

***COMMONWEALTH OF PENNSYLVANIA***  
***STATE EMPLOYEES' RETIREMENT SYSTEM***

***1991 Actuarial Report***

***Hay/Huggins Company***  
***June 10, 1992***

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**June 4, 1992**

Hay/Huggins  
Company

**Mr. John Brosius  
Executive Director  
State Employees' Retirement System  
Boas School Building  
909 Green Street  
Harrisburg, PA 17102**

**Dear Mr. Brosius:**

**This report presents the results of our actuarial valuation of the Pennsylvania State Employees' Retirement System (SERS) as of December 31, 1991. 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.**

**Purpose**

**The main purposes of this report are:**

- to indicate the pension contribution rates which will be the basis for the Fiscal Year 1992-93 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 and other accounting information.**

**Certification**

**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 procedures in accordance with the principles of practice prescribed by the Actuarial Standards Board. The calculations were performed**

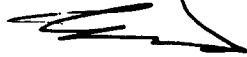
**HayGroup**

Mr. John Brosius  
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Hay/Huggins  
Company

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 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. 90-1499

# STATE EMPLOYES' RETIREMENT SYSTEM

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**STATE EMPLOYES' RETIREMENT SYSTEM**

**VALUATION HIGHLIGHTS**

	<u>December 31, 1991</u>	<u>December 31, 1990</u>
	<u>Valuation</u>	<u>Valuation</u>
● <b>Summary of Contributions:</b> (Percent of Members' Compensation)		
Normal Cost .....	8.50%	7.90%
Amortization of Liabilities .....	0.42	1.97
Total .....	8.92%	9.87%
 <b>Contribution Rate for:</b>		
<b>Class A Members:</b>		
Age 60 Superannuation .....	7.71%	8.61%
Age 50 Superannuation .....	9.83	11.03
State Police .....	25.92	27.96
<b>Class C Members:</b>		
State Police .....	25.92	27.96
Enforcement Officers .....	9.83	11.03
<b>Class D Members</b> .....	36.88	41.36
<b>Class E Members</b> .....	14.69	16.05
 ● <b>Market Value of Assets</b> .....	<b>\$11,940,082,107</b>	<b>\$ 9,876,027,442</b>
● <b>Projected Benefit Obligation</b> .....	<b>\$10,466,121,339</b>	<b>\$9,536,331,333</b>
● <b>Active Participants:</b>		
Number .....	105,731	111,248
Average annualized compensation for 1991 .....	\$ 29,504	\$ 28,729
Total annualized compensation for 1991 .	\$3,119,516,246	\$3,196,785,204
● <b>Annuitants and Beneficiaries:</b>		
Number .....	76,240	74,222
Total annual pension .....	\$ 501,909,761	\$ 462,153,584
● <b>Inactive Participants:</b>		
Number .....	7,616	3,619

## STATE EMPLOYES' RETIREMENT SYSTEM

### General Discussion

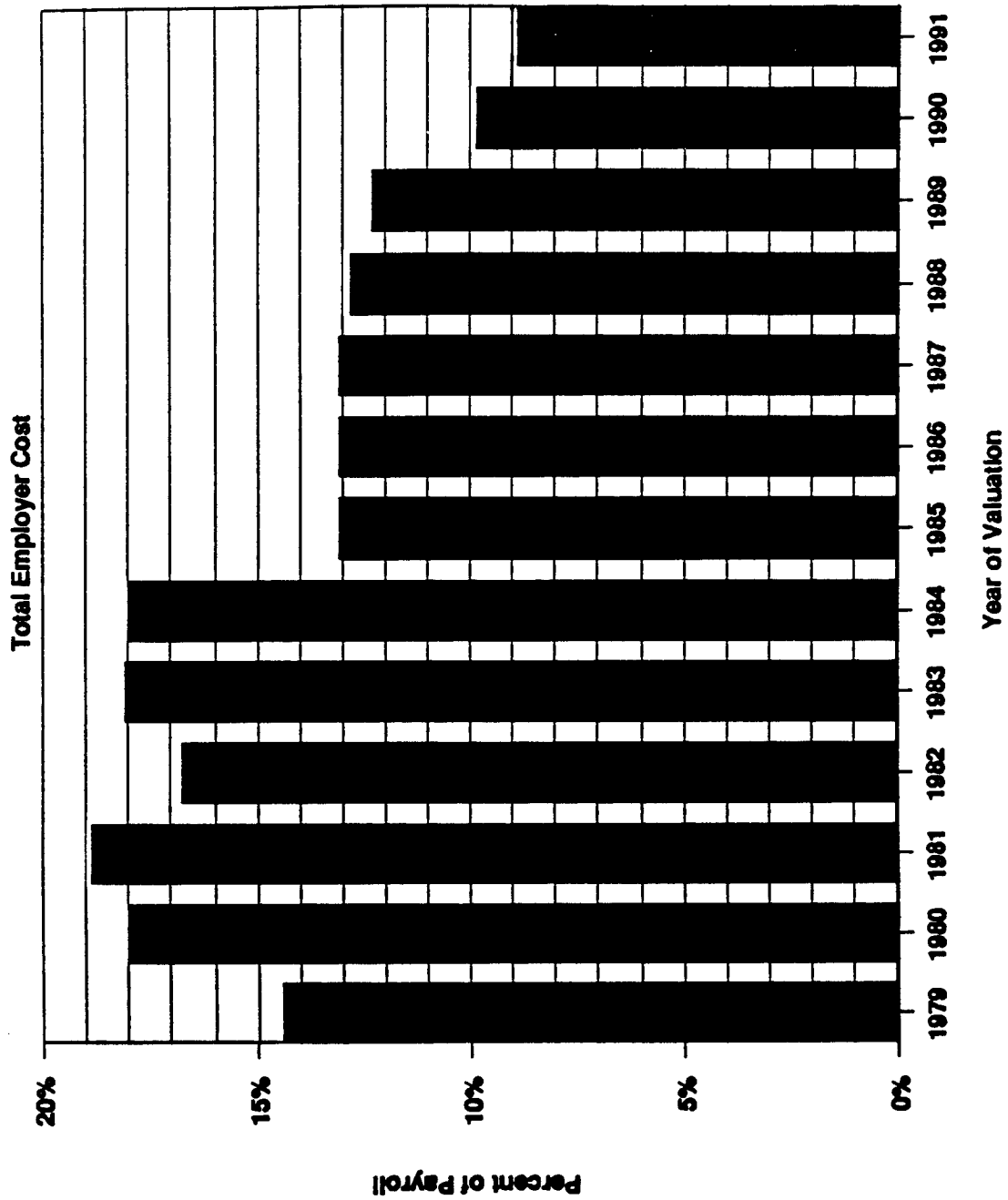
The liabilities and costs in this report were based on actuarial assumptions adopted by the State Employees' Retirement Board in 1991 and funding procedures specified in Act 1991-23. The same assumptions were used in the 1991 valuation. The rates of investment return and salary increases are shown in 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>	
1992 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 current valuation. The primary reason for the drop was investment earnings above the 9.9 percent expected investment return. Recognition of one-fifth of the excess investment return in 1991, combined with recognition of one-fifth of excess returns over the last four years, resulted in a reduction of 1.11 percent in the employer contribution rate. Liabilities attributable to the early retirement window specified in Act 1991-23 resulted in an increase of .34 percent. Other changes, primarily the fact that there was no general salary increase in 1991, compared to the expected 4 percent increase, resulted in a reduction of .32 percent in the employer contribution rate.

# Pennsylvania State Employees' Retirement System



# **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 7.90 percent in 1990 to 8.50 percent in 1991.

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 1991 was \$735,926,889. The credit for that gain will be recognized as an offset against contributions otherwise needed over the 20 years beginning July 1, 1992. The total contribution for the unfunded liability declined from 1.97 percent to .42 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, 1991 actuarial valuation is 8.92 percent. The 1990 valuation had produced an Employer Contribution Rate of 9.87 percent.



## 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 7.71 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 effect of the adjustments is to produce an aggregate employer contribution rate that is equal to the required rate of 8.92 percent of total payroll. The complete schedule of contributions is as follows:

Class A with age 60 benefit	7.71%
Class A with age 50 benefit	9.83
Class A State Police	25.92
Class C State Police	25.92
Class C Enforcement Officers	9.83
Class D	36.88
Class E	14.69

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 1990 to 1991 valuation. The excess interest earnings of \$477,000,000 brought into the assets in 1991 reduced the cost by 1.11 percent of salary. Liabilities attributable to the early retirement window specified in Act 1991-23 resulted in an increase of \$145,000,000. Other changes and the fact that there was no general salary increase in 1991, compared to the expected 4 percent increase, resulted in a reduction of \$403,000,000.

## STATE EMPLOYES' RETIREMENT SYSTEM

The net result of all changes was to reduce the aggregate employer contribution from 9.87 percent of compensation to 8.92 percent of compensation.

The amortization payments on the unfunded liability would have reduced the liability to \$883,464,279 as of December 31, 1991. The combined result of the changes resulted in a liability of \$147,537,390.

### 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; amounts to fund the unfunded liability and member contributions.

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 \$687,327,928 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, 1991. The liability was determined to be \$10,466,121,339. The market value of assets was 114.1 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 \$10,545,321,040 and the ratio of market value of assets to accumulated plan benefits was 113.2 percent. The value increased from \$8,780,696,928 in 1990 to \$10,545,321,040 in 1991. The interest rate used was 6.50 percent, which is the interest rate for immediate annuities, as of January 1, 1992, published by the Pension Benefit Guaranty Corporation.

## STATE EMPLOYES' RETIREMENT SYSTEM

### Plan Assets

Schedule J summarizes the development of the actuarial value of assets as of December 31, 1991. 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 1991). This smoothing method includes 20 percent of the 1991 asset gain of \$1,245,070,096 this year, with the remainder to be recognized over the next four years.

### Projection

Schedule K contains 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, 1991 by benefit class, sex, age, and length of service. It also shows the average annualized salary in 1991 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.

As of December 31, 1991, there were 4,334 members who had retired but who had not yet been transferred from active or inactive to retired status. These members are shown in active or inactive status in Schedule L and the valuation highlights. For purposes of determining the liabilities and costs, the liabilities were determined based on their retired benefit.

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. Special early retirement provisions became available for members who retired after February 1, 1991 and certain of these provisions will extend to retirees through June 30, 1993. There were no other changes in plan provisions in 1991.

### 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 Q 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 amortize all existing liabilities by June 30, 2011. 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 EMPLOYEES' RETIREMENT SYSTEM**

**UNFUNDED LIABILITY AND NORMAL COST DECEMBER 31, 1991**

**I. Present Value of Benefits:**

1) Active and Inactive Participants	
a) Superannuation and Withdrawal .....	\$ 9,748,685,779
b) Disability .....	560,808,616
c) Death .....	722,346,619
d) Refunds .....	57,482,665
e) Special Police and Enforcement Officer Benefits .....	61,857,818
2) Annuitants and Beneficiaries .....	<u>4,449,388,469</u>
3) Total .....	\$ 15,600,569,966

**II. Present Value of Member and Employer Contributions:**

1) Employer portion of Normal Cost .....	\$ 2,839,302,863
2) Member Contributions .....	1,823,484,167
3) Special Police and Enforcement Officer Contributions .....	<u>0</u>
4) Total .....	\$ 4,662,787,030

**III. Actuarial Accrued Liability: (I) - (II) .....** \$ 10,937,782,936

**IV. Adjusted Actuarial Value of Assets .....** \$ 10,790,245,546

**V. Unfunded Liability (III) - (IV) .....** \$ 147,537,390

**VI. Employer Normal Cost Rate**

1) Normal Cost Rate for new active members to fund:	
a) Superannuation and Withdrawal .....	12.55%
b) Disability .....	0.82
c) Death .....	0.68
d) Refunds .....	<u>0.70</u>
e) Total .....	14.75%
2) Member Deductions .....	6.25%
3) Employer Normal Cost (1)-(2) .....	8.50%

STATE EMPLOYEES' RETIREMENT SYSTEM

TOTAL EMPLOYER CONTRIBUTION RATE IN FISCAL YEAR 1992-93

	Funding Period 20 Years from July 1	Initial Amount of Liability	Outstanding Balance as of 12/31/91	Annual Payment to Fund Amount	Annual Payment to Fund Percent*
I. Amortization of:					
1) Liability for Supplemental Annuities	1991	\$ 405,641,841	\$ 413,292,342	\$ 34,133,443	1.00%
2) Liability for Other Benefits	1991	461,468,532	470,171,937	38,831,078	1.13%
3) Liability (Asset) for Changes in 1992	1992	(735,926,889)	(735,926,889)	(58,617,173)	(1.71)%
4) Total Liability Payment (1) + (2) + (3)			\$ 147,537,390	\$ 14,347,348	0.42%
II. Employer Normal Cost					8.50%
III. Total Employer Cost (I) + (II)					8.92%

\*The payment is expressed as a percentage of the projected total payroll for active members in fiscal year 1992-93 of \$3,427,866,000.

STATE EMPLOYEES' RETIREMENT SYSTEM

EMPLOYER CONTRIBUTION RATE BY GROUP

	Class A (Age 60 Super- annuation)	Class A (Age 50 Super- annuation)	Class A Police	Class C Enforcement Officers	Class D	Class E
1) Basic Contribution Rate	7.71%	7.71%	7.71%	7.71%	7.71%	7.71%
2) Age 50 Superannuation	-	2.12	2.12	2.12	2.12	-
3) Multiplier Adjustment	1.00	1.00	1.558	1.00	3.75	1.6582
4) Past Liability	-	-	10.60	-	-	1.90
5) Class C Additional Annuities	-	-	0.00	0.00	-	-
6) Adjusted Contribution Rates: [(1) + (2)] x 3 + 4 + 5	7.71%	9.83%	25.92%	9.83%	36.88%	14.69%
7) Projected 1992/93 Payroll	\$2,968,265,000	\$225,578,000	\$82,088,000	\$3,130,000	\$1,287,000	\$50,339,000
8) Employer Contribution Amount	\$228,853,000	\$22,174,000	\$21,277,000	\$308,000	\$475,000	\$7,395,000

**Note:** The total employer contribution (\$305,766,000) is the average employer contribution rate from Schedule B (8.92 percent) times the total projected payroll (\$3,427,866,000). The Class A Basic Contribution Rate (7.71 percent) was determined as the percentage needed to produce employer contribution amounts by class that sum to \$305,766,000. The resulting total contribution amount may differ slightly because of rounding.

**STATE EMPLOYEES' RETIREMENT SYSTEM**

**STATE POLICE AND ENFORCEMENT OFFICERS - ADDITIONAL ANNUITY RATE**  
(Fiscal Year 1992-93)

	<u>State Police</u>	<u>Enforcement Officers</u>
1) Balance in Benefit Account as of December 31, 1991 .....	\$480,257,991	\$26,192,641
2) Present Value of Benefits for Annuitants and Beneficiaries .....	335,926,231	12,330,589
3) Assets available for additional annuities for Active Members: (1) - (2) .....	144,331,760	13,862,052
4) Present Value of additional annuities for Active Members .....	59,743,097	2,114,721
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 EMPLOYES' RETIREMENT SYSTEM**

**AIR AND ARMY NATIONAL GUARD ACCOUNT CONTRIBUTION RATE**  
**(Fiscal Year 1992-93)**

1)	Estimated Account Balance @ July 1, 1992 .....	\$3,319,848
2)	Contribution Required to Amortize (1) over 20 years from July 1, 1980 .....	510,064
3)	Estimated Fiscal year 1992-93 payroll for Air and Army National Guard Members .....	896,800
4)	Employer Contribution Rate .....	7.71%
5)	Total Required Contribution: (2) + ((3) x (4)) .....	\$ 579,207

**STATE EMPLOYEES' RETIREMENT SYSTEM**

**ANALYSIS OF CHANGE IN EMPLOYER CONTRIBUTION RATE**

	<u>Normal Cost</u>	<u>Unfunded Liabilities</u>	<u>Total</u>
I. December 31, 1990 Valuation .....	7.90%	1.97%	9.87%
II. Changes - 12/31/91 Valuation:			
1) Excess Investment Earnings .....		(1.11)%	(1.11)%
2) Change in demographics of the New Entrants .....	0.60	(0.46)	0.14
3) Increased Benefits Provided by Act 1991-23 .....		0.34	0.34
4) Salary Increase Less Than Assumed Rates and Miscellaneous Changes .....		(0.32)	(0.32)
5) Total Change .....	0.60%	(1.55)%	(0.95)%
III. December 31, 1991 Valuation:			
(I) + (II) .....	8.50%	0.42%	8.92%

**ANALYSIS OF CHANGE IN UNFUNDED LIABILITY**

I. December 31, 1990 Unfunded Liability .....	\$ 867,110,373
II. Expected amortization payment .....	69,490,020
III. Expected liability as of December 31, 1991 [((I) x 1.099) - (II)] .....	883,464,279
IV. Change in liability due to:	
1) Excess Investment Earnings .....	(477,398,493)
2) Increased Benefits Provided by Act 1991-23 .....	144,641,530
3) Salary Increases less than Assumed Rates and Miscellaneous Changes .....	(403,169,926)
4) Total Change .....	\$(735,926,889)
V. December 31, 1991 Unfunded Liability: (III) + (IV) .....	\$ 147,537,390

STATE EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL BALANCE SHEET AS OF DECEMBER 31, 1991

ASSETS

LIABILITIES

Present Assets:

Members' Savings Account .....	\$ 1,973,197,683
Annuity Reserve Account .....	4,101,111,649
State Police Benefit Account .....	480,257,991
Enforcement Officers Benefit Account .....	26,192,641
State Accumulation Account .....	5,772,614,485
Supplemental Annuity Account .....	(413,292,342)
<b>Total Present Assets (Market Value) .....</b>	<b>\$11,940,082,107</b>

Adjustment to smooth market

fluctuations .....	(1,310,029,584)
Adjustment for Contributions Payable in the	160,193,023
Fiscal year .....	\$10,790,245,546
<b>Total Present Assets (Actuarial Value) .....</b>	

Present Value of Future Contributions

Members' Contributions (Employee) .....	\$ 1,823,484,167
Normal Cost Contributions (Employer) .....	2,839,302,863
Accrued Liability Amortization	(265,754,952)
(Employer) .....	413,292,342
Supplemental Annuity Amortization	0
(Employer) .....	0
Special State Police Contributions	0
(Employer) .....	0
Special Enforcement Officer	0
Contributions (Employer) .....	0
<b>Total Future Contributions .....</b>	<b>\$ 4,810,324,420</b>

**TOTAL ASSETS .....**

**\$15,600,569,966**

Present Value of Benefits Payable to Annuitants

and Beneficiaries from:	
Annuity Reserve Account .....	\$ 4,101,111,649
State Police Benefit Account .....	335,926,231
Enforcement Officers Benefit Account .....	12,350,589
<b>Total for Annuitants and Beneficiaries .....</b>	<b>\$ 4,449,388,469</b>

Present Value of Benefits to Active and Inactive Members from:

Member Savings Account and State Accumulation Account

Superannuation and	
Withdrawal .....	\$ 9,748,685,779
Disability .....	560,808,616
Death .....	722,346,619
Refunds .....	57,482,665
<b>Sub Total .....</b>	<b>\$11,089,323,679</b>
State Police Benefit Account .....	59,743,097
Enforcement Officers Benefit Account .....	2,114,721
<b>Total .....</b>	<b>\$11,151,181,497</b>

**TOTAL LIABILITIES .....**

**\$15,600,569,966**

**STATE EMPLOYEES' RETIREMENT SYSTEM**

**REQUIRED TRANSFERS WITHIN SERS ACCOUNTS**

**I. Annuity Reserve Account**

Balance as reported by SERS .....	\$ 3,413,783,721
Transfer from State Accumulation Account .....	<u>687,327,928</u>
December 31, 1991 balance after transfers .....	\$ 4,101,111,649

**II. State Accumulation Account**

Balance as reported by SERS .....	\$ 6,459,942,413
Transfer to Annuity Reserve Account .....	<u>(687,327,928)</u>
December 31, 1991 Balance after transfers .....	\$ 5,772,614,485

**STATE EMPLOYES' RETIREMENT SYSTEM**

*Conc (8)*  
*7/27/92*  
*N. BARK*

**ACCOUNTING DISCLOSURE STATEMENTS**

**I. FUNDING STATUS OF PROJECTED BENEFIT OBLIGATION AS OF DECEMBER 31, 1991**

	<u>Number of</u> <u>Members</u>	
1) Projected benefit obligation		
a) Retirees and beneficiaries		
1. Superannuation retirements .....	50,841	\$3,279,591,121
2. Early retirements .....	19,174	889,685,073
3. Disabled .....	4,227	189,217,443
4. Beneficiaries .....	<u>6,332</u>	<u>164,040,703</u>
5. Total .....	80,574	\$4,522,534,340
b) Inactive participants .....	4,362	\$ 99,326,596
c) Active members		
1. Employee contributions and interest .....		\$1,974,435,168
2. Employer-financed liability - vested .....	62,547	3,532,143,922
3. Employer-financed liability - nonvested .....	<u>42,104</u>	<u>337,681,312</u>
4. Total .....	104,651	\$5,884,260,403
d) Total obligation for all members .....	189,587	\$10,466,121,339
2) Market value of assets available for benefits .....		\$11,940,082,107
3) Unfunded projected benefit obligation .....		\$(1,473,960,768)
4) Assets as a percent of projected benefit obligation .....		114.08%

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, 1991. 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. The allocation of members above differs from Schedule L because 4,334 members shown as active on the census tapes were actually in retired status.

STATE EMPLOYES' RETIREMENT SYSTEM

ACCOUNTING DISCLOSURE STATEMENTS

II. FUNDING STATUS OF ACCUMULATED PLAN BENEFITS AS OF DECEMBER 31, 1991

1)	Actuarial Present Value of Accumulated Plan Benefits	
a)	Vested	
	1. Active participants .....	\$ 4,859,616,606
	2. Inactive .....	66,078,788
	3. Superannuation Retirements .....	3,907,844,098
	4. Early Retirements .....	1,103,000,769
	5. Disabled .....	226,676,058
	6. Beneficiaries .....	<u>193,369,579</u>
	7. Total Vested .....	\$10,356,585,898
b)	Non-vested .....	\$ 188,735,142
c)	Total .....	\$10,545,321,040
2)	Market Value of Assets .....	\$11,940,082,107
3)	Ratio of market value of assets to actuarial present value of accumulated benefits	
a)	Vested benefits .....	115.3%
b)	Accumulated benefits .....	113.2%
4)	Changes in Accumulated Plan Benefits	
a)	Value as of December 31, 1990 .....	\$ 8,780,696,928
b)	Changes during year	
	1. Due to passage of time and other causes .....	\$ 694,551,544
	2. Due to change in plan provisions .....	189,538,261
	3. Due to change in interest rate .....	880,534,307
	4. Total change .....	1,764,624,112
c)	Value as of December 31, 1991 .....	\$10,545,321,040

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 employee service to December 31, 1991. This measure assumes that salaries will not increase in the future. The investment return assumption is 6.50 percent.

STATE EMPLOYES' RETIREMENT SYSTEM

ACTUARIAL VALUE OF ASSETS

I. Development of 12/31/91 Expected Actuarial Value:	
1) Actuarial Value as of 12/31/90 .....	\$ 9,333,669,460
2) Contributions in 1991 .....	563,958,236
3) Benefits and Expenses in 1991 .....	664,052,287
4) Interest @ 9.9% to 12/31/91 on (1) .....	924,033,277
5) Interest @ 9.9% to 12/31/91 on .5 x ((2) - (3)) .....	<u>(4,954,656)</u>
6) Expected Actuarial Value as of 12/31/91: (1) + (2) - (3) + (4) + (5) .....	\$ 10,152,654,030
II. Previous Differences Not Yet Amortized:	
1) Unrecognized Amount of 12/31/87 Difference: .2 x \$(105,132,816) .....	\$ (21,026,563)
2) Unrecognized Amount of 12/31/88 Difference: .4 x \$559,956,761 .....	223,982,704
3) Unrecognized amount of 12/31/89 Difference: .6 x \$1,051,384,490 .....	630,830,694
4) Unrecognized amount of 12/31/90 Difference: .8 x \$(364,286,067) .....	<u>(291,428,854)</u>
5) Total .....	\$ 542,357,981
III. Gain or Loss from 1991	
1) Market Value of Assets on 12/31/91 .....	\$ 11,940,082,107
2) Expected Market Value II(5) + I(6) .....	<u>10,695,012,011</u>
3) Gain (loss) from 1991 Investments (1) - (2) .....	\$ 1,245,070,096
IV. Development of Actuarial Value of Assets as of 12/31/91:	
1) 20% of \$(105,132,816) (12/31/87 Difference): .....	\$ (21,026,563)
2) 20% of \$559,956,761 (12/31/88 Difference): .....	111,991,352
3) 20% of \$1,051,384,490 (12/31/89 Difference): .....	210,276,898
4) 20% of \$(364,286,067) (12/31/90 Difference): .....	<u>(72,857,213)</u>
5) 20% of \$1,245,070,096 (12/31/91 Difference): .....	<u>249,014,019</u>
6) Total Difference: (1) + (2) + (3) + (4) + (5) .....	\$ <u>477,398,493</u>
7) Actuarial Value at 12/31/91: I(6) + IV(6) .....	\$ 10,630,052,523

**STATE EMPLOYEES' RETIREMENT SYSTEM**

**ACTUARIAL VALUE OF ASSETS**

V.	Adjustments to Actuarial Value of Assets For Transactions Before 7/1/92:	
	1) Payments Receivable From the Commonwealth .....	\$ 97,472,100
	2) Payments Receivable From Other Agencies .....	\$ 39,142,307
	3) Employer Total Cost Payable 1/1/92 Through 6/30/92 .....	\$ 169,869,304
	4) Employer Normal Cost Payable 1/1/92 Through 6/30/92 .....	\$ (146,290,688)
	5) Total Adjustments .....	\$ 160,193,023
VI.	Adjusted Actuarial Value of Assets (IV) + (V) .....	\$ <u>10,790,245,546</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	74,678	6,552	81,230	110,400
1993	75,002	6,769	81,771	110,400
1994	75,002	6,983	81,985	110,400
1995	75,995	7,194	83,189	110,400
1996	76,887	7,400	84,287	110,400
1997	77,675	7,601	85,276	110,400
1998	78,353	7,796	86,149	110,400
1999	78,921	7,985	86,906	110,400
2000	79,374	8,166	87,540	110,400
2001	79,710	8,339	88,049	110,400
2002	79,929	8,503	88,432	110,400

**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	194	312	883
1993	191	305	858
1994	187	304	887
1995	195	301	890
1996	203	302	950
1997	211	308	1,012
1998	219	320	1,079
1999	228	333	1,197
2000	237	346	1,269
2001	247	360	1,345
2002	256	374	1,424

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, 1991**

**ACTIVE EMPLOYEES\***

<u>Age</u>	<u>Males - Full Years of Service to December 31, 1991</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	0	0	0	0	0	0	0	0	\$ 0
20-24	603	45	0	0	0	0	0	648	19,338
25-29	1,553	923	98	0	0	0	0	2,574	23,117
30-34	1,513	1,857	1,391	124	0	0	0	4,885	26,018
35-39	1,462	1,760	2,036	1,681	336	0	0	7,275	28,343
40-44	1,166	1,508	1,787	2,659	2,635	191	0	9,946	31,259
45-49	858	997	984	1,660	2,921	1,386	78	8,884	33,884
50-54	622	708	697	810	1,577	1,520	661	6,595	35,663
55-59	472	565	549	704	1,041	810	686	4,827	35,820
60-64	301	398	361	429	418	274	421	2,602	35,900
65+	<u>128</u>	<u>131</u>	<u>156</u>	<u>97</u>	<u>114</u>	<u>87</u>	<u>111</u>	<u>824</u>	<u>37,232</u>
<b>Total</b>	<b><u>8,678</u></b>	<b><u>8,892</u></b>	<b><u>8,059</u></b>	<b><u>8,164</u></b>	<b><u>9,042</u></b>	<b><u>4,268</u></b>	<b><u>1,957</u></b>	<b><u>49,060</u></b>	<b><u>\$31,583</u></b>

Average age ..... 44.45  
Average service ..... 14.14

<u>Age</u>	<u>Females - Full Years of Service to December 31, 1991</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	45	0	0	0	0	0	0	45	\$20,513
20-24	1,065	214	0	0	0	0	0	1,279	18,626
25-29	1,585	1,320	293	0	0	0	0	3,198	21,339
30-34	1,588	1,615	1,753	329	0	0	0	5,285	23,647
35-39	1,468	1,522	1,882	2,190	808	0	0	7,870	25,406
40-44	1,247	1,494	1,493	1,718	2,377	339	0	8,668	26,630
45-49	904	1,216	1,304	1,194	1,293	851	97	6,859	26,949
50-54	605	741	994	1,040	908	527	359	5,174	27,376
55-59	363	473	788	896	901	360	216	3,997	27,007
60-64	167	285	351	376	375	154	112	1,820	26,981
65+	<u>48</u>	<u>81</u>	<u>100</u>	<u>98</u>	<u>102</u>	<u>67</u>	<u>65</u>	<u>561</u>	<u>27,964</u>
<b>Total</b>	<b><u>9,085</u></b>	<b><u>8,961</u></b>	<b><u>8,958</u></b>	<b><u>7,841</u></b>	<b><u>6,764</u></b>	<b><u>2,298</u></b>	<b><u>849</u></b>	<b><u>44,756</u></b>	<b><u>\$25,649</u></b>

Average age ..... 42.68  
Average service ..... 12.51

\* 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 EMPLOYEES' RETIREMENT SYSTEM**

**I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1991**

**SELECTED HAZARDOUS DUTY\***

<u>Age</u>	<u>Males - Full Years of Service to December 31, 1991</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	0	0	0	0	0	0	0	0	\$ 0
20-24	393	0	0	0	0	0	0	393	19,992
25-29	1,145	351	2	0	0	0	0	1,498	25,844
30-34	501	728	274	4	0	0	0	1,507	31,846
35-39	286	386	430	118	8	0	0	1,228	33,431
40-44	301	393	257	353	401	13	0	1,718	35,422
45-49	194	276	103	165	878	463	19	2,098	39,206
50-54	99	151	80	61	147	234	139	911	38,395
55-59	59	110	39	43	35	38	137	461	36,467
60-64	8	45	10	20	4	12	26	125	35,056
65+	2	8	5	3	2	3	3	26	29,883
<b>Total</b>	<b>2,988</b>	<b>2,448</b>	<b>1,200</b>	<b>767</b>	<b>1,475</b>	<b>763</b>	<b>324</b>	<b>9,965</b>	<b>\$33,685</b>

Average age ..... 39.83  
Average service ..... 11.43

<u>Age</u>	<u>Females - Full Years of Service to December 31, 1991</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	0	0	0	0	0	0	0	0	\$ 0
20-24	20	0	0	0	0	0	0	20	21,566
25-29	74	25	0	0	0	0	0	99	24,174
30-34	58	83	30	2	0	0	0	173	31,014
35-39	67	53	33	8	4	0	0	165	29,661
40-44	48	42	20	23	9	1	0	143	31,315
45-49	25	27	8	5	9	4	0	78	31,497
50-54	21	22	6	5	7	6	2	69	31,885
55-59	5	8	10	6	2	1	2	34	31,983
60-64	1	7	5	0	0	0	0	13	32,474
65+	0	2	1	0	0	0	0	3	35,209
<b>Total</b>	<b>319</b>	<b>269</b>	<b>113</b>	<b>49</b>	<b>31</b>	<b>12</b>	<b>4</b>	<b>797</b>	<b>\$29,905</b>

Average age ..... 38.82  
Average service ..... 7.46

\*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, 1991**

**LEGISLATORS**

<u>Age</u>	<u>Males - Full Years of Service to December 31, 1991</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	0	0	0	0	0	0	0	0	\$ 0
20-24	1	0	0	0	0	0	0	1	47,000
25-29	1	0	0	0	0	0	0	1	47,000
30-34	7	3	2	0	0	0	0	12	47,000
35-39	6	8	9	1	0	0	0	24	47,667
40-44	8	3	22	9	4	0	0	46	48,106
45-49	14	5	21	6	5	2	0	53	49,459
50-54	3	3	7	2	4	3	1	23	49,375
55-59	0	2	4	4	5	1	4	20	51,549
60-64	2	5	4	8	6	3	3	31	47,893
65+	0	1	3	2	0	2	2	17	49,105
<b>Total</b>	<b>42</b>	<b>30</b>	<b>72</b>	<b>32</b>	<b>24</b>	<b>11</b>	<b>17</b>	<b>228</b>	<b>\$48,782</b>

Average age ..... 49.09  
Average service ..... 13.71

<u>Age</u>	<u>Females - Full Years of Service to December 31, 1991</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	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	0	0	0	0	0	0	0	0	0
35-39	1	1	1	0	0	0	0	3	47,000
40-44	2	0	0	2	0	0	0	4	47,000
45-49	2	1	0	0	0	0	0	3	47,000
50-54	1	1	1	0	0	0	0	3	47,000
55-59	2	1	0	0	0	0	0	3	47,000
60-64	3	2	0	0	0	0	0	5	47,000
65+	0	0	0	1	0	0	2	3	49,197
<b>Total</b>	<b>11</b>	<b>6</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>24</b>	<b>\$47,275</b>

Average age ..... 53.21  
Average service ..... 9.42

**STATE EMPLOYEES' RETIREMENT SYSTEM**

**I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1991**

**JUDGES AND DISTRICT JUSTICES**

<u>Age</u>	<u>Males - Full Years of Service to December 31, 1991</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	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	38,000
30-34	3	5	0	0	0	0	0	8	37,845
35-39	11	28	10	3	0	0	0	52	44,787
40-44	21	44	22	14	4	1	0	106	51,634
45-49	25	47	27	16	6	1	0	122	57,084
50-54	13	30	23	19	13	5	5	108	58,543
55-59	10	14	27	24	18	5	3	101	63,029
60-64	12	17	25	33	35	11	14	147	59,534
65+	<u>3</u>	<u>8</u>	<u>14</u>	<u>23</u>	<u>25</u>	<u>12</u>	<u>20</u>	<u>105</u>	<u>62,329</u>
<b>Total</b>	<b><u>99</u></b>	<b><u>193</u></b>	<b><u>148</u></b>	<b><u>132</u></b>	<b><u>101</u></b>	<b><u>35</u></b>	<b><u>42</u></b>	<b><u>750</u></b>	<b><u>\$57,456</u></b>

Average age ..... 53.38  
Average service ..... 13.45

<u>Age</u>	<u>Females - Full Years of Service to December 31, 1991</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	0	0	0	0	0	0	0	0	\$ 0
20-24	0	0	0	0	0	0	0	0	0
25-29	2	0	0	0	0	0	0	2	38,060
30-34	0	5	1	0	0	0	0	6	36,707
35-39	5	8	2	0	0	0	0	15	49,272
40-44	8	14	2	2	0	0	0	26	57,254
45-49	5	12	5	0	1	0	0	23	57,873
50-54	3	7	5	4	3	0	0	22	41,268
55-59	2	2	6	4	5	0	0	19	41,555
60-64	0	6	7	4	5	1	0	23	43,134
65+	<u>0</u>	<u>4</u>	<u>4</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>15</u>	<u>46,844</u>
<b>Total</b>	<b><u>25</u></b>	<b><u>58</u></b>	<b><u>32</u></b>	<b><u>16</u></b>	<b><u>16</u></b>	<b><u>2</u></b>	<b><u>2</u></b>	<b><u>151</u></b>	<b><u>\$47,995</u></b>

Average age ..... 50.70  
Average service ..... 10.37

**STATE EMPLOYEES' RETIREMENT SYSTEM**

**I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1991**

**ALL ACTIVE EMPLOYEES**

<u>Age</u>	<u>Males - Full Years of Service to December 31, 1991</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	0	0	0	0	0	0	0	0	\$ 0
20-24	997	45	0	0	0	0	0	1,042	19,611
25-29	2,700	1,274	100	0	0	0	0	4,074	24,129
30-34	2,024	2,593	1,667	128	0	0	0	6,412	27,442
35-39	1,765	2,182	2,485	1,803	344	0	0	8,579	29,225
40-44	1,496	1,948	2,088	3,035	3,044	205	0	11,816	32,112
45-49	1,091	1,325	1,135	1,847	3,810	1,852	97	11,157	35,213
50-54	737	892	807	892	1,741	1,762	806	7,637	36,354
55-59	541	691	619	775	1,099	854	830	5,409	36,441
60-64	323	465	400	490	463	300	464	2,905	37,187
65+	<u>133</u>	<u>148</u>	<u>178</u>	<u>125</u>	<u>141</u>	<u>104</u>	<u>143</u>	<u>972</u>	<u>39,954</u>
<b>Total</b>	<b><u>11,807</u></b>	<b><u>11,563</u></b>	<b><u>9,479</u></b>	<b><u>9,095</u></b>	<b><u>10,642</u></b>	<b><u>5,077</u></b>	<b><u>2,340</u></b>	<b><u>60,003</u></b>	<b><u>\$32,321</u></b>

Average age ..... 43.81  
Average service ..... 13.68

<u>Age</u>	<u>Females - Full Years of Service to December 31, 1990</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	45	0	0	0	0	0	0	45	\$20,513
20-24	1,085	214	0	0	0	0	0	1,299	18,671
25-29	1,661	1,345	293	0	0	0	0	3,299	21,435
30-34	1,646	1,703	1,784	331	0	0	0	5,464	23,895
35-39	1,541	1,584	1,918	2,198	812	0	0	8,053	25,546
40-44	1,305	1,550	1,515	1,745	2,386	340	0	8,841	26,805
45-49	936	1,256	1,317	1,199	1,303	855	97	6,963	27,111
50-54	630	771	1,006	1,049	918	533	361	5,268	27,504
55-59	372	484	804	906	908	361	218	4,053	27,132
60-64	171	300	363	380	380	155	112	1,861	27,273
65+	<u>48</u>	<u>87</u>	<u>105</u>	<u>101</u>	<u>104</u>	<u>68</u>	<u>69</u>	<u>582</u>	<u>28,597</u>
<b>Total</b>	<b><u>9,440</u></b>	<b><u>9,294</u></b>	<b><u>9,105</u></b>	<b><u>7,909</u></b>	<b><u>6,811</u></b>	<b><u>2,312</u></b>	<b><u>857</u></b>	<b><u>45,728</u></b>	<b><u>\$25,809</u></b>

Average age ..... 42.65  
Average service ..... 12.41

**STATE EMPLOYES' RETIREMENT SYSTEM**

**I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1991**

**ACTIVE AND INACTIVE EMPLOYEES\***

<u>Age</u>	<u>Males - Full Years of Service to December 31, 1991</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	2	0	0	0	0	0	0	2
20-24	1,083	45	0	0	0	0	0	1,128
25-29	2,796	1,279	100	0	0	0	0	4,175
30-34	2,113	2,616	1,683	128	0	0	0	6,540
35-39	1,851	2,210	2,523	1,812	345	0	0	8,741
40-44	1,616	1,975	2,140	3,085	3,063	206	0	12,085
45-49	1,199	1,359	1,173	1,890	3,830	1,867	100	11,418
50-54	852	922	849	929	1,760	1,781	839	7,932
55-59	650	723	675	813	1,178	1,080	1,252	6,371
60-64	433	507	528	639	691	570	869	4,237
65+	<u>202</u>	<u>172</u>	<u>246</u>	<u>204</u>	<u>244</u>	<u>183</u>	<u>257</u>	<u>1,508</u>
<b>Total</b>	<b><u>12,797</u></b>	<b><u>11,808</u></b>	<b><u>9,917</u></b>	<b><u>9,500</u></b>	<b><u>11,111</u></b>	<b><u>5,687</u></b>	<b><u>3,317</u></b>	<b><u>64,137</u></b>
Average age .....							44.53	
Average service .....							13.99	

<u>Age</u>	<u>Females - Full Years of Service to December 31, 1991</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	49	0	0	0	0	0	0	49
20-24	1,136	216	0	0	0	0	0	1,352
25-29	1,716	1,352	296	0	0	0	0	3,364
30-34	1,719	1,722	1,818	331	0	0	0	5,590
35-39	1,640	1,618	2,002	2,227	817	0	0	8,304
40-44	1,441	1,605	1,583	1,808	2,397	344	0	9,178
45-49	1,082	1,311	1,362	1,231	1,317	861	99	7,263
50-54	749	816	1,059	1,076	933	545	380	5,558
55-59	491	528	881	960	988	493	341	4,682
60-64	291	349	496	568	611	323	218	2,856
65+	<u>97</u>	<u>108</u>	<u>170</u>	<u>177</u>	<u>181</u>	<u>145</u>	<u>136</u>	<u>1,014</u>
<b>Total</b>	<b><u>10,411</u></b>	<b><u>9,625</u></b>	<b><u>9,667</u></b>	<b><u>8,378</u></b>	<b><u>7,244</u></b>	<b><u>2,711</u></b>	<b><u>1,174</u></b>	<b><u>49,210</u></b>
Average age .....							43.42	
Average service .....							12.55	

\* This table includes approximately 4,334 active and inactive employees that were retired as of December 31, 1991.

**STATE EMPLOYEES' RETIREMENT SYSTEM**

**II. AGE AND BENEFIT PROFILE OF ANNUITANTS AND BENEFICIARIES DECEMBER 31, 1991**

**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	261	\$ 7,003,212	7	\$ 103,135	268	\$ 7,106,347
55-59	449	8,685,104	47	658,656	496	9,343,760
60-64	2,804	36,845,188	1,974	16,230,274	4,778	53,075,462
65-69	6,379	65,721,300	4,618	31,649,455	10,997	97,370,755
70-74	6,149	48,132,573	5,041	27,840,567	11,190	75,973,140
75-79	5,170	33,764,472	4,318	22,030,827	9,488	55,795,299
80-84	3,142	19,280,077	2,734	13,842,914	5,876	33,122,991
85-89	1,336	7,828,754	1,223	5,854,250	2,559	13,683,004
90 & Over	416	2,708,177	439	2,155,421	855	4,863,598
<b>Total</b>	<b>26,106</b>	<b>\$229,968,857</b>	<b>20,401</b>	<b>\$120,365,499</b>	<b>46,507</b>	<b>\$350,334,356</b>
				Average age .....	73.0	
				Average annual pension .....	\$7,533	

**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	51	\$ 45,686	214	\$ 191,391	265	\$ 237,077
35-39	379	404,616	1,061	1,086,387	1,440	1,491,003
40-44	1,149	1,653,476	1,472	1,778,636	2,621	3,432,112
45-49	1,628	7,087,039	995	1,817,510	2,623	8,904,549
50-54	1,316	7,910,083	881	3,253,688	2,197	11,163,771
55-59	1,576	14,493,208	1,204	6,831,173	2,780	21,324,381
60-64	1,861	18,708,817	1,404	9,020,597	3,265	27,729,414
65 & Over	1,937	14,683,351	2,046	11,924,096	3,983	26,607,447
<b>Total</b>	<b>9,897</b>	<b>\$64,986,276</b>	<b>9,277</b>	<b>\$35,903,478</b>	<b>19,174</b>	<b>\$100,889,754</b>
				Average age .....	55.1	
				Average annual pension .....	\$5,875	



**STATE EMPLOYEES' RETIREMENT SYSTEM**

**II. AGE AND BENEFIT PROFILE OF ANNUITANTS AND BENEFICIARIES DECEMBER 31, 1991**

**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	16	\$ 107,281	23	\$ 142,080	39	\$ 249,361
35-39	54	333,874	101	630,305	155	964,179
40-44	151	1,032,527	137	864,032	288	1,896,559
45-49	248	1,829,565	161	1,032,104	409	2,861,669
50-54	239	1,799,742	198	1,312,167	437	3,111,909
55-59	364	2,707,554	273	1,811,346	637	4,518,900
60-64	432	3,018,793	360	2,007,520	792	5,026,313
65 & over	745	3,928,840	725	3,076,011	1,470	7,004,851
<b>Total</b>	<b>2,249</b>	<b>\$14,758,176</b>	<b>1,978</b>	<b>\$10,875,565</b>	<b>4,227</b>	<b>\$25,633,741</b>
				Average age .....	59.4	
				Average annual pension .....	\$6,064	

**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	0	\$ 0	2	\$ 6,276	2	\$ 6,276
25-29	3	4,896	8	25,175	11	30,071
30-34	9	31,636	6	49,976	15	81,612
35-39	9	15,468	13	32,434	22	47,902
40-44	19	59,381	35	100,029	54	159,410
45-49	16	53,896	49	208,067	65	261,963
50-54	30	73,891	104	470,608	134	544,499
55-59	19	54,488	188	898,173	207	955,661
60-64	36	210,104	391	2,085,977	427	2,296,081
65-69	42	181,643	727	3,455,967	769	3,637,610
70-74	67	240,419	1,168	4,610,069	1,235	4,850,488
75-79	68	249,808	1,349	4,968,589	1,417	5,218,397
80-84	35	125,232	1,058	4,050,452	1,093	4,175,684
85-89	14	45,391	565	1,948,179	579	1,993,570
90 & Over	8	8,543	294	777,143	302	795,686
<b>Total</b>	<b>375</b>	<b>\$1,364,796</b>	<b>5,957</b>	<b>\$23,687,114</b>	<b>6,332</b>	<b>\$25,051,910</b>
				Average age .....	74.2	
				Average annual pension .....	\$3,956	

**STATE EMPLOYES' RETIREMENT SYSTEM**

**BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1991**  
**(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 March 1, 1974.
- Class D-3** - Members of the General Assembly who have been members and employes continuously since 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, 1991**  
(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 EMPLOYEES' RETIREMENT SYSTEM

### BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1991 (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, 1991**  
**(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.

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 EMPLOYEES' RETIREMENT SYSTEM**

**BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1991**  
(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 EMPLOYEES**

<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 EMPLOYEES' RETIREMENT SYSTEM**

**ACTUARIAL ASSUMPTIONS (Continued)**

**FOR ACTIVE GENERAL EMPLOYEES**

**Rates of Separation Due to Withdrawal\***

<u>Age</u>	<u>Male</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>Age</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>Disability*</u>	
	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male 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 EMPLOYEES' 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</u>	<u>Class D</u>	<u>Class E</u>	<u>Class C</u>	
	<u>Less Than 20 Years of Service</u>			<u>20 or More Years of 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 EMPLOYEES' 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 EMPLOYEES' 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 1992 (through June 30, 1992) since the 1991 valuation results will not be reflected in employer contributions until July 1, 1992. The assets are increased by employer contributions due for fiscal year 1992. They are then reduced by the employer normal cost that would be payable from January 1, 1992 to June 30, 1992.

### 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, 2011. 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 employees rather than for all current employees 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 1992/93 divided by the projected payroll for the fiscal year.

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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>	
1992 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 1990 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 6.50 percent. The interest rate is the Pension Benefit Guaranty Corporation rate for immediate annuities as of January 1, 1992. The rate used for the 1990 report was 7.25 percent.

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

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### 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.