

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

**ACTUARIAL VALUATION
JUNE 30, 2002**



A Mellon Financial CompanySM

One North Dearborn, Suite 1400
Chicago, Illinois 60602-4336

January 30, 2003

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, 2002.

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 2003/2004 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 increase in liability due to the cost-of-living adjustment provided by Act 38 is reflected in this valuation.

The actuarial assumptions and methods comply with the parameters set forth in Governmental Accounting Standards Board Statement No. 25.

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 2003/2004 is 3.77%. The funded status of the plan determined as of June 30, 2002 based on the accrued liability and the actuarial value of assets is 104.8%.

Financial Results and Membership Data

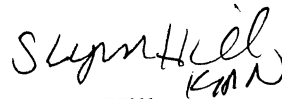
Detailed summaries of the financial results of the valuation and membership data used in preparing the valuation are shown in the valuation report. The actuary prepared supporting schedules included in the Actuarial and Statistical Section of PSERS Comprehensive Annual Financial Report. The actuary prepared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

KMN/SLH:pl

THE PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM OF PENNSYLVANIA

TABLE OF CONTENTS

	<u>Table / Exhibit</u>	<u>Page</u>
Executive Summary		1
Table 1	— Summary of Results of Actuarial Valuation as of June 30, 2002.....	10
Table 2	— Summary of Sources of Employer Contribution Rate as of June 30, 2002...	11
Table 3	— Determination of Health Insurance Contribution Rate for Fiscal Year 2003/2004	12
Table 4	— Summary of Market Value of Plan Assets as of June 30, 2002	13
Table 5	— Derivation of Actuarial Value of Assets as of June 30, 2002	14
Table 6	— Analysis of Change in Unfunded Accrued Liability	15
Table 7	— Schedule of Funding Progress — GASB Statement No. 25 Disclosure	16
Table 8	— Schedule of Employer Contributions — GASB Statement No. 25 Disclosure	17
Table 9	— Solvency Test — Comparative Summary of Accrued Liability and Actuarial Value of Assets	18
Table 10	— History and Projection of Contribution Rates	19
Table 11	— History and Projection of Annuitants, Beneficiaries, Survivor Annuitants and Active Members	20
Table 12	— Description of Actuarial Assumptions and Methods.....	21
Table 13	— Summary of Benefit and Contribution Provisions.....	24
Table 14	— Summary of Membership Data as of June 30, 2002.....	28
Exhibit I	— Active Membership Data as of June 30, 2002 - Number and Average Annual Salary	29
Exhibit II	— The Number and Average Annual Annuity as of June 30, 2002 – Retired on Account of Superannuation, Early Retirement and Those in Receipt of Withdrawal Annuities.....	30
Exhibit III	— The Number and Average Annual Annuity as of June 30, 2002 – Beneficiaries and Survivor Annuitants.....	31
Exhibit IV	— The Number and Average Annual Annuity as of June 30, 2002 – Retired on Account of Disability.....	32
Exhibit V	— The Number and Average Annual Annuity as of June 30, 2002 – Those in Receipt of a Refund Annuity	33
Exhibit VI	— Annuitant and Beneficiary Membership Data as of June 30, 2002	34
Exhibit VII	— 10-Year History of Membership Data	35
Exhibit VIII	— Detailed Tabulations of the Data	36
Exhibit IX	— Glossary	51

Executive Summary

This report presents the actuarial valuation as of June 30, 2002 for the Public School Employees' Retirement System of Pennsylvania.

The principal valuation results include:

- The employer contribution rate for fiscal year 2003/2004 which is 3.77%.
- The funded status of the plan determined as of June 30, 2002 based on the accrued liability and the actuarial value of assets as of that date which is 104.8%.
- The determination of the actuarial gain or loss as of June 30, 2002 which is a loss of \$3.1 billion.
- Annual disclosure as of June 30, 2002 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 provides 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, 2002. Funding for the cost of the COLA 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 and methods are outlined in Table 12.

Contribution Rates

The results of the valuation as of June 30, 2002 determine the employer contribution rate for fiscal year 2003/2004. The total contribution rate payable by the employer is 3.77% of payroll. This includes 2.98% of payroll for pension benefits plus 0.79% of payroll for the health insurance premium assistance program.

The average contribution rate payable by the members is 7.08%. 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 7.08% 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 1.15% for fiscal year 2002/2003 to 3.77% for fiscal year 2003/2004. The increase of 2.62% is due to the following reasons:

• Increase due to change in normal rate	.05%
• Decrease for members who did not elect T-D service	(.19)
• Increase due to payroll growth	.31
• Increase due to July 1, 2002 COLA under Act 38	.73
• Increase due to actuarial loss on assets	4.85
• Increase due to actuarial loss on liabilities	.06
• Decrease due to change in health insurance contribution rate	(.18)
• Decrease due to floor and cap on contribution rate under Act 38	<u>(3.01)</u>
• Total	2.62%

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, 2002. Comparable results from the June 30, 2001 valuation are also shown.

Item	June 30, 2002	June 30, 2001
Demographics		
Active Members		
• Number	242,616	243,311
• Average Annual Pay	\$ 38,658	\$ 38,695
Annuitants		
• Number	141,414	132,716
• Average Annual Benefit Payment	\$ 15,899	\$ 14,105
Contribution Rates (as a Percentage of Payroll)		
	(Fiscal Year 2003/2004)	(Fiscal Year 2002/2003)
Employer Contribution Rate:		
• Total Pension Contribution Rate	2.98%	.18%
• Health Insurance Contribution Rate	<u>0.79</u>	<u>0.97</u>
• Total	3.77%	1.15%
Member Average Contribution Rate		
• Total Rate	<u>7.08</u>	<u>7.10</u>
	10.85%	8.25%
Actuarial Funded Status		
• Accrued Liability	\$ 51,796.5 Mil	\$ 47,917.3 Mil
• Actuarial Value of Assets	<u>54,296.4</u>	<u>54,830.3</u>
• Unfunded Accrued Liability	\$ (2,499.9)	\$ (6,913.0)
• Funded Ratio	104.8%	114.4%

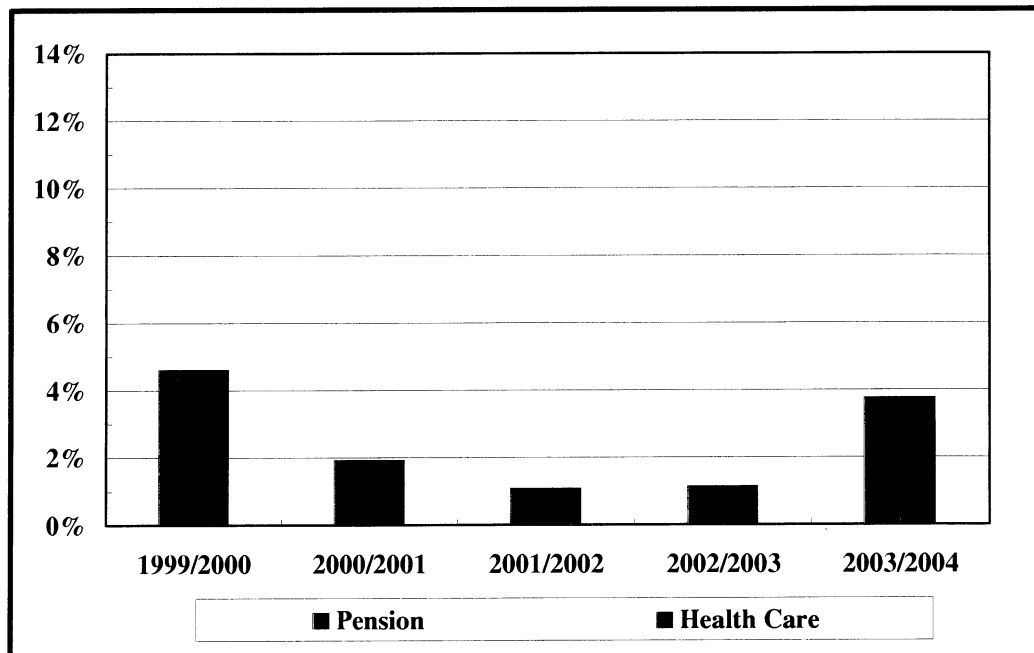
Five-Year History of Principal Financial Results

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

Fiscal Year	Member Contributions	Employer Contributions			
		Normal Cost	Unfunded Accrued Liability	Health Care	Total
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
1999/2000	5.72	6.40	(2.04)	.25	4.61

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 years for each change in the unfunded accrued liability.

The total contribution rate of 3.77% 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 104.8% as of June 30, 2002. The funded ratio is based on an actuarial value of assets of \$54.3 billion and an accrued liability of \$51.8 billion.

Reasons for Change in the Funded Ratio

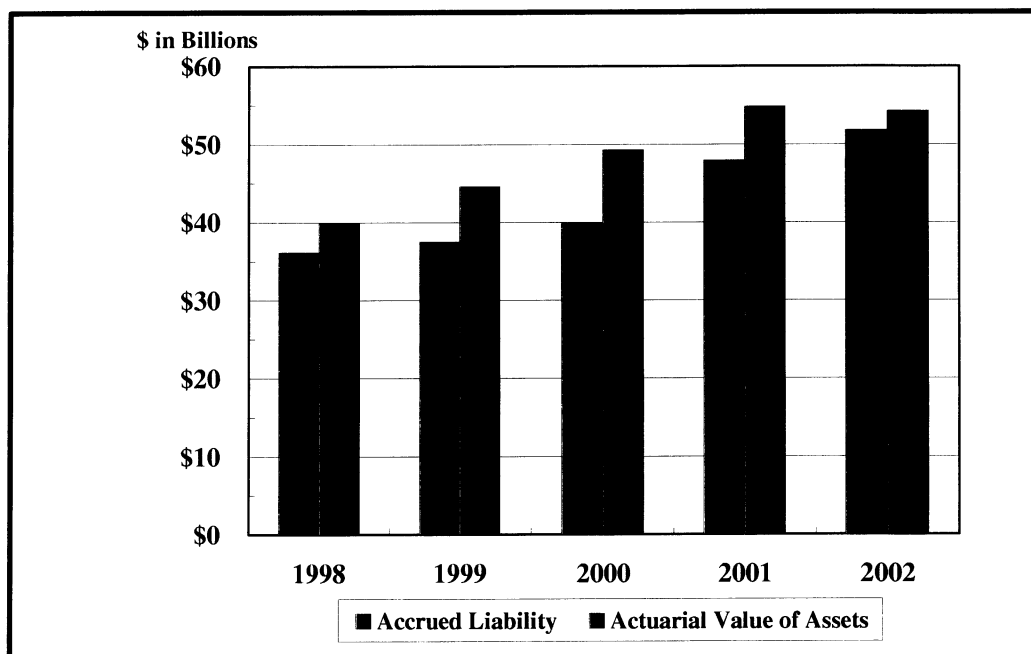
The funded ratio decreased from 114.4% as of June 30, 2001 to 104.8% as of June 30, 2002. The decrease is due to the net effect of the COLAs provided by Act 38 and asset and experience losses.

**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
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
1998	36,136.2	39,969.0	(3,832.8)	110.6

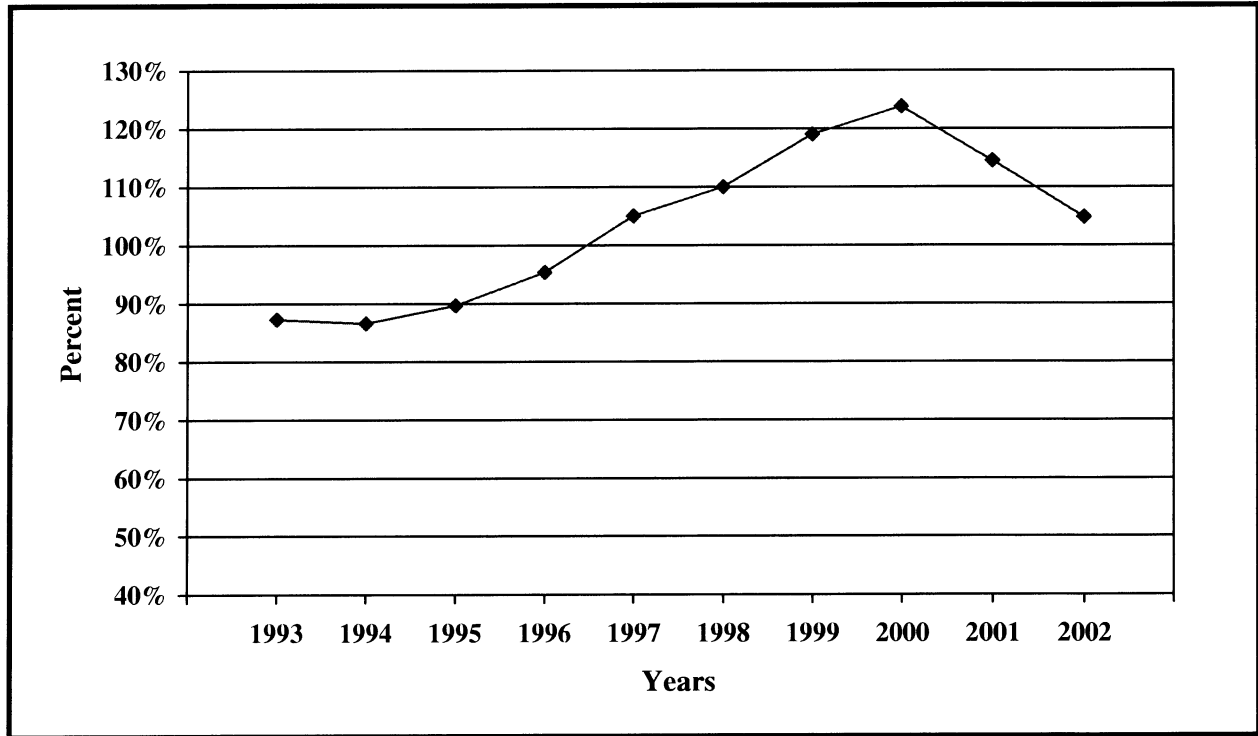
The following chart shows a five-year history of the accrued liability and the actuarial value of assets:

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
(1993 - 2002)



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 104.8% as of June 30, 2002. The funded ratio is based on an actuarial value of assets of \$54.3 billion and an accrued liability of \$51.8 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 10-year amortization of each change in the unfunded accrued liability. The employer contributions to the System 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 1997/1998 through 2001/2002 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
2001/2002*	5.3%	2.7%
2000/2001	(7.4)	14.3
1999/2000	11.9	13.6
1998/1999	12.2	15.1
1997/1998	15.8	16.8

* Market rate of return provided by Wilshire

TABLE 1

**SUMMARY OF RESULTS OF ACTUARIAL VALUATION
AS OF JUNE 30, 2002**
(\$ Amounts in Thousands)

Item	Amount
Member Data	
1. Number of Members	
a) Active Members	242,616
b) Inactive Members and Vestees	61,295
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>141,414</u>
d) Total	445,325
2. Annualized Salaries	\$ 9,378,944
3. Annual Annuities	\$ 2,248,291
Valuation Results	
4. Present Value of Future Pension Benefits	
a) Active Members	\$ 43,894,324
b) Inactive Members and Vestees	759,418
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>19,875,263</u>
d) Total	\$ 64,529,005
5. Present Value of Future Pension Normal Cost	
a) Active Members	\$ 6,341,762
b) Employer	<u>6,494,036</u>
c) Total	\$ 12,835,798
6. Pension Accrued Liability	
a) Active Members (4a) - (5c)	\$ 31,058,526
b) Inactive Members and Vestees	759,418
c) Annuitants, Beneficiaries and Survivor Annuitants	<u>19,875,263</u>
d) Total	\$ 51,693,207
7. Health Care Payments	\$ 103,304
8. Total Accrued Liability (6) + (7)	\$ 51,796,511
9. Actuarial Value of Assets	\$ 54,296,368
10. Unfunded Accrued Liability (8) - (9)	\$ (2,499,857)
11. Total Normal Cost Rate	14.33 %
12. Member Contribution Rate	7.08 %
13. Employer Normal Cost Rate (11) - (12)	7.25 %
Employer Annual Funding Requirement for Fiscal 2003/2004	
14. Employer Contribution Rate	
a) Normal	7.25 %
b) Unfunded Accrued Liability	<u>(4.27)</u>
c) Preliminary Pension Rate	2.98 %
d) Preliminary Pension Rate with 1% Floor	2.98
e) Health Insurance	<u>0.79</u>
f) Total Rate	3.77 %

TABLE 2

**SUMMARY OF SOURCES OF EMPLOYER CONTRIBUTION RATE
AS OF JUNE 30, 2002**
(\$ Amounts in Thousands)

	Funding Period 10 Years from July 1	Initial Amount of Liability	Outstanding Balance as of July 1, 2002	Annual Payment Amount	Percent
1. Amortization of:					
a) July 1, 2001 Fresh Start Unfunded Base	2002	\$ (9,137,130)	\$ (9,913,786)	\$ (1,510,937)	(14.31)%
b) Changes in 2001	2002	2,932,201	3,181,438	484,876	4.59 %
c) Changes in 2002	2003	3,014,171	3,014,171	498,430	4.72 %
d) 2002 COLA	2003	463,795	463,795	76,694	0.73 %
e) 2003 COLA	2004	754,524	<u>754,524</u>	<u>-</u>	<u>0.00 %</u>
Total Amortization Payments			(2,499,858)	(450,937)	(4.27)%
2. Employer Normal Cost Rate					<u>7.25 %</u>
3. Preliminary Pension Rate (1) + (2)					2.98 %
4. Preliminary Pension Rate with 1% Floor -- Maximum of (3) and 1%					2.98 %
5. Health Insurance Rate					<u>0.79 %</u>
6. Final Total Employer Contribution Rate (4) + (5)					<u><u>3.77 %</u></u>

TABLE 3

**DETERMINATION OF HEALTH INSURANCE CONTRIBUTION RATE
FOR FISCAL YEAR 2003/2004**

(\$ Amounts in Thousands)

Item	Amount
1. Estimated Number of Eligible Annuitants in Fiscal 2004/2005	97,900
2. Estimated Number of Eligible Annuitants Who Elect Coverage	79,299
3. Estimated Annual Health Insurance Payments During Fiscal 2004/2005 (2) x \$100 x 12	\$ 95,159
4. Estimated Health Insurance Administrative Expenses During Fiscal 2004/2005	<u>1,953</u>
5. Total Estimated Health Insurance Account Disbursements During Fiscal 2004/2005 (3) + (4)	\$ 97,112
6. Estimated Balance in Health Insurance Account for Prior Fiscal Year	\$ 13,971
7. Estimated Shortfall in Health Insurance Account (5) - (6)	<u>\$ 83,141</u>
8. Required Health Insurance Contribution Rate	
(a) Estimated 2003/2004 Payroll	\$ 10,554,969
(b) Required Health Insurance Contribution Rate (7) / (8a) (rounded up)	0.79%

TABLE 4**SUMMARY OF MARKET VALUE OF PLAN ASSETS
AS OF JUNE 30, 2002**

(\$ Amounts in Thousands)

Market Value	
1. Market Value of Assets as of June 30, 2001	\$ 48,143,327
2. Contributions During Fiscal 2001/2002	772,011
3. Disbursements During Fiscal 2001/2002	2,783,155
4. Investment Return During Fiscal 2001/2002	
a) Net Investment Return	\$ (2,524,060)
b) Administrative Expenses	<u>31,570</u>
c) Investment Return After Expenses (a) - (b)	\$ (2,555,630)
5. Market Value of Assets as of June 30, 2002 (1) + (2) - (3) + (4c)	\$ 43,576,553
6. Rate of Return (per Wilshire)	(5.25)%
Asset Allocation by Account	
1. Members' Savings Account	\$ 7,780,370
2. Annuity Reserve Account	19,652,797
3. State Accumulation Account	16,040,082
4. Health Care Account	<u>103,304</u>
5. Total (1) + (2) + (3) + (4)	\$ 43,576,553

TABLE 5
DERIVATION OF ACTUARIAL VALUE OF ASSETS
AS OF JUNE 30, 2002
(\$ Amounts in Thousands)

1. Market Value of Assets as of June 30, 2002						\$ 43,576,553
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>
2001/2002	\$ (2,555,630)	\$ 4,575,102	\$ (7,130,732)	80%		\$ (5,704,585)
2000/2001	(3,877,769)	4,480,947	(8,358,716)	60%		<u>(5,015,230)</u>
						\$ (10,719,815)
3. Actuarial Value of Assets (1) - (2)						\$ 54,296,368
4. Actuarial Rate of Return *						2.74%

* The actuarial rate of return is the investment return on the increase in the actuarial value of assets from the June 30, 2001 to the June 30, 2002 valuation.

TABLE 6**ANALYSIS OF CHANGE IN UNFUNDED ACCRUED LIABILITY****AS OF JUNE 30, 2002**

(\$ Amounts in Thousands)

Item	Amount
1. Unfunded Accrued Liability at June 30, 2001	\$ (6,913,006)
2. Interest Credit at 8.50% to June 30, 2002	(587,606)
3. Contributions Toward Unfunded Accrued Liability	(551,700)
4. FY 2001/2002 Act 9 Normal Cost Not Covered by Contributions	216,564
5. Decrease for Members who Did Not Elect TD Service	(118,871)
6. Change due to 7/1/2002 COLA	463,796
7. Change due to 7/1/2003 COLA	754,524
8. Expected Unfunded Accrued Liability at June 30, 2002 (1) + (2) - (3) + (4) + (5) + (6) + (7)	\$ (5,632,899)
9. Actual Unfunded Accrued Liability at June 30, 2002	<u>\$ (2,499,857)</u>
10. Increase (Decrease) from Expected (8) - (9)	\$ 3,133,042
11. Reasons for Increase (Decrease)	
(a) Experience (Gains) Losses	
(i) Loss from Investment Return on Actuarial Value of Assets	\$ 3,097,890
(ii) Gain from Salary Increases Less than Expected	(162,903)
(iii) Loss from Retirement and Other Separation Experience	128,154
(iv) Loss from Annuitants' Mortality Experience	<u>69,901</u>
Subtotal	\$ 3,133,042
(b) Change in Assumptions	\$ -
(c) Grand Total	\$ 3,133,042

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
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
1997	34,872,643	33,209,493	(1,663,150)	105.0	7,745,001	21.5

TABLE 8

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

Fiscal Year Ended June 30	Annual Required Contribution	Percentage Contributed
2002	\$ 539	100 %
2001	158,193	100
2000	390,504	100
1999	513,940	100
1998	718,431	100
1997	796,205	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, 2000 was contributed in the fiscal year ending June 30, 2002).

Additional information as of the latest actuarial valuation follows:

Valuation Date:	6/30/2002
Actuarial Cost Method:	Entry Age
Amortization Method:	Level percent closed
Remaining Amortization Period:	10 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%
--------------------------	-------

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)
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
1997	5,755,010	12,078,982	15,375,501	34,872,643	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
1994/1995	5.55 %	6.43 %	4.18 %	10.61	0.45 %	11.06 %
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
2004/2005	7.12	7.21	1.58	8.79	0.92	9.71
2005/2006	7.12	7.21	6.60	13.81	0.92	14.73
2006/2007	7.15	7.19	11.50	18.69	0.92	19.61
2007/2008	7.17	7.17	13.87	21.04	0.93	21.97
2008/2009	7.20	7.15	14.21	21.36	0.93	22.29
2009/2010	7.23	7.13	14.31	21.44	0.93	22.37
2010/2011	7.26	7.11	14.24	21.35	0.94	22.29
2011/2012	7.29	7.08	14.02	21.10	0.93	22.03
2012/2013	7.32	7.06	21.52	28.58	0.93	29.51
2013/2014	7.35	7.03	16.75	23.78	0.91	24.69

The projection of contribution rates is based on the assumption that there are no actuarial gains or losses, no changes in demographics or economic assumptions and no changes in benefit provisions.

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
1993			108,444	4,768	113,212	197,997
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
2003	9,927	4,042	140,185	7,556	147,741	242,616
2004	9,941	4,181	145,945	7,965	153,910	242,616
2005	10,526	4,336	152,135	8,332	160,467	242,616
2006	10,985	4,490	158,630	8,657	167,287	242,616
2007	11,439	4,638	165,431	8,946	174,377	242,616
2008	11,573	4,793	172,211	9,201	181,412	242,616
2009	11,443	4,940	178,714	9,426	188,140	242,616
2010	11,466	5,098	185,082	9,625	194,707	242,616
2011	11,305	5,243	191,144	9,801	200,945	242,616
2012	11,141	5,395	196,890	9,957	206,847	242,616

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				
MALES							
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
FEMALES							
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 June 30, 2001 unfunded accrued liability is to be amortized over a 10 year period commencing July 1, 2002, with level dollar funding. Changes in the unfunded accrued liability, including actuarial gains and losses, subsequent to June 30, 2001 are to be amortized over a period of 10 years from the first day of July next following the change, with level dollar funding.

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, 2002 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**
(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"> (a) have 24½ or more years of service, or (b) are disability annuitants, or (c) have 15 or more years of service and who both terminated school service and retired after attaining superannuation age and (d) participate in the PSERS health options program or in an employer-sponsored health insurance program.
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, 2002****Active Members***

Item	Male	Female	Total
Number of Members	68,847	173,769	242,616
Annual Salaries**	\$ 3,110,662	\$ 6,268,282	\$ 9,378,944
Average Age	45.2	44.9	45.0
Average Service	14.0	11.3	12.1

* Excludes 61,295 inactive members and vestees.

** These salaries shown in the table above represent a rate of pay as of the valuation date and are the approximate average of the salaries of \$9,178,679 reported for the fiscal year ended June 30, 2002 and the expected salaries for the fiscal year ended June 30, 2003.

Annuitants and Beneficiaries

Item	Number	Annual Annuities	Average Annuities	Average Age
Annuitants (Normal, Early and Withdrawal)	128,203	\$ 2,120,597	\$ 16,541	70.1
Survivors and Beneficiaries	7,114	50,146	7,049	76.0
Disabled Annuitants	<u>6,097</u>	<u>77,548</u>	<u>12,719</u>	<u>62.3</u>
Total	141,414	\$ 2,248,291	\$ 15,899	70.1

EXHIBIT I

**ACTIVE MEMBERSHIP DATA AS OF JUNE 30, 2002
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+	
Under 25	6,340	53								6,393
	\$22,517	\$24,543								\$22,534
25-29	15,994	3,753	35							19,782
	\$30,311	\$39,013	\$32,381							\$31,966
30-34	10,731	10,377	2,353	58						23,519
	\$27,672	\$41,572	\$45,586	\$32,643						\$35,609
35-39	10,398	5,504	5,653	2,096	82					23,733
	\$20,967	\$37,369	\$47,597	\$49,102	\$34,119					\$33,644
40-44	12,962	6,555	4,604	4,803	2,379	138				31,441
	\$19,219	\$30,769	\$42,899	\$52,138	\$52,386	\$36,161				\$32,707
45-49	11,058	8,054	6,197	4,499	7,303	5,740	104			42,955
	\$20,640	\$29,968	\$39,268	\$49,357	\$58,466	\$60,068	\$37,439			\$39,825
50-54	6,530	5,726	6,234	5,203	4,638	12,241	9,912	48		50,532
	\$21,586	\$30,436	\$37,948	\$45,769	\$55,090	\$63,028	\$65,014	\$36,788		\$48,745
55-59	3,817	2,952	3,544	3,482	3,479	3,385	6,286	1,565	11	28,521
	\$20,120	\$26,913	\$33,501	\$40,263	\$45,536	\$55,699	\$66,164	\$68,114	\$33,379	\$45,055
60-64	1,844	1,307	1,502	1,535	1,614	1,424	723	601	154	10,704
	\$17,209	\$22,979	\$28,284	\$32,796	\$35,492	\$43,244	\$52,869	\$67,578	\$65,897	\$33,860
Over 64	1,338	816	803	628	476	472	289	92	122	5,036
	\$14,731	\$17,309	\$21,365	\$24,420	\$27,588	\$30,667	\$37,488	\$48,453	\$63,310	\$23,222
Total	81,012	45,097	30,925	22,304	19,971	23,400	17,314	2,306	287	242,616
	\$23,318	\$33,832	\$39,879	\$45,790	\$52,013	\$59,226	\$64,300	\$66,538	\$63,551	\$38,658

EXHIBIT II**THE NUMBER AND AVERAGE ANNUAL ANNUITY
AS OF JUNE 30, 2002****RETIRED ON ACCOUNT OF SUPERANNUATION, 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+	
Under 50		344	1,594	484	198	42				2,662
		\$700	\$1,183	\$3,095	\$7,648	\$13,920				\$2,150
50-54		46	1,921	747	415	526	539	8		4,202
		\$1,318	\$1,185	\$3,265	\$7,906	\$17,998	\$29,118	\$29,164		\$7,961
55-59	1	53	2,317	1,217	716	1,116	7,733	1,777	6	14,936
	\$2,833	\$2,199	\$1,496	\$3,896	\$8,230	\$20,766	\$33,107	\$45,696	\$28,221	\$25,093
60-64	90	218	1,918	1,799	1,587	2,285	6,721	4,411	193	19,222
	\$620	\$2,487	\$2,761	\$5,977	\$10,883	\$20,463	\$31,075	\$39,493	\$45,845	\$24,585
65-69	366	706	2,628	2,496	2,904	3,081	4,168	3,676	1,291	21,316
	\$570	\$1,962	\$3,158	\$6,024	\$10,283	\$16,695	\$25,488	\$33,106	\$38,875	\$18,031
70-74	565	1,132	2,828	2,863	3,213	3,365	3,695	2,360	1,664	21,685
	\$491	\$1,699	\$3,189	\$5,668	\$10,028	\$15,538	\$23,124	\$30,312	\$37,563	\$15,284
75-79	598	1,207	2,844	2,965	2,916	2,725	2,199	1,949	888	18,291
	\$491	\$1,591	\$3,270	\$5,952	\$10,088	\$15,082	\$20,288	\$26,131	\$35,210	\$12,382
80-84	453	1,032	2,418	2,215	1,864	1,671	1,266	1,387	490	12,796
	\$538	\$1,613	\$3,323	\$5,931	\$9,338	\$13,607	\$18,298	\$22,613	\$29,725	\$10,341
85-89	310	744	1,400	1,285	1,022	956	799	966	517	7,999
	\$651	\$1,938	\$3,769	\$6,463	\$9,858	\$13,447	\$18,239	\$22,228	\$26,005	\$10,957
Over 89	60	409	578	599	563	663	539	807	876	5,094
	\$878	\$2,501	\$4,720	\$7,611	\$11,482	\$13,819	\$17,571	\$20,834	\$24,605	\$14,100
Total	2,443	5,891	20,446	16,670	15,398	16,430	27,659	17,341	5,925	128,203
	\$547	\$1,751	\$2,718	\$5,659	\$9,962	\$16,407	\$27,625	\$32,838	\$34,184	\$16,541

EXHIBIT III**THE NUMBER AND AVERAGE ANNUAL ANNUITY
AS OF JUNE 30, 2002****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+	
Under 50	2	17	41	35	50	29	14	12	13	213
	\$228	\$1,060	\$1,436	\$2,179	\$4,981	\$6,977	\$9,897	\$7,431	\$13,432	\$4,729
50-54	2	2	19	21	20	25	33	18	12	152
	\$291	\$533	\$2,111	\$3,151	\$4,308	\$10,582	\$12,168	\$12,946	\$10,836	\$8,047
55-59	2	8	26	35	31	43	83	39	20	287
	\$381	\$2,067	\$1,917	\$3,062	\$4,976	\$10,234	\$11,799	\$11,978	\$7,387	\$8,233
60-64	3	8	52	44	40	45	108	102	36	438
	\$354	\$1,348	\$2,844	\$3,951	\$5,518	\$9,307	\$14,511	\$16,441	\$15,965	\$10,941
65-69	7	22	87	71	76	73	138	118	59	651
	\$456	\$1,626	\$2,652	\$3,811	\$6,244	\$9,421	\$11,942	\$15,235	\$17,167	\$9,464
70-74	17	37	108	134	116	119	154	166	95	946
	\$564	\$1,093	\$2,467	\$3,569	\$5,343	\$6,961	\$11,390	\$12,614	\$16,348	\$8,080
75-79	23	80	179	183	144	176	195	262	92	1,334
	\$778	\$1,244	\$2,320	\$3,567	\$5,735	\$8,084	\$9,276	\$10,660	\$13,528	\$6,957
80-84	15	110	191	153	163	153	194	274	153	1,406
	\$485	\$1,154	\$2,041	\$3,091	\$5,006	\$6,406	\$7,600	\$9,457	\$10,629	\$6,035
85-89	10	85	133	102	102	83	115	211	174	1,015
	\$623	\$1,074	\$1,893	\$3,072	\$4,337	\$5,554	\$6,325	\$7,985	\$9,110	\$5,481
Over 89	8	29	55	57	41	50	78	145	208	671
	\$1,085	\$896	\$2,040	\$2,860	\$3,781	\$5,296	\$5,779	\$6,461	\$7,258	\$5,405
Total	89	398	891	835	783	796	1,112	1,347	862	7,113
	\$626	\$1,172	\$2,203	\$3,322	\$5,164	\$7,501	\$9,847	\$10,664	\$11,089	\$7,050

EXHIBIT IV

**THE NUMBER AND AVERAGE ANNUAL ANNUITIES
AS OF JUNE 30, 2002**

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+	
Under 50	186	188	92	83	17					566
	\$7,825	\$10,203	\$13,622	\$18,601	\$24,549					\$11,640
50-54	161	163	135	197	243	46	1			946
	\$7,088	\$9,242	\$12,621	\$20,449	\$30,707	\$41,319	\$29,253			\$18,786
55-59	175	223	189	244	264	65	2			1,162
	\$7,022	\$8,356	\$11,044	\$17,763	\$26,768	\$36,321	\$37,345			\$16,365
60-64	179	276	248	226	152	17				1,098
	\$5,300	\$7,487	\$9,746	\$14,784	\$23,876	\$29,927				\$11,759
65-69	149	221	175	144	96	18	3			806
	\$4,412	\$6,573	\$8,287	\$12,843	\$19,526	\$25,510	\$40,232			\$9,757
70-74	123	189	129	130	59	9			1	640
	\$3,551	\$5,692	\$8,428	\$12,888	\$18,858	\$23,350			\$50,092	\$8,825
75-79	94	92	76	74	57	15	2			410
	\$3,576	\$5,967	\$7,716	\$11,567	\$16,704	\$20,002	\$26,943			\$8,862
80-84	58	79	52	50	28	24				291
	\$3,482	\$6,057	\$7,510	\$10,335	\$15,592	\$20,910				\$8,681
85-89	12	41	38	16	15	10				132
	\$2,622	\$5,548	\$7,912	\$10,489	\$15,838	\$18,851				\$8,739
Over 89		15	10	8	9	4				46
		\$6,361	\$7,676	\$11,011	\$13,648	\$13,311				\$9,486
Total	1,137	1,487	1,144	1,172	940	208	8	1		6,097
	\$5,662	\$7,554	\$9,924	\$15,701	\$24,799	\$31,170	\$34,816	\$50,092		\$12,719

EXHIBIT V

THE NUMBER AND AVERAGE ANNUAL ANNUITY
AS OF JUNE 30, 2002

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+	
Under 50										
50-54										
55-59										
60-64										
65-69										
70-74										
75-79										
80-84										
85-89										
Over 89	1 \$66									1 \$66
Total	1 \$66									1 \$66

EXHIBIT VI

**ANNUITANT AND BENEFICIARY MEMBERSHIP DATA
AS OF JUNE 30, 2002**

**NUMBER AND AVERAGE ANNUAL BENEFIT
EXCLUDES PARTIAL LUMP SUM PAYMENTS**

Age Last Birthday	Number	Annual Benefit (Thousands)	Average Annual Benefit
Annuitants (Normal, Early and Withdrawal)			
Under 60	21,800	\$ 413,961	\$ 18,989
60 - 64	19,222	472,581	24,585
65 - 69	21,316	384,345	18,031
70 - 74	21,685	331,435	15,284
75 - 79	18,291	226,483	12,382
Over 79	25,889	291,793	11,271
Total	128,203	\$ 2,120,597	\$ 16,541
Survivors and Beneficiaries			
Under 60	652	\$ 4,593	\$ 7,045
60 - 64	438	4,792	10,941
65 - 69	651	6,161	9,464
70 - 74	946	7,644	8,080
75 - 79	1,334	9,280	6,957
Over 79	3,093	17,675	5,715
Total	7,114	\$ 50,146	\$ 7,049
Disabled Annuitants			
Under 60	2,674	\$ 43,376	\$ 16,221
60 - 64	1,098	12,911	11,759
65 - 69	806	7,864	9,757
70 - 74	640	5,648	8,825
75 - 79	410	3,634	8,862
Over 79	469	4,116	8,776
Total	6,097	\$ 77,548	\$ 12,719
Grand Total Average Annual Benefit	141,414	\$ 2,248,291	\$ 15,899

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
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%
1993	197,997	(2.46%)	6,348,565	4.11%

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
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%
1993	113,212	12,258	4,072	7.79%	1,058.0	22.65%

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, 2002

Age	Males		Females	
	Number	Salaries	Number	Salaries
17	2	\$ 21,572		
18	11	117,060	9	\$ 88,371
19	49	475,016	66	621,217
20	78	1,113,359	98	1,026,333
21	112	1,861,448	139	1,507,681
22	218	3,944,765	544	9,924,266
23	533	11,684,144	1,572	34,107,910
24	825	21,367,613	2,137	56,198,031
25	997	29,038,543	2,579	73,428,833
26	1,134	36,461,731	2,686	81,955,968
27	1,159	38,237,217	2,875	90,983,529
28	1,228	42,918,695	2,861	93,598,891
29	1,373	48,820,956	2,890	96,900,784
30	1,484	55,285,369	3,231	109,099,760
31	1,556	59,625,011	3,450	118,645,721
32	1,536	59,920,527	3,375	115,153,785
33	1,421	57,421,162	3,096	106,865,195
34	1,383	56,934,110	2,987	98,538,957
35	1,300	54,785,106	3,051	99,651,281
36	1,394	57,500,628	3,115	96,693,275
37	1,308	54,252,350	3,367	104,757,570
38	1,393	57,858,081	3,645	105,806,486
39	1,364	55,861,068	3,796	111,308,494
40	1,334	55,838,050	4,201	121,730,997
41	1,467	61,343,989	4,577	132,729,393
42	1,506	62,404,169	4,570	130,661,069
43	1,631	67,266,700	4,928	147,150,858
44	1,641	71,622,702	5,586	177,605,607
45	1,844	83,543,639	5,925	194,515,533
46	1,865	85,029,665	5,980	207,666,664
47	2,081	96,839,232	6,441	233,891,030
48	2,121	103,380,154	6,966	273,337,509
49	2,490	127,071,579	7,242	305,392,755
50	2,737	145,791,086	7,823	343,908,373
51	2,864	159,345,353	7,557	345,071,410
52	2,949	167,390,024	7,037	325,422,381
53	3,118	180,585,351	6,780	315,257,480
54	3,221	186,532,652	6,446	293,853,642
55	3,068	176,135,591	6,251	276,332,156
56	1,858	103,156,138	3,683	156,603,754

TABLE 1
THE NUMBER AND ANNUAL SALARIES
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY
AGE AS OF JUNE 30, 2002

Age	Males		Females	
	Number	Salaries	Number	Salaries
57	1,452	\$ 74,748,235	3,430	\$ 140,316,066
58	1,300	62,721,530	3,027	116,122,241
59	1,358	63,576,121	3,094	115,296,818
60	1,002	43,115,776	2,365	80,876,714
61	809	32,498,435	1,956	62,991,841
62	586	21,005,507	1,298	39,745,277
63	430	14,742,023	1,029	29,488,435
64	408	14,312,570	821	23,664,985
65	294	8,682,987	601	16,098,246
66	267	7,600,348	480	11,955,988
67	222	5,477,648	384	8,894,908
68	178	4,263,091	352	8,429,660
69	168	3,858,474	247	5,382,955
70	133	3,080,585	223	4,508,715
71	115	2,556,149	174	3,620,117
72	92	2,080,929	159	2,978,078
73	85	1,704,313	125	2,347,021
74	66	1,317,020	105	1,896,953
75	63	1,277,029	92	1,443,614
76	48	963,392	68	1,097,589
77	32	583,827	52	866,952
78	21	330,903	36	725,142
79	26	393,076	23	405,859
80	14	370,412	22	496,720
81	12	237,526	14	195,489
82	4	115,500	14	206,709
83	3	44,096	9	147,882
84	2	91,816	6	71,704
85	1	40,282		
86	2	64,449	1	16,851
87				
88	1	26,235		
Total	68,847	\$ 3,110,661,889	173,769	\$ 6,268,282,478

TABLE 2
THE NUMBER AND ANNUAL SALARIES
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY
YEARS OF CREDITED SERVICE AS OF JUNE 30, 2002

Service	Males		Females	
	Number	Salaries	Number	Salaries
0	1,576	\$ 22,451,758	6,622	\$ 91,016,274
1	6,174	133,658,469	18,782	340,058,558
2	4,097	122,619,914	13,483	314,649,954
3	4,427	147,339,362	12,807	337,316,481
4	3,446	119,245,054	9,598	260,715,783
5	3,296	122,603,822	8,411	247,255,681
6	2,508	96,012,764	6,829	207,779,307
7	2,258	89,121,473	6,181	195,148,800
8	1,998	79,529,998	5,456	180,716,458
9	2,429	104,471,986	5,731	203,082,135
10	1,677	70,369,220	4,762	171,388,148
11	1,522	65,450,791	4,491	165,489,827
12	1,666	72,884,318	4,555	174,677,900
13	1,676	74,487,582	4,611	184,116,800
14	1,509	70,607,641	4,456	183,781,035
15	1,487	69,973,256	4,051	171,769,318
16	1,330	65,154,408	3,783	165,532,184
17	1,174	57,474,698	3,272	149,006,596
18	1,049	51,719,038	2,826	130,135,598
19	923	46,096,293	2,409	114,436,047
20	890	44,298,166	2,523	120,904,806
21	921	48,638,330	2,747	133,287,051
22	1,101	60,762,679	3,025	153,154,612
23	1,181	66,828,175	3,262	170,663,943
24	1,187	71,287,362	3,134	168,918,614
25	1,244	73,839,553	2,974	165,095,257
26	1,406	83,824,141	3,106	176,441,591
27	1,559	96,105,962	3,147	179,909,502
28	1,807	115,042,709	3,178	186,600,585
29	1,871	123,051,774	3,108	185,987,772
30	1,943	128,982,766	2,708	164,371,589
31	1,814	122,301,016	2,364	144,656,752
32	1,753	117,582,693	2,092	129,711,183
33	1,459	101,054,651	1,254	77,090,263
34	1,104	76,073,911	823	51,456,804
35	498	35,087,696	421	25,375,930
36	303	21,378,700	266	15,829,593
37	220	16,372,832	172	10,240,224
38	149	11,290,931	120	7,176,332
39	86	6,430,587	71	4,253,399

TABLE 2
THE NUMBER AND ANNUAL SALARIES
OF MEMBERS IN ACTIVE SERVICE DISTRIBUTED BY
YEARS OF CREDITED SERVICE AS OF JUNE 30, 2002

Service	Males		Females	
	Number	Salaries	Number	Salaries
40	45	3,141,960	43	2,645,952
41	27	1,848,899	27	1,477,957
42	17	1,281,904	24	1,488,072
43	14	1,021,354	12	711,379
44	9	604,285	13	604,057
45	6	475,389	6	286,223
46	2	129,049	5	313,383
47	5	371,974	7	487,950
48	4	280,596	7	351,650
49			2	86,979
50			3	190,669
51			1	66,044
52			3	142,268
53			1	48,611
54			2	86,498
55				
56			1	52,257
57			1	43,843
Total	68,847	\$ 3,110,661,889	173,769	\$ 6,268,282,478

TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES
OF ANNUITANTS ON THE RETIRED LIST
AS OF JUNE 30, 2002**

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

Age	Male		Female	
	Number	Annuities	Number	Annuities
24			1	\$ 175
26	1	204	1	\$ 407
27			1	266
28	2	\$ 1,118	2	584
29	3	1,038	8	3,547
30	8	4,150	15	7,944
31	7	3,498	16	7,928
32	11	9,137	20	12,561
33	6	4,764	20	24,420
34	11	8,789	25	25,300
35	16	18,918	33	39,101
36	24	25,687	43	48,776
37	26	32,578	42	43,043
38	23	33,067	70	81,841
39	39	56,757	55	76,021
40	38	51,224	52	64,214
41	38	62,390	72	127,427
42	57	107,205	85	124,462
43	53	84,222	99	154,453
44	77	143,733	108	211,376
45	83	216,208	153	277,344
46	74	213,462	155	362,429
47	86	211,061	176	463,107
48	107	322,293	230	640,649
49	120	434,221	270	880,549
50	150	585,727	324	1,205,232
51	203	1,059,009	499	2,437,453
52	238	1,632,771	581	3,364,984
53	280	2,362,208	681	5,792,574
54	454	5,583,161	792	9,428,281
55	1,067	21,954,057	1,371	24,533,228
56	1,271	32,824,729	1,507	32,605,992
57	1,394	39,618,085	1,469	34,486,599
58	1,576	48,826,206	1,598	38,228,514
59	1,840	57,973,297	1,843	43,735,302
60	1,919	60,534,511	1,939	46,004,298
61	1,572	48,000,294	1,931	44,832,051
62	1,564	47,719,293	2,071	44,321,551
63	1,547	42,434,065	2,432	45,979,960
64	1,668	45,141,936	2,579	47,612,711

TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES
OF ANNUITANTS ON THE RETIRED LIST
AS OF JUNE 30, 2002**

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

Age	Male		Female	
	Number	Annuities	Number	Annuities
65	1,701	41,699,373	2,650	42,363,287
66	1,713	\$ 41,658,965	2,666	\$ 42,587,563
67	1,624	36,741,667	2,664	38,124,787
68	1,632	36,417,570	2,517	36,064,733
69	1,650	35,265,680	2,499	33,421,187
70	1,702	36,042,874	2,745	36,777,044
71	1,624	35,384,956	2,850	38,577,277
72	1,644	32,322,417	2,753	35,410,899
73	1,435	26,520,855	2,649	31,147,646
74	1,444	26,282,972	2,839	32,968,251
75	1,439	24,319,178	2,674	30,495,081
76	1,312	22,375,292	2,596	28,780,093
77	1,273	20,782,993	2,347	24,033,454
78	1,144	17,414,001	2,345	23,455,923
79	1,056	15,169,257	2,105	19,657,269
80	893	11,823,302	2,070	19,126,474
81	769	10,221,060	2,023	19,147,984
82	737	9,208,102	1,955	18,524,987
83	520	6,472,582	1,585	14,944,098
84	575	6,560,964	1,669	16,290,511
85	489	5,474,421	1,525	15,213,087
86	429	5,188,267	1,356	13,676,084
87	342	3,815,089	1,213	12,511,424
88	305	4,081,980	1,122	12,970,368
89	249	3,197,458	969	11,517,170
90	193	2,279,515	869	11,368,002
91	143	1,982,776	748	9,911,343
92	104	1,795,228	646	8,936,739
93	97	1,314,591	578	8,391,014
94	64	953,748	475	6,864,540
95	52	775,616	359	5,658,039
96	37	602,151	244	3,693,853
97	24	397,955	185	2,673,697
98	16	243,419	84	1,331,804
99	4	49,780	59	794,424
100	7	152,113	51	836,052
101	3	46,285	17	252,880
102	2	25,892	12	174,521
103			13	212,830
104			5	68,122

TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES
OF ANNUITANTS ON THE RETIRED LIST
AS OF JUNE 30, 2002**

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

Age	Male		Female	
	Number	Annuities	Number	Annuities
105			1	12,583
108			1	18,555
110			1	9,418
Total	46,100	\$ 983,355,416	82,103	\$ 1,137,241,750

TABLE 3

**THE NUMBER AND ANNUAL ANNUITIES
OF ANNUITANTS ON THE RETIRED LIST
AS OF JUNE 30, 2002**

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

<u>OPTION</u>					
Maximum	26,083	\$	608,238,874	62,397	\$ 884,310,360
1A	10		162,249	74	1,124,110
1B	6		66,705	35	461,427
1C	4,875		69,262,101	10,174	101,839,029
2	7,251		112,696,336	4,502	60,330,953
3	7,292		173,786,864	4,706	83,554,491
4	<u>583</u>		<u>19,142,288</u>	<u>215</u>	<u>5,621,380</u>
	46,100	\$	983,355,416	82,103	\$ 1,137,241,750

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, 2002

Age	Male		Female	
	Number	Annuities	Number	Annuities
11	1	\$ 2,043		
13	1	1,497		
14			1	3,484
15	1	1,533	1	1,497
16	1	2,483		
20	1	2,514	3	32,891
21	1	7,883	2	3,084
22			1	1,312
23	2	1,996		
24			2	4,878
25			2	2,368
26	1	1,108		
27	1	8,215		
28	2	4,533	2	7,069
29			3	6,156
30	1	23,464	1	8,117
31			3	10,331
33	2	14,075	3	23,728
34	1	1,284	2	5,810
35	6	25,749	4	23,579
36	2	1,010	2	4,033
37			3	4,316
38	5	20,071	6	18,830
39	1	4,098	3	19,034
40	4	37,661	3	4,659
41	1	3,045	1	2,099
42	4	20,379	7	88,172
43	3	8,932	16	76,986
44	2	10,918	11	42,772
45	3	21,626	15	53,460
46	5	6,835	4	13,194
47	3	23,243	16	75,687
48	7	32,296	12	62,387
49	6	28,446	16	90,481
50	10	47,377	14	105,683
51	5	22,441	9	76,311
52	8	38,828	26	203,122
53	8	61,181	30	288,453
54	10	72,651	32	307,161
55	12	80,168	50	393,888

TABLE 4
THE NUMBER AND ANNUAL ANNUITIES
OF BENEFICIARIES AND SURVIVOR ANNUITANTS
AS OF JUNE 30, 2002

Age	Male		Female	
	Number	Annuities	Number	Annuities
56	12	78,525	42	422,412
57	5	42,817	43	340,411
58	16	180,748	35	326,593
59	21	115,546	51	381,771
60	15	143,105	73	901,300
61	11	119,675	60	639,592
62	16	106,150	69	582,449
63	18	130,018	80	1,062,363
64	12	104,315	84	1,003,016
65	15	71,431	112	1,155,134
66	13	105,600	103	916,679
67	18	136,487	97	957,461
68	20	157,620	119	1,170,294
69	22	121,668	132	1,368,835
70	15	123,308	133	1,093,897
71	18	141,260	162	1,393,123
72	31	255,150	175	1,476,334
73	16	115,358	186	1,538,692
74	29	166,586	181	1,339,983
75	29	270,020	225	1,696,374
76	36	303,423	219	1,486,168
77	37	280,470	223	1,554,113
78	44	410,107	254	1,543,902
79	46	397,337	221	1,338,399
80	46	327,968	252	1,598,458
81	45	335,232	251	1,555,057
82	44	340,277	266	1,510,975
83	28	208,886	196	1,082,548
84	35	217,995	243	1,307,484
85	33	195,201	221	1,245,758
86	38	209,079	181	930,926
87	34	177,352	172	972,227
88	19	98,505	153	855,509
89	29	136,967	135	741,939
90	15	66,031	128	693,664
91	17	98,635	110	611,841
92	14	81,134	82	532,915
93	14	78,203	66	387,754
94	16	74,312	52	303,232
95	12	64,914	43	236,986

TABLE 4
THE NUMBER AND ANNUAL ANNUITIES
OF BENEFICIARIES AND SURVIVOR ANNUITANTS
AS OF JUNE 30, 2002

Age	Male		Female	
	Number	Annuities	Number	Annuities
96	2	25,106	29	125,606
97	8	26,032	18	76,076
98	2	6,792	11	26,709
99	1	3,000	9	20,683
100	1	2,364	6	38,220
101	2	4,777	3	8,691
102			3	5,293
103	1	1,137	1	9,765
104	1	1,534	1	8,023
105			1	4,320
106			1	1,747
108	1	1,419		
Total	1,094	\$ 7,499,164	6,019	\$ 42,646,735

TABLE 5
THE NUMBER AND ANNUAL ANNUITIES
OF ANNUITANTS ON THE RETIRED LIST
AS OF JUNE 30, 2002

RETIRED ON ACCOUNT OF DISABILITY

Age	Male		Female	
	Number	Annuities	Number	Annuities
29	1	\$ 11,205		
31			1	15,327
32	2	23,128		
33	2	23,802		
34	1	11,464	4	55,050
35	1	19,957	4	53,504
36	2	10,261	7	78,007
37	4	36,399	10	91,900
38	4	40,020	14	135,864
39	12	113,322	11	121,223
40	6	63,443	10	111,459
41	6	74,885	11	110,415
42	6	54,278	13	131,117
43	12	153,322	28	267,742
44	17	171,548	29	271,002
45	17	208,005	20	196,044
46	25	245,699	34	342,503
47	19	224,510	41	516,194
48	30	432,038	40	467,755
49	42	553,621	80	1,151,961
50	48	693,785	94	1,478,695
51	44	876,016	113	2,008,196
52	63	1,217,623	116	2,153,584
53	88	1,886,094	135	2,623,242
54	83	1,750,994	162	3,083,208
55	98	2,022,370	172	2,958,249
56	77	1,318,190	164	2,828,081
57	78	1,502,493	134	1,939,905
58	71	1,247,901	136	2,052,453
59	84	1,258,573	148	1,887,903
60	87	1,317,933	172	2,215,161
61	67	845,821	155	1,684,178
62	70	926,118	162	1,749,845
63	73	934,489	116	1,286,052
64	75	815,165	121	1,136,422
65	49	597,042	124	1,314,672
66	49	556,517	110	1,030,985
67	53	590,435	127	1,085,265
68	49	518,800	98	829,786
69	56	679,519	91	660,856

TABLE 5

**THE NUMBER AND ANNUAL ANNUITIES
OF ANNUITANTS ON THE RETIRED LIST
AS OF JUNE 30, 2002**

RETIRED ON ACCOUNT OF DISABILITY

Age	Male		Female	
	Number	Annuities	Number	Annuities
70	33	323,046	112	1,064,802
71	42	389,672	86	687,799
72	34	372,791	94	701,424
73	37	439,334	88	725,480
74	25	242,259	89	701,485
75	38	457,263	49	388,088
76	33	298,580	68	595,367
77	33	330,235	57	471,950
78	13	93,751	52	388,631
79	16	189,015	51	420,706
80	22	182,640	56	410,578
81	12	127,663	52	422,557
82	18	148,073	40	369,780
83	14	199,203	36	262,299
84	7	79,207	34	324,175
85	5	61,509	28	245,182
86	6	52,571	23	182,317
87	3	41,643	30	260,522
88	1	5,605	15	114,378
89	3	22,640	18	167,147
90			12	122,803
91	2	19,950	5	50,592
92			5	55,951
93			3	23,723
94			8	70,640
95			5	39,546
96			4	33,628
97			1	13,982
98			1	5,536
Total	1,968	\$ 28,103,433	4,129	\$ 49,444,871

TABLE 6

THE NUMBER AND ANNUAL ANNUITIES
OF ANNUITANTS ON THE RETIRED LIST
AS OF JUNE 30, 2002

RECEIVING A REFUND ANNUITY

Age	Male		Female	
	Number	Annuities	Number	Annuities
92			1	66
Total	0	\$ 0	1	\$ 66

EXHIBIT IX**GLOSSARY**

Accrued Liability	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.”
Accrued Service	The service credited under the plan which was rendered before the date of the actuarial valuation.
Actuarial Assumptions	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.
Actuarial Cost Method	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.”
Actuarial Equivalent	A series of payments is called an actuarial equivalent of another series of payments if the two series have the same actuarial present value.
Actuarial Value of Assets	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.
Amortization	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.
Experience Gain (Loss)	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.
Normal Cost	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)

Present Value	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.
Unfunded Accrued Liability	The difference between the actuarial accrued liability and valuation assets.