

COMMONWEALTH OF PENNSYLVANIA

STATE EMPLOYEES' RETIREMENT SYSTEM

1990 Actuarial Report

Hay/Huggins Company
August 22, 1991

August 22, 1991

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, 1990. 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 1991-92 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.

This report replaces the valuation report provided on July 8, 1991. The earlier report had been based on the then existing funding provisions that required calculation of the employer cost using an interest rate of 5.5 percent. Act 1991-23 changed the funding criteria of SERS by permitting calculation of the employer cost on a realistic set of economic assumptions and amortizing existing liabilities over a new twenty year period. This report shows the funding on the basis established by Act 1991-23.

Mr. John Brosius

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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 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
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Enrolled Actuary No. 90-1499

STATE EMPLOYEES' RETIREMENT SYSTEM

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STATE EMPLOYES' RETIREMENT SYSTEM

VALUATION HIGHLIGHTS

	<u>December 31, 1990</u>	<u>December 31, 1989</u>
	<u>Valuation</u>	<u>Valuation</u>
● Summary of Contributions: (Percent of Members' Compensation)		
Normal Cost	7.90%	4.66%
Amortization of Unfunded Actuarial Accrued Liability	1.05	5.62
Amortization of Supplemental Annuities	<u>0.92</u>	<u>2.04</u>
Total	9.87%	12.32%
Contribution Rate for:		
Class A Members:		
Age 60 Superannuation	8.61%	11.86%
Age 50 Superannuation	11.03	14.50
State Police	27.96	14.50
Class C Members:		
State Police	27.96	21.48
Enforcement Officers	11.03	14.50
Class D Members	41.36	54.38
Class E Members	16.05	21.57
● Market Value of Assets	\$9,876,027,442	\$9,784,574,157
● Projected Benefit Obligation	\$9,536,331,333	\$8,781,517,819
● Active Participants:		
Number	111,248	109,819
Average annualized compensation for 1990	\$ 28,729	\$ 27,300
Total annualized compensation for 1990 .	\$3,196,785,204	\$2,998,073,232
● Annuitants and Beneficiaries:		
Number	74,222	72,830
Total annual pension	\$ 462,153,584	\$ 435,544,979
● Inactive Participants:		
Number	3,619	3,336

STATE EMPLOYEES' RETIREMENT SYSTEM

General Discussion

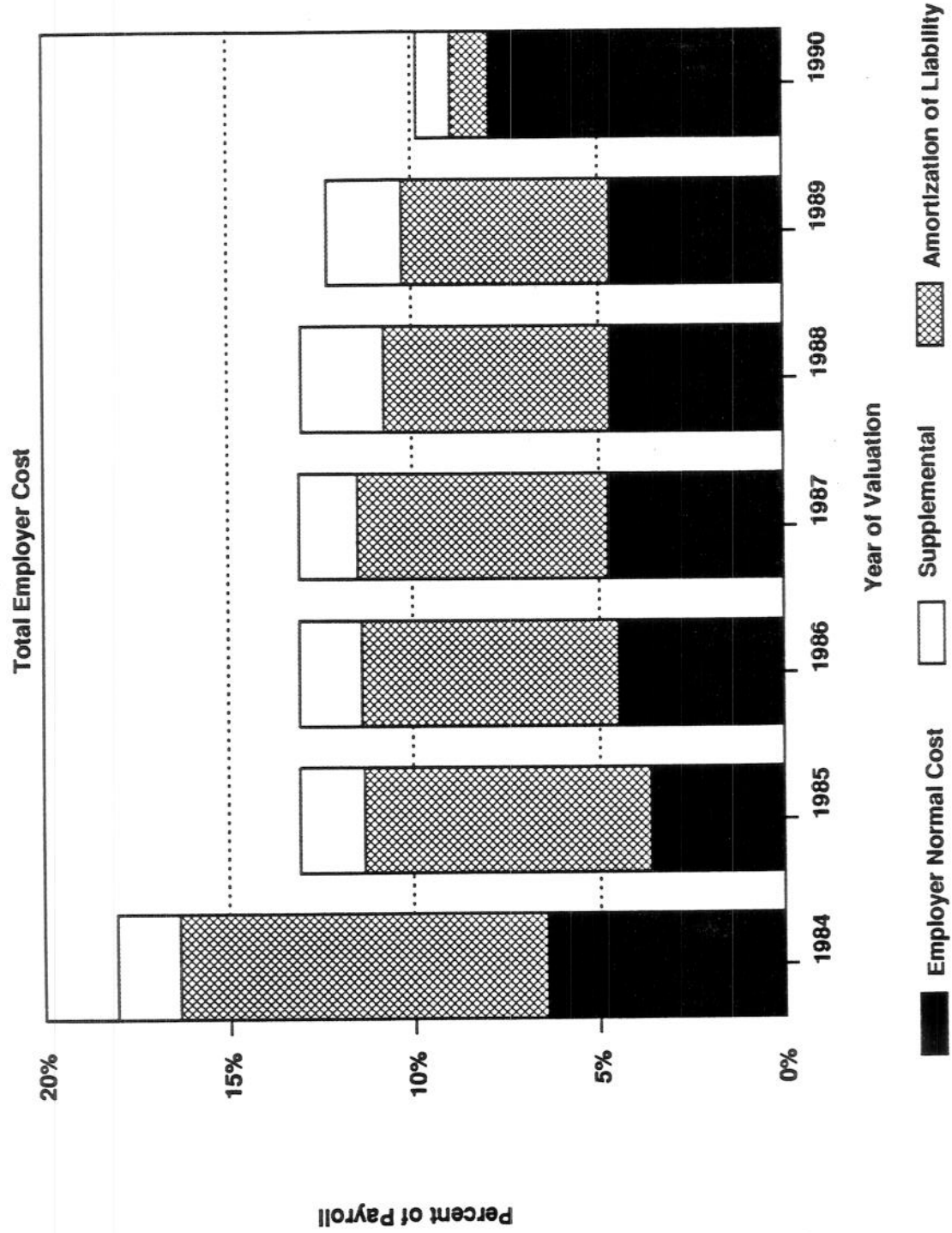
The liabilities and costs in this report were based on revised actuarial assumptions adopted by the State Employees' Retirement Board in 1991 and funding procedures specified in Act 1991-23. The assumptions used in the 1990 valuation were based on the study of experience of SERS from 1986 through 1990. The rates of investment return and salary increases are shown in the 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>	
1991 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 1984. 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. Excess investment earnings were again higher than the excess salary increases resulting in a small reduction in the rate. The net effect of the changes in actuarial assumptions was to reduce the rate by .60 percent of salary. These reductions were offset by a .89 percent increase for new benefits for State Police Officers. The largest change was the reduction of 2.64 percent resulting from the extension of the funding periods.

State Employees' Retirement System



STATE EMPLOYES' RETIREMENT SYSTEM

COMMENTS ON SCHEDULES

Contribution Rate

Schedules A and B summarize the development of the Employer Contribution Rate before allocation by group. The Employer Contribution Rate is comprised of three pieces: the Normal Cost; the amortization of the Unfunded Actuarial Accrued Liability; and, the amortization of the liability for the Supplemental Annuities.

The Employer Contribution Rate calculated as a result of the December 31, 1990 actuarial valuation is 9.87 percent. The 1989 valuation had produced an Employer Contribution Rate of 12.32percent. The three pieces composing the rate are:

	<u>1990</u> <u>Valuation</u>	<u>1989</u> <u>Valuation</u>
Normal Cost Rate	7.90%	4.66%
Unfunded Actuarial Accrued Liability Rate	1.05	5.62
Supplemental Annuity Amortization Rate	<u>0.92</u>	<u>2.04</u>
TOTAL	9.87%	12.32%

The normal cost rate 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 unfunded actuarial accrued liability of \$461,468,532 will be funded over 20 years from July 1, 1991. The accrued liability for supplemental annuities of \$405,641,841 will be funded over 20 years from July 1, 1991. Unfunded Actuarial Accrued 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 effective date of the change. The first such changes will be determined in the 1991 valuation.

STATE EMPLOYES' RETIREMENT SYSTEM

Employer Contribution Rates by Group

Schedule C summarizes the employer contribution rate 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 8.61 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 9.87 percent of total payroll. The complete schedule of contributions is as follows:

Class A with age 60 benefit	8.61%
Class A with age 50 benefit	11.03
Class A State Police	27.96
Class C State Police	27.96
Class C Enforcement Officers	11.03
Class D	41.36
Class E	16.05

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. Recalculation of the present value of these benefits at the higher rate of interest reduced the liabilities below the assets. Therefore, the benefits have been fully funded by past contributions.

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.

Schedule F contains an analysis of the change in the Employer Contribution Rate and Unfunded Actuarial Accrued Liability from the 1989 to 1990 valuation. The excess interest earnings of \$352,000,000 brought into the assets in 1990 reduced the cost by 1.28 percent of salary. This reduction was partially offset by salary increases in excess of the valuation assumptions. The change in actuarial assumptions decreased the total cost by 0.60 percent of salary and the unfunded liability by \$136,000,000. The new benefits for State Police Officers retiring after June 1989 resulted in an increase in the employer rate of 0.89 percent of salary. However, all of the 0.89 percent was allocated to the State Police contribution so there was no effect on the contribution rate of the other classes.

The change to realistic economic assumptions did not result in a change in the total cost of 12.51 percent because the static 5.5 percent interest assumptions had been modified to produce the same cost as the realistic assumptions. The realistic assumptions did change the distribution of the three elements of the total cost. The Unfunded Actuarial Accrued Liability, and the amortization payments on that liability, declined because they are heavily influenced by the high early year interest rate assumptions. The normal cost increased because it is most influenced by the much lower long term interest rate assumptions.

STATE EMPLOYEES' RETIREMENT SYSTEM

The net result of all changes was to reduce the aggregate employer contribution from 12.32 percent of compensation to 9.87 percent of compensation.

The amortization payments on the Unfunded Actuarial Accrued Liability would have reduced the liability to \$1,499,086,476 as of December 31, 1990. The combined result of other changes resulted in a liability of \$461,468,532.

Actuarial Balance Sheet and Account Balance Transfers

Schedule G contains an 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 Actuarial Accrued Liability and Supplemental Annuities; 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. For 1990 it was also necessary to revise the Supplemental Savings Account to reflect the new investment return assumptions. As of December 31, 1990 there are transfers necessary to reduce the balance in the Supplemental Annuity Account and the Annuity Reserve Account to the level of liability based on the realistic assumptions. This resulted in a transfer of \$117,871,110 from the Supplemental Annuity Account and \$824,286,361 from the Annuity Reserve Account to the State Accumulation Account. These transfers have been reflected in the account balances shown in Schedule G. Schedule H shows the details of the required account transfer.

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 credited projected 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, 1990. The liability was determined to be \$9,536,331,333. The market value of assets was 103.6 percent of the Projected Benefit Obligation. The interest rate used in determining the GASB liability was 9.25 percent compared to 8.75 percent used in the previous valuation. The rate of 9.25 percent is approximately equal to the investment return rates averaged over the period during which past obligations to current employes and annuitants will be paid.

The actuarial present value of accumulated plan benefits was determined to be \$8,780,696,928 and the ratio of market value of assets to accumulated plan benefits was 112.5 percent. The value increased from \$8,268,429,657 in 1989 to \$8,780,696,928 in 1990. The change in actuarial assumptions, the additional benefits earned and the change in plan provision resulted in the rest of the increase. The interest rate used was 7.25 percent, which was the same as the rate used for the December 31, 1989 calculation.

STATE EMPLOYES' RETIREMENT SYSTEM

Plan Assets

Schedule J summarizes the development of the actuarial value of assets as of December 31, 1990. 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 (5.5 percent in 1990). This smoothing method includes 20 percent of the 1990 asset loss of \$364,286,067 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, 1990 by benefit class, sex, age, and length of service. It also shows the average annualized salary in 1990 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 State Police Officers who retired after June 1989. Special early retirement provisions are available for members who retire before June 30, 1993. However, the Funding specifications of Act 1991-23 require the first payment on the new early retirement provisions to begin July 1, 1992 so they are not included in the determination of liabilities and costs in this valuation.

Actuarial Assumptions

Schedule N summarizes the actuarial assumptions used for the valuation. The actuarial assumptions were changed to reflect the experience of the SERS during 1986 through 1990. The investment returns and salary increase assumptions are based on that experience and are now made on a realistic basis.

STATE EMPLOYES' 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 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 EMPLOYES' RETIREMENT SYSTEM

I. UNFUNDED ACTUARIAL ACCRUED LIABILITY DECEMBER 31, 1990

I.	Present Value of Benefits:	
1)	Active and Inactive Participants	
	Superannuation and Withdrawal	\$ 9,934,735,007
	Disability	541,692,150
	Death	719,177,931
	Refunds	59,155,156
	Special Police and Enforcement	
	Officer Benefits	67,783,067
2)	Annuitants and Beneficiaries	<u>3,453,943,293</u>
3)	Total	\$14,776,486,604
II.	Present Value of Member and Employer Contributions:	
1)	Employer portion of Normal Cost	\$ 2,646,537,510
2)	Supplemental Annuity Amortization	405,641,841
3)	Member Contributions	1,773,428,434
4)	Special Police and Enforcement	
	Officer Contributions	<u>0</u>
5)	Total	\$ 4,825,607,785
III.	Actuarial Accrued Liability: (I) - (II)	\$ 9,950,878,819
IV.	Actuarial Value of Assets 12/31/90	\$ 9,333,669,460
V.	Adjustments to Actuarial Value of Assets For Transactions Before 7/1/91:	
1)	Payments Receivable From the Commonwealth	\$ 155,890,000
2)	Payments Receivable From Other Agencies	\$ 138,817,795
3)	Employer Normal Cost Payable 1/1/91 Through 6/30/91	\$ (138,966,968)
4)	Total Adjustments	\$ 155,740,827
VI.	Adjusted Actuarial Value of Assets (IV) + (V)	\$ 9,489,410,287
VII.	Unfunded Actuarial Accrued Liability (III) - (VI)	\$ 461,468,532

STATE EMPLOYES' RETIREMENT SYSTEM

TOTAL EMPLOYER CONTRIBUTION RATE IN FISCAL YEAR 1991-92

I. Amortization of Unfunded Actuarial Accrued Liability

<u>Funding Period</u> 20 Years from July 1	<u>Amount of</u> <u>Liability</u>	<u>Annual Payment to Fund</u> <u>Amount</u>	<u>Percent*</u>
1991	\$ 461,468,532	\$ 36,981,979	1.05%

* The payment is expressed as a percentage of the projected total payroll for active members in fiscal year 1991-92 of \$3,521,735,000.

II. Amortization of Supplemental Annuities

<u>Funding Period</u> 20 Years from July 1	<u>Amount of</u> <u>Liability</u>	<u>Annual Payment to Fund</u> <u>Amount</u>	<u>Percent*</u>
1991	\$405,641,841	\$32,508,041	.92%

* The payment is expressed as a percentage of the projected total payroll for active members in fiscal year 1991-92 of \$3,521,735,000.

III. Employer Normal Cost Rate

1) Normal Cost Rate for new active members to fund:	
a) Superannuation and Withdrawal	11.96%
b) Disability82
c) Death65
d) Refunds	<u>.72</u>
e) Total	14.15%
2) Member Deductions	6.25%
3) Employer Normal Cost (1)-(2)	7.90%

IV. Total Employer Contribution Rate

1) Payment on Unfunded Actuarial Accrued Liability	1.05%
2) Payment on Supplemental Annuities92
3) Employer Normal Cost	<u>7.90</u>
4) Total	9.87%

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 Police	Class C Enforcement Officers	Class D	Class E
1) Basic Contribution Rate	8.61%	8.61%	8.61%	8.61%	8.61%	8.61%	8.61%
2) Age 50 Superannuation	-	2.42	2.42	2.42	2.42	2.42	-
3) Multiplier Adjustment	1.00	1.00	1.558	1.558	1.00	3.75	1.6582
4) Past Liability	-	-	10.78	10.78	-	-	1.77
5) Class C Additional Annuities	-	-	-	0.00	0.00	-	-
6) Adjusted Contribution Rates: [(1) + (2)] x 3 + 4 + 5	8.61%	11.03%	27.96%	27.96%	11.03%	41.36%	16.05%
7) Projected 1991 Payroll	\$3,052,276,000	\$233,374,000	\$66,458,000	\$109,836,000	\$3,399,000	\$1,317,000	\$55,075,000
8) Employer Contribution Amount	\$262,801,000	\$25,741,000	\$18,582,000	\$30,710,000	\$375,000	\$545,000	\$8,840,000

Note: The total employer contribution (\$347,595,000) is the average employer contribution rate from Schedule B (9.87 percent) times the total projected payroll (\$3,521,735,000). The Class A Basic Contribution Rate (8.61 percent) was determined as the percentage needed to produce employer contribution amounts by class that sum to \$347,595,000. The resulting total contribution amount may differ slightly because of rounding.

STATE EMPLOYES' RETIREMENT SYSTEM

STATE POLICE AND ENFORCEMENT OFFICERS - ADDITIONAL ANNUITY RATE
(Fiscal Year 1991-92)

	<u>State Police</u>	<u>Enforcement Officers</u>
1) Balance in Benefit Account as of December 31, 1990	\$340,684,775	\$24,430,819
2) Present Value of Benefits for Annuitants and Beneficiaries	223,841,578	12,295,915
3) Assets available for additional annuities for Active Members: (1) - (2)	116,843,197	12,134,904
4) Present Value of additional annuities for Active Members	65,583,846	2,199,221
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 1991-92)

1) Estimated Account Balance @ July 1, 1991	\$3,643,544
2) Contribution Required to Amortize (1) over 20 years from July 1, 1980	510,064
3) Estimated Fiscal year 1991-92 payroll for Air and Army National Guard Members	1,050,000
4) Employer Contribution Rate	8.61%
5) Total Required Contribution: (2) + ((3) x (4))	\$ 600,469

STATE EMPLOYES' RETIREMENT SYSTEM

ANALYSIS OF CHANGE IN EMPLOYER CONTRIBUTION RATE

	<u>Normal Cost</u>	<u>Accrued Liability</u>	<u>Supplemental Annuities</u>	<u>Total</u>
I. December 31, 1989 Valuation	4.66%	5.62%	2.04%	12.32%
II. Changes - 12/31/90 Valuation:				
1) Excess Investment Earnings		(1.28)%		(1.28)%
2) Change in Actuarial Assumptions	(0.16)	(0.45)	0.01	(0.60)
3) New Benefits for State Police who Retire After June 1989		0.89		0.89
4) Salary Increase Over Assumed Rates and Miscellaneous Changes	0.36	0.98	(0.16)	1.18
5) Change to Realistic Actuarial Assumptions	3.43	(3.27)	(0.16)	(0.00)
6) Change to New Funding Method	<u>(0.39)</u>	<u>(1.44)</u>	<u>(0.81)</u>	<u>(2.64)</u>
7) Total Change	3.24%	(4.57)%	(1.12)%	(2.45)%
III. December 31, 1990 Valuation:				
(I) + (II)	7.90%	1.05%	0.92%	9.87%

ANALYSIS OF CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY

I. December 31, 1989 Unfunded Actuarial Accrued Liability	\$ 1,584,905,107
II. Expected amortization payment	163,970,059
III. Expected liability as of December 31, 1990	1,499,086,476
[((I) - (II)) x 1.055]	
IV. Change in Liability due to:	
1) Excess Investment Earnings	(351,720,734)
2) Change in Actuarial Assumptions	(135,727,621)
3) New benefits for State Police Who Retire After June 1989	210,454,862
4) Salary Increases Over Assumed Rates and Miscellaneous Changes	361,442,423
5) Change to Realistic Actuarial Assumptions	<u>(1,122,066,874)</u>
6) Total Change	\$(1,037,617,944)
V. December 31, 1990 Unfunded Actuarial Accrued Liability:	
(III) + (IV)	\$ 461,468,532

STATE EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL BALANCE SHEET AS OF DECEMBER 31, 1990

ASSETS

Present Assets:

Members' Savings Account	\$ 1,855,312,649
Annuity Reserve Account	3,217,805,800
State Police Benefit Account	340,684,775
Enforcement Officers Benefit Account	24,430,819
State Accumulation Account	4,843,435,240
Supplemental Annuity Account	<u>(405,641,841)</u>
Total Present Assets (Market Value)	\$ 9,876,027,442

Adjustment to smooth market

fluctuations	(542,357,982)
Adjustment for Contributions Payable in the	
Fiscal year	155,740,827
Total Present Assets (Actuarial Value)	\$ 9,489,410,287

Present Value of Future Contributions

Members' Contributions (Employe)	\$ 1,773,428,434
Normal Cost Contributions (Employer)	2,646,537,510
Accrued Liability Amortization	
(Employer)	461,468,532
Supplemental Annuity Amortization	
(Employer)	405,641,841
Special State Police Contributions	
(Employer)	0
Special Enforcement Officer	
Contributions (Employer)	<u>0</u>
Total Future Contributions	\$ 5,287,076,317

TOTAL ASSETS

\$14,776,486,604

LIABILITIES

Present Value of Benefits Payable to Annuitants

and Beneficiaries from:

Annuity Reserve Account	\$ 3,217,805,800
State Police Benefit Account	223,841,578
Enforcement Officers Benefit Account	<u>12,295,915</u>
Total for Annuitants and Beneficiaries	\$ 3,453,943,293

Present Value of Benefits to Active

and Inactive Members from:

Member Savings Account and State Accumulation Account	
Superannuation and	
Withdrawal	\$ 9,934,735,007
Disability	541,692,150
Death	719,177,931
Refunds	<u>59,155,156</u>
Sub Total	\$11,254,760,244
State Police Benefit Account	65,583,846
Enforcement Officers Benefit Account	<u>2,199,221</u>
Total	\$11,322,543,311

TOTAL LIABILITIES

\$14,776,486,604

STATE EMPLOYEES' RETIREMENT SYSTEM

REQUIRED TRANSFERS WITHIN SERS ACCOUNTS

I. Annuity Reserve Account		
Balance as reported by SERS		\$ 4,159,963,271
Transfer from State Accumulation Account		(824,286,361)
Transfer from Supplemental Annuity Account		<u>(117,871,110)</u>
December 31, 1990 balance after transfers		\$ 3,217,805,800
II. State Accumulation Account		
Balance as reported by SERS		\$ 4,019,148,879
Transfer to Annuity Reserve Account		<u>824,286,361</u>
December 31, 1990 Balance after transfers		\$ 4,843,435,240
III. Supplemental Annuity Account		
Balance as reported by SERS		\$ (523,512,951)
Transfer to Annuity Reserve Account		<u>117,871,110</u>
December 31, 1990 Balance after transfers		\$ (405,641,841)

STATE EMPLOYES' RETIREMENT SYSTEM

ACCOUNTING DISCLOSURE STATEMENTS

I. FUNDING STATUS OF PROJECTED BENEFIT OBLIGATION AS OF DECEMBER 31, 1990

	<u>Number of Members</u>	
1) Projected benefit obligation		
a) Retirees and beneficiaries		
1. Superannuation retirements	45,831	\$2,403,616,867
2. Early retirements	18,168	753,709,034
3. Disabled	4,157	181,087,577
4. Beneficiaries	<u>6,066</u>	<u>150,806,115</u>
5. Total	74,222	\$3,489,219,593
b) Inactive participants	3,619	\$ 65,325,244
c) Active members		
1. Employe contributions and interest		\$1,855,312,649
2. Employer-financed liability - vested	68,243	3,776,218,747
3. Employer-financed liability - nonvested	<u>43,005</u>	<u>350,255,100</u>
4. Total	111,248	\$5,981,786,496
d) Total obligation for all members	189,089	\$9,536,331,333
2) Market value of assets available for benefits		\$9,876,027,442
3) Unfunded projected benefit obligation		\$(339,696,109)
4) Assets as a percent of projected benefit obligation		103.6%

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, 1990. 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, 1990

1)	Actuarial Present Value of Accumulated Plan Benefits	
a)	Vested	
	1. Active participants	\$4,619,085,499
	2. Inactive	62,932,179
	3. Superannuation Retirements	2,711,406,915
	4. Early Retirements	877,151,863
	5. Disabled	205,781,113
	6. Beneficiaries	<u>169,556,483</u>
	7. Total Vested	\$8,645,914,052
b)	Non-vested	\$ 134,782,876
c)	Total	\$8,780,696,928
2)	Market Value of Assets	\$9,876,027,442
3)	Ratio of market value of assets to actuarial present value of accumulated benefits	
a)	Vested benefits	114.2%
b)	Accumulated benefits	112.5%
4)	Changes in Accumulated Plan Benefits	
a)	Value as of December 31, 1989	\$8,268,429,657
b)	Changes during year	
	1. Due to passage of time and other causes	\$354,136,504
	2. Due to change in plan provisions	57,330,767
	3. Due to change in actuarial assumptions	100,800,000
	4. Due to change in interest rate	0
	5. Total change	512,267,271
c)	Value as of December 31, 1990	\$8,780,696,928

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, 1990. This measure assumes that salaries will not increase in the future. The investment return assumption is 7.25 percent.

STATE EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL VALUE OF ASSETS

I. Development of 12/31/90 Expected Actuarial Value:	
1) Actuarial Value as of 12/31/89	\$8,526,209,374
2) Contributions in 1990	594,076,671
3) Benefits and Expenses in 1990	606,925,492
4) Interest @ 5.5% to 12/31/90 on (1)	468,941,516
5) Interest @ 5.5% to 12/31/90 on .5 x ((2) - (3))	<u>(353,343)</u>
6) Expected Actuarial Value as of 12/31/90: (1) + (2) - (3) + (4) + (5)	\$8,981,948,726
II. Previous Differences Not Yet Amortized:	
1) Unrecognized Amount of 12/31/86 Difference: .2 x \$616,681,305	\$ 123,336,261
2) Unrecognized Amount of 12/31/87 Difference: .4 x \$(105,132,816)	(42,053,126)
3) Unrecognized Amount of 12/31/88 Difference: .6 x \$559,956,761	335,974,056
4) Unrecognized amount of 12/31/89 Difference: .8 x \$1,051,384,490	<u>841,107,592</u>
5) Total	\$1,258,364,783
III. Gain or Loss from 1990	
1) Market Value of Assets on 12/31/90	\$9,876,027,442
2) Expected Market Value II(5) + I(6)	<u>10,240,313,509</u>
3) Gain (loss) from 1990 Investments (1) - (2)	\$(364,286,067)
IV. Development of Actuarial Value of Assets as of 12/31/90:	
1) 20% of \$616,681,308 (12/31/86 Difference):	\$ 123,336,261
2) 20% of \$(105,132,816) (12/31/87 Difference):	(21,026,563)
3) 20% of \$559,956,761 (12/31/88 Difference):	111,991,351
4) 20% of \$1,051,384,490 (12/31/89 Difference):	210,276,898
5) 20% of \$(364,286,067) (12/31/90 Difference):	<u>(72,857,213)</u>
6) Total Difference: (1) + (2) + (3) + (4) + (5)	<u>\$ 351,720,734</u>
7) Actuarial Value at 12/31/90: I(6) + IV(6)	<u>\$9,333,669,460</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	73,800	6,285	80,085	111,248
1992	73,800	6,503	80,303	111,248
1993	73,800	6,719	80,519	111,248
1994	73,800	6,932	80,732	111,248
1995	73,872	7,142	81,014	111,248
1996	74,739	7,347	82,086	111,248
1997	75,505	7,546	83,051	111,248
1998	76,165	7,740	83,905	111,248
1999	76,716	7,927	84,643	111,248
2000	77,157	8,106	85,263	111,248
2001	77,484	8,278	85,762	111,248

**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	186	378	660
1992	197	349	724
1993	208	363	759
1994	221	379	831
1995	234	407	873
1996	248	437	928
1997	262	456	985
1998	272	475	1,045
1999	283	495	1,156
2000	294	532	1,225
2001	306	572	1,297

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. The projection includes the effect of all changes made by Act 1991-23.

STATE EMPLOYES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1990

ACTIVE EMPLOYES*

<u>Age</u>	<u>Males - 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	15	0	0	0	0	0	0	15	\$18,472
20-24	681	51	0	0	0	0	0	732	19,184
25-29	1,752	977	182	0	0	0	0	2,911	23,082
30-34	1,781	1,848	1,486	150	0	0	0	5,265	25,410
35-39	1,595	1,729	2,219	1,927	369	0	0	7,839	27,790
40-44	1,286	1,474	1,885	3,244	2,531	181	0	10,601	30,610
45-49	870	808	954	1,572	2,483	1,168	82	7,937	33,055
50-54	672	645	686	945	1,531	1,291	686	6,456	34,402
55-59	517	578	633	869	1,146	965	1,060	5,768	34,427
60-64	321	374	553	548	687	538	676	3,697	34,107
65+	129	146	216	179	194	162	223	1,249	36,708
Total	9,619	8,630	8,814	9,434	8,941	4,305	2,727	52,470	\$30,734

Average age 44.9
Average service 14.3

<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	79	0	0	0	0	0	0	79	\$16,773
20-24	1,306	210	0	0	0	0	0	1,516	18,334
25-29	1,840	1,348	454	0	0	0	0	3,642	20,975
30-34	1,812	1,587	1,858	421	0	0	0	5,678	23,153
35-39	1,801	1,447	1,982	2,527	726	0	0	8,483	24,617
40-44	1,356	1,420	1,526	2,009	2,043	297	0	8,651	25,615
45-49	1,029	1,006	1,168	1,146	1,089	652	76	6,166	25,910
50-54	685	658	1,053	1,029	923	462	388	5,198	26,204
55-59	382	483	781	1,056	1,000	439	317	4,458	26,066
60-64	154	313	471	670	609	298	224	2,739	25,900
65+	54	79	162	201	191	110	119	916	26,493
Total	10,498	8,551	9,455	9,059	6,581	2,258	1,124	47,526	\$24,719

Average age 42.9
Average service 12.4

* 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, 1990

SELECTED HAZARDOUS DUTY*

Age	Males - Full Years of Service to December 31, 1990							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	259	0	0	0	0	0	0	259	22,170
25-29	917	316	3	0	0	0	0	1,236	27,309
30-34	483	658	246	6	0	0	0	1,393	32,353
35-39	307	337	373	120	3	0	0	1,140	33,489
40-44	349	342	213	475	588	30	0	1,997	36,057
45-49	169	187	86	171	878	330	29	1,850	38,365
50-54	108	121	63	57	150	247	184	930	37,914
55-59	66	90	41	41	34	60	154	486	35,955
60-64	13	32	10	24	9	15	51	154	36,319
65+	<u>2</u>	<u>3</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>4</u>	<u>21</u>	<u>31,961</u>
Total	<u>2,673</u>	<u>2,086</u>	<u>1,040</u>	<u>896</u>	<u>1,665</u>	<u>684</u>	<u>422</u>	<u>9,466</u>	<u>\$34,304</u>

Average age 40.6
Average service 12.3

Age	Females - Full Years of Service to December 31, 1990							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	27	0	0	0	0	0	0	27	24,349
25-29	75	26	2	0	0	0	0	103	25,816
30-34	50	71	26	3	0	0	0	150	29,472
35-39	49	48	26	9	2	0	0	134	28,833
40-44	41	26	9	24	9	0	0	109	28,416
45-49	16	16	8	4	6	3	0	53	28,547
50-54	6	13	4	4	6	1	1	35	29,319
55-59	2	3	8	3	1	2	1	20	31,369
60-64	1	2	2	0	2	0	0	7	26,873
65+	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>28,366</u>
Total	<u>267</u>	<u>206</u>	<u>85</u>	<u>47</u>	<u>26</u>	<u>6</u>	<u>2</u>	<u>639</u>	<u>\$28,296</u>

Average age 37.0
Average service 7.1

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

STATE EMPLOYES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1990

LEGISLATORS

<u>Age</u>	<u>Males - 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	0	0	0	0	0	0	0	0	\$ 0
20-24	1	0	0	0	0	0	0	1	47,000
25-29	0	0	0	0	0	0	0	0	0
30-34	9	5	4	0	0	0	0	18	47,000
35-39	7	10	7	2	0	0	0	26	47,051
40-44	10	13	13	8	2	0	0	46	47,955
45-49	10	8	14	7	5	2	0	46	49,564
50-54	2	6	6	3	3	3	0	23	50,521
55-59	1	5	1	2	4	1	5	19	50,883
60-64	2	4	5	11	2	2	2	28	47,921
65+	<u>1</u>	<u>0</u>	<u>3</u>	<u>2</u>	<u>0</u>	<u>3</u>	<u>7</u>	<u>16</u>	<u>48,481</u>
Total	<u>43</u>	<u>51</u>	<u>53</u>	<u>35</u>	<u>16</u>	<u>11</u>	<u>14</u>	<u>223</u>	<u>\$48,648</u>

Average age 48.3
Average service 12.6

<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	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	0	1	0	0	0	3	47,000
40-44	3	0	1	0	0	0	0	4	47,000
45-49	2	0	0	0	0	0	0	2	47,000
50-54	0	3	0	0	0	0	0	3	47,000
55-59	3	1	0	0	0	0	0	4	47,000
60-64	2	1	0	0	0	0	0	3	47,000
65+	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>3</u>	<u>48,831</u>
Total	<u>11</u>	<u>6</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>22</u>	<u>\$47,250</u>

Average age 53.0
Average service 8.5

STATE EMPLOYEES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1990

JUDGES AND DISTRICT JUSTICES

<u>Age</u>	<u>Males - 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	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	38,070
30-34	8	3	0	0	0	0	0	11	44,522
35-39	23	19	13	4	0	0	0	59	47,322
40-44	39	24	24	12	5	0	0	104	60,570
45-49	39	27	27	10	8	2	1	114	61,832
50-54	21	17	30	19	13	5	4	109	61,714
55-59	16	11	34	23	23	4	4	115	65,856
60-64	10	16	25	28	35	12	10	136	62,662
65+	<u>2</u>	<u>6</u>	<u>22</u>	<u>22</u>	<u>32</u>	<u>10</u>	<u>10</u>	<u>104</u>	<u>60,133</u>
Total	<u>160</u>	<u>123</u>	<u>175</u>	<u>118</u>	<u>116</u>	<u>33</u>	<u>29</u>	<u>754</u>	<u>\$60,719</u>

Average age 53.1
Average service 12.9

<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	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	40,500
30-34	3	2	1	0	0	0	0	6	36,761
35-39	13	3	3	0	0	0	0	19	63,762
40-44	12	8	3	1	1	0	0	25	71,962
45-49	8	6	5	0	0	0	0	19	74,783
50-54	7	4	5	6	3	0	0	25	44,093
55-59	0	4	7	3	4	0	0	18	41,515
60-64	2	4	7	1	9	0	0	23	43,627
65+	<u>1</u>	<u>3</u>	<u>4</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>12</u>	<u>52,553</u>
Total	<u>47</u>	<u>34</u>	<u>35</u>	<u>15</u>	<u>17</u>	<u>0</u>	<u>0</u>	<u>148</u>	<u>\$55,564</u>

Average age 52.6
Average service 12.3

STATE EMPLOYEES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1990

ALL ACTIVE EMPLOYEES

<u>Age</u>	<u>Males - 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	15	0	0	0	0	0	0	15	\$18,427
20-24	941	51	0	0	0	0	0	992	19,992
25-29	2,671	1,293	185	0	0	0	0	4,149	24,348
30-34	2,281	2,514	1,736	156	0	0	0	6,687	26,946
35-39	1,932	2,095	2,612	2,053	372	0	0	9,064	28,689
40-44	1,684	1,853	2,135	3,739	3,126	211	0	12,748	31,771
45-49	1,088	1,030	1,080	1,760	3,374	1,502	112	9,947	34,449
50-54	803	789	785	1,024	1,697	1,546	874	7,518	35,282
55-59	600	684	709	935	1,207	1,030	1,223	6,388	35,158
60-64	346	426	593	611	733	567	739	4,015	35,256
65+	134	155	246	205	229	177	244	1,390	38,524
Total	12,495	10,890	10,082	10,483	10,738	5,033	3,192	62,913	\$31,694

Average age 44.3
Average service 13.9

<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	79	0	0	0	0	0	0	79	\$16,773
20-24	1,333	210	0	0	0	0	0	1,543	18,440
25-29	1,916	1,374	456	0	0	0	0	3,746	21,126
30-34	1,865	1,660	1,885	424	0	0	0	5,834	23,330
35-39	1,864	1,499	2,011	2,537	728	0	0	8,639	24,776
40-44	1,412	1,454	1,539	2,034	2,053	297	0	8,789	25,792
45-49	1,055	1,028	1,181	1,150	1,095	655	76	6,240	26,088
50-54	698	678	1,062	1,039	932	463	389	5,261	26,322
55-59	387	491	796	1,062	1,005	441	318	4,500	26,170
60-64	159	320	480	671	620	298	224	2,772	26,073
65+	55	83	166	206	191	110	121	932	26,903
Total	10,823	8,797	9,576	9,123	6,624	2,264	1,128	48,335	\$24,871

Average age 42.9
Average service 12.4

STATE EMPLOYEES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1990

ACTIVE AND INACTIVE EMPLOYEES

<u>Age</u>	<u>Males - Full Years of Service to December 31, 1990</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	20	0	0	0	0	0	0	20
20-24	994	52	0	0	0	0	0	1,046
25-29	2,779	1,299	185	0	0	0	0	4,263
30-34	2,377	2,534	1,740	157	0	0	0	6,808
35-39	2,010	2,110	2,646	2,061	372	0	0	9,199
40-44	1,786	1,873	2,147	3,785	3,135	212	0	12,965
45-49	1,177	1,057	1,113	1,782	3,390	1,507	113	10,149
50-54	920	812	829	1,056	1,710	1,554	887	7,758
55-59	699	720	753	965	1,219	1,038	1,240	6,634
60-64	444	459	610	645	760	582	758	4,258
65+	<u>166</u>	<u>170</u>	<u>271</u>	<u>212</u>	<u>242</u>	<u>184</u>	<u>260</u>	<u>1,505</u>
Total	<u>13,372</u>	<u>11,086</u>	<u>10,321</u>	<u>10,673</u>	<u>10,828</u>	<u>5,077</u>	<u>3,248</u>	<u>64,605</u>

Average age 44.4

Average service 13.8

<u>Age</u>	<u>Females - Full Years of Service to December 31, 1990</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	91	0	0	0	0	0	0	91
20-24	1,403	213	0	0	0	0	0	1,616
25-29	1,986	1,387	458	0	0	0	0	3,831
30-34	1,943	1,691	1,911	426	0	0	0	5,971
35-39	1,970	1,531	2,077	2,561	731	0	0	8,870
40-44	1,552	1,514	1,588	2,067	2,062	298	0	9,081
45-49	1,165	1,080	1,219	1,176	1,100	659	76	6,475
50-54	828	719	1,101	1,055	936	466	394	5,499
55-59	495	538	841	1,082	1,022	447	322	4,747
60-64	284	374	512	694	641	308	231	3,044
65+	<u>101</u>	<u>106</u>	<u>180</u>	<u>210</u>	<u>202</u>	<u>115</u>	<u>123</u>	<u>1,037</u>
Total	<u>11,818</u>	<u>9,153</u>	<u>9,887</u>	<u>9,271</u>	<u>6,694</u>	<u>2,293</u>	<u>1,146</u>	<u>50,262</u>

Average age 43.0

Average service 12.1

STATE EMPLOYES' RETIREMENT SYSTEM

II. AGE AND BENEFIT PROFILE OF ANNUITANTS AND BENEFICIARIES DECEMBER 31, 1990

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	161	\$ 3,595,742	4	\$ 70,894	165	\$ 3,666,636
55-59	368	6,635,030	40	600,239	408	7,235,269
60-64	2,891	36,303,887	1,973	15,788,265	4,864	52,092,153
65-69	6,488	63,945,626	4,700	30,538,885	11,188	94,484,511
70-74	6,148	45,010,776	4,971	26,670,144	11,119	71,680,920
75-79	5,130	32,129,632	4,266	20,841,350	9,396	52,970,982
80-84	3,080	17,827,791	2,529	12,223,501	5,609	30,051,292
85-89	1,221	7,035,375	1,102	4,782,346	2,323	11,817,722
90 & Over	<u>367</u>	<u>2,276,426</u>	<u>392</u>	<u>1,781,082</u>	<u>759</u>	<u>4,057,507</u>
Total	<u>25,854</u>	<u>\$214,760,286</u>	<u>19,977</u>	<u>\$113,296,706</u>	<u>45,831</u>	<u>\$328,056,992</u>
				Average age	72.9	
				Average annual pension	\$6,761	

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	70	\$ 66,081	245	\$ 226,479	315	\$ 292,560
35-39	441	486,384	1,202	1,293,272	1,643	1,779,657
40-44	1,359	2,083,610	1,353	1,784,245	2,712	3,867,855
45-49	1,304	3,240,354	811	1,574,425	2,115	4,814,779
50-54	1,140	5,539,865	804	2,730,835	1,944	8,270,700
55-59	1,510	13,864,769	1,121	6,380,679	2,631	20,245,448
60-64	1,732	17,281,836	1,410	8,906,184	3,142	26,188,020
65 & Over	<u>1,816</u>	<u>12,031,895</u>	<u>1,850</u>	<u>9,129,953</u>	<u>3,666</u>	<u>21,161,848</u>
Total	<u>9,372</u>	<u>\$54,594,794</u>	<u>8,796</u>	<u>\$32,026,072</u>	<u>18,168</u>	<u>\$86,620,866</u>
				Average age	54.6	
				Average annual pension	\$4,411	

STATE EMPLOYEES' RETIREMENT SYSTEM

II. AGE AND BENEFIT PROFILE OF ANNUITANTS AND BENEFICIARIES DECEMBER 31, 1990

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	17	\$ 116,872	21	\$ 124,588	38	\$ 241,460
35-39	60	379,598	110	681,076	170	1,060,674
40-44	160	1,075,325	116	746,458	276	1,821,783
45-49	232	1,714,895	149	891,240	381	2,606,135
50-54	244	1,827,704	197	1,321,784	441	3,149,488
55-59	358	2,580,062	287	1,846,857	645	4,426,920
60-64	462	3,138,985	332	1,760,381	794	4,899,367
65 & over	<u>705</u>	<u>3,512,856</u>	<u>707</u>	<u>2,822,558</u>	<u>1,412</u>	<u>6,335,414</u>
Total	<u>2,238</u>	<u>\$14,346,297</u>	<u>1,919</u>	<u>\$10,194,943</u>	<u>4,157</u>	<u>\$24,541,240</u>

Average age 59.2
Average annual pension \$5,169

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	3	\$ 8,775	3	\$ 8,775
25-29	3	4,943	6	15,714	9	20,657
30-34	10	39,311	7	33,547	17	72,858
35-39	9	26,539	14	29,678	23	56,217
40-44	18	50,950	27	73,155	45	124,105
45-49	21	60,175	50	187,749	71	147,924
50-54	28	74,403	104	380,320	132	454,723
55-59	22	71,845	176	844,728	198	916,574
60-64	32	178,574	418	2,091,300	450	2,269,874
65-69	41	163,505	740	3,221,489	781	3,384,994
70-74	68	243,691	1,141	4,236,894	1,209	4,480,584
75-79	51	173,849	1,268	4,616,485	1,319	4,790,334
80-84	34	123,259	977	3,657,656	1,011	3,780,915
85-89	14	36,081	519	1,711,744	533	1,747,825
90 & Over	<u>5</u>	<u>13,083</u>	<u>260</u>	<u>565,044</u>	<u>265</u>	<u>578,127</u>
Total	<u>356</u>	<u>\$1,260,208</u>	<u>5,710</u>	<u>\$21,674,278</u>	<u>6,066</u>	<u>\$22,934,486</u>

Average age 73.8
Average annual pension \$3,745

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1990
(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 employees and certain other eligible groups. The major provisions may be summarized as follows:

Eligibility Employees

- Class A - All regular State employees as well as employees of certain Commissions and Authorities and all employees of state-owned educational institutions and the Pennsylvania State University (unless such employees have joined the Public School Employees' Retirement System of Pennsylvania or TIAA-CREF). All employees who become members (or who rejoin the Retirement System) on and after March 1, 1974 except Judges and District Justices.
- Class C - Enforcement officers and other officers and certain employees of the Pennsylvania State Police who have been members and employees continuously since March 1, 1974.
- Class D-3 - Members of the General Assembly who have been members and employees 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, 1990
(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 Early Retirement

In the case of early retirement, a member of Class D-3 is eligible for early retirement after 6 years of legislative service and members of other classes are eligible after 10 years of service.

Adjustment for Early Retirement Benefit

A member receives the actuarial equivalent of the annuity payable to superannuation retirement age earned to the date of early retirement.

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1990 (as embodied in Act 31, approved March 1, 1974)

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 an enforcement officer does not have a service requirement.

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 calculated as for superannuation retirement but deferred until superannuation retirement age.

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

Two temporary early retirement incentives have been made available to certain classes of members. The first incentive is available to members who retire between February 1, 1991 and December 31, 1991. If the member is at least 55 years old by January 31, 1992 and has at least ten years of credited service, the credited service at retirement will be increased by ten percent.

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1990 (as embodied in Act 31, approved March 1, 1974)

The second temporary early retirement incentive begins 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.

The funding of the two early retirement incentives will begin July 1, 1992 as stipulated by Act 1991-23. The 1990 valuation funds the early retirement window that had been open through September 30, 1991.

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.

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%

STATE EMPLOYEES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1990
(as embodied in Act 31, approved March 1, 1974)

(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 Contribution

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.

Refund of Accumulated Member Contributions

On the death of a member not qualifying for death benefits, the accumulated member contributions are paid 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 will be amortized over new twenty-year periods beginning with the July first following the effective date of the change.

STATE EMPLOYES' RETIREMENT SYSTEM

ACTUARIAL ASSUMPTIONS

Section 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 EMPLOYES

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 EMPLOYES

<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</u>			<u>Class C</u>	
	<u>Less Than 20</u>	<u>Class D</u>	<u>Class E</u>	<u>20 or More Years of Service</u>	
<u>Years of Service</u>	<u>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 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, in Schedule A, to account for the remaining contributions in fiscal year 1991 (through June 30, 1991) since the 1990 valuation results will not be reflected in employer contributions until July 1, 1991. The assets are increased by employer contributions due for fiscal year 1991. They are then reduced by the employer normal cost that would be payable from January 1, 1991 to June 30, 1991.

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 Unfunded Actuarial Accrued Liability 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 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 liability as of December 31, 1990 over a twenty-year period ending on June 30, 2011.

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

The amortization of changes in liability 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 1990 valuation does not include the amortization of any changes since these will first be determined in the 1991 valuation and amortized over a twenty-year period beginning July 1, 1992.

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 1991/92 divided by the projected payroll for the fiscal year.

STATE EMPLOYEES' 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>	
1991 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

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 1989 investment return rate was 8.75 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 7.25 percent. The interest rate is the Pension Benefit Guaranty Corporation rate for immediate annuities as of January 1, 1991. The rate used for the 1989 report was also 7.25 percent.

Both disclosure values were determined using the demographic assumptions based on the 1986 to 1990 evaluation of experience. The 1989 values had been determined using the 1981 to 1985 evaluation assumptions.

STATE EMPLOYES' 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.