

COMMONWEALTH OF PENNSYLVANIA
STATE EMPLOYEES' RETIREMENT SYSTEM

1992 Actuarial Report

Hay/Huggins Company
July 12, 1993

July 12, 1993

Hay/Huggins
Company

Mr. John Brosius
Executive Director
State Employees' Retirement System
30 North Third Street
Harrisburg, PA 17108-1147

Dear Mr. Brosius:

This report presents the results of our actuarial valuation of the Pennsylvania State Employees' Retirement System (SERS) as of December 31, 1992. Highlights of the valuation are presented on page 1, followed by a general discussion and comments on the various schedules included in the report. These schedules summarize the underlying calculations, asset information, participant data, plan benefits and actuarial assumptions.

The main purposes of this report are:

- to indicate the pension contribution rates which will be the basis for the Fiscal Year 1993-94 appropriation request;
- to disclose the financial condition of the Plan;
- to provide information relating to the disclosure and reporting requirements of Statement No. 5 of the Governmental Accounting Standards Board.

Section 5505.1 of Title 71 states that "... contributions shall be made on behalf of each active member, regardless of class of service, at the rate of 1-1/4 percent of compensation until such time as the Actuary certifies that all accrued liability contributions have been completed in accordance with the actuarial cost method provided in Section 5508(b) (relating to actuarial cost method)".

As Actuary for the State Employees' Retirement System, we have determined that all accrued liability contributions have been completed in accordance with the actuarial cost method provided in Section 5508(b) of Title 71. Therefore, the additional 1.25 percent employe contribution will be discontinued effective July 1, 1993. It is our understanding that the 1.25 percent contribution will not be restored even if the unfunded actuarial accrued liability returns to a positive balance in a future valuation.

Mr. John Brosius

Page 2

Hay/Huggins
Company

To the best of our knowledge, this report is complete and accurate and all costs and liabilities have been determined in conformance with generally accepted actuarial principles and on the basis of actuarial assumptions and methods which, in the aggregate, are reasonable (taking into account past experience under the SERS and reasonable expectations) and which in combination represent our best estimate of anticipated experience under the plan.

Respectfully submitted,
HAY/HUGGINS COMPANY, INC.



By
EDWIN C. HUSTEAD, F.S.A.
Member American Academy of Actuaries
Enrolled Actuary No. 93-1499

STATE EMPLOYES' RETIREMENT SYSTEM

TABLE OF CONTENTS

	<u>Schedule</u>	<u>Page</u>
<u>Valuation Highlights</u>	-	1
<u>Comments on Schedules</u>	-	4
Unfunded Actuarial Accrued Liability and Amortization	A	9
Normal Cost, Amortization of Supplemental Annuities and Total Employer Contribution	B	10
Employer Contribution Rate by Group	C	11
State Police and Enforcement Officers Additional Annuity Rate	D	12
Air and Army National Guard Contribution Rate	E	13
Analysis of Change in Employer Contribution Rate and Unfunded Actuarial Accrued Liability	F	14
Actuarial Balance Sheet	G	15
Required Transfers Within SERS Accounts	H	16
Accounting Disclosure Statements	I	17
Actuarial Value of Assets	J	19
Ten Year Projection	K	21
Profile of Plan Participants	L	22
Summary of Benefit and Contribution Provisions	M	30
Actuarial Assumptions	N	35
Asset Valuation Method, Funding and Contribution Policy, and Disclosure Assumptions	O	39
Technical Terms	P	41

STATE EMPLOYEES' RETIREMENT SYSTEM

VALUATION HIGHLIGHTS

	<u>December 31, 1992</u>	<u>December 31, 1991</u>
	<u>Valuation</u>	<u>Valuation</u>
● Summary of Contributions: (Percent of Members' Compensation)	<u>Valuation</u>	<u>Actual</u>
Normal Cost	9.81%	9.81
Amortization of Liabilities	(0.54)	(0.89)
Total	9.27%	8.92
8.50%		
0.42		
8.92%		
7.71%		
9.83		
N/A		
25.92		
25.92		
9.83		
36.88		
14.69		
● Market Value of Assets	\$12,453,358,860	\$11,940,082,107
● Projected Benefit Obligation	\$11,145,829,489	\$10,466,121,339
● Active Participants:		
Number	109,609	105,731
Average annualized compensation for 1992	\$ 30,645	\$ 29,504
Total annualized compensation for 1992	\$3,358,961,881	\$3,119,516,246
● Annuitants and Beneficiaries:		
Number	80,492	76,240
Total annual pension	\$ 601,658,734	\$ 501,909,761
● Inactive Participants:		
Number	4,293	7,616

STATE EMPLOYEES' RETIREMENT SYSTEM

General Discussion

The liabilities and costs in this report were based on actuarial assumptions adopted by the State Employees' Retirement Board in 1991 and funding procedures specified in Act 1991-23. The same assumptions were used in the 1991 valuation. The rates of investment return and salary increases are shown in the following table. The single-rate equivalent of the graded investment assumption, for the purposes of determining the employer contribution, is 9 percent a year.

<u>Years</u>	<u>Salary Increases</u>			<u>Investment Return</u>
	<u>General</u>	<u>Average Career</u>	<u>Total</u>	
1993 to 2000	4.0%	2.5%	6.5%	9.9%
2001 to 2005	4.0	2.5	6.5	9.0
2006 to 2010	4.0	2.5	6.5	8.0
2011 to 2015	4.0	2.5	6.5	7.0
After 2015	4.0	2.5	6.5	6.0

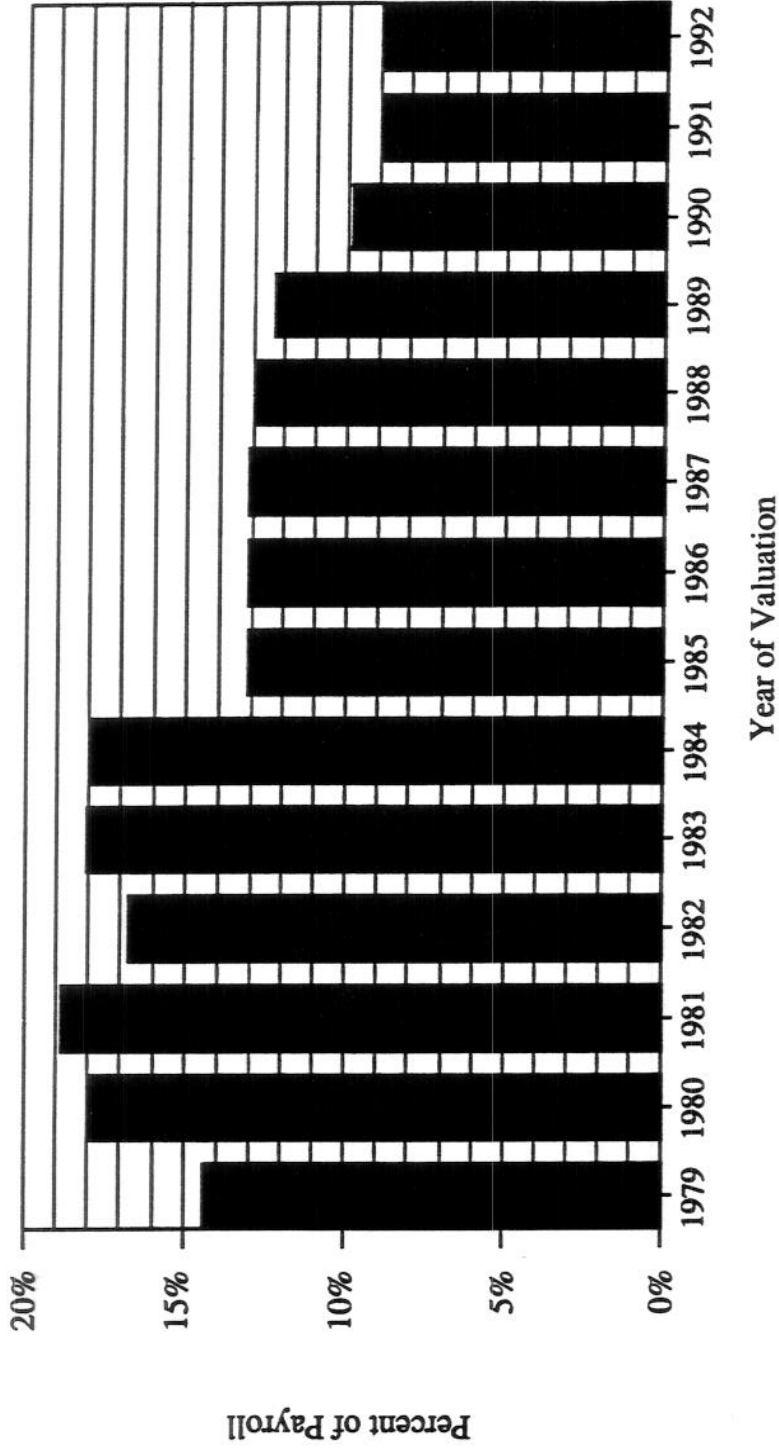
Page 3 shows the history of the employer contribution rate since 1979. The rate increased in 1980 due to the adoption of the 1976-1980 evaluation results, and the rate was lowered in 1985 as a result of the adoption of new assumptions based on the study of experience from 1981 through 1985. While the components of the rate shifted from 1985 through 1988, the total rate held steady. The employer contribution dropped slightly in 1989 as a result of investment gains.

Changes made for the 1990 valuation resulted in a drop in the employer contribution rate from 12.32 percent to 9.87 percent of salary. The employer contribution rate dropped further, to 8.92 percent, in the 1991 valuation. The employer contribution increased in 1992 primarily because of the elimination of the additional 1.25 percent employee contribution and unexpectedly high increases in salary. These increases were partially offset by investment gains. The unexpectedly high salary increase was attributable to both an increase in the number of overtime hours and the number of promotions. These events were a result of personnel actions following the retirements under the Mellow bill in late 1991.

The State Employees' Retirement Board Meeting of June 9, 1993 determined that the 8.92 percent contribution for 1992/93 should be continued into 1993/94. The decision was based on the fact that the payroll reported for this valuation was unusually high and not expected to re-occur and that the employer cost is expected to decline in the next three years as past investment gains are folded into the actuarial value of assets. The actuary agreed that this decision was sound and that the difference between the calculated rate of 9.27 percent and the employer contribution rate of 8.92 percent would not have any significant impact on the long-term soundness of the system.

Pennsylvania State Employees' Retirement System

Total Employer Cost



The total employer cost is the actual contribution rate during the succeeding fiscal year. For instance, the 1992 rate of 8.92 percent will be the employer contribution for fiscal year 1993/94. In some years the contribution rate was adjusted for events occurring after the valuation date.

STATE EMPLOYES' RETIREMENT SYSTEM

COMMENTS ON SCHEDULES

Employer Contribution Rate

Schedules A and B summarize the development of the Employer Contribution Rate before allocation by group.

The normal cost is the level percentage of compensation which would be required for new active members over their period of active service to fund the liability for any prospective benefits earned by the new members. This calculation used data for all active members who had not yet completed one year of credited service. The normal cost increased from 8.50 percent in 1991 to 9.81 percent in 1992.

In 1992, for the first time, the actuarial value of assets exceeded the actuarial accrued liability. As a result, the additional employe contribution of 1.25 percent of payroll will be discontinued effective July 1, 1993.

The unfunded liability that existed on December 31, 1990 is being funded over 20 years from July 1, 1991. Unfunded liability increases (decreases) due to changes in assumptions, changes in legislation, or gains or losses because actual experience differs from the actuarial assumptions, will be amortized over 20 years from the July 1 following the effective date of the change. Schedule B shows that the net reduction in the unfunded liability in 1992 was \$428,770,084. The credit for that gain will be recognized as an offset against contributions otherwise needed over the 20 years beginning July 1, 1993. The total contribution for the unfunded liability declined from a cost of 0.42 percent to a credit of 0.54 percent of payroll.

The Employer Contribution Rate is comprised of the Normal Cost and the amortization of the unfunded liabilities. The Employer Contribution Rate calculated as a result of the December 31, 1992 actuarial valuation is 9.27 percent. The 1991 valuation had produced an Employer Contribution Rate of 8.92 percent. The Board decided to continue the 8.92 percent contribution rate for the 1993/94 fiscal year.

STATE EMPLOYES' RETIREMENT SYSTEM

Employer Contribution Rates by Group

Schedule C summarizes and shows the development of the rate for the cost of additional benefits for each group of members with different benefits. The basic employer contribution rate for general benefits is 8.06 percent of salary. There is an additional employer contribution required to pay for the added liability for members entitled to full benefits at age 50; and for those entitled to an annual benefit rate that is greater than the basic 2 percent rate. The State Police Officers and Class E members are charged the amount necessary to fund the past service cost of benefit improvements that were effective in 1988 and 1989. The Capitol Police Officers received a benefit improvement in 1992 that resulted in a separate group rate. The effect of the adjustments is to produce an aggregate employer contribution rate that is equal to the required rate of 9.27 percent of total payroll.

The complete schedule of contributions by group is shown in the first column of the following table. The Board action to continue the 8.92 percent employer contribution into the 1993/94 fiscal year resulted in the contributions by group shown in the second column. This allocation of the 8.92 percent total cost is slightly different from that in the 1991 valuation because of shifts in the payroll among groups.

	<u>Valuation</u>	<u>Actual</u>
Class A with age 60 benefit	8.06%	7.72%
Class A with age 50 benefit	10.13	9.79
Class A Capitol Police	11.15	10.81
Class A State Police	26.82	26.29
Class C State Police	26.82	26.29
Class C Enforcement Officers	10.13	9.79
Class D	37.99	36.71
Class E	<u>15.04</u>	<u>14.47</u>
Total Overall Cost	9.27%	8.92%

Schedule D shows the development of the contribution rates for additional annuities for certain State Police and Enforcement Officers. These members receive an additional annuity that is equal to the accumulated member contributions and interest at retirement determined as if the members were at least age 60 at retirement. These benefits have been fully funded by past contributions so no future contribution is required.

A special contribution is developed for members of the Air and Army National Guard on Schedule E. It consists of the Employer Contribution Rate plus a contribution sufficient to amortize the deficiency in the Air and Army National Guard Account over 20 years from July 1, 1980.

Change in Employer Contribution Rate

Schedule F contains an analysis of the change in the Employer Contribution Rate and Unfunded Liability from the 1991 to 1992 valuation. The excess interest earnings of \$463,000,000 brought into the assets in 1992 reduced the cost by 1.04 percent of salary. The reduction in cost for excess investment return was offset by increases in the contribution related to changes in the demographics of new entrants (.06 percent), the decrease in the employe contribution rate (.53 percent), salaries increases greater than expected (.07 percent), and other factors (.73 percent).

STATE EMPLOYEES' RETIREMENT SYSTEM

The net result of all changes was to increase the aggregate employer contribution from 8.92 percent of compensation to 9.27 percent of compensation.

The amortization payments on the unfunded liability would have reduced the liability to \$147,796,243 as of December 31, 1992. The combined result of the changes resulted in a surplus of \$280,973,841.

Actuarial Balance Sheet and Account Balance Transfers

Schedule G contains the actuarial balance sheet. It illustrates that the excess of the actuarial present value of plan benefits (Total Liabilities) over the present assets is fully funded by future contributions. These future contributions consist of normal cost payments and member contributions, offset by the credit resulting from the excess of assets over liabilities.

Each year it is necessary to compare the account balance in the Annuity Reserve Account with the actuarial liability of that account and make the necessary transfer to bring the account into balance with the liability. The necessary transfer of \$714,471,125 from the Annuity Reserve Account to the State Accumulation Account is shown in Schedule H.

Accounting Disclosure Statements

Schedule I provides information required by the Governmental Accounting Standards Board (GASB) and information on the accumulated plan benefits as defined by the Financial Accounting Standards Board (FASB).

The GASB liability for projected benefits (the Projected Benefit Obligation) is a standardized disclosure measure of the present value of pension benefits estimated to be payable in the future as a result of participant service to December 31, 1992. The liability was determined to be \$11,145,829,389. The market value of assets was 111.7 percent of the Projected Benefit Obligation. The interest rate used in determining the GASB liability was 9.25. The rate of 9.25 percent is approximately equal to the investment return rates averaged over the period during which past obligations to current employees and annuitants will be paid.

The FASB liability does not include the effect of assumed future salary increases but is calculated at a lower interest rate than the GASB liability. The FASB actuarial present value of accumulated plan benefits was determined to be \$12,260,584,752 and the ratio of market value of assets to accumulated plan benefits was 101.6 percent. The value increased from \$10,545,321,040 in 1991 to \$12,260,584,752 in 1992. The interest rate used was 5.75 percent, which is the interest rate for immediate annuities, as of January 1, 1993, published by the Pension Benefit Guaranty Corporation.

STATE EMPLOYEES' RETIREMENT SYSTEM

Plan Assets

Schedule J summarizes the development of the actuarial value of assets as of December 31, 1992. The assets are based on the unaudited financial statements prepared by SERS. The asset valuation method smooths out year-to-year fluctuations in the market value. The approach gradually recognizes, over a 5 year period, the differences between total investment returns and the assumed rate return (9.9 percent in 1992). This smoothing method includes 20 percent of the 1992 asset loss of \$177,551,390 this year, with the remainder to be recognized over the next four years.

Projection

Schedule K is a ten year projection of the annuitants and active employees and a projection of the contributions and benefit payouts.

Participant Data

Section I of Schedule L provides a distribution of the active participants as of December 31, 1992 by benefit class, sex, age, and length of service. It also shows the average annualized salary in 1992 by age group and sex. Section II of the schedule shows the retired participants, beneficiaries, and terminated vested participants by age, sex, and benefit amounts.

Although we have made tests to check for reasonableness and consistency, we have not independently audited the data which were submitted by SERS.

Plan Provisions

Schedule M contains a summary of the principal provisions of the plan in effect after enactment of Act 1991-23. Since the prior valuation, a benefit improvement was given to Capitol Police Officers who retired after June 1992. There were no other changes in plan provisions in 1992. Special early retirement provisions are available for members who retire before June 30, 1993.

Actuarial Assumptions

Schedule N summarizes the actuarial assumptions used for the valuation. The actuarial assumptions are the same as those introduced in 1990 which reflect the experience of the SERS during 1986 through 1990.

STATE EMPLOYEES' RETIREMENT SYSTEM

Funding Methods

Schedule O explains the funding methods used in the valuation. The asset valuation method smooths investment gains and losses over five years. The funding and contribution policy provides for reasonable levels of contribution that will fund the cost of future retirement credits with a credit for amortization of the excess of assets over liabilities. The section explains the calculation of the liabilities required for the accountant reports.

Definitions

Schedule P defines certain technical terms used in the valuation.

STATE EMPLOYES' RETIREMENT SYSTEM

UNFUNDED LIABILITY AND NORMAL COST DECEMBER 31, 1992

I. Present Value of Benefits:

1) Active and Inactive Participants	
a) Superannuation and Withdrawal	\$ 10,741,874,777
b) Disability	596,616,913
c) Death	748,368,005
d) Refunds	57,330,874
e) Special Police and Enforcement Officer Benefits	52,349,631
2) Annuitants and Beneficiaries	<u>4,621,318,252</u>
3) Total	\$ 16,817,858,452

II. Present Value of Member and Employer Contributions:

1) Employer portion of Normal Cost	\$ 3,514,592,298
2) Member Contributions	1,814,851,705
3) Special Police and Enforcement Officer Contributions	<u>0</u>
4) Total	\$ 5,329,444,003

III. Actuarial Accrued Liability: (I) - (II)

	\$ 11,488,414,449
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IV. Adjusted Actuarial Value of Assets

	\$ 11,769,388,290
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V. Unfunded Liability (III) - (IV)

	\$ (280,973,841)
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VI. Employer Normal Cost Rate

1) Normal Cost Rate for new active members to fund:	
a) Superannuation and Withdrawal	12.67%
b) Disability	0.85
c) Death	0.71
d) Refunds	<u>0.58</u>
e) Total	14.81%
2) Member Deductions	5.00%
3) Employer Normal Cost (1)-(2)	9.81%

STATE EMPLOYEES' RETIREMENT SYSTEM

TOTAL EMPLOYER CONTRIBUTION RATE IN FISCAL YEAR 1993-94

	<u>Funding Period</u> 20 Years from July 1	<u>Initial</u> Amount of <u>Liability</u>	<u>Outstanding</u> Balance as of <u>12/31/92</u>	<u>Annual Payment to Fund</u> <u>Amount</u>	<u>Percent*</u>
I. Amortization of:					
1) Liability for Supplemental Annuities	1991	\$ 405,641,841	\$ 420,074,841	\$ 35,840,115	1.01%
2) Liability for Other Benefits	1991	461,468,532	477,887,881	40,772,632	1.15%
3) Liability (Asset) for Changes in 1991	1992	(735,926,889)	(750,166,479)	(61,548,032)	(1.74)%
4) Liability (Asset) for Changes in 1992	1993	(428,770,084)	(428,770,084)	(33,902,640)	(0.96)%
5) Total Liability Payment (1) + (2) + (3) + (4)			\$(280,973,841)	\$(18,837,925)	(0.54)%
II. Employer Normal Cost					
					9.81%
III. Total Employer Cost (I) + (II)					
					9.27%

*The payment is expressed as a percentage of the projected total payroll for active members in fiscal year 1993-94 of \$3,533,428,000.

STATE EMPLOYEES' RETIREMENT SYSTEM

EMPLOYER CONTRIBUTION RATE BY GROUP

	Class A (Age 60 Super- annuation)	Class A (Age 50 Super- annuation)	Class A Capitol Police	Class A State Police	Class C State Police	Class C Enforcement Officers	Class D	Class E
1) Basic Contribution Rate	8.06%	8.06%	8.06%	8.06%	8.06%	8.06%	8.06%	8.06%
2) Age 50 Superannuation	-	2.07%	1.82%	2.07%	2.07%	2.07%	2.07%	-
3) Multiplier Adjustment	1.00	1.00	1.00	1.558	1.558	1.00	3.75	1.6582
4) Past Liability	-	-	1.27%	11.04%	11.04%	-	-	1.67%
5) Class C Additional Annuities	-	-	-	-	0.00	0.00	-	-
6) Adjusted Contribution Rates: [(1) + (2)] x 3 + 4 + 5	8.06%	10.13%	11.15%	26.82%	26.82%	10.13%	37.99%	15.04%
7) Projected 1993/94 Payroll	\$3,007,338,000	\$289,324,000	\$3,640,000	\$95,788,000	\$76,391,000	\$2,806,000	\$1,122,000	\$57,019,000
8) Employer Contribution Amount	\$242,391,000	\$29,309,000	\$406,000	\$25,690,000	\$20,488,000	\$284,000	\$426,000	\$8,576,000

Notes:

The total employer contribution (\$327,549,000) is the average employer contribution rate from Schedule B (9.27 percent) times the total projected payroll (\$3,533,428,000). The Class A Basic Contribution Rate (8.06 percent) was determined as the percentage needed to produce employer contribution amounts by class that sum to \$327,549,000. The resulting total contribution amount may differ slightly because of rounding.

The above allocation by Group is based on the valuation calculation of the employer contribution of 9.27 percent. The actual employer contribution for 1993/94 will be 8.92 percent as explained on page 2 of the General Discussion. The allocation of the 8.92 percent by Group is shown in the Valuation Highlights on page 1.

STATE EMPLOYEES' RETIREMENT SYSTEM

STATE POLICE AND ENFORCEMENT OFFICERS - ADDITIONAL ANNUITY RATE
(Fiscal Year 1993-94)

	<u>State Police</u>	<u>Enforcement Officers</u>
1) Balance in Benefit Account as of December 31, 1992	\$660,236,229	\$29,345,450
2) Present Value of Benefits for Annuitants and Beneficiaries	480,631,405	14,765,817
3) Assets available for additional annuities for Active Members: (1) - (2)	179,604,824	14,579,633
4) Present Value of additional annuities for Active Members	50,322,732	2,026,899
5) Present Value of Future Contribution to fund additional annuities: (4) - (3)	0	0
6) Present Value of Future Compensation for eligible Active Members	*	*
7) Contribution Rate as a percentage of payroll payable January 1: (5) / (6)	0.00%	0.00%

* Not calculated because additional annuity is fully funded.

STATE EMPLOYEES' RETIREMENT SYSTEM

AIR AND ARMY NATIONAL GUARD ACCOUNT CONTRIBUTION RATE

(Fiscal Year 1993-94)

1)	Estimated Account Balance @ July 1, 1993	\$2,978,349
2)	Contribution Required to Amortize (1) over 20 years from July 1, 1980	510,064
3)	Estimated Fiscal year 1993-94 payroll for Air and Army National Guard Members	600,000
4)	Employer Contribution Rate	8.06%
5)	Total Required Contribution: (2) + ((3) x (4))	\$ 558,424

STATE EMPLOYES' RETIREMENT SYSTEM

ANALYSIS OF CHANGE IN EMPLOYER CONTRIBUTION RATE

	<u>Normal Cost</u>	<u>Unfunded Liabilities</u>	<u>Total</u>
I. December 31, 1991 Valuation	8.50%	0.42%	8.92%
II. Changes - 12/31/92 Valuation:			
1) Excess Investment Earnings		(1.04)%	(1.04)%
2) Change in Demographics of the New Entrants	0.29	(0.23)	0.06
3) Decrease in Employee Contribution Rate ..	1.02	(0.49)	0.53
4) Difference Due to Salaries Larger than Expected		0.07	0.07
5) Difference Due to Actual Experience Different from Actuarial Assumptions ..		0.73	0.73
6) Total Change	1.31%	(0.96)%	0.35%
III. December 31, 1992 Valuation:			
(I) + (II)	9.81%	(0.54)%	9.27%

ANALYSIS OF CHANGE IN UNFUNDED LIABILITY

I. December 31, 1991 Unfunded Liability	\$ 147,537,390
II. Expected Amortization Payment	14,347,348
III. Expected Liability as of December 31, 1992 [(I) x 1.099] - (II)	147,796,243
IV. Change in Liability Due to:	
1) Excess Investment Earnings	(462,914,778)
2) Change in Demographics of New Entrants	(103,897,224)
3) Decrease in Employee Contribution Rate	(218,212,485)
4) Difference Due to Salaries Larger than Expected	34,335,480
5) Difference Due to Actual Experience Different from Actuarial Assumptions	321,918,923
6) Total Change	\$(428,770,084)
V. December 31, 1992 Unfunded Liability: (III) + (IV)	\$ (280,973,841)

STATE EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL BALANCE SHEET AS OF DECEMBER 31, 1992

A S S E T S

L I A B I L I T I E S

Present Assets:

Members' Savings Account	\$ 1,994,566,772
Annuity Reserve Account	4,125,921,030
State Police Benefit Account	660,236,229
Enforcement Officers Benefit Account	29,345,450
State Accumulation Account	6,063,364,220
Supplemental Annuity Account	(420,074,841)
Total Present Assets (Market Value)	\$12,453,358,860

Adjustment to smooth market

fluctuations	(669,563,417)
Adjustment for Contributions Payable in the	
Fiscal year	(14,407,153)
Total Present Assets (Actuarial Value)	\$11,769,388,290

Present Value of Future Contributions

Members' Contributions (Employee)	\$ 1,814,851,705
Normal Cost Contributions (Employer)	3,514,592,298
Accrued Liability Amortization	
(Employer)	(701,048,682)
Supplemental Annuity Amortization	
(Employer)	420,074,841
Special State Police Contributions	
(Employer)	0
Special Enforcement Officer	
Contributions (Employer)	0
Total Future Contributions	\$ 5,048,470,162

TOTAL ASSETS

\$16,817,858,452

Present Value of Benefits Payable to Annuitants

and Beneficiaries from:	
Annuity Reserve Account	\$ 4,125,921,030
State Police Benefit Account	480,631,405
Enforcement Officers Benefit Account	14,765,817
Total for Annuitants and Beneficiaries	\$ 4,621,318,252

Present Value of Benefits to Active

and Inactive Members from:

Member Savings Account and State Accumulation Account

Superannuation and Withdrawal	\$ 10,741,874,777
Disability	596,616,913
Death	748,368,005
Refunds	57,330,874
Subtotal	\$12,144,190,569
State Police Benefit Account	50,322,732
Enforcement Officers Benefit Account	2,026,899
Total	\$12,196,540,200

TOTAL LIABILITIES

\$16,817,858,452

STATE EMPLOYES' RETIREMENT SYSTEM

REQUIRED TRANSFERS WITHIN SERS ACCOUNTS

I. Annuity Reserve Account

Balance as reported by SERS	\$ 4,840,392,155
Transfer from State Accumulation Account	<u>(714,471,125)</u>
December 31, 1992 balance after transfers	\$ 4,125,921,030

II. State Accumulation Account

Balance as reported by SERS	\$ 5,348,893,096
Transfer to Annuity Reserve Account	<u>714,471,125</u>
December 31, 1992 Balance after transfers	\$ 6,063,364,221

STATE EMPLOYES' RETIREMENT SYSTEM

ACCOUNTING DISCLOSURE STATEMENTS

I. FUNDING STATUS OF PROJECTED BENEFIT OBLIGATION AS OF DECEMBER 31, 1992

	<u>Number of</u> <u>Members</u>	
1) Projected benefit obligation		
a) Retirees and beneficiaries		
1. Superannuation retirements	48,728	\$3,110,153,530
2. Early retirements	20,852	1,169,084,790
3. Disabled	4,317	200,191,655
4. Beneficiaries	<u>6,595</u>	<u>178,109,291</u>
5. Total	80,492	\$4,657,539,266
b) Inactive participants	4,293	\$ 81,786,732
c) Active members		
1. Employe contributions and interest		\$1,999,511,214
2. Employer-financed liability - vested	63,519	4,033,101,460
3. Employer-financed liability - nonvested	<u>46,090</u>	<u>373,890,717</u>
4. Total	109,609	\$6,406,503,391
d) Total obligation for all members	194,394	\$11,145,829,389
2) Market value of assets available for benefits		\$12,453,358,860
3) Unfunded projected benefit obligation		\$(1,307,529,471)
4) Assets as a percent of projected benefit obligation		111.7%

The amount shown above as the projected benefit obligation (PBO) is a standardized disclosure measure of the present value of pension benefits estimated to be payable in the future as a result of employe service to December 31, 1992. The PBO was calculated in conformance with the requirements of Statement No. 5 of the Governmental Accounting Standards Board (GASB) - "Disclosure of Pension Information by Public Employes' Retirement Systems and State and Local Governmental Employers." The investment return assumption is 9.25 percent. The calculation assumes salaries will increase as stated in Schedule N. No post-retirement increases are assumed.

STATE EMPLOYEES' RETIREMENT SYSTEM

ACCOUNTING DISCLOSURE STATEMENTS

II. FUNDING STATUS OF ACCUMULATED PLAN BENEFITS AS OF DECEMBER 31, 1992

1)	Actuarial Present Value of Accumulated Plan Benefits	
	a) Vested	
	1. Active participants	\$ 6,001,722,657
	2. Inactive	93,131,085
	3. Superannuation Retirements	3,892,601,644
	4. Early Retirements	1,552,211,273
	5. Disabled	253,676,129
	6. Beneficiaries	<u>220,723,526</u>
	7. Total Vested	\$12,014,066,314
	b) Non-vested	\$ 246,518,438
	c) Total Accumulated Plan Benefits	\$12,260,584,752
2)	Market Value of Assets	\$12,453,358,860
3)	Ratio of market value of assets to actuarial present value of accumulated benefits	
	a) Vested Benefits	103.7%
	b) Total Accumulated Benefits	101.6%
4)	Changes in Accumulated Plan Benefits	
	a) Value as of December 31, 1991	\$10,545,321,040
	b) Changes during year	
	1. Due to passage of time and other causes	\$ 611,811,084
	2. Due to change in interest rate	1,103,452,628
	3. Total change	1,715,263,712
	c) Value as of December 31, 1992	\$12,260,584,752

The amount shown above as the present value of accumulated plan benefits is a standardized disclosure measure of the present value of pension benefits estimated to be payable in the future as a result of employe service to December 31, 1992. This measure assumes that salaries will not increase in the future. The investment return assumption is 5.75 percent.

STATE EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL VALUE OF ASSETS

I.	Development of 12/31/92 Expected Actuarial Value:	
1)	Actuarial Value as of 12/31/91	\$ 10,630,052,523
2)	Contributions in 1992	506,260,495
3)	Benefits and Expenses in 1992	(850,755,071)
4)	Interest @ 9.9% to 12/31/92 on (1)	1,052,375,200
5)	Interest @ 9.9% to 12/31/92 on .5 x ((2) - (3))	<u>(17,052,482)</u>
6)	Expected Actuarial Value as of 12/31/92: (1) + (2) + (3) + (4) + (5)	\$ 11,320,880,665
II.	Previous Differences Not Yet Amortized:	
1)	Unrecognized Amount of 12/31/88 Difference: .2 x \$559,956,761	\$ 111,991,352
2)	Unrecognized Amount of 12/31/89 Difference: .4 x \$1,051,384,490	420,553,796
3)	Unrecognized amount of 12/31/90 Difference: .6 x \$(364,286,067)	(218,571,640)
4)	Unrecognized amount of 12/31/91 Difference: .8 x \$1,245,070,096	<u>996,056,077</u>
5)	Total	\$ 1,310,029,585
III.	Gain or Loss from 1992	
1)	Market Value of Assets on 12/31/92	\$ 12,453,358,860
2)	Expected Market Value II(5) + I(6)	<u>12,630,910,250</u>
3)	Gain (loss) from 1992 Investments (1) - (2)	\$ (177,551,390)
IV.	Development of Actuarial Value of Assets as of 12/31/92:	
1)	20% of \$559,956,761 (12/31/88 Difference):	\$ 111,991,352
2)	20% of \$1,051,384,490 (12/31/89 Difference):	210,276,898
3)	20% of \$(364,286,067) (12/31/90 Difference):	(72,857,213)
4)	20% of \$1,245,070,096 (12/31/91 Difference):	249,014,019
5)	20% of \$(177,551,390) (12/31/92 Difference):	(35,510,278)
6)	Total Difference: (1) + (2) + (3) + (4) + (5)	\$ <u>462,914,778</u>
7)	Actuarial Value at 12/31/92: I(6) + IV(6)	\$ 11,783,795,443

STATE EMPLOYES' RETIREMENT SYSTEM

ACTUARIAL VALUE OF ASSETS

V.	Adjustments to Actuarial Value of Assets For Transactions Before 7/1/93:	
	1) Employer Total Cost Payable 1/1/93 Through 6/30/93	\$ 144,395,282
	2) Employer Normal Cost Payable 1/1/93 Through 6/30/93	\$ (158,802,435)
	3) Total Adjustments	\$ (14,407,153)
VI.	Adjusted Actuarial Value of Assets (IV) + (V)	\$ <u>11,769,388,290</u>

STATE EMPLOYES' RETIREMENT SYSTEM

PROJECTION OF POPULATION, BENEFITS, AND CONTRIBUTIONS

Projection of Annuitants and Employees

<u>Year Ending December 31</u>	<u>Annuitants</u>			<u>Active Employees</u>
	<u>Former Employees</u>	<u>Survivors</u>	<u>Total</u>	
1987 Actual	64,086	5,429	69,515	109,499
1988 Actual	65,655	5,661	71,316	109,611
1989 Actual	66,951	5,879	72,830	109,819
1990 Actual	68,156	6,066	74,222	111,248
1991 Actual	69,908	6,332	76,240	105,731
1992 Actual	73,897	6,595	80,492	109,609
1993	74,181	6,859	81,040	109,609
1994	74,181	7,106	81,287	109,609
1995	74,621	7,333	81,954	109,609
1996	75,433	7,538	82,971	109,609
1997	76,751	7,718	84,470	109,609
1998	77,927	7,874	85,801	109,609
1999	78,955	8,000	86,955	109,609
2000	79,828	8,096	87,924	109,609
2001	80,537	8,160	88,698	109,609
2002	81,075	8,193	89,268	109,609
2003	81,475	8,234	89,709	109,600

Projection of Expected Contributions and Benefits

(Millions of Dollars)

<u>Calendar Year</u>	<u>Contribution</u>		<u>Benefits/ Expenses</u>
	<u>Employee</u>	<u>Employer</u>	
1987 Actual	\$147	\$366	\$490
1988 Actual	153	382	521
1989 Actual	165	416	573
1990 Actual	175	418	607
1991 Actual	183	381	664
1992 Actual	187	318	851
1993	190	305	802
1994	198	311	847
1995	206	322	905
1996	214	332	973
1997	222	337	1,054
1998	231	350	1,120
1999	240	364	1,249
2000	250	391	1,324
2001	260	418	1,400
2002	271	435	1,478
2003	281	452	1,557

The projection is based upon the following assumptions: Investment return of 9.9 percent; general pay increases of 4.0 percent; and supplemental increases in 1994 and 1999.

STATE EMPLOYEES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1992

ACTIVE EMPLOYEES*

Age	Males - Full Years of Service to December 31, 1992							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
less than 20	13	0	0	0	0	0	0	13	\$17,254
20-24	777	55	0	0	0	0	0	832	19,573
25-29	1,791	884	68	0	0	0	0	2,743	23,270
30-34	1,636	1,906	1,193	131	0	0	0	4,866	26,592
35-39	1,517	1,852	1,810	1,448	256	0	0	6,883	28,991
40-44	1,618	1,591	1,646	2,326	2,568	186	0	9,935	31,718
45-49	1,112	1,088	1,077	1,601	3,019	1,561	87	9,545	34,597
50-54	720	724	719	807	1,666	1,600	810	7,046	36,869
55-59	544	591	539	675	1,020	924	813	5,106	37,415
60-64	314	426	357	435	420	327	448	2,727	37,204
65+	150	154	133	114	105	103	114	873	38,972
Total	10,192	9,271	7,542	7,537	9,054	4,701	2,272	50,569	\$32,449

Average age 44.57
Average service 13.95

Age	Females - Full Years of Service to December 31, 1992							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
less than 20	48	0	0	0	0	0	0	48	\$16,907
20-24	1,120	189	0	0	0	0	0	1,309	18,734
25-29	1,684	1,254	207	0	0	0	0	3,145	21,362
30-34	1,605	1,630	1,537	307	0	0	0	5,079	24,114
35-39	1,585	1,689	1,651	1,954	680	0	0	7,559	26,099
40-44	1,444	1,511	1,434	1,737	2,514	384	0	9,024	27,661
45-49	1,071	1,294	1,175	1,151	1,525	1,026	94	7,336	28,074
50-54	717	877	940	997	986	669	413	5,599	28,556
55-59	390	461	747	895	955	421	272	4,141	28,470
60-64	174	267	392	421	450	182	139	2,025	28,275
65+	56	86	104	107	106	65	74	598	29,555
Total	9,894	9,258	8,187	7,569	7,216	2,747	992	45,863	\$26,613

Average age 43.02
Average service 12.61

* The following three pages contain information on members in special categories. These include selected hazardous duty members, legislators, judges and district judges. The above information is for all other active members. Page five of Schedule L is the total of all active categories. Page six is the total of all active and inactive employees.

STATE EMPLOYES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1992

SELECTED HAZARDOUS DUTY*

Age	Males - Full Years of Service to December 31, 1992							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
less than 20	0	0	0	0	0	0	0	0	\$ 0
20-24	372	0	0	0	0	0	0	372	23,960
25-29	1,307	369	1	0	0	0	0	1,677	28,520
30-34	570	838	266	4	0	0	0	1,678	34,248
35-39	336	454	462	208	5	0	0	1,465	36,219
40-44	304	422	266	414	282	11	0	1,699	37,411
45-49	243	336	155	224	788	444	12	2,202	41,191
50-54	118	196	86	88	194	280	91	1,053	40,726
55-59	71	128	58	51	51	43	92	494	37,710
60-64	14	63	18	30	10	14	27	176	38,443
65+	4	13	4	4	0	0	1	26	39,522
Total	3,339	2,819	1,316	1,023	1,330	792	223	10,842	\$36,049

Average age 39.79

Average service 10.90

Age	Females - Full Years of Service to December 31, 1992							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
less than 20	0	0	0	0	0	0	0	0	\$ 0
20-24	23	0	0	0	0	0	0	23	21,572
25-29	99	22	1	0	0	0	0	122	26,879
30-34	96	82	36	0	0	0	0	214	31,594
35-39	97	69	54	17	4	0	0	241	32,045
40-44	66	52	33	30	24	0	0	205	34,314
45-49	38	46	24	21	12	8	1	150	34,549
50-54	26	27	16	13	13	9	2	106	35,248
55-59	12	19	13	13	4	3	1	65	37,110
60-64	3	7	9	1	2	3	0	25	34,706
65+	0	3	3	0	1	0	0	7	34,381
Total	460	327	189	95	60	23	4	1,158	\$32,585

Average age 40.15

Average service 8.14

*Enforcement officers, correction officers, psychiatric security aides, and officers of the Pennsylvania State Police and Delaware River Port Authority.

STATE EMPLOYEES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1992

LEGISLATORS

Age	Males - Full Years of Service to December 31, 1992							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
less than 20	0	0	0	0	0	0	0	0	\$ 0
20-24	0	0	0	0	0	0	0	0	0
25-29	1	0	0	0	0	0	0	1	47,000
30-34	9	5	1	1	0	0	0	16	47,000
35-39	11	9	7	0	0	0	0	27	47,613
40-44	4	7	14	13	2	0	0	40	48,116
45-49	7	11	13	12	3	2	0	48	48,561
50-54	3	6	3	7	6	1	1	27	50,334
55-59	3	3	4	4	2	0	3	19	51,887
60-64	6	3	5	10	2	0	2	28	48,148
65+	<u>1</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>16</u>	<u>49,237</u>
Total	<u>45</u>	<u>47</u>	<u>51</u>	<u>50</u>	<u>17</u>	<u>5</u>	<u>7</u>	<u>222</u>	<u>\$48,743</u>

Average age 48.70
Average service 11.63

Age	Females - Full Years of Service to December 31, 1992							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
less than 20	0	0	0	0	0	0	0	0	\$ 0
20-24	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	1	0	0	0	0	0	0	1	47,000
35-39	0	0	1	0	0	0	0	1	47,000
40-44	0	1	1	1	0	0	0	3	48,233
45-49	4	0	0	0	0	0	0	4	47,000
50-54	3	0	2	0	0	0	0	5	47,000
55-59	1	1	1	0	0	0	0	3	47,000
60-64	0	2	0	0	0	0	0	2	47,000
65+	<u>1</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>4</u>	<u>48,648</u>
Total	<u>10</u>	<u>5</u>	<u>5</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>23</u>	<u>\$47,447</u>

Average age 52.52
Average service 9.04

STATE EMPLOYES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1992

JUDGES AND DISTRICT JUSTICES

Age	Males - Full Years of Service to December 31, 1992							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
less than 20	0	0	0	0	0	0	0	0	\$ 0
20-24	0	0	0	0	0	0	0	0	0
25-29	1	1	0	0	0	0	0	2	57,590
30-34	2	5	1	0	0	0	0	8	39,177
35-39	22	20	5	2	0	0	0	49	52,126
40-44	30	31	23	9	4	1	0	98	57,183
45-49	42	48	32	14	8	1	1	146	67,865
50-54	16	40	24	17	12	6	3	118	59,744
55-59	17	11	26	22	23	5	2	106	64,206
60-64	8	16	26	27	33	14	4	128	63,672
65+	3	10	21	18	27	16	13	108	62,451
Total	141	182	158	109	107	43	23	763	\$61,920

Average age 52.91
Average service 12.56

Age	Females - Full Years of Service to December 31, 1992							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
less than 20	0	0	0	0	0	0	0	0	\$ 0
20-24	0	0	0	0	0	0	0	0	0
25-29	1	0	0	0	0	0	0	1	38,526
30-34	5	2	1	0	0	0	0	8	56,013
35-39	9	10	1	0	0	0	0	20	65,825
40-44	8	18	3	1	1	0	0	31	70,092
45-49	7	10	5	2	1	0	0	25	63,160
50-54	5	11	6	3	2	0	0	27	49,924
55-59	5	1	6	3	6	0	0	21	56,416
60-64	1	5	7	1	7	0	1	22	45,535
65+	0	2	6	3	2	1	0	14	48,847
Total	41	59	35	13	19	1	1	169	\$57,830

Average age 49.81
Average service 9.56

STATE EMPLOYEES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1992

ALL ACTIVE EMPLOYEES

<u>Age</u>	<u>Males - Full Years of Service to December 31, 1992</u>							<u>Total</u>	<u>Average Salary</u>
	<u>0-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>		
less than 20	13	0	0	0	0	0	0	13	\$17,254
20-24	1,149	55	0	0	0	0	0	1,204	20,928
25-29	3,100	1,254	69	0	0	0	0	4,423	25,282
30-34	2,217	2,754	1,461	136	0	0	0	6,568	28,613
35-39	1,886	2,335	2,284	1,658	261	0	0	8,424	30,443
40-44	1,956	2,051	1,949	2,762	2,856	198	0	11,772	32,808
45-49	1,404	1,483	1,277	1,851	3,818	2,008	100	11,941	36,276
50-54	857	966	832	919	1,878	1,887	905	8,244	37,733
55-59	635	733	627	752	1,096	972	910	5,725	37,985
60-64	342	508	406	502	465	355	481	3,059	38,483
65+	<u>158</u>	<u>180</u>	<u>162</u>	<u>139</u>	<u>134</u>	<u>121</u>	<u>129</u>	<u>1,023</u>	<u>41,625</u>
Total	<u>13,717</u>	<u>12,319</u>	<u>9,067</u>	<u>8,719</u>	<u>10,508</u>	<u>5,541</u>	<u>2,525</u>	<u>62,396</u>	<u>\$33,493</u>

Average age 43.85

Average service 13.40

<u>Age</u>	<u>Females - Full Years of Service to December 31, 1992</u>							<u>Total</u>	<u>Average Salary</u>
	<u>0-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>		
less than 20	48	0	0	0	0	0	0	48	\$16,907
20-24	1,143	189	0	0	0	0	0	1,332	18,783
25-29	1,784	1,276	208	0	0	0	0	3,268	21,573
30-34	1,707	1,714	1,574	307	0	0	0	5,302	24,468
35-39	1,691	1,768	1,707	1,971	684	0	0	7,821	26,386
40-44	1,518	1,582	1,471	1,769	2,539	384	0	9,263	27,957
45-49	1,120	1,350	1,204	1,174	1,538	1,034	95	7,515	28,330
50-54	751	915	964	1,013	1,001	678	415	5,737	28,796
55-59	408	482	767	911	965	424	273	4,230	28,755
60-64	178	281	408	423	459	185	140	2,074	28,554
65+	<u>57</u>	<u>92</u>	<u>113</u>	<u>110</u>	<u>109</u>	<u>66</u>	<u>76</u>	<u>623</u>	<u>30,165</u>
Total	<u>10,405</u>	<u>9,649</u>	<u>8,416</u>	<u>7,678</u>	<u>7,295</u>	<u>2,771</u>	<u>999</u>	<u>47,213</u>	<u>\$26,881</u>

Average age 42.97

Average service 12.49

STATE EMPLOYEES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1992

ACTIVE AND INACTIVE EMPLOYEES

<u>Age</u>	<u>Males - Full Years of Service to December 31, 1992</u>							<u>Total</u>
	<u>0-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
less than 20	19	0	0	0	0	0	0	19
20-24	1,221	55	0	0	0	0	0	1,276
25-29	3,226	1,256	69	0	0	0	0	4,551
30-34	2,329	2,769	1,469	137	0	0	0	6,704
35-39	1,995	2,366	2,317	1,668	263	0	0	8,609
40-44	2,091	2,072	2,011	2,804	2,877	199	0	12,054
45-49	1,525	1,511	1,315	1,898	3,844	2,018	101	12,212
50-54	982	1,000	878	952	1,892	1,900	913	8,517
55-59	763	770	677	775	1,119	999	947	6,050
60-64	452	540	423	525	498	364	525	3,327
65+	<u>211</u>	<u>202</u>	<u>173</u>	<u>148</u>	<u>147</u>	<u>124</u>	<u>140</u>	<u>1,145</u>
Total	<u>14,814</u>	<u>12,541</u>	<u>9,332</u>	<u>8,907</u>	<u>10,640</u>	<u>5,604</u>	<u>2,626</u>	<u>64,464</u>

Average age 43.97
Average service 13.24

<u>Age</u>	<u>Females - Full Years of Service to December 31, 1992</u>							<u>Total</u>
	<u>0-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
less than 20	53	0	0	0	0	0	0	53
20-24	1,196	189	0	0	0	0	0	1,385
25-29	1,861	1,286	208	0	0	0	0	3,355
30-34	1,794	1,736	1,603	309	0	0	0	5,442
35-39	1,798	1,805	1,789	2,008	690	0	0	8,090
40-44	1,661	1,645	1,556	1,844	2,551	387	0	9,644
45-49	1,270	1,416	1,257	1,204	1,549	1,041	96	7,833
50-54	905	966	1,026	1,043	1,018	683	417	6,058
55-59	539	533	815	936	979	433	283	4,518
60-64	295	319	429	451	481	201	147	2,323
65+	<u>116</u>	<u>114</u>	<u>122</u>	<u>123</u>	<u>115</u>	<u>69</u>	<u>78</u>	<u>737</u>
Total	<u>11,488</u>	<u>10,009</u>	<u>8,805</u>	<u>7,918</u>	<u>7,383</u>	<u>2,814</u>	<u>1,021</u>	<u>49,438</u>

Average age 43.17
Average service 12.27

STATE EMPLOYES' RETIREMENT SYSTEM

II. AGE AND BENEFIT PROFILE OF ANNUITANTS AND BENEFICIARIES DECEMBER 31, 1992

SUPERANNUATION ANNUITANTS

<u>Age</u>	<u>Male</u>		<u>Female</u>		<u>Total</u>	
	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>
50-54	330	9,605,435	10	145,153	340	9,750,588
55-59	761	18,428,640	120	2,230,184	881	20,658,824
60-64	3,258	52,689,773	2,140	21,120,662	5,398	73,810,435
65-69	6,482	73,053,164	4,752	35,578,078	11,234	108,631,242
70-74	6,348	55,790,855	5,156	31,680,246	11,504	87,471,101
75-79	5,142	34,603,037	4,289	21,984,769	9,431	56,587,806
80-84	3,262	20,332,748	2,975	15,084,815	6,237	35,417,563
85-89	1,432	8,762,697	1,320	6,495,997	2,752	15,258,694
90 & Over	<u>445</u>	<u>2,859,332</u>	<u>506</u>	<u>2,423,020</u>	<u>951</u>	<u>5,282,352</u>
Total	<u>27,460</u>	<u>276,125,681</u>	<u>21,268</u>	<u>136,742,924</u>	<u>48,728</u>	<u>412,868,605</u>

Average Age 72.8
Average Pension 8,473

EARLY RETIREMENT ANNUITANTS

<u>Age</u>	<u>Male</u>		<u>Female</u>		<u>Total</u>	
	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>
30-34	45	46,381	171	165,583	216	211,964
35-39	304	338,379	884	996,756	1,188	1,335,135
40-44	995	1,613,625	1,590	2,055,465	2,585	3,669,090
45-49	1,823	12,915,493	1,134	2,127,620	2,957	15,043,113
50-54	1,595	13,071,221	941	3,948,200	2,536	17,019,421
55-59	1,842	21,087,115	1,391	10,014,269	3,233	31,101,384
60-64	2,108	24,598,018	1,580	12,009,964	3,688	36,607,982
65 & Over	<u>2,173</u>	<u>16,788,834</u>	<u>2,276</u>	<u>12,633,129</u>	<u>4,449</u>	<u>29,421,963</u>
Total	<u>10,885</u>	<u>90,459,066</u>	<u>9,967</u>	<u>43,950,986</u>	<u>20,852</u>	<u>134,410,052</u>

Average Age 55.6
Average Pension 6,446

STATE EMPLOYES' RETIREMENT SYSTEM

II. AGE AND BENEFIT PROFILE OF ANNUITANTS AND BENEFICIARIES DECEMBER 31, 1992

DISABLED ANNUITANTS

<u>Age</u>	<u>Male</u>		<u>Female</u>		<u>Total</u>	
	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>
30-34	15	98,366	25	172,179	40	270,545
35-39	56	376,306	96	623,327	152	999,633
40-44	144	1,039,358	155	1,038,791	299	2,078,149
45-49	248	1,837,327	172	1,141,609	420	2,978,936
50-54	273	2,138,704	213	1,429,904	486	3,568,608
55-59	351	2,699,672	286	2,017,288	637	4,716,960
60-64	398	2,869,153	347	2,028,771	745	4,897,924
65 & Over	<u>775</u>	<u>4,233,876</u>	<u>763</u>	<u>3,300,952</u>	<u>1,538</u>	<u>7,534,828</u>
Total	<u>2,260</u>	<u>15,292,762</u>	<u>2,057</u>	<u>11,752,821</u>	<u>4,317</u>	<u>27,045,583</u>

Average Age 59.4
Average Pension 6,265

BENEFICIARIES AND SURVIVOR ANNUITANTS

<u>Age</u>	<u>Male</u>		<u>Female</u>		<u>Total</u>	
	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>	<u>Number</u>	<u>Annual Pension</u>
Under 25	1	3,307	3	15,401	4	18,708
25-29	5	65,958	8	26,142	13	92,100
30-34	11	53,464	6	46,994	17	100,458
35-39	16	104,409	17	73,215	33	177,624
40-44	23	68,502	34	107,134	57	175,636
45-49	18	64,663	51	217,543	69	282,206
50-54	26	55,660	108	541,273	134	596,933
55-59	26	87,795	202	1,098,546	228	1,186,341
60-64	33	158,471	351	2,075,594	384	2,234,065
65-69	47	251,700	776	3,834,551	823	4,086,251
70-74	65	239,652	1,138	4,787,631	1,203	5,027,283
75-79	74	300,102	1,391	5,052,179	1,465	5,352,281
80-84	37	132,582	1,154	4,617,725	1,191	4,750,307
85-89	18	53,632	643	2,381,267	661	2,434,899
90 & Over	<u>7</u>	<u>18,342</u>	<u>306</u>	<u>801,060</u>	<u>313</u>	<u>819,402</u>
Total	<u>407</u>	<u>1,658,239</u>	<u>6,188</u>	<u>25,676,255</u>	<u>6,595</u>	<u>27,334,494</u>

Average Age 74.4
Average Pension 4,145

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1992

(as embodied in Act 31, approved March 1, 1974)

The State Employees' Retirement System of Pennsylvania makes provision for retirement, disability, and death benefits for all State employes and certain other eligible groups. The major provisions may be summarized as follows:

Eligibility Employes

- Class A - All regular State employes as well as employes of certain Commissions and Authorities and all employes of state-owned educational institutions and the Pennsylvania State University (unless such employes have joined the Public School Employes' Retirement System of Pennsylvania or TIAA-CREF). All employes who become members (or who rejoin the Retirement System) on and after March 1, 1974 except Judges and District Justices.
- Class C - Liquor Law enforcement officers and other officers and certain employes of the Pennsylvania State Police who have been members and employes continuously since prior to March 1, 1974.
- Class D-3 - Members of the General Assembly who have been members and employes continuously since prior to March 1, 1974.
- Class E-1 - Judges.
- Class E-2 - District Justices.

Age and Service Requirements for Superannuation Retirement (full formula benefits)

- Class A - Age 60, with three years of service, except for members of the General Assembly, enforcement officers, correction officers, psychiatric security aides, and officers of the Delaware River Port Authority; for whom the requirement is age 50 with three years of service. Members of Class A with 35 or more years of credited service are entitled to full formula benefits regardless of age. State Police Officers can retire on full benefits after age 50 or with 20 years of service.
- Classes C and D-3 - Age 50.
- Class E-1 - Age 60.
- Class E-2 - Age 60.

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1992
(as embodied in Act 31, approved March 1, 1974)

Formula for Superannuation Retirement Annuity

The standard single-life annuity applicable to members of Class A and Class C is equal to 2 percent of the high 3-year average salary ("F.A.S.") of the member multiplied by the years and fractions of credited service.

The applicable single-life annuity for Class C State Police and Class A State Police is a minimum of 50 percent of highest annual salary if the member has over 20 but less than 25 years of service. With more than 25 years of service the benefit is a minimum of 75 percent of highest annual salary.

The annuity for other classes of members is obtained by multiplying the standard single-life annuity by a class multiplier as follows:

<u>Class</u>	<u>Multiplier</u>	
D-3	3.75	
E-1	2.0	for each of the first 10 years of judicial service dropping to 1.5 for each subsequent year of judicial service.
E-2	1.5	for each year of judicial service.

NOTE: There are conditions under which long-service members or members retiring at advanced ages may receive somewhat larger benefits than those described above. Further, benefit limitations exist for most members of class D-3.

In addition to the standard single-life annuity as determined above, a member of Class C receives a "member's annuity" actuarially equivalent to the regular accumulated member contributions and interest at retirement but not less than such annuity determined as if the member was age 60 at retirement.

In addition to the above benefits, a member who has elected Social Security Integration Coverage is entitled to a single-life annuity of 2 percent of his "Average Non-Covered Salary" for each year of Social Security Integration (SSI) coverage. All Class E members can elect SSI coverage. Other members must have elected SSI coverage before March, 1974. "Average Non-Covered Salary" is the average annual salary received while covered by the Retirement System since January 1, 1956 in excess of the maximum covered wages under Social Security.

Age and Service Requirements for Disability Retirement

A member is eligible for disability retirement if the member is unable to perform his or her current job prior to superannuation retirement age and has at least 5 years of service. An officer of the State Police or Liquor Law enforcement officer does not have a service requirement.

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1992 (as embodied in Act 31, approved March 1, 1974)

Formula for Disability Benefit

The disability benefit is equal to the benefit calculated as for superannuation retirement, based on years of credited service at disability, if the result is greater than or equal to 33-1/3 percent of F.A.S. at time of disability. If the benefit so calculated is less than 33-1/3 percent of F.A.S., the disability benefit is equal to the smaller of:

- (a) the benefit calculated as for superannuation retirement based on service projected to superannuation date, or
- (b) 33-1/3 percent of F.A.S. at time of disability.

Eligibility for Vested Benefit

A member is eligible for a vested benefit after 10 years of service, except for members of Class D-3 who are eligible after 6 years of credited service.

Vested Benefit

The vested benefit is equal to the benefit calculated as for superannuation, based on years of credited service at the time of leaving the plan. The former member can receive the full benefit beginning at superannuation age, or an actuarially reduced early retirement benefit beginning at the date of separation.

Eligibility for Death Benefit Prior to Retirement

A member is eligible if the member has 10 years of credited service, except for a member of Class D-3 who is eligible after 6 years of credited service, or upon attainment of superannuation age with 3 years of credited service.

Amount of Death Benefit Prior to Retirement

An eligible beneficiary receives the full reserve value of the benefits to which the member would have been entitled had the member retired the day before he or she died, assuming the member had elected Option 1 if no other option had been elected.

Temporary Early Retirement Benefit

A temporary early retirement incentive began October 1, 1991 and continues through June 30, 1993. During this period of time, a member who has 30 or more years of service may retire at any age and receive full unreduced benefits.

Death Benefits After Retirement

A member may elect one of several optional reduced pensions in lieu of the single-life annuity provided by the formula. However, if the member elects the single-life annuity, there is a provision for a modified cash refund without actuarial reduction of the unpaid balance of the member accumulated contributions and interest at time of retirement.

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1992
(as embodied in Act 31, approved March 1, 1974)

Supplemental Allowances

Any superannuation or disability annuitant is entitled to a supplemental allowance sufficient to build the amount of the total single-life allowance, including any cost-of-living supplements, up to the rate of \$84.50 for each year of credited service. An annuitant who retired early is entitled to the supplemental allowance upon attaining superannuation age.

Supplemental annuities applying cost-of-living increases to the benefits of annuitants have been instituted from time to time. The most recent of these became effective as of January 1, 1989.

Rate of Member Contribution

(i) Regular member contributions, excluding Social Security Integration contributions

Class A - 5.00% of total salary for those who became members prior to July 22, 1983 and have been in continuous membership since July 22, 1983.

6.25% of total salary for other members; as a result of this valuation and according to Section 5505.1 of Title 71, the additional 1.25 percent will be discontinued effective July 1, 1993.

For other classes of members, the class of service multiplier is applied to the 5% rate to produce the following:

Class C - 5.00%

Class D-3 - 18.75%

Class E-1 - 10.00% during the first 10 years of judicial service and 7.5% thereafter.

Class E-2 - 7.50%

(ii) Additional contribution for Social Security Integration Credit

Any member who elects Social Security Integration Credit pays 5 percent of any salary in excess of the amount of salary covered by Social Security during the year for which contributions are being made. A member electing to end additional contributions is ineligible to make future contributions or accrue future benefits.

Interest Credited on Member Contributions

A rate of 4 percent stipulated as the statutory rate of interest, has been credited on the member contributions since the inception of the system.

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1992
(as embodied in Act 31, approved March 1, 1974)

Refund of Accumulated Member Contributions

On the death of a member not qualifying for death benefits, the accumulated member contributions are paid to the beneficiary; also, any member terminating service when not eligible for another form of benefit is paid a refund of the accumulated contributions and interest; any other terminating member may elect the refund of accumulated contributions and interest in lieu of a retirement allowance.

Employer Contributions

The employer pays the balance of the cost in excess of the members' contributions with payment schedules determined by law. The employer contribution is the employer share of the normal cost plus the amount needed to amortize the December 31, 1990 accrued and supplemental liabilities over a twenty-year period ending with June 30, 2011. Changes in cost after 1990 are being amortized over new twenty-year periods beginning with the July first following the effective date of the change.

STATE EMPLOYES' RETIREMENT SYSTEM

ACTUARIAL ASSUMPTIONS

Schedule N shows the actuarial assumptions used for the valuation. The assumptions were based on an evaluation of experience under SERS from 1986 through 1990. Schedule N contains an extract of the full set of rates used in the valuation. The full set of rates is in the evaluation report which can be obtained from SERS. The rates are the probabilities that an event will occur in the year after the valuation. For instance, the male superannuation rate of .200 at age 60 means that 200 of every 1,000 employees age 60 and eligible for full benefits are expected to retire before they reach age 61.

Interest Rate: Interest rate of 9.9 percent graded down to 6.0 percent as shown in Schedule O, compounded annually.

Superannuation and Early Retirement Allowances: The mortality table used for those receiving superannuation and early retirement allowances is the 1971 Group Annuity Mortality Table.

Disability Allowances: The mortality tables used for those receiving disability allowances are modifications of the Federal Civil Service Disability Mortality table.

FOR ACTIVE GENERAL EMPLOYES

<u>Early Retirement Rate*</u>			<u>Superannuation Retirement Rates</u>		
<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male</u>	<u>Female</u>
30	.020	.047	50-58	.150	.040
35	.022	.029	59	.150	.150
40	.016	.025	60	.200	.308
45	.015	.021	61	.220	.250
50	.016	.025	62	.600	.500
55	.022	.035	63	.300	.330
			64	.300	.330
			65	.600	.590
			66	.400	.410
			67	.300	.390
			68-79	.280	.280
			80	1.000	1.000

* Early retirement rates only apply to members not eligible for superannuation retirement.

STATE EMPLOYES' RETIREMENT SYSTEM

ACTUARIAL ASSUMPTIONS (Continued)

FOR ACTIVE GENERAL EMPLOYEES

Rates of Separation Due to Withdrawal*

<u>Age</u>	<u>Male</u>				<u>Age</u>	<u>Female</u>			
	<u>Years of Service</u>					<u>Years of Service</u>			
	<u>0</u>	<u>1</u>	<u>5</u>	<u>9+</u>		<u>0</u>	<u>1</u>	<u>5</u>	<u>9+</u>
20	.1720	.1200	.0500	.0048	20	.1902	.1014	.1176	.0098
25	.1720	.1200	.0546	.0048	25	.2114	.1820	.1176	.0098
30	.1293	.1069	.0536	.0048	30	.2117	.2023	.1150	.0098
35	.1293	.1069	.0536	.0048	30	.1780	.1461	.0897	.0078
40	.1095	.0642	.0376	.0037	40	.1503	.0979	.0682	.0061
45	.1035	.0796	.0293	.0034	45	.1279	.0882	.0611	.0051
50	.0979	.0511	.0217	.0032	50	.1550	.0870	.0545	.0060
55	.0856	.0430	.0190	.0030	55	.1289	.1130	.0511	.0056

FOR ALL ACTIVE EMPLOYEES

<u>Age</u>	<u>Death</u>		<u>Age</u>	<u>Disability*</u>	
	<u>Male</u>	<u>Female</u>		<u>Male</u>	<u>Female</u>
25	.0006	.0005	25	.0004	.0005
30	.0008	.0005	30	.0008	.0014
35	.0008	.0007	35	.0016	.0023
40	.0013	.0011	40	.0024	.0031
45	.0022	.0012	45	.0044	.0049
50	.0036	.0022	50	.0062	.0073
55	.0059	.0037	55	.0081	.0093
60	.0090	.0042			

* Separation due to withdrawal and disability retirement rates only apply to members not eligible for superannuation retirement.

STATE EMPLOYES' RETIREMENT SYSTEM

ACTUARIAL ASSUMPTIONS (Continued)

FOR SPECIAL BENEFIT CLASSES

Withdrawal

<u>Years of Service</u>	<u>Class C</u>	<u>Class D</u>	<u>Class E</u>
0	.074	.000	.050
1	.035	.030	.040
2-3	.027	.030	.030
4-6	.025	.030	.020
7-8	.009	.030	.010
9+	.001	.002	.002

Early Retirement

	<u>Class C</u>	<u>Class D</u>	<u>Class E</u>
Any Age	.0130	.0450	.0210

Superannuation

<u>Age</u>	<u>Class C Less Than 20 Years of Service</u>	<u>Class D</u>	<u>Class E</u>	<u>Class C 20 or More Years of Service Service</u>	
50	.075	.060	N/A	20	.200
55	.130	.060	N/A	21	.080
60	.350	.100	.150	22	.080
65	.650	.130	.250	23	.040
70	.300	.130	.900	24	.040
75	.300	.130	.900	25	.200
80	1.000	1.000	1.000	26-30	.080

STATE EMPLOYES' RETIREMENT SYSTEM

ACTUARIAL ASSUMPTIONS (continued)

Career Salary Scale for Members in Classes A and C

<u>Age</u>	<u>Hire Date Before July 1988</u>	<u>Hire Date After July 1988</u>
20	4.5%	4.5%
21	4.3	4.0
22	4.1	3.8
23	3.9	3.4
24	3.7	3.2
25	3.5	2.9
26	3.5	2.9
27	3.4	2.8
28	3.4	2.8
29	3.3	2.7
30	3.3	2.7
31	3.2	2.6
32	3.2	2.6
33	3.1	2.5
34	3.1	2.5
35	3.0	2.4
36	3.0	2.4
37	2.9	2.4
38	2.9	2.3
39	2.8	2.3
40	2.8	2.2
41	2.7	2.2
42	2.7	2.2
43	2.6	2.2
44	2.6	2.2
45 and Older	2.5	2.2

No salary scale is used for members in Classes D and E. These rates predict the career salary growth for individuals. In addition to career salary growth, it is assumed that salary rates will increase by 4 percent each year.

STATE EMPLOYES' RETIREMENT SYSTEM

I. ASSET VALUATION METHOD

The actuarial value of assets is developed by recognizing the difference between the expected actuarial value of assets and the market value of assets over a five-year period. The expected actuarial value is last year's actuarial value brought forward to reflect actual contributions, benefit payments and expenses, and assumed investment income. Each year 20 percent of the difference between this expected value and the market value is recognized in determining the current actuarial value of assets with the remaining 80 percent to be recognized over the next four years.

The adjustments and the resulting actuarial assets are shown in Schedule J. The assets are further adjusted to account for the remaining contributions in fiscal year 1993 (through June 30, 1993) since the 1992 valuation results will not be reflected in employer contributions until July 1, 1993. The assets are increased by employer contributions due for fiscal year 1993. They are then reduced by the employer normal cost that would be payable from January 1, 1993 to June 30, 1993.

II. FUNDING AND CONTRIBUTION POLICY

The Pennsylvania State Employees' Retirement System funding policy provides for periodic employer contributions at actuarially determined rates that will amortize the liabilities by June 30, 2012. This policy assures that the SERS is appropriately funded and also that the fund will accumulate sufficient assets to pay benefits when they are due. The policy is set by the State Employees' Retirement Board in conformance with specific legal requirements as to the method of funding.

A variation of the Entry-Age Actuarial Cost Method is used to determine the liabilities and costs related to all SERS benefits including superannuation, withdrawal, death and disability benefits. The significant difference between the method used for SERS and the typical Entry-Age Actuarial Cost Method is that the normal cost is based on the benefits and contributions for new employes rather than for all current employes from their date of entry. The SERS variation should produce approximately the same results as the typical method over the long run.

The annual contribution is equal to the sum of:

The employer share of the normal cost.

The amortization of the unfunded liabilities as of December 31, 1990 over a twenty-year period ending on June 30, 2011.

The amortization of changes in liability after 1990 over twenty-year periods beginning with the July first following the effective date of the change. Changes include actuarial gains and losses and plan amendments.

All of the amortization payments are based on a schedule of contributions that increase five percent a year. The employer cost is determined as a percent of payroll and the employer contributes that percent of the payroll of all covered members during each fiscal year. The employer cost is the total of (1) the employer normal cost percent and (2) the amortization payment for fiscal year 1993/94 divided by the projected payroll for the fiscal year.

STATE EMPLOYES' RETIREMENT SYSTEM

The assumptions used in determining the actuarial cost are stated in Schedule N, and the employer cost, as a percent of payroll, is determined in Schedules A and B. The assumptions used for the current valuation were adopted after a review of the evaluation of experience under SERS from 1986 through 1990. The salary increases and investment returns are:

<u>Years</u>	<u>Salary Increases</u>			<u>Investment Return</u>
	<u>General</u>	<u>Average Career</u>	<u>Total</u>	
1993 to 2000	4.0%	2.5%	6.5%	9.9%
2001 to 2005	4.0	2.5	6.5	9.0
2006 to 2010	4.0	2.5	6.5	8.0
2011 to 2015	4.0	2.5	6.5	7.0
After 2015	4.0	2.5	6.5	6.0

All costs and liabilities have been determined in conformance with generally accepted actuarial principles and procedures in accordance with the principles of practice prescribed by the Actuarial Standards Board. The calculations were performed on the basis of actuarial assumptions and methods which are internally consistent and reasonable (taking into account past experience under the SERS and reasonable expectations) and which in combination represent the best estimate of anticipated experience under the plan.

III. DISCLOSURE ASSUMPTIONS

The Projected Benefit Obligation (PBO) is the present value of accumulated plan benefits based on past service and projected salary. The PBO was calculated using the withdrawal, death and retirement assumptions set forth in Schedule N.

The career salary for the PBO growth was set equal to the salary growth shown in Schedule N including the assumptions that the salary rates would increase by 4 percent per year, compounded annually. The rate of interest was 9.25 percent per year, compounded annually. The rate of 9.25 percent is approximately equal to the assumed investment return rates averaged over the period during which past obligations to current employees and annuitants will be paid. The 1992 investment return rate was also 9.25 percent.

The result of the use of the above salary scales and interest rate is to determine a PBO that is the best estimate of the actual obligations of the fund using the procedures established by the Governmental Accounting Standards Board.

The present value of accumulated plan benefits is the liability based on past service but without projection of a salary increase. This value was determined using the assumptions from Schedule N and an interest rate of 5.75 percent for this 1992 report. The interest rate is the Pension Benefit Guaranty Corporation rate for immediate annuities as of January 1, 1993. The rate used for the 1991 report was 6.50 percent.

Both disclosure values were determined using the demographic assumptions based on the 1986 to 1990 evaluation of experience.

STATE EMPLOYEES' RETIREMENT SYSTEM

DEFINITIONS OF TECHNICAL TERMS

Accrued Service. Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Accrued Liability. The portion of the actuarial present value of benefits which is not provided for by the actuarial present value of future normal costs. Also referred to as Past Service Liability.

Actuarial Assumptions. Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, investment income and salary growth. 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 actuarial present value of future benefits between future normal costs and the actuarial accrued liability.

Actuarial Present Value. The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting projected future payments at assumed rates of interest and probabilities of payment.

Amortization. Paying off an amount with periodic payments of interest and principle -- as opposed to paying off with a lump sum payment.

Normal Cost. The portion of the actuarial present value of future benefits that is allocated to the current year by the actuarial cost method.

Projected Benefit Obligation. The present value of pension benefits estimated to be payable in the future as a result of employe service to the date of the valuation. The projection includes expected increases in salary.

Unfunded Actuarial Accrued Liabilities. The difference between actuarial accrued liabilities and valuation assets.