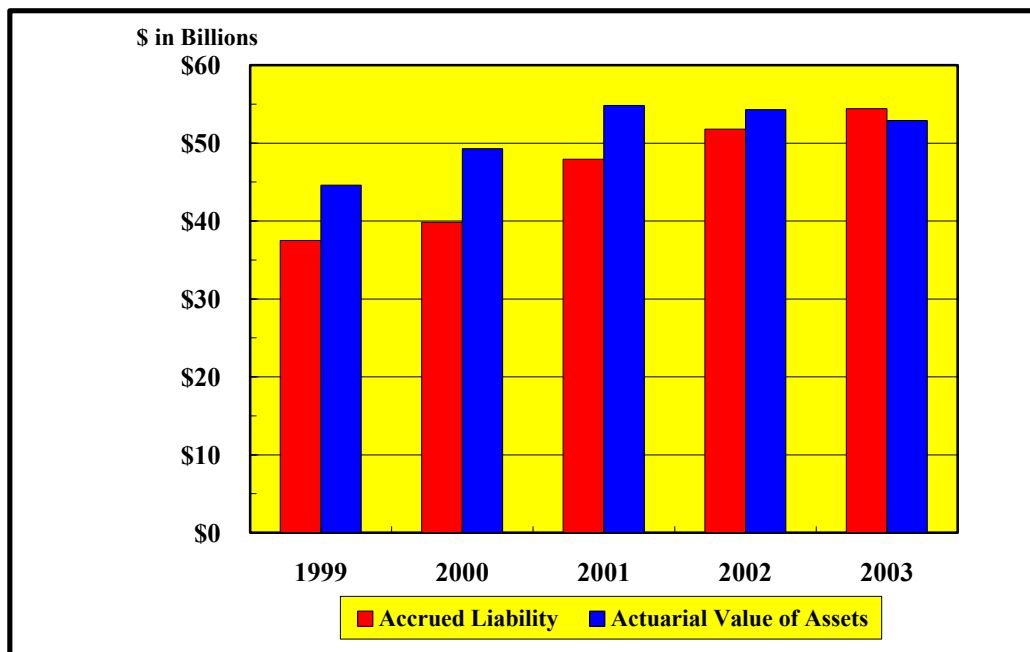
The funded ratio decreased from 104.8% as of June 30, 2002 to 97.2% as of June 30, 2003. The decrease is due to the net effect of the asset loss and liability gain.

**Five-Year History of  
Funded Ratio**  
(\$ results reported in millions)

Valuation as of June 30	Accrued Liability	Actuarial Value of Assets	Unfunded Accrued Liability	Funded Ratio
2003	\$ 54,443.8	\$ 52,900.5	\$ 1,543.3	97.2%
2002	51,796.5	54,296.4	(2,499.9)	104.8
2001	47,917.3	54,830.3	(6,913.0)	114.4
2000	39,822.8	49,293.0	(9,470.2)	123.8
1999	37,499.1	44,606.5	(7,107.4)	119.0

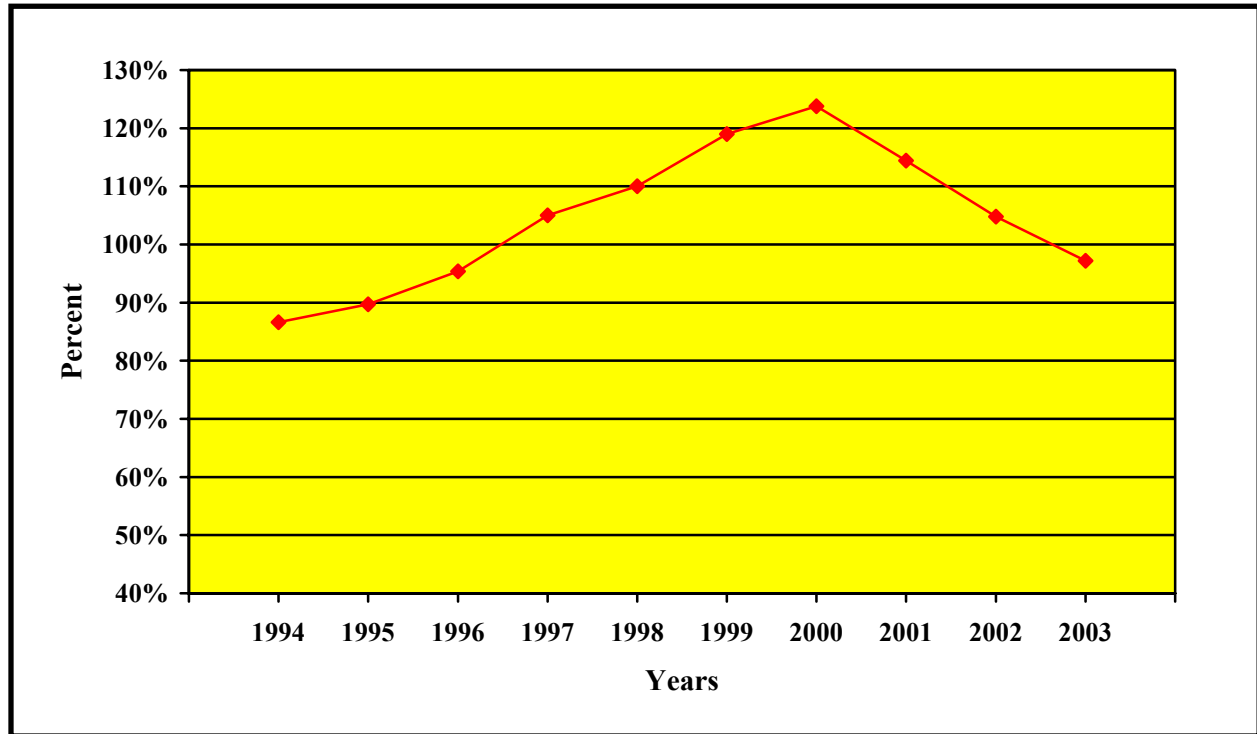
The following chart shows a five-year history of the accrued liability and the actuarial value of assets:

**Five-Year History of Accrued Liability and Actuarial Value of Assets**



The following chart shows a ten-year history of the funded ratio:

**Ten-Year History of Funded Ratio  
(1994 - 2003)**



**GASB No. 25 Disclosure**

Statement No. 25 of the Governmental Accounting Standards Board established reporting standards for the annual financial reports of defined benefit pension plans. The System complied with Statement No. 25 beginning with the June 30, 1996 valuation. The statement requires disclosure of the "schedule of funding progress" and the "schedule of employer contributions" in the System's financial statements.

The "schedule of funding progress" shows historical trend information about the System's actuarial value of assets, the actuarial accrued liability and the unfunded actuarial accrued liability. The actuarial funded status is measured by comparing the actuarial value of assets (based on a 5-year moving average market value) with the accrued liability. The accrued liability is the present value of benefits accumulated to date under the System's funding method and reflects future pay increases for active employees. On this basis, the System's funded ratio is 97.2% as of June 30, 2003. The funded ratio is based on an actuarial value of assets of \$52.9 billion and an accrued liability of \$54.4 billion.

The "schedule of employer contributions" shows historical trend information about the annual required contributions (ARC) of the employer and the percentage of the ARC contributed to the System. The ARC is equal to the normal cost plus amortization of the unfunded actuarial accrued liability. The maximum period of amortizing the unfunded actuarial accrued liability permitted by GASB No. 25 is 40 years. The maximum amortization period decreases to 30 years in 2006. The employer contributions to the System are equal to the normal cost plus a payment towards each change in the unfunded accrued liability, which are amortized over 10 or 30-year periods. The employer contributions to the System for the six fiscal years ending June 30, 2003 are equal to 100% of the ARC.

## Rate of Return

The investment return of the trust fund (i.e. total return including both realized and unrealized gains and losses) for fiscal years 1998/1999 through 2002/2003 is shown in the table below. The return based on the actuarial value of assets used for determining annual contribution rates is also shown.

The rate of return on market value reflects the investment earnings on the market value of assets from the beginning of the fiscal year to the end of the fiscal year. The actuarial assets are the assets recognized for valuation purposes. Actuarial assets are based on a smoothed market value that spreads the difference between the actual and expected return (beginning with the 2000/2001 fiscal year) over a period of five years. The rate of return on the actuarial value of assets is a measure of the increase in the actuarial value of assets from the beginning of the fiscal year to the end of the fiscal year.

Fiscal Year	Rate of Return Based on	
	Market Value	Actuarial Value
2002/2003*	2.7%	1.4%
2001/2002*	(5.3)	2.7
2000/2001	(7.4)	14.3
1999/2000	11.9	13.6
1998/1999	12.2	15.1

\* Market rate of return provided by Wilshire

**TABLE 1**  
**SUMMARY OF RESULTS OF ACTUARIAL VALUATION**  
**AS OF JUNE 30, 2003**  
(\$ amounts in Thousands)

Item	Amount
<b>Member Data</b>	
1. Number of Members	
a) Active Members	246,700
b) Inactive Members and Vestees	65,453
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>145,693</u>
d) Total	457,846
2. Annualized Salaries	\$ 9,652,881
3. Annual Annuities	\$ 2,545,135
<b>Valuation Results</b>	
4. Present Value of Future Pension Benefits	
a) Active Members	\$ 45,155,912
b) Inactive Members and Vestees	710,846
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>21,963,662</u>
d) Total	\$ 67,830,420
5. Present Value of Future Pension Normal Cost	
a) Active Members	\$ 6,591,897
b) Employer	<u>6,925,195</u>
c) Total	\$ 13,517,092
6. Pension Accrued Liability	
a) Active Members (4a) - (5c)	\$ 31,638,820
b) Inactive Members and Vestees	710,846
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>21,963,662</u>
d) Total	\$ 54,313,328
7. Health Care Payments	\$ 130,447
8. Total Accrued Liability (6) + (7)	\$ 54,443,775
9. Actuarial Value of Assets	\$ 52,900,465
10. Unfunded Accrued Liability (8) - (9)	\$ 1,543,310
11. Total Normal Cost Rate	14.60 %
12. Member Contribution Rate	7.12 %
13. Employer Normal Cost Rate (11) - (12)	7.48 %
<b>Employer Annual Funding Requirement for Fiscal 2004/2005</b>	
14. Employer Contribution Rate	
a) Normal	7.48 %
b) Unfunded Accrued Liability	<u>(7.10)</u>
c) Preliminary Pension Rate	0.38 %
d) Preliminary Pension Rate with 4% Floor	4.00
e) Health Insurance	<u>0.23</u>
f) Total Rate	4.23 %

**TABLE 2**

**SUMMARY OF SOURCES OF EMPLOYER CONTRIBUTION RATE  
AS OF JUNE 30, 2003  
(\$ Amounts in Thousands)**

	Funding Period	Funding Period Beginning July 1	Initial Amount of Liability	Outstanding Balance as of 7/1/2003	Annual Payment Amount	Percent *
1. Amortization of:						
a) July 1, 2001 Fresh Start Unfunded Base	10 Years	2002	(9,137,130)	\$ (9,245,520)	\$ (1,510,937)	(13.66)%
b) Asset Method Change at July 1, 2001 due to Act 38	10 Years	2002	(4,638,306)	(4,693,328)	(767,001)	(6.94)%
c) 2001 Changes	30 Years	2002	7,570,507	7,660,313	668,111	6.04 %
e) 2002 Changes	30 Years	2003	3,014,171	3,270,376	286,101	2.59 %
d) 2002 COLA	10 Years	2003	463,795	503,218	76,694	0.70 %
f) 2003 COLA	10 Years	2004	754,524	818,658	135,375	1.22 %
g) 2003 Changes	30 Years	2004	3,229,593	<u>3,229,593</u>	<u>326,059</u>	<u>2.95 %</u>
Total Amortization Payments				1,543,310	(785,598)	(7.10)%
2. Employer Normal Cost Rate						<u>7.48 %</u>
3. Preliminary Pension Rate (1) + (2)						0.38 %
4. Preliminary Pension Rate with 4% Floor -- Maximum of (3) and 4%						4.00 %
5. Health Insurance Rate						<u>0.23 %</u>
6. Final Total Employer Contribution Rate (4) + (5)						<u><u>4.23 %</u></u>

\* Based on Estimated Appropriation Payroll for Fiscal Year Ending 2005 of \$ 11,059,845



**TABLE 3**

**DETERMINATION OF HEALTH INSURANCE CONTRIBUTION RATE  
FOR FISCAL YEAR 2004/2005**  
(\$ Amounts in Thousands)

Item	Amount
1. Estimated Number of Eligible Annuitants in Fiscal 2005/2006	102,300
2. Estimated Number of Eligible Annuitants Who Elect Coverage	66,495
3. Estimated Annual Health Insurance Payments During Fiscal 2005/2006 (2) x \$100 x 12	\$ 79,794
4. Estimated Health Insurance Administrative Expenses During Fiscal 2005/2006	<u>2,063</u>
5. Total Estimated Health Insurance Account Disbursements During Fiscal 2005/2006 (3) + (4)	\$ 81,857
6. Estimated Balance in Health Insurance Account for Prior Fiscal Year	56,549
7. Estimated Shortfall in Health Insurance Account (5) - (6)	<u>\$ 25,308</u>
8. Required Health Insurance Contribution Rate	
(a) Estimated 2004/2005 Payroll	\$ 11,059,845
(b) Required Health Insurance Contribution Rate (7) / (8a) (rounded up)	0.23%

**TABLE 4**

**SUMMARY OF MARKET VALUE OF PLAN ASSETS  
AS OF JUNE 30, 2003  
(\$ Amounts in Thousands)**

<b>Market Value</b>	
1. Market Value of Assets as of June 30, 2002	\$ 43,576,553
2. Contributions During Fiscal 2002/2003	868,566
3. Disbursements During Fiscal 2002/2003	2,983,939
4. Investment Return During Fiscal 2002/2003	
a) Net Investment Return	\$ 1,021,871
b) Administrative Expenses	<u>36,225</u>
c) Investment Return After Expenses (a) - (b)	\$ 985,646
5. Market Value of Assets as of June 30, 2003 (1) + (2) - (3) + (4c)	\$ 42,446,826
6. Rate of Return (per Wilshire)	2.74 %
<b>Asset Allocation by Account</b>	
1. Members' Savings Account	\$ 8,282,753
2. Annuity Reserve Account	21,963,662
3. State Accumulation Account	12,069,964
4. Health Care Account	<u>130,447</u>
5. Total (1) + (2) + (3) + (4)	\$ 42,446,826

**TABLE 5**

**DERIVATION OF ACTUARIAL VALUE OF ASSETS  
AS OF JUNE 30, 2003**  
(\$ Amounts in Thousands)

1. Market Value of Assets as of June 30, 2003						\$ 42,446,826
2. Determination of Deferred Gain (Loss)						
	<u>Return on Assets</u>					
<u>Fiscal Year</u>	<u>Actual</u>	<u>Expected</u>	<u>Difference</u>	<u>% Deferred</u>	<u>Deferred Amount</u>	
2002/2003	\$ 985,646	\$ 4,525,288	\$ (3,539,642)	80%	\$ (2,831,714)	
2001/2002	(2,555,630)	4,575,102	(7,130,732)	60%	(4,278,439)	
2000/2001	(3,877,769)	4,480,947	(8,358,716)	40%	<u>(3,343,486)</u>	
					\$ (10,453,639)	
3. Actuarial Value of Assets (1) - (2)						\$ 52,900,465
4. Actuarial Rate of Return *						1.35%

\* The actuarial rate of return is the investment return on the increase in the actuarial value of assets from the June 30, 2002 to the June 30, 2003 valuation.

**TABLE 6**

**ANALYSIS OF CHANGE IN UNFUNDED ACCRUED LIABILITY  
AS OF JUNE 30, 2003**  
(\$ Amounts in Thousands)

Item	Amount
1. Unfunded Accrued Liability at June 30, 2002	\$ (2,499,857)
2. Interest Credit at 8.50% to June 30, 2003	(212,488)
3. Contributions Toward Unfunded Accrued Liability	(1,026,062)
4. Change due to 1.15% Floor on Total Employer Rate for Contribution due on 7/1/2003 Under Act 38	(307,836)
5. Change in Methodology Used to Value Vestees	(243,377)
6. Expected Unfunded Accrued Liability at June 30, 2003 (1) + (2) - (3) + (4) + (5)	\$ (2,237,496)
7. Actual Unfunded Accrued Liability at June 30, 2003	<u>\$ 1,543,310</u>
8. Increase (Decrease) from Expected (6) - (7)	\$ 3,780,806
11. Reasons for Increase (Decrease)	
(a) Experience (Gains) Losses	
(i) Loss from Investment Return on Actuarial Value of Assets	\$ 3,805,818
(ii) Gain from Salary Increases Less than Expected	(126,576)
(iii) Gain from Retirement and Other Separation Experience	(139,098)
(iv) Loss from Annuitants' Mortality Experience	<u>240,662</u>
Subtotal	\$ 3,780,806
(b) Change in Assumptions	\$ -
(c) Grand Total	\$ 3,780,806

**TABLE 7**

**SCHEDULE OF FUNDING PROGRESS**  
**GASB STATEMENT NO. 25 DISCLOSURE**  
(\$ Amounts in Thousands)

Valuation as of June 30	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Accrued Liability as a Percentage of Covered Payroll
2003	\$ 52,900,465	\$ 54,443,775	\$ 1,543,310	97.2 %	\$ 9,652,881	16.0 %
2002	54,296,368	51,796,511	(2,499,857)	104.8	9,378,944	(26.7)
2001	54,830,300	47,917,294	(6,913,006)	114.4	9,414,884	(73.4)
2000	49,293,047	39,822,832	(9,470,215)	123.8	8,939,598	(105.9)
1999	44,606,526	37,499,115	(7,107,411)	119.0	8,247,602	(86.2)
1998	39,968,957	36,136,163	(3,832,794)	110.6	8,091,481	(47.4)

**TABLE 8**

**SCHEDULE OF EMPLOYER CONTRIBUTIONS**  
**GASB STATEMENT NO. 25 DISCLOSURE**  
(\$ Amounts in Thousands)

Fiscal Year Ended June 30	Annual Required Contribution	Percentage Contributed
2003	\$ 20,831	100 %
2002	539	100
2001	158,193	100
2000	390,504	100
1999	513,940	100
1998	718,431	100

The information presented above was determined as part of the actuarial valuation as of two years prior to the dates indicated (i.e., the contribution determined by the valuation completed as of June 30, 2001 was contributed in the fiscal year ending June 30, 2003).

Additional information as of the latest actuarial valuation follows:

Valuation Date:	6/30/2003
Actuarial Cost Method:	Entry Age
Amortization Method:	Level percent closed
Remaining Amortization Period:	10-30 Years
Asset Valuation Method:	5-year smoothed market

Actuarial Assumptions:	
- Investment Rate of Return *	8.50%
-Projected Salaried Increases *	6.25%

* Includes Inflation at:	3.50%
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**TABLE 9**

**SOLVENCY TEST**  
**COMPARATIVE SUMMARY OF ACCRUED LIABILITY AND**  
**ACTUARIAL VALUE OF ASSETS**  
(\$ Amounts in Thousands)

Valuation as of June 30	(1) Active Member Contributions	(2) Retirees and Beneficiaries	(3) Active Member Employer Financed	Actuarial Value of Assets	Portion of Accrued Liability Covered by Valuation Assets		
					(1)	(2)	(3)
2003	\$ 8,282,753	\$ 22,094,109	\$ 24,066,913	\$ 52,900,465	100 %	100 %	94 %
2002	7,780,370	19,978,567	24,037,574	54,296,368	100	100	100
2001	7,464,404	15,802,140	24,650,750	54,830,300	100	100	100
2000	6,775,934	16,036,880	17,010,018	49,293,047	100	100	100
1999	6,298,483	15,275,756	15,924,876	44,606,526	100	100	100
1998	6,113,312	13,734,388	16,288,463	39,968,957	100	100	100

**TABLE 10****HISTORY AND PROJECTION OF CONTRIBUTION RATES**

Fiscal Year Ending June	Contribution Rates					
	Employee	Employer Normal Cost	Unfunded Liability Rate	Preliminary Employer Pension Rate	Health Care Contribution	Total Employer Rate
1995/1996	5.59 %	6.43 %	4.67 %	11.10	0.62 %	11.72 %
1996/1997	5.62	6.44	3.56	10.00	0.60	10.60
1997/1998	5.65	6.44	2.17	8.61	0.15	8.76
1998/1999	5.69	6.33	(0.44)	5.89	0.15	6.04
1999/2000	5.72	6.40	(2.04)	4.36	0.25	4.61
2000/2001	5.77	6.29	(4.65)	1.64	0.30	1.94
2001/2002	6.43	5.63	(6.05)	(0.42)	1.09	1.09
2002/2003	7.10	7.20	(10.03)	1.00	0.97	1.15
2003/2004	7.08	7.25	(4.27)	2.98	0.79	3.77
<b>2004/2005</b>	<b>7.12</b>	<b>7.48</b>	<b>(7.10)</b>	<b>4.00</b>	<b>0.23</b>	<b>4.23</b>
2005/2006	7.16	7.45	(3.36)	4.09	0.73	4.82
2006/2007	7.17	7.42	(0.09)	7.33	0.74	8.07
2007/2008	7.19	7.38	2.00	9.38	0.73	10.11
2008/2009	7.22	7.34	2.85	10.19	0.74	10.93
2009/2010	7.25	7.30	3.11	10.41	0.74	11.15
2010/2011	7.28	7.27	3.22	10.49	0.74	11.23
2011/2012	7.31	7.24	3.23	10.47	0.73	11.20
2012/2013	7.33	7.19	19.81	27.00	0.73	27.73
2013/2014	7.36	7.15	18.74	25.89	0.72	26.61
2014/2015	7.38	7.11	17.27	24.38	0.70	25.08

The projection of contribution rates is based on the assumption that there are no changes in demographics or economic assumptions, no changes in benefit provisions, and no actuarial gains or losses other than gains or losses on the actuarial value of assets that result from recognizing currently deferred gains or losses on the market value of assets.



**TABLE 11**

**HISTORY AND PROJECTION OF  
ANNUITANTS, BENEFICIARIES, SURVIVOR ANNUITANTS AND  
ACTIVE MEMBERS**

Valuation as of June 30	New Annuitants During the Year	Annuitant Deaths During the Year	Annuitants at End of Year	Beneficiaries and Survivor Annuitants at End of Year	Total Annuitants, Beneficiaries and Survivor Annuitants	Active Members
1994			109,813	5,218	115,031	206,540
1995			110,509	5,451	115,960	210,783
1996			113,007	5,719	118,726	213,906
1997			118,137	5,987	124,124	215,077
1998			120,665	6,149	126,814	220,703
1999			126,448	6,421	132,869	223,495
2000			127,404	6,654	134,058	234,210
2001			125,880	6,836	132,716	243,311
2002			134,300	7,114	141,414	242,616
<b>2003</b>			<b>138,383</b>	<b>7,310</b>	<b>145,693</b>	<b>246,700</b>
2004	11,125	4,158	145,350	7,785	153,135	246,700
2005	10,740	4,307	151,783	8,230	160,013	246,700
2006	11,247	4,463	158,567	8,633	167,200	246,700
2007	11,615	4,614	165,568	9,000	174,568	246,700
2008	11,864	4,778	172,654	9,342	181,996	246,700
2009	11,937	4,925	179,666	9,657	189,323	246,700
2010	11,881	5,083	186,464	9,951	196,415	246,700
2011	11,751	5,246	192,969	10,230	203,199	246,700
2012	11,660	5,389	199,240	10,491	209,731	246,700
2013	11,490	5,553	205,177	10,749	215,926	246,700

**TABLE 12****DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS****ASSUMPTIONS**

**Interest Rate:** 8½% per annum, compounded annually (adopted as of June 30, 1990). The components are 3½% for inflation and 5% for the real rate of return. Actuarial equivalent benefits are determined based on 4% (since 1960).

**Separation From Service:** Illustrative rates of assumed separation from service are as follows (adopted in 2000):

Age	Annual Rate of:						
	Non-Vested Withdrawal	Vested Withdrawal*		Death	Disability	Early Retirement**	Superannuation Retirement
		Less Than 10 Years of Service	10 or More Years of Service				
<b>MALES</b>							
25	13.00%	5.50%	1.40%	.05%	.02%		
30	11.00	3.00	1.40	.05	.02		
35	11.00	3.00	1.10	.05	.10		
40	11.00	3.00	.80	.07	.18	.13%	
45	11.00	3.00	.50	.10	.18	.15	
50	9.00	3.00	1.78	.16	.28	1.56	24.00%
55	9.00	3.00	3.50	.25	.43	10.00	24.00
60	9.00	2.40	4.50	.46	.58	10.00	28.00
65				.90			20.00
69				1.44			20.00
<b>FEMALES</b>							
25	13.00%	9.50%	4.00%	.01%	.04%		
30	13.00	7.50	4.00	.02	.04		
35	13.00	5.50	2.00	.03	.08		
40	10.00	3.50	1.00	.04	.13	.60%	
45	10.00	3.00	.55	.07	.18	.60	
50	10.00	3.00	1.50	.10	.25	1.74	10.00%
55	10.00	3.00	3.00	.15	.35	10.00	10.00
60	10.00	3.50	5.90	.23	.45	15.00	25.00
65				.48			28.00
69				.88			20.00

\* Vested Withdrawal – At least 5 years service but not eligible for Early or Superannuation retirement.

\*\* Early Retirement – Age 55 with 25 years service, but not eligible for Superannuation retirement.

**Death After Retirement:** The 1995 George B. Buck Mortality Tables, rated forward one year for males and unadjusted for females, adopted in 2000, are used to project mortality for healthy annuitants and for dependent beneficiaries. Special mortality tables based on PSERS' experience are used for disability retirements. (The 1995 George B. Buck Mortality Tables, rated forward one year for males and unadjusted for females, adopted in 2000, are used to determine actuarial equivalent benefits.)

**TABLE 12**

**DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS**  
(Continued)

**Salary Increase:** Effective average of 6¼% per annum, compounded annually. The components are 3½% for inflation, 1% for real wage growth and 1¾% for merit or seniority increases (adopted as of June 30, 2000). Representative values are as follows:

Age	Annual Rate of Salary Increase
20	10.00%
30	9.50
40	7.25
50	5.00
55	4.75
60	4.50
65	4.50
70	4.50

**MISCELLANEOUS**

**Option 4 Elections:** 100% of members are assumed to elect a refund of contributions and a reduced annuity.

**Withdrawal Annuity:** 90% of members are assumed to commence payment immediately and 10% are assumed to defer payment to superannuation age.

**METHODS**

**Calculations:** The actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system, and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

**Actuarial Cost Method:** Entry Age Normal Cost Method. The outstanding balance of the unfunded accrued liability as of June 30, 2001 and the decrease in the unfunded accrued liability due to the actuarial asset method change provided by Act 38 continue to be amortized over a 10-year period, with level dollar funding, beginning July 1 2002. The increases in the unfunded accrued liability due to the July 1, 2002 and July 1, 2003 cost-of-living adjustments provided by Act 38 continue to be amortized over a 10-year period, with level dollar funding, starting on July 1, 2003 and July 1, 2004, respectively. All other changes in the unfunded accrued liability at June 30, 2001, June 30, 2002, and June 30, 2003 – including the Act 9 benefit changes – are amortized over a 30-year period, with level dollar funding, starting on July 1, 2002, July 1, 2003, and July 1, 2004, respectively. Future benefit improvements for active members and retirees will be amortized over a 10-year period with level dollar funding. Future gains and losses will be amortized over a 30-year period with level dollar funding. Act 40 also provides a 4.00% floor on the employer pension rate.

**TABLE 12****DESCRIPTION OF ACTUARIAL ASSUMPTIONS AND METHODS**  
(Continued)

**Asset Valuation Method:** A five-year moving market average value of assets that recognizes the 8½% actuarial expected investment return immediately and spreads the difference between the actual and expected return (beginning with the 2000/2001 fiscal year) over a period of five years (adopted as of June 30, 2001).

**Determination of Health Care Contribution Rate:** Rate necessary to establish reserves sufficient to provide premium assistance payments for all participating eligible annuitants for the subsequent fiscal year.

**DATA**

**Census and Assets:** The valuation was based on members of the System as of June 30, 2003 and does not take into account future members. All census data was supplied by the System and was subject to reasonable consistency checks. Asset data was supplied by the System.

**TABLE 13****SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS****MEMBERSHIP**

For valuation purposes, all employees are considered to be full coverage. All employees who become members on and after January 1, 1966 are members of the dual coverage group. Dual coverage members contribute to both PSERS and to Social Security.

**BENEFITS****Superannuation Annuity**

Eligibility Age 62, or age 60 with 30 years of service, or 35 years of service regardless of age.

Amount 2.5% of final average salary times years of school service and intervening military service. 2% of final average salary for non-school service and for members who do not elect Class T-D coverage. Minimum of \$100 per year of service. "Final average salary" means the highest average annual salary for any 3 years of service.

Annual salary is subject to a limit of \$200,000, as adjusted under Section 401(a)(17).

For members who elect coverage under Class T-D, the maximum benefit is equal to the limit established by Section 415 of the Internal Revenue Code.

**Early Retirement Annuity**

Eligibility Age 55 with 25 years of service.

Amount Accrued benefit as of date of retirement, reduced 1/4% for each month by which commencement of payments precedes Superannuation Age.

For members who elect coverage under Class T-D, the maximum benefit is equal to the limit established by Section 415 of the Internal Revenue Code.

**TABLE 13****SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**

(Continued)

**Withdrawal Annuity**

Eligibility	5 years of service.
Amount	Accrued benefit deferred to superannuation retirement age or an actuarially reduced benefit payable immediately. Actuarially equivalent benefits are based on 4% interest and the 1995 George B. Buck mortality tables, rated forward one year for males and unadjusted for females.

**Disability Annuity**

Eligibility	5 years of service.
Amount	The standard single life annuity if the total number of credited service is greater than 16.667, otherwise the standard single life annuity multiplied by the lesser of the following ratios: $(Y^*/Y)$ or $(16.667/Y)$ where Y is the number of years of credited service and Y* is the total years of credited service if the member were to continue as a school employee until superannuation retirement age (or at current age, if later). Minimum of \$100 per year of service.

**Return of Contributions**

Eligibility	Death or separation from service and member does not qualify for other benefits.
Amount	Refund of accumulated deductions includes interest (less annuity payments received prior to death in the case of a retired member).

**Death Benefit**

Eligibility	Death of an active member or vestee who was eligible to receive an annuity.
Amount	The present value of the annuity which would have been effective if the member retired on the day before death. Option 1 (see next page) assumed payable if no other option elected.

**TABLE 13****SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**  
(Continued)**Normal and  
Optional Forms  
of Benefits**

Normal Form:	Life annuity with a guaranteed payment equal to member contributions with interest.
Option 1:	Reduced benefit with refund of balance of present value of annuity at retirement over payments received. If balance is less than \$5,000, benefit is paid in lump sum; otherwise, beneficiary may elect annuity and/or lump sum.
Option 2:	Joint and 100% survivorship annuity.
Option 3:	Joint and 50% survivorship annuity.
Option 4:	Benefit of equivalent actuarial value, including lump sum payment of member contributions.

**Health Care Premium Assistance**

Eligibility	Retired members who: <ul style="list-style-type: none"> <li>(a) have 24½ or more years of service, or</li> <li>(b) are disability annuitants, or</li> <li>(c) have 15 or more years of service and who both terminated school service and retired after attaining superannuation age and</li> <li>(d) participate in the PSERS health options program or in an employer-sponsored health insurance program.</li> </ul>
Amount	Participating eligible annuitants receive health insurance premium assistance payments from the Health Insurance Account equal to the lesser of \$100 per month or the actual monthly premium. All administrative expenses necessary to operate the health insurance premium assistance program are to be funded by the Health Insurance Account. The Health Insurance Account is credited with contributions of the Commonwealth and the employers.

**TABLE 13****SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS**

(Continued)

**CONTRIBUTIONS**

## By Members

Members who elect coverage under Class T-D and who were hired prior to July 22, 1983 contribute at a rate of 6½% of compensation, while members who elect coverage under Class T-D who were most recently hired on or after July 22, 1983 contribute at a rate of 7½% of compensation. Members who do not elect coverage under Class T-D and who were hired prior to July 22, 1983 contribute at a rate of 5¼% of compensation, while members who do not elect coverage under Class T-D who were most recently hired on or after July 22, 1983 contributed at a rate of 6¼% of compensation. Reduction for a joint coverage member of 40% of Social Security tax, exclusive of disability and medical coverage portion.

By Commonwealth and  
School Districts

Balance of required contribution determined as normal contribution, accrued liability contribution, supplemental annuity contribution, experience adjustment factor and premium assistance contribution, is funded by the Commonwealth and the School Districts.



**TABLE 14****SUMMARY OF MEMBERSHIP DATA  
AS OF JUNE 30, 2003****Active Members\***

Item	Male	Female	Total
Number of Members	69,282	177,418	246,700
Annual Salaries**	\$ 3,183,286	\$ 6,469,595	\$ 9,652,881
Average Age	45.1	45.0	45.0
Average Service	13.5	11.2	11.9

\* Excludes 65,453 inactive members and vestees.

\*\* These salaries shown in the table above represent a rate of pay for members who were in active service on June 30, 2003.

**Annuitants and Beneficiaries**

Item	Number	Annual Annuities	Average Annuities	Average Age
Annuitants (Normal, Early and Withdrawal)	132,005	\$ 2,400,584	\$ 18,186	70.1
Survivors and Beneficiaries	7,310	54,580	7,466	76.0
Disabled Annuitants	<u>6,378</u>	<u>89,971</u>	<u>14,106</u>	<u>62.3</u>
Total	145,693	\$ 2,545,135	\$ 17,469	70.0

**EXHIBIT I****ACTIVE MEMBERSHIP DATA AS OF JUNE 30, 2003  
NUMBER AND AVERAGE ANNUAL SALARY**

Age	Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<b>Under 25</b>	6,683 \$25,260	46 \$27,237								6,729 \$25,274
<b>25-29</b>	16,373 \$31,569	4,009 \$39,665	24 \$31,162							20,406 \$33,159
<b>30-34</b>	10,786 \$28,557	11,048 \$42,002	2,668 \$47,511	44 \$36,348						24,546 \$36,682
<b>35-39</b>	10,007 \$21,627	5,894 \$37,748	6,158 \$49,042	2,054 \$50,924	60 \$38,724					24,173 \$35,074
<b>40-44</b>	12,790 \$18,700	6,577 \$30,478	4,440 \$43,845	5,020 \$53,986	1,908 \$52,213	114 \$36,170				30,849 \$32,709
<b>45-49</b>	11,246 \$19,667	8,288 \$28,718	6,018 \$39,532	4,710 \$50,239	6,329 \$59,565	4,586 \$60,924	85 \$39,050			41,262 \$38,617
<b>50-54</b>	7,001 \$21,147	6,146 \$29,830	6,406 \$38,458	5,644 \$47,423	4,383 \$56,709	11,638 \$65,186	9,431 \$66,670	47 \$39,982		50,696 \$48,983
<b>55-59</b>	4,121 \$19,875	3,167 \$26,888	3,725 \$34,550	4,033 \$41,292	3,452 \$48,445	3,419 \$57,467	7,345 \$68,180	1,596 \$71,163	11 \$35,207	30,869 \$46,673
<b>60-64</b>	2,147 \$16,427	1,437 \$22,017	1,623 \$28,103	1,763 \$35,221	1,665 \$37,944	1,516 \$44,852	825 \$55,223	682 \$70,805	151 \$68,902	11,809 \$34,722
<b>Over 64</b>	1,488 \$12,189	875 \$16,454	793 \$21,313	692 \$25,007	497 \$27,596	478 \$33,138	314 \$38,874	104 \$47,547	120 \$66,612	5,361 \$22,652
<b>Total</b>	82,642 \$23,642	47,487 \$33,689	31,855 \$40,799	23,960 \$47,054	18,294 \$53,111	21,751 \$60,801	18,000 \$66,146	2,429 \$69,448	282 \$66,613	246,700 \$39,128

**EXHIBIT II****THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2003****RETIRED ON ACCOUNT OF SUPERANNUATING, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<b>Under 50</b>	13	584	1,490	463	164	32				2,746
	\$1,742	\$745	\$1,301	\$3,400	\$8,232	\$13,835				\$2,099
<b>50-54</b>	5	100	1,721	668	405	450	382	9		3,740
	\$2,309	\$1,528	\$1,290	\$3,532	\$8,404	\$18,734	\$30,485	\$27,977		\$7,613
<b>55-59</b>	11	88	2,424	1,207	710	1,204	7,737	2,146	6	15,533
	\$7,961	\$2,023	\$1,498	\$4,150	\$8,766	\$23,061	\$36,324	\$50,159	\$37,442	\$27,799
<b>60-64</b>	111	264	2,060	1,894	1,618	2,315	7,899	4,725	226	21,112
	\$1,964	\$2,771	\$2,911	\$6,558	\$12,128	\$22,306	\$34,163	\$44,409	\$50,676	\$27,556
<b>65-69</b>	408	705	2,630	2,481	2,895	3,180	4,419	4,202	1,093	22,013
	\$986	\$2,212	\$3,440	\$6,653	\$11,307	\$18,597	\$27,925	\$36,512	\$43,407	\$20,154
<b>70-74</b>	561	1,060	2,746	2,772	3,036	3,293	3,839	2,326	1,777	21,410
	\$1,187	\$1,870	\$3,380	\$6,011	\$10,747	\$16,521	\$24,623	\$32,790	\$41,098	\$16,789
<b>75-79</b>	660	1,199	2,809	2,972	3,077	2,842	2,419	2,023	981	18,982
	\$1,165	\$1,669	\$3,347	\$6,089	\$10,402	\$15,854	\$21,449	\$27,449	\$38,322	\$13,294
<b>80-84</b>	481	1,034	2,324	2,301	1,928	1,782	1,340	1,398	476	13,064
	\$1,193	\$1,608	\$3,320	\$6,011	\$9,599	\$13,849	\$18,674	\$23,028	\$31,351	\$10,649
<b>85-89</b>	366	704	1,555	1,287	1,102	991	775	963	483	8,226
	\$1,821	\$1,823	\$3,610	\$6,225	\$9,585	\$13,386	\$18,073	\$22,290	\$26,487	\$10,657
<b>Over 89</b>	146	427	630	643	574	672	555	761	771	5,179
	\$6,241	\$2,466	\$4,610	\$7,583	\$11,282	\$13,966	\$17,824	\$21,048	\$24,700	\$13,624
<b>Total</b>	2,762	6,165	20,389	16,688	15,509	16,761	29,365	18,553	5,813	132,005
	\$1,567	\$1,790	\$2,832	\$5,953	\$10,543	\$17,553	\$30,011	\$36,254	\$37,245	\$18,186

**EXHIBIT III****THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2003****BENEFICIARIES AND SURVIVOR ANNUITANTS**

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<b>Under 50</b>	1 \$240	19 \$1,536	47 \$1,567	40 \$2,382	43 \$4,805	33 \$7,638	18 \$11,283	14 \$11,604	10 \$15,172	225 \$5,219
<b>50-54</b>	2 \$299	4 \$581	14 \$2,593	23 \$3,208	26 \$5,350	25 \$10,098	27 \$12,622	17 \$13,798	12 \$10,185	150 \$8,014
<b>55-59</b>	3 \$3,413	6 \$2,443	27 \$2,004	23 \$3,157	34 \$5,263	44 \$10,261	91 \$13,195	56 \$15,175	18 \$9,384	302 \$9,939
<b>60-64</b>	3 \$5,055	13 \$1,461	52 \$2,944	51 \$3,958	38 \$5,142	50 \$9,989	124 \$16,029	104 \$16,263	34 \$13,837	469 \$11,158
<b>65-69</b>	13 \$2,270	23 \$1,615	91 \$2,668	75 \$3,912	73 \$6,631	72 \$9,522	137 \$12,219	122 \$16,579	60 \$17,256	666 \$9,767
<b>70-74</b>	14 \$2,314	37 \$1,449	107 \$2,718	121 \$3,909	124 \$5,838	115 \$7,484	173 \$11,930	164 \$13,261	102 \$17,543	957 \$8,843
<b>75-79</b>	24 \$877	77 \$1,305	186 \$2,338	182 \$3,546	151 \$6,049	186 \$8,382	195 \$9,659	244 \$11,118	101 \$14,655	1,346 \$7,244
<b>80-84</b>	22 \$1,870	102 \$1,146	187 \$2,185	165 \$3,298	158 \$5,250	155 \$6,926	191 \$8,811	290 \$9,909	128 \$11,185	1,398 \$6,439
<b>85-89</b>	14 \$1,494	84 \$1,093	140 \$1,941	119 \$3,234	121 \$4,569	97 \$5,892	130 \$6,950	217 \$8,474	177 \$9,662	1,099 \$5,774
<b>Over 89</b>	15 \$4,570	31 \$975	65 \$1,852	58 \$2,849	47 \$4,265	50 \$5,713	80 \$6,187	151 \$6,643	200 \$7,677	697 \$5,601
<b>Total</b>	111 \$2,161	396 \$1,251	916 \$2,278	857 \$3,442	815 \$5,428	827 \$7,849	1,166 \$10,665	1,379 \$11,286	842 \$11,752	7,309 \$7,468

**EXHIBIT IV****THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2003****RETIRED ON ACCOUNT OF DISABILITY**

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<b>Under 50</b>	1 \$4,219	181 \$8,605	184 \$10,813	94 \$15,283	64 \$18,294	21 \$26,891	1 \$40,404			546 \$12,388
<b>50-54</b>	1 \$15,795	169 \$7,771	175 \$10,364	137 \$13,824	177 \$21,823	240 \$34,004	44 \$47,187	1 \$29,253		944 \$20,303
<b>55-59</b>		187 \$7,608	236 \$9,142	202 \$12,809	271 \$19,844	300 \$30,113	124 \$42,337	1 \$42,631		1,321 \$19,585
<b>60-64</b>	1 \$13,254	189 \$5,613	282 \$7,986	242 \$10,678	248 \$16,657	187 \$25,677	20 \$31,635			1,169 \$13,238
<b>65-69</b>	2 \$9,470	154 \$4,865	232 \$7,013	182 \$8,709	149 \$13,846	98 \$21,166	16 \$27,266	3 \$43,058		836 \$10,386
<b>70-74</b>	5 \$9,776	131 \$3,468	168 \$5,969	139 \$8,664	136 \$12,987	58 \$19,671	11 \$27,641		1 \$54,601	649 \$9,208
<b>75-79</b>	2 \$4,728	92 \$3,620	120 \$5,925	78 \$8,057	81 \$11,960	53 \$16,882	11 \$22,557	1 \$24,751		438 \$8,718
<b>80-84</b>	4 \$6,930	64 \$3,596	73 \$6,128	48 \$7,552	49 \$10,428	33 \$15,523	22 \$20,936	1 \$29,135		294 \$8,778
<b>85-89</b>	1 \$2,664	14 \$2,471	39 \$5,225	29 \$8,339	17 \$9,608	15 \$15,797	15 \$19,190			130 \$9,008
<b>Over 89</b>	3 \$12,951	1 \$5,018	15 \$6,621	16 \$7,490	6 \$11,177	6 \$13,501	4 \$13,311			51 \$9,105
<b>Total</b>	20 \$8,989	1,182 \$6,058	1,524 \$8,073	1,167 \$10,835	1,198 \$16,763	1,011 \$27,202	268 \$36,527	7 \$36,421	1 \$54,601	6,378 \$14,106

**EXHIBIT V****THE NUMBER AND AVERAGE ANNUAL ANNUITY  
AS OF JUNE 30, 2003****THOSE IN RECEIPT OF A REFUND ANNUITY**

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
<b>Under 50</b>										
<b>50-54</b>										
<b>55-59</b>										
<b>60-64</b>										
<b>65-69</b>										
<b>70-74</b>										
<b>75-79</b>										
<b>80-84</b>										
<b>85-89</b>										
<b>Over 89</b>	1									1
	\$66									\$66
<b>Total</b>	1									1
	\$66									\$66

**EXHIBIT VI****ANNUITANT AND BENEFICIARY MEMBERSHIP DATA  
AS OF JUNE 30, 2003****NUMBER AND AVERAGE ANNUAL BENEFIT  
EXCLUDES PARTIAL LUMP SUM PAYMENTS**

Age Last Birthday	Number	Annual Benefit (Thousands)	Average Annual Benefit
<b>Annuitants (Normal, Early and Withdrawal)</b>			
Under 60	22,019	\$ 466,034	\$ 21,165
60 - 64	21,112	581,764	27,556
65 - 69	22,013	443,656	20,154
70 - 74	21,410	359,454	16,789
75 - 79	18,982	252,338	13,294
Over 79	26,469	297,338	11,233
Total	132,005	\$ 2,400,584	\$ 18,186
<b>Survivors and Beneficiaries</b>			
Under 60	677	\$ 5,378	\$ 7,944
60 - 64	469	5,233	11,158
65 - 69	666	6,505	9,767
70 - 74	957	8,462	8,842
75 - 79	1,346	9,750	7,244
Over 79	3,195	19,252	6,026
Total	7,310	\$ 54,580	\$ 7,466
<b>Disabled Annuitants</b>			
Under 60	2,811	\$ 51,802	\$ 18,428
60 - 64	1,169	15,476	13,239
65 - 69	836	8,683	10,386
70 - 74	649	5,976	9,208
75 - 79	438	3,818	8,717
Over 79	475	4,216	8,876
Total	6,378	\$ 89,971	\$ 14,106
<b>Grand Total Average Annual Benefit</b>	145,693	\$ 2,545,135	\$ 17,469

**EXHIBIT VII****10 YEAR HISTORY OF MEMBERSHIP DATA****ACTIVE MEMBERS**

Valuation as of June 30	Number of Active Members	Percentage Change in Membership	Total Annual Payroll (Thousands)	Percentage Change in Payroll
2003	246,700	1.68%	\$ 9,652,881	2.92%
2002	242,616	(0.29%)	9,378,944	(0.38%)
2001	243,311	3.89%	9,414,884	5.32%
2000	234,210	4.79%	8,939,598	8.39%
1999	223,495	1.27%	8,247,602	1.93%
1998	220,703	2.62%	8,091,481	4.47%
1997	215,077	0.55%	7,745,001	1.69%
1996	213,906	1.48%	7,616,585	3.23%
1995	210,783	2.05%	7,378,342	7.16%
1994	206,540	4.31%	6,885,337	8.46%

**ANNUITANT AND SURVIVOR ANNUITANT MEMBERS**

Year Ended June 30	Number on roll	Additions	Deletions	Percentage Change in Membership	Annual Annuities (Millions)	Percentage Change in Annuities
2003	145,693	9,079	4,800	3.03%	\$ 2,545.1	13.20%
2002	141,414	13,003	4,305	6.55%	2,248.3	20.10%
2001	132,716	3,140	4,482	-1.00%	1,872.0	0.00%
2000	134,058	5,923	4,734	0.89%	1,880.6	2.73%
1999	132,869	10,609	4,554	4.77%	1,830.6	10.77%
1998	126,814	7,132	4,442	2.17%	1,652.6	14.21%
1997	124,124	9,787	4,389	4.55%	1,447.0	11.74%
1996	118,726	7,047	4,281	2.39%	1,295.0	6.05%
1995	115,960	4,923	3,994	0.81%	1,221.1	2.99%
1994	115,031	4,866	3,047	1.61%	1,185.6	12.06%



**EXHIBIT VIII**

**DETAILED TABULATIONS OF THE DATA**

**TABLE 1**  
**THE NUMBER AND ANNUAL SALARIES**  
**OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY**  
**AGE AS OF JUNE 30, 2003**

Age	Males		Females	
	Number	Salaries	Number	Salaries
17	9	\$ 50,058	4	\$ 27,018
18	27	249,053	13	118,256
19	43	456,286	47	459,606
20	79	1,008,030	93	1,038,387
21	108	1,610,554	135	1,675,380
22	217	4,613,172	583	13,075,368
23	562	14,280,438	1,635	42,222,598
24	881	24,741,843	2,293	64,440,163
25	1,039	31,591,059	2,612	78,436,474
26	1,147	37,455,157	2,906	92,578,947
27	1,257	43,543,950	2,903	95,113,369
28	1,259	44,835,917	3,008	101,471,163
29	1,332	49,850,397	2,943	101,773,032
30	1,458	55,334,747	2,987	104,422,471
31	1,565	62,146,558	3,377	116,132,602
32	1,652	66,723,613	3,635	127,299,782
33	1,582	66,110,305	3,531	124,827,027
34	1,489	63,318,988	3,270	114,088,826
35	1,444	62,214,243	3,125	105,897,332
36	1,355	59,683,802	3,278	108,465,395
37	1,420	62,099,273	3,307	103,784,051
38	1,321	57,468,604	3,598	112,295,387
39	1,430	62,915,352	3,895	113,011,661
40	1,409	59,868,233	4,025	118,677,149
41	1,392	60,658,281	4,436	128,529,349
42	1,533	66,420,723	4,844	142,195,221
43	1,522	66,605,953	4,807	138,452,965
44	1,678	71,976,302	5,203	155,658,131
45	1,693	76,558,594	5,731	184,422,285
46	1,886	88,849,029	6,085	202,145,620
47	1,895	89,479,506	6,124	216,057,237
48	2,123	102,184,822	6,533	242,173,869
49	2,177	109,069,039	7,015	282,476,230
50	2,524	133,592,308	7,328	317,098,784
51	2,768	151,646,951	7,840	353,520,919
52	2,888	166,096,463	7,593	355,747,410
53	2,939	171,347,647	6,998	330,142,676
54	3,094	183,651,787	6,724	320,401,861
55	2,867	167,601,985	5,996	273,582,106
56	2,688	154,061,332	5,841	258,709,012

**TABLE 1**  
**THE NUMBER AND ANNUAL SALARIES**  
**OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY**  
**AGE AS OF JUNE 30, 2003**

Age	Males		Females	
	Number	Salaries	Number	Salaries
57	1,561	\$ 85,235,941	3,412	\$ 144,138,254
58	1,287	64,637,394	3,219	130,797,523
59	1,166	54,464,714	2,832	107,514,885
60	1,173	51,423,928	2,762	99,161,533
61	916	36,929,479	2,167	72,283,930
62	564	21,557,096	1,417	43,811,408
63	500	16,709,865	1,045	31,350,047
64	389	12,850,079	876	23,959,479
65	328	10,786,076	634	16,922,809
66	263	7,239,545	525	13,221,004
67	232	5,945,720	423	9,888,594
68	199	4,501,766	338	7,233,776
69	175	3,696,205	294	6,618,352
70	150	3,219,519	220	4,197,021
71	117	2,448,045	195	3,335,806
72	110	2,172,265	153	3,010,887
73	83	1,699,858	136	2,206,546
74	78	1,397,974	107	1,682,230
75	57	1,033,175	92	1,615,010
76	54	996,591	70	945,521
77	38	653,452	56	830,114
78	26	429,471	44	708,816
79	15	186,521	30	437,950
80	20	318,517	17	242,499
81	8	243,569	16	403,021
82	10	194,227	12	148,410
83	3	78,152	14	145,387
84	3	37,117	8	94,826
85	1	84,768	3	43,820
86	1	49,848		
87	2	66,886		
88				
89	1	28,346		
<b>Total</b>	69,282	\$ 3,183,286,463	177,418	\$ 6,469,594,577

**TABLE 2**  
**THE NUMBER AND ANNUAL SALARIES**  
**OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY**  
**YEARS OF CREDITED SERVICE AS OF JUNE 30, 2003**

Service	Males		Females	
	Number	Salaries	Number	Salaries
0	4,432	\$ 96,352,673	13,172	\$ 232,545,735
1	3,727	89,494,182	11,886	205,533,812
2	4,262	127,744,341	13,519	309,066,303
3	3,820	124,042,057	12,066	299,307,725
4	4,044	144,672,944	11,714	325,078,052
5	3,271	120,711,913	8,881	253,598,433
6	3,139	125,615,986	7,962	243,656,385
7	2,440	99,852,326	6,469	205,168,926
8	2,188	91,345,493	5,910	193,399,845
9	1,985	83,989,807	5,242	182,440,936
10	2,347	106,469,874	5,525	203,092,171
11	1,567	70,473,835	4,570	173,103,308
12	1,452	65,763,663	4,339	166,963,311
13	1,634	75,735,511	4,404	177,437,768
14	1,575	74,575,376	4,442	186,034,820
15	1,471	72,634,601	4,256	184,636,879
16	1,402	70,005,145	3,878	173,803,113
17	1,281	66,229,916	3,693	170,435,768
18	1,115	57,013,352	3,172	150,274,825
19	1,027	53,023,188	2,665	129,361,188
20	886	46,218,410	2,305	116,333,759
21	858	45,261,797	2,427	121,347,428
22	884	48,696,776	2,617	133,860,757
23	1,065	61,224,534	2,943	156,225,511
24	1,160	68,287,591	3,149	174,157,126
25	1,155	72,572,624	2,934	166,314,335
26	1,205	74,640,041	2,842	165,567,414
27	1,390	86,768,166	2,970	176,809,480
28	1,498	96,662,367	2,973	179,914,785
29	1,744	115,421,879	3,040	187,802,840
30	1,754	119,855,286	2,826	177,175,253
31	1,839	126,831,448	2,486	156,713,745
32	1,639	113,860,420	2,066	131,964,919
33	1,453	102,414,185	1,765	113,650,159
34	1,163	83,663,127	1,009	64,504,950
35	565	40,979,495	464	29,915,817
36	302	22,231,831	282	17,944,354
37	206	15,706,149	200	12,467,973
38	127	9,889,756	111	6,868,122
39	90	7,390,862	82	5,295,143

TABLE 2

**THE NUMBER AND ANNUAL SALARIES  
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY  
YEARS OF CREDITED SERVICE AS OF JUNE 30, 2003**

Service	Males		Females	
	Number	Salaries	Number	Salaries
40	39	3,102,989	52	3,236,494
41	26	1,794,756	33	2,114,338
42	12	871,047	19	1,162,400
43	15	1,211,827	12	698,542
44	10	728,762	7	391,995
45	6	380,675	10	508,940
46	3	211,894	3	192,264
47	2	133,144	7	469,805
48	4	277,047	5	319,421
49	3	251,395	4	218,443
50			1	32,523
51			4	265,018
52				
53			2	66,436
54				
55			2	90,568
56				
57			1	54,217
<b>Total</b>	69,282	\$ 3,183,286,463	177,418	\$ 6,469,594,577

TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2003**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Male		Female	
	Number	Annuities	Number	Annuities
25	1	\$ 376	2	\$ 349
26	1	449	2	311
27	2	538	3	1,534
28	4	1,701	4	1,142
29	2	1,417	9	3,793
30	5	2,730	10	5,844
31	12	8,011	22	16,328
32	13	8,779	32	23,204
33	16	14,985	35	26,719
34	11	8,822	37	41,851
35	18	17,623	34	35,886
36	24	37,110	43	52,752
37	34	38,673	59	75,908
38	35	58,450	47	63,645
39	36	61,961	77	104,213
40	53	87,978	68	101,716
41	43	71,920	70	99,762
42	46	98,109	89	163,503
43	60	120,142	101	163,646
44	63	113,576	117	185,938
45	83	167,571	130	282,931
46	90	260,872	180	384,276
47	89	316,217	172	435,699
48	92	250,299	207	582,122
49	116	379,629	247	781,853
50	127	514,180	300	1,157,782
51	162	770,855	362	1,776,230
52	224	1,473,749	551	3,429,915
53	278	2,754,234	657	4,958,415
54	322	3,714,596	757	7,923,942
55	631	12,699,829	1,055	18,864,675
56	1,496	41,433,024	1,878	44,845,739
57	1,702	54,909,126	1,850	48,646,874
58	1,660	55,282,681	1,712	46,428,162
59	1,742	60,249,809	1,807	48,437,026
60	2,014	70,222,600	2,128	56,502,151
61	2,083	72,185,635	2,219	58,033,822
62	1,777	57,754,449	2,368	57,171,454
63	1,734	54,717,608	2,538	55,448,167
64	1,626	46,904,165	2,625	52,824,145

TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2003**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Male		Female	
	Number	Annuities	Number	Annuities
65	1,728	\$ 47,132,149	2,751	\$ 52,854,787
66	1,747	45,604,049	2,789	47,781,754
67	1,739	45,025,648	2,736	46,715,105
68	1,643	39,382,510	2,709	41,288,590
69	1,625	38,933,035	2,546	38,938,399
70	1,643	37,436,752	2,521	36,078,770
71	1,691	38,013,615	2,741	38,965,454
72	1,591	36,850,485	2,840	41,128,911
73	1,626	33,686,074	2,735	37,272,544
74	1,404	27,226,115	2,618	32,794,874
75	1,406	26,452,481	2,798	34,211,278
76	1,404	24,362,160	2,631	31,127,479
77	1,277	21,998,363	2,554	29,162,008
78	1,228	20,553,997	2,306	24,172,439
79	1,093	16,945,704	2,285	23,352,164
80	1,006	14,616,686	2,037	19,366,480
81	844	11,408,304	1,994	18,662,267
82	727	9,879,479	1,918	18,376,739
83	683	8,731,178	1,865	17,797,627
84	479	6,004,269	1,511	14,268,936
85	511	5,884,534	1,551	15,341,263
86	440	5,036,901	1,410	13,973,892
87	374	4,512,306	1,254	12,638,687
88	302	3,387,751	1,109	11,546,792
89	275	3,719,142	1,000	11,625,939
90	217	2,827,229	857	10,131,555
91	167	1,975,529	765	9,964,174
92	118	1,703,786	629	8,228,901
93	75	1,280,316	531	7,236,893
94	80	1,110,719	469	6,677,218
95	45	699,607	370	5,399,512
96	38	547,475	277	4,404,078
97	27	434,934	171	2,642,182
98	20	357,170	127	1,859,935
99	10	160,622	61	962,650
100	1	4,916	43	610,125
101	5	107,488	39	663,905
102	1	24,396	14	209,022
103	1	21,907	8	100,225
104			8	144,642

TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2003**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

Age	Male		Female	
	Number	Annuities	Number	Annuities
105			2	\$ 27,641
106			1	12,583
109			1	18,555
111			1	9,418
<b>Total</b>	47,818	\$ 1,121,754,260	84,187	\$ 1,278,829,819



TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2003**

**RETIRED ON ACCOUNT OF SUPERANNUATION, EARLY RETIREMENT AND  
THOSE IN RECEIPT OF WITHDRAWAL ANNUITIES**

<u>OPTION</u>					
Maximum	26,553	\$	675,477,827	62,748	\$ 967,585,930
1A	6		121,399	60	946,137
1B	5		41,342	31	399,587
1C	5,334		87,263,871	11,189	130,032,345
2	7,794		140,091,777	4,966	75,534,941
3	7,485		195,591,160	4,953	97,342,147
4	<u>641</u>		<u>23,166,884</u>	<u>240</u>	<u>6,988,732</u>
	47,818	\$	1,121,754,260	84,187	\$ 1,278,829,819

**DEFINITIONS OF OPTIONS**

- Option 1A A life annuity to the member with a guaranteed payment to the beneficiary equal to the member's contributions and interest at retirement less any amounts paid to the member from the employee annuity portion of the retirement benefit prior to death. This option was discontinued in 1975.
- Option 1B A life annuity to the member with a guaranteed payment to the beneficiary equal to the present value of the employer portion of the annuity less any amounts paid to the member from the reduced state portion of the retirement benefit prior to death. This option was discontinued in 1975.
- Option 1C A life annuity to the member with a guaranteed payment to the beneficiary equal to the present value of the total maximum single life annuity less any amounts paid to the member prior to death.
- Option 2 A joint and one hundred percent (100%) survivor annuity payable during the lifetime of the member with the full amount of such annuity payable thereafter to the designated survivor annuitant, if living at the member's death.
- Option 3 A joint and fifty percent (50%) survivor annuity payable during the lifetime of the member with one-half of such annuity payable thereafter to the designated survivor annuitant, if living at the member's death.
- Option 4 A life annuity to the member with a special death benefit for a designated beneficiary.

**TABLE 4**  
**THE NUMBER AND ANNUAL ANNUITIES**  
**OF BENEFICIARIES AND SURVIVOR ANNUITANTS**  
**AS OF JUNE 30, 2003**

Age	Male		Female	
	Number	Annuities	Number	Annuities
12	1	\$ 2,043		
14	1	1,497		
15			1	\$ 3,484
16	1	1,533	1	1,497
17	1	2,483		
21	1	2,514	2	22,540
22	1	7,883	2	3,084
23			1	1,312
24	2	1,996		
25	2	7,178	2	4,878
26	1	4,889	2	2,368
27	1	1,108		
28	1	8,215	1	12,887
29	2	4,533	2	7,069
30			3	6,156
31	2	25,047	1	8,117
32	1	12,887	3	10,331
33	1	6,590	1	18,495
34	3	21,217	5	72,802
35	1	1,284	3	16,364
36	6	25,749	4	23,579
37	3	10,518	3	10,918
38			3	4,316
39	5	20,071	7	21,291
40	1	4,098	2	10,539
41	3	28,573	3	4,659
42	1	3,045	3	7,079
43	4	20,379	6	79,084
44	3	8,932	18	110,803
45	3	13,918	13	47,801
46	4	24,210	20	93,714
47	4	5,253	9	55,662
48	4	31,710	17	77,823
49	7	32,296	16	93,991
50	7	29,994	17	102,961
51	9	46,339	17	150,836

**TABLE 4**  
**THE NUMBER AND ANNUAL ANNUITIES**  
**OF BENEFICIARIES AND SURVIVOR ANNUITANTS**  
**AS OF JUNE 30, 2003**

Age	Male		Female	
	Number	Annuities	Number	Annuities
52	4	\$ 18,946	15	\$ 170,777
53	9	59,272	29	231,938
54	9	65,111	34	325,951
55	11	76,524	38	396,610
56	15	101,504	59	567,820
57	13	97,566	48	529,274
58	7	51,427	49	473,146
59	17	191,094	45	516,507
60	24	184,965	65	576,266
61	15	157,044	79	1,067,907
62	12	146,461	68	813,986
63	17	162,710	82	795,148
64	19	178,725	88	1,150,076
65	13	106,934	95	1,088,012
66	17	98,192	122	1,282,723
67	15	127,810	114	1,033,967
68	20	141,905	112	1,089,992
69	23	177,666	135	1,357,308
70	23	123,935	144	1,512,829
71	18	142,597	144	1,248,661
72	23	207,639	174	1,492,565
73	34	303,407	187	1,614,316
74	17	134,416	193	1,682,007
75	26	162,106	199	1,553,259
76	30	317,906	237	1,786,983
77	39	346,488	227	1,575,980
78	39	289,396	234	1,611,950
79	47	408,538	268	1,697,735
80	49	438,081	231	1,439,866
81	46	325,976	255	1,635,368
82	45	352,794	243	1,561,936
83	37	281,552	265	1,613,090
84	29	217,649	198	1,135,682
85	34	200,779	250	1,417,816
86	33	201,147	212	1,200,438
87	36	203,955	175	965,007
88	32	202,552	163	943,781
89	20	151,089	144	859,481
90	17	93,428	120	649,669
91	10	50,311	114	642,294

**TABLE 4**  
**THE NUMBER AND ANNUAL ANNUITIES**  
**OF BENEFICIARIES AND SURVIVOR ANNUITANTS**  
**AS OF JUNE 30, 2003**

Age	Male		Female	
	Number	Annuities	Number	Annuities
92	14	\$ 83,996	101	\$ 574,693
93	10	69,631	68	456,019
94	11	64,503	55	337,821
95	10	56,578	50	289,108
96	11	54,755	34	186,447
97	1	13,421	21	95,510
98	2	15,336	18	70,561
99			7	20,337
100			7	16,707
101			6	38,220
102	2	4,777	3	8,691
103			2	4,227
104	1	1,137		
106			1	4,320
109			1	1,419
<b>Total</b>	1,093	\$ 8,081,712	6,216	\$ 46,498,647

TABLE 5

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2003**

**RETIRED ON ACCOUNT OF DISABILITY**

Age	Male		Female	
	Number	Annuities	Number	Annuities
30	1	\$ 11,751		
33	3	43,346		
34	2	24,860		
35	1	11,817	3	\$ 43,673
36	2	24,598	4	57,504
37	4	40,569	7	70,243
38	5	55,005	10	101,262
39	5	62,846	17	197,415
40	11	113,488	13	136,333
41	8	105,912	13	140,014
42	6	83,048	16	201,112
43	8	93,247	20	236,955
44	14	192,240	29	302,935
45	23	263,845	36	352,453
46	20	265,302	27	280,304
47	29	330,565	43	444,727
48	20	281,622	50	690,645
49	37	553,520	59	950,833
50	46	664,546	91	1,547,736
51	53	926,134	109	1,917,657
52	54	1,284,360	123	2,413,413
53	71	1,559,932	141	3,206,855
54	94	2,151,230	162	3,494,049
55	88	1,990,063	183	3,943,722
56	110	2,656,132	201	4,037,051
57	87	1,787,329	194	3,558,955
58	83	1,740,185	148	2,280,579
59	82	1,498,831	145	2,379,116
60	86	1,364,285	166	2,251,224
61	91	1,425,372	181	2,472,706
62	67	928,009	163	1,967,009
63	68	977,179	159	1,802,210
64	73	973,705	115	1,313,652
65	73	814,868	118	1,175,544
66	47	570,128	122	1,371,276
67	50	590,898	105	1,046,821
68	53	630,867	127	1,126,553
69	46	503,476	95	852,511

TABLE 5

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2003**

**RETIRED ON ACCOUNT OF DISABILITY**

Age	Male		Female	
	Number	Annuities	Number	Annuities
70	55	\$ 692,866	90	\$ 676,136
71	33	319,737	107	1,047,471
72	36	357,604	82	674,042
73	33	361,482	91	701,339
74	35	411,723	87	733,734
75	25	243,236	89	698,701
76	36	432,860	48	381,840
77	29	274,822	64	572,469
78	33	325,655	53	443,041
79	12	79,950	49	365,768
80	15	181,682	49	400,648
81	21	178,955	52	395,209
82	11	121,366	48	399,672
83	15	114,595	38	358,555
84	12	184,616	33	245,359
85	7	79,207	30	281,637
86	5	61,509	25	209,232
87	5	48,906	20	164,647
88	1	10,364	26	234,186
89	1	5,605	10	75,685
90	3	22,640	15	129,219
91			9	93,882
92	1	7,150	4	35,896
93			5	55,951
94			2	11,883
95			7	65,723
96			1	5,795
97			2	16,682
98			1	13,982
99			1	5,536
<b>Total</b>	2,045	\$ 32,111,643	4,333	\$ 57,858,967

TABLE 6

**THE NUMBER AND ANNUAL ANNUITIES  
OF ANNUITANTS ON THE RETIRED LIST  
AS OF JUNE 30, 2003**

**RECEIVING A REFUND ANNUITY**

Age	Male		Female	
	Number	Annuities	Number	Annuities
93			1	\$ 66
<b>Total</b>	0	\$ 0	1	\$ 66

**EXHIBIT IX****GLOSSARY**

<b>Accrued Liability</b>	The difference between (a) the present value of future plan benefits, and (b) the present value of future normal cost. It is the portion of the present value of future plan benefits attributable to service accrued as of the valuation date. Sometimes referred to as “actuarial accrued liability.”
<b>Accrued Service</b>	The service credited under the plan which was rendered before the date of the actuarial valuation.
<b>Actuarial Assumptions</b>	Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
<b>Actuarial Cost Method</b>	A mathematical budgeting procedure for allocating the dollar amount of the “present value of future plan benefits” between the present value of future normal cost and the accrued liability. Sometimes referred to as the “actuarial funding method.”
<b>Actuarial Equivalent</b>	A series of payments is called an actuarial equivalent of another series of payments if the two series have the same actuarial present value.
<b>Actuarial Value of Assets</b>	The value of current plan assets recognized for valuation purposes. Based on a smoothed market value that recognizes investment gains and losses over a period of three years.
<b>Amortization</b>	Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.
<b>Experience Gain (Loss)</b>	A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.
<b>Normal Cost</b>	The annual cost assumed, under the actuarial funding method, for current and subsequent plan years. Sometimes referred to as “current service cost.”



**EXHIBIT IX**

**GLOSSARY**  
(Continued)

<b>Present Value</b>	The amount of funds presently required to provide a payment or series of payments in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.
<b>Unfunded Accrued Liability</b>	The difference between the actuarial accrued liability and valuation assets.