

STATE EMPLOYES' RETIREMENT SYSTEM

1983 ACTUARIAL REPORT

HAY/HUGGINS COMPANY, INC.229 SOUTH 18TH STREET • PHILADELPHIA, PA 19103
(215) 875-2300

MEMBER OF THE HAY GROUP

Actuarial & Benefits Consultants

June 27, 1984

Mr. Robert L. Cusma, Secretary
State Employees' Retirement System
204 Labor & Industry Building
Harrisburg, PA 17120

Dear Mr. Cusma:

This report presents the results of our actuarial valuation of the State Employees' Retirement System as of December 31, 1983. 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 1984-85 appropriation request;
- to disclose the financial condition of the Plan;
- to provide information relating to the disclosure and reporting requirements of Statement No. 35 of the Financial Accounting Standards Board; and,
- to summarize the required transfers among the various accounts in order to bring them into actuarial balance.

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 Plan 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. 1499By 

ANN M. PALAITIS, F.S.A.

Member American Academy of Actuaries
Enrolled Actuary No. 3574

STATE EMPLOYEES' RETIREMENT SYSTEM

TABLE OF CONTENTS

	<u>Schedule</u>	<u>Page</u>
<u>Highlights</u>	-	1
<u>Comments on Schedules</u>	-	2
 <u>Current Costs and Valuation</u>		
Unfunded Actuarial Accrued Liability and Amortization	A	6
Normal Cost, Supplemental Annuities Amortization ...	B	7
Analysis of Change in Employer Contribution Rate and Unfunded Actuarial Accrued Liability	C	8
Special Police and Enforcement Officer Benefit Cost	D	9
Class D and E Contribution Rates	E	10
Air National Guard Contribution Rate	F	11
Actuarial Balance Sheet	G	12
Summary of Transfers Within SERS Accounts	H	13
Funding Information	I	14
Actuarial Value of Assets	J	15
 <u>Participant Data</u>		
Profile of Plan Participants	K	16
 <u>Reference Data</u>		
Summary of Plan Provisions	L	23
Actuarial Assumptions and Methods	M	30
Technical Terms	N	32

July 16, 1984

Mr. Robert L. Cusma
Secretary
Pennsylvania State Employees'
Retirement System
204 Labor and Industry Building
Harrisburg, PA 17120

Dear Mr. Cusma:

I understand that two recent events will change the cost of the Pennsylvania State Employees' Retirement System for July 1, 1984 through June 30, 1985. First, the courts have ruled that employees hired before July 22, 1983 will only have to contribute 5% of salary to the retirement system and that there will be a refund of the 1.25% additional contribution made by such employees since last July. Employees hired after July 22, 1983 will continue to contribute at the 6.25% rate and there will be no refunds to these employees.

Second, a Bill that contains the provisions of Senate Bill 1320 has been enacted. I presented the cost of the Bill, as amended, by letter of June 1, 1984. This Bill would increase certain annuities by two per cent plus one dollar times years of active service plus two dollars times years on the retirement rolls through July 1, 1983. The increase would be effective with the July 1, 1984 benefit for superannuation and disability retirees who had been on the rolls on July 1, 1982. I understand that the final bill included these conditions. As stated in the June 1, 1984 letter, the total liability for this bill would be \$198,200,000 which could be amortized in twenty level annual payments of \$15,800,000 each.

We had earlier estimated that the employer contribution would be 17.43% of payroll if the additional 1.25% were not contributed by employees hired before July 22, 1983. This calculation assumed that the employer would make a retroactive contribution of 1% of these employees' payroll for the period covered by the 1.25% refund. The 1% is the increase in the employer cost for the employees who would not make the added contribution. If the employer does not make up the additional cost then the loss will have to be factored into future employer contributions.

Mr. Robert L. Cusma
July 16, 1984
Page 2

The 20 year payments generated by Senate Bill 1320 would equal .66% of the payroll of \$2,385,683,968 used in the valuation. This calculation included interest to the end of the year so the .66% can be directly added to the other cost items for a total contribution of 18.09%. With these adjustments the total employer contribution is as follows:

1	Employer portion of Normal Cost Rate	6.85%
2.	Payment on Unfunded Actuarial Accrued Liability	9.43%
3.	Payment on Supplemental Annuities	1.81%
4.	Total	18.09%

One way to meet the total cost of SERS, as amended, would be for the employer to contribute 18.09% for the entire year. If the increase in contribution is not implemented until October 1, 1984, the extra cost could be recovered over the remaining nine months of the fiscal year through an employer contribution of 18.60% in that period. In other words, three months at the old rate of 16.57% plus nine months at 18.60% would be equal to a year at 18.09%. This approach would result in some slight gain because the 18.60% would be on a higher pay base but this gain would be offset by the loss in investment income because of the delayed payment. Therefore, the two methods of payment would be equivalent.

In summary, the Board could either increase the employer contribution to 18.09% for the entire fiscal year or continue at 16.57% for the first quarter and increase to 18.60% for the last three quarters to cover the cost of SERS including the two changes. This assumes that the employer will contribute an additional 1% of payroll for the payroll on which a refund of the 1.25% was required. Either approach would continue the actuarial soundness of the system and meet the funding requirements of S.B. 1320.

Sincerely yours,



Edwin C. Husted
Partner

STATE EMPLOYEES' RETIREMENT SYSTEM

VALUATION HIGHLIGHTS

	<u>December 31, 1983</u>	<u>December 31, 1982</u>
	<u>Valuation</u>	<u>Valuation</u>
• Summary of Contributions: (Percent of Participants' Compensation)		
Normal Cost	6.84%	7.47%
Amortization of Unfunded Actuarial Accrued Liability ...	8.58%	8.12%
Amortization of Supplemental Annuities	1.15%	1.18%
Total	<u>16.57%</u>	<u>16.77%</u>
Contribution Rate for Special Class C Benefits:		
State Police	6.59%	6.44%
Enforcement Officers	0.46%	7.91%
Contribution Rate for:		
Class D Members	60.22%	59.92%
Class E Members	25.24%	25.59%
• Market Value of Assets	\$4,411,359,238	\$3,742,622,253
• Actuarial Present Value of Accumulated Plan Benefits:		
Vested benefits	\$4,283,514,387	\$3,853,008,107
Non-vested benefits	<u>103,200,163</u>	<u>100,811,640</u>
Total	\$4,386,714,550	\$3,953,819,747
• Active Participants:		
Number	115,587	117,483
Average Projected compensation. \$	20,640	\$ 19,873
Total Projected compensation ..	\$2,385,683,968	\$2,334,701,238
• Annuitants and Beneficiaries:		
Number	58,542	55,640
Total annual pension	\$ 260,966,675	\$ 240,991,962
• Inactive Vested Participants:		
Number	2,446	2,705

GENERAL DISCUSSION

The costs and liabilities presented in this report have been determined on the basis of the same set of actuarial assumptions as used in the December 31, 1982 valuation. These assumptions are those approved by the Board in 1981 with modifications to the salary growth assumption and asset valuation method in 1982.

There were significant changes in the benefit and contribution provisions of the system during 1983 which are reflected in the current valuation. They are:

- the increase of 1.25% in the member contribution rate, and
- the adoption of 'topped-up' option factors for benefits accrued by members participating before August 1, 1983 for service after August 1, 1983.

A comparison of the contribution rates for the 1984-85 fiscal year and the 1983-84 fiscal year, as well as summary information from the current and previous valuations is shown above.

STATE EMPLOYES' RETIREMENT SYSTEM

COMMENTS ON SCHEDULES

Contribution Rate

Schedules A and B summarize the development of the Employer Contribution Rate. The Employer Contribution Rate comprises three pieces: the Normal Cost; the amortization of the Unfunded Actuarial Accrued Liability; and, the amortization of the Supplemental Annuities.

The Employer Contribution Rate calculated as a result of the December 31, 1983 actuarial valuation is 16.57%, if members contribute 6.25% of pay. The 1982 valuation had produced an Employer Contribution Rate of 16.77% if members contribute 5.00%. This was later reduced to 15.77% when the member contribution rate was increased to 6.25%. The results of these valuations are summarized below:

	<u>1983</u> <u>Valuation</u>	<u>1982</u> <u>Valuation</u>
Normal Cost Rate	6.84%	7.47%
Unfunded Actuarial Accrued Liability Rate.	8.58	8.12
Supplemental Annuities Rate	<u>1.15</u>	<u>1.18</u>
TOTAL	16.57%	16.77%

The normal cost rate is the level percentage of compensation which would be required for new active members to fund the liability for any prospective benefit payable to them over their period of active service. In making this calculation we used data for all active members who had not yet completed one year of credited service.

The unfunded actuarial accrued liability of \$2,905,259,675 is composed of two parts: one part is to be funded over 30 years from July 1, 1969 and other part over 30 years from July 1, 1974. To the extent the unfunded actuarial accrued liability increases (decreases) due to changes in assumptions or due to gains or losses because actual experience differs from the actuarial assumptions, those increases (decreases) are prorated between the two parts based on the expected outstanding balances.

The accrued liability for supplemental allowances is composed of three parts: one part is to be funded over 20 years from July 1, 1969, the second part over 20 years from July 1, 1974, and the third over 20 years from July 1, 1979 on the basis of level payments for each part.

STATE EMPLOYES' RETIREMENT SYSTEM

Schedule C contains a detailed analysis of the change in the Employer Contribution Rate and Unfunded Actuarial Accrued Liability from the 1982 to the 1983 valuation. The main items of change were due to the increase in the member contribution rate and the adoption of 'topped-up' option factors.

Contribution Rates for Special State Police and Enforcement Officer Benefits

Schedule D summarizes the development of the additional contributions required to support the special benefits of State Police and Enforcement Officers.

The contribution rates developed as a result of the 1983 actuarial valuation applicable to the 1984-85 fiscal year are 6.59% and 0.46% of the Class C State Police and Enforcement Officers payroll respectively. The comparable figures for the 1982-83 fiscal year were 6.44% and 7.91%, respectively. The significant decrease in the contribution rate for the Enforcement Officers is due to a large credit to this account from the Liquor Control Board.

Class D and Class E Member Contribution Rates

A special contribution rate is developed for Class D and E members to adjust the Employer Contribution Rates made on their behalf to reflect the higher level of benefits to which they are entitled. This adjustment is made on an approximate basis since an exact accounting is not possible. The development of these rates is summarized in Schedule E. The 1984-85 fiscal year contribution rate recognizes the liabilities associated with the McKenna and Catania decisions.

Contribution For Air National Guard

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

Actuarial Balance Sheet

Schedule G contains an actuarial balance sheet. It illustrates that the excess of actuarial present value of plan benefits (Total Liabilities) over the present assets must be fully funded by future contributions. These future contributions consist of normal cost payments, amounts to fund the Unfunded Actuarial Accrued Liability and Supplemental Annuities, special contributions for State Police and Enforcement Officers and member contributions.

STATE EMPLOYEES' RETIREMENT SYSTEM

Reserve Transfer to Adjust Account Balances

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. Based on the figures reported by SERS as of December 31, 1983 and the results of the 1983 actuarial valuation, the required reserve transfer is determined as follows::

Annuity Reserve Account	\$2,379,600,780
Actuarial Liability	<u>2,360,045,370</u>
Surplus (Deficiency)	\$ 19,555,410

Thus \$19,555,410 should be transferred from the Annuity Reserve Account to the State Accumulation Account. This transfer has been reflected in the account balances shown in the accompanying schedules.

Schedule H summarizes the above transfer.

Funding Status

Schedule I provides information required under Statement No. 35 of the Financial Accounting Standards Board (FASB). This schedule provides information regarding the funding status of vested and non-vested accumulated plan benefits as of the current valuation date. A comparison of the market value of assets with the actuarial present value of accumulated plan benefits provides a measure of the Plan's funded status. As shown in the schedule, the market value of assets exceeded the present value of the accumulated benefits as of the valuation date due to the high rate of investment return on a market value basis during the prior year.

Plan Assets

Schedule J summarizes the development of the actuarial value of assets as of December 31, 1983. The assets are based on the unaudited financial statements prepared by SERS.

Beginning in 1982, the Board adopted an asset valuation method which reflects market values but smooths out year to year fluctuations therein. The specific approach gradually recognizes over a 5 year period the differences between total investment returns and the assumed rate of 5-1/2%. Because of this smoothing method, only 20% of the asset gain of \$283,260,091 was recognized this year, with the remainder to be recognized over the next four years.

We applied this approach starting with the book value of assets as of December 31, 1981. A detailed description of the asset valuation method is contained in Schedule M.

STATE EMPLOYES' RETIREMENT SYSTEM

Participant Data

Section I of Schedule K provides a distribution of the active participants as of December 31, 1983 by sex, age, and length of service. It also shows the average projected salary by age group and sex. Section II of the schedule includes a breakdown of 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 was submitted by SERS.

Plan Provisions

Schedule L contains a summary of the principal provisions of the plan in effect as of December 31, 1983. There have been changes in the provisions since the prior valuation; namely the 1.25% increase in the member contribution rate (e.g. from 5.00% to 6.25% for Class A members), and the adoption of 'topped-up' option factors for all benefits accrued after August 1, 1983.

Actuarial Assumptions and Methods

Schedule M summarizes the actuarial assumptions, the asset valuation method and cost methods used for the valuation. There were no changes made in the actuarial assumptions and methods since the prior valuation.

STATE EMPLOYES' RETIREMENT SYSTEM

I. UNFUNDED ACTUARIAL ACCRUED LIABILITY DECEMBER 31, 1983

1) Present Value of Benefits:

(a) Active and Inactive Participants	
Superannuation and Withdrawal	\$ 6,689,458,479
Disability	537,678,221
Death	869,233,408
Refunds	94,270,642
Special Police Benefits	84,574,358
(b) Annuitants and Beneficiaries	2,534,827,454
(c) Miscellaneous	6,425,674
(d) Total	10,816,468,236

2) Present Value of Member and Employer Contributions:

(a) Normal Cost (Employer portion only)	1,610,492,806
(b) Supplemental Annuity Amortization	258,382,224
(c) Member Contributions	1,716,066,162
(d) Special Police and Enforcement Officer Contributions	69,809,067
(e) Total	3,654,750,259

3) Actuarial Accrued Liability: (1) - (2)	7,161,717,977
4) Actuarial Value of Assets	4,256,458,302
5) Unfunded Actuarial Accrued Liability: (3) - (4)	2,905,259,675

II. AMORTIZATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY

<u>Funding Period</u>	<u>Amount of</u>	<u>Annual Payment to Fund</u>	
<u>30 Years from July 1</u>	<u>Liability</u>	<u>Amount</u>	<u>Percent*</u>
1969	2,034,553,350	145,337,749	6.10%
1974	<u>870,706,325</u>	<u>48,666,689</u>	<u>2.03</u>
	2,905,259,675	194,004,438	8.13%

*Payment for 1984 expressed as a percentage of the estimated total payroll for active members in 1984 of \$2,385,683,968. The estimate was obtained by multiplying the 1983 salary for each active employee by the salary growth assumption for one year.

STATE EMPLOYEES' RETIREMENT SYSTEM

I. DEVELOPMENT OF EMPLOYER NORMAL COST RATE
(Fiscal Year 1984-85)

1) Normal Cost Rate for new active members to fund:	
(a) Superannuation and Withdrawal	9.41%
(b) Disability95
(c) Death	1.08
(d) Refunds	<u>1.30</u>
(e) Total	12.74%
2) Member Deductions	6.25%
3) Employer Portion of Normal Costs (1)(e) - (2)	6.49%

II. AMORTIZATION OF SUPPLEMENTAL ANNUITIES

Funding Period:	Amount of	Annual Payment to Fund	
<u>20 Years from July 1</u>	<u>Liability</u>	<u>Amount</u>	<u>Percent*</u>
1969	\$ 3,023,946	\$ 618,685	.03%
1974	59,212,719	7,181,739	.30
1979	<u>196,145,559</u>	<u>18,138,784</u>	<u>.76</u>
	\$258,382,224	\$25,939,208	1.09%

*Payment for 1984 expressed as a percentage of the estimated total payroll for active members in 1984 of \$2,385,683,968. The estimate was obtained by multiplying the 1983 salary for each active employee by the salary growth assumption for one year.

III. DEVELOPMENT OF TOTAL EMPLOYER CONTRIBUTION RATE
(Fiscal Year 1984-85)

	<u>Payable</u> <u>January 1</u>	<u>Payable</u> <u>Quarterly</u>
1) Employer Portion of Normal Cost Rate	6.49%	6.84%
2) Payment on Unfunded Actuarial Accrued Liability	8.13	8.58
3) Payment on Supplemental Annuities	<u>1.09</u>	<u>1.15</u>
4) Total	15.71%	16.57%

STATE EMPLOYES' RETIREMENT SYSTEM

I. ANALYSIS OF CHANGE IN EMPLOYER CONTRIBUTION RATE

	<u>Normal</u> <u>Cost</u>	<u>Accrued</u> <u>Liability</u>	<u>Supplemental</u> <u>Annuities</u>	<u>Total</u>
1. December 31, 1982 Valuation	7.47%	8.12%	1.18%	16.77%
2. Changes due to				
a) Increase in Member Contribution Rate	(.98)	(.19)	--	(1.17)
b) Adoption of 'Topped-Up' Option Factors	--	.64	--	.64
c) Actuarial Gain due to Investment Performance	--	(.09)	--	(.09)
d) Payroll Growth	--	.14	(.03)	.11
e) Other35	(.04)	--	.31
f) Total Change	(.63)	.46	(.03)	(.20)
3. December 31, 1983 Valuation:				
(1) + (2f)	6.84%	8.58%	1.15%	16.57%

II. ANALYSIS OF CHANGE IN UNFUNDED ACTUARIAL ACCRUED LIABILITY

1. December 31, 1982 Unfunded Actuarial Accrued Liability	2,835,923,161
2. Expected Amortization Payment	179,920,728
3. Expected Unfunded as of December 31, 1983 [((1) - (2)) x 1.055]	2,802,082,567
4. Change in Unfunded due to	
a) Increase in Member Contribution Rate	(64,775,327)
b) Adoption of 'Topped-Up' Option Factors	215,836,744
c) Investment Performance	(32,749,639)
d) Other	(15,134,670)
e) Total Change	103,177,108
5. December 31, 1983 Unfunded Actuarial Accrued Liability:	
(3) + (4e)	\$2,905,259,675

STATE EMPLOYEES' RETIREMENT SYSTEM

I. DEVELOPMENT OF CONTRIBUTION RATES FOR SPECIAL STATE POLICE
AND ENFORCEMENT OFFICER BENEFITS
(Fiscal Year 1984-85)

	<u>State Police</u>	<u>Enforcement Officers</u>
1) Balance in Benefit Account	\$ 174,480,165	\$15,067,210
2) Present Value of Benefits for Annuitants and Beneficiaries	163,022,827	11,759,257
3) Assets available for Special Benefits for Active Members: (1) - (2)	11,457,338	3,307,953
4) Present Value of Special Benefits for Active Members	81,089,095	3,485,263
5) Present Value of Future Contribution to fund Special Benefits: (4) - (3) ..	69,631,757	177,310
6) Present Value of Future Compensation for eligible Active Members	1,056,495,872	38,244,032
7) Contribution Rate as a percentage of payroll: (5) / (6)	<u>6.59%</u>	<u>0.46%</u>

STATE EMPLOYEES' RETIREMENT SYSTEM

DEVELOPMENT OF CONTRIBUTION RATES FOR
CLASS D AND CLASS E MEMBERS
(Fiscal Year 1984-85)

	<u>Class</u> <u>D</u>	<u>Class</u> <u>E</u>
1) Average Percentage of Compensation Contributed by Members in 1983*	10.859%	7.498%
2) Supplemental Percentage Contribution to reflect McKenna and Catania decisions* ..	12.618	2.344
3) Total Member Contribution Rate*: (1) + (2)...	23.477	9.842
4) Ratio of Employer to Member Contributions ...	2.565	2.565
5) Employer Contribution Rate: (3) x (4)	60.22%	25.24%

*Adjusted for Increase in Member Contribution Rate from 5% to 6.25%.

STATE EMPLOYEES' RETIREMENT SYSTEM

DEVELOPMENT OF CONTRIBUTION RATE AND ACCOUNT BALANCE

FOR AIR NATIONAL GUARD ACCOUNT
(Fiscal Year 1984-85)

1) Estimated Account Balance @ July 1, 1984	\$5,483,097
2) Contribution Required to Amortize (1) over 20 years from July 1, 1980	510,064
3) Estimated Fiscal Year 1984-85 payroll for Air National Guard Members	\$4,945,637
4) Employer Contribution Rate	16.57%
5) Total Required Contribution: (2) + (3) x (4)	1,329,556
6) Total Required Contribution as percent of payroll (5)/(3)	26.88%

STATE EMPLOYEES' RETIREMENT SYSTEM

ACTUARIAL BALANCE SHEET

A S S E T S

L I A B I L I T I E S

Present Assets:

Members' Savings Account	\$ 1,173,170,381
Annuity Reserve Account	2,360,045,370
State Police Benefit Account	174,480,165
Enforcement Officers Benefit Account....	15,067,210
State Accumulation Account	1,041,235,755
Supplemental Annuity Account	(258,382,224)
Reserve for Gains and Losses	(100,683,093)
Miscellaneous	6,425,674
Total Present Assets (Market Value).....	\$ 4,411,359,238
Adjustment to smooth market fluctuations (154,900,936)	
Total Present Assets (Actuarial Value) \$	\$ 4,256,458,302

Present Value of Future Contributions

Members' Savings Account (Employee)	\$ 1,716,066,162
Normal Cost Contributions (Employer)....	1,610,492,806
Accrued Liability Amortization (Employer)	2,905,259,675
Supplemental Annuity Amortization (Employer)	258,382,224
Special State Police Contributions (Employer)	69,631,757
Special Enforcement Officer Contributions (Employer)	177,310

Total Future Contributions

\$ 6,560,009,934

TOTAL ASSETS

\$10,816,468,236

Present Value of Benefits Payable to Annuitants and Beneficiaries from:

Annuity Reserve Account	\$ 2,360,045,370
State Police Benefit Account	163,022,827
Enforcement Officers Benefit Account	11,759,257
Total for Annuitants and Beneficiaries	\$ 2,534,827,454

Present Value of Benefits to Active and Inactive Members from:

Member Savings Account and State Accumulation Account

Superannuation and Withdrawal	\$6,689,458,479
Disability	537,678,221
Death	869,233,408
Refunds	94,270,642
Total	\$ 8,190,640,750

State Police Benefit Account

81,089,095

Enforcement Officers Benefit Account

3,485,263

Total for Active and Inactive Members

\$10,810,042,562

Miscellaneous

6,425,674

TOTAL LIABILITIES

\$10,816,468,236

STATE EMPLOYEES' RETIREMENT SYSTEM

SUMMARY OF TRANSFERS WITHIN SERS ACCOUNTS

Transfer to bring the Annuity Reserve Account
into balance with the Actuarial Present Value
of Annuitant and Beneficiaries Benefits.

Transfer from Annuity Reserve Account	\$19,555,410
Transfer to State Accumulation Account	19,555,410

STATE EMPLOYES' RETIREMENT SYSTEM

I. FUNDING STATUS OF ACCUMULATED PLAN BENEFITS DECEMBER 31, 1983

1. Actuarial present value of accumulated plan benefits:	
(a) Vested	
Active participants (63,557)	\$2,251,570,666
Inactive (2,446)	30,181,226
Superannuation Retirements (40,743)	1,536,563,669
Early Retirements (9,798)	277,407,496
Disabled (3,313)	92,612,635
Beneficiaries (4,688)	95,178,695
Total (124,545)	<u>\$4,283,514,387</u>
(b) Non-vested (52,030)	<u>103,200,163</u>
(c) Total: (a) + (b)	\$4,386,714,550
2. Market value of assets	
	4,411,359,238
3. Unfunded actuarial present value of:	
(a) Vested benefits: (1a) - (2)	<u>\$ 0</u>
(b) Accumulated benefits: (1c) - (2)	<u>\$ 0</u>

II. CHANGE IN ACTUARIAL PRESENT VALUE OF ACCUMULATED PLAN BENEFITS*

1. Actuarial present value of accumulated plan benefits as of December 31, 1982	
	\$3,953,819,747
2. Changes during the year:	
(a) Due to passage of time	\$ 235,975,458
(b) Due to plan provision changes	0
(c) Due to actuarial assumption changes	196,919,345
(d) Total	<u>\$ 432,894,803</u>
3. Actuarial present value of accumulated plan benefits as of December 31, 1983: (1) + (2)	
	<u>\$4,386,714,550</u>

* The assumed rate of return on investments was 9.0% in 1983 as compared to 9.5% in 1982. The assumptions relating to disability, termination and retirement were not changed.

STATE EMPLOYEES' RETIREMENT SYSTEM

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

I. Change to 12/31/82 Actuarial Value due to Audit Adjustment:

1) Expected Actuarial Value as of 12/31/82	\$ 3,851,784,148
2) Market Value as of 12/31/82 (including post audit adjustment)	3,732,272,253
3) Difference between Expected Actuarial Value and Market Value as of 12/31/82: (1) - (2)	(119,511,895)
4) 20% of difference in (3)	(23,902,379)
5) Adjusted Actuarial Value as of 12/31/82: (1) - (4)	\$ 3,827,881,769

II. Development of 12/31/83 Expected Actuarial Value:

1) Actuarial Value as of 12/31/82	\$ 3,829,951,769
2) Change due to Audit Adjustment	2,070,000
3) Adjusted Actuarial Value as of 12/31/82	3,827,881,769
4) Contributions in 1983	549,645,702
5) Benefits and Expenses in 1983	369,311,496
6) Interest @ 5.5% to 12/31/83 on (3)	210,533,497
7) Interest @ 5.5% to 12/31/83 on (4) - (5)	4,959,191
8) Expected Actuarial Value as of 12/31/83: (3) + (4) - (5) + (6) + (7)	\$ 4,223,708,663

III. Development of Amount of Difference to Be Amortized:

1) Difference between Expected Actuarial and Market Value as of 12/31/82	\$ (119,511,895)
2) Unrecognized Amount of 12/31/82 Difference: .8 x (1)	(95,609,516)
3) Market Value as of 12/31/83	4,411,359,238
4) Difference between Expected Actuarial and Market Value as of 12/31/83: III(3) - II(8) - III(2)..	\$ 283,260,091

IV. Development of Actuarial Value of Assets as of 12/31/83:

1) 20% of 12/31/82 Difference: .2 x III(1)	\$ (23,902,379)
2) 20% of 12/31/83 Difference: .2 x III(4)	56,652,018
3) Actuarial Value at 12/31/83: II(8) + IV(1) + IV(2)	<u>\$ 4,256,458,302</u>

STATE EMPLOYES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1983

GENERAL EMPLOYEES

Age	Males - Full Years of Service to December 31, 1983							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
Under 20	26	-	-	-	-	-	-	26	\$13,426
20-24	1,318	225	-	-	-	-	-	1,543	14,849
25-29	2,466	1,727	301	-	-	-	-	4,494	17,239
30-34	2,185	2,969	2,763	241	-	-	-	8,158	19,911
35-39	1,489	2,254	3,929	1,824	77	-	-	9,573	22,376
40-44	971	1,158	2,100	2,085	928	66	-	7,308	23,902
45-49	734	918	1,393	1,566	1,083	642	57	6,393	24,593
50-54	659	919	1,373	1,346	1,099	967	452	6,815	24,406
55-59	637	862	1,459	1,398	1,033	901	766	7,056	23,745
60-64	334	601	971	1,099	682	408	503	4,598	23,311
65 & over	105	176	301	235	143	65	93	1,118	23,707
Total	10,924	11,809	14,590	9,794	5,045	3,049	1,871	57,082	\$22,368

Average age 43.7
Average service 12.3

Age	Females - Full Years of Service to December 31, 1983							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
Under 20	123	-	-	-	-	-	-	123	\$12,581
20-24	2,279	538	-	-	-	-	-	2,817	14,185
25-29	2,582	2,838	852	-	-	-	-	6,272	16,289
30-34	1,826	2,633	3,483	557	-	-	-	8,499	17,628
35-39	1,548	1,671	2,044	1,527	129	-	-	6,919	18,409
40-44	1,239	1,342	1,358	896	551	79	-	5,465	18,278
45-49	989	1,220	1,358	828	470	290	41	5,196	18,417
50-54	791	1,006	1,283	1,160	525	323	209	5,297	18,343
55-59	559	879	1,491	1,373	680	353	321	5,656	18,337
60-64	215	472	964	941	442	231	175	3,440	18,161
65 & over	56	117	208	204	85	76	88	834	18,083
Total	12,207	12,716	13,104	7,486	2,882	1,352	834	50,518	\$17,714

Average age 41.6
Average service 10.4

STATE EMPLOYEES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1983

STATE POLICE, CORRECTION OFFICERS,
ENFORCEMENT OFFICERS, AND PSYCHIATRIC SECURITY AIDES

Age	Males - Full Years of Service to December 31, 1983							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
Under 20	-	-	-	-	-	-	-	-	\$ -
20-24	156	3	-	-	-	-	-	159	17,304
25-29	472	182	2	-	-	-	-	656	20,364
30-34	208	408	150	7	-	-	-	773	23,741
35-39	145	221	838	592	11	-	-	1,807	26,591
40-44	82	93	243	660	332	36	-	1,446	27,096
45-49	53	67	59	142	228	205	16	770	27,217
50-54	23	38	39	40	88	106	153	487	27,948
55-59	10	29	26	40	71	68	186	430	28,300
60-64	2	9	11	11	35	27	39	134	26,446
65 & over	2	-	1	1	4	3	4	15	21,610
Total	<u>1,153</u>	<u>1,050</u>	<u>1,369</u>	<u>1,493</u>	<u>769</u>	<u>445</u>	<u>398</u>	<u>6,677</u>	<u>\$25,805</u>

Average age 40.2
Average service 14.1

Age	Females - Full Years of Service to December 31, 1983							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
Under 20	-	-	-	-	-	-	-	-	\$ -
20-24	27	1	-	-	-	-	-	28	16,218
25-29	44	11	1	-	-	-	-	56	19,958
30-34	20	18	14	-	-	-	-	52	21,662
35-39	8	8	7	2	-	-	-	25	23,927
40-44	8	9	2	3	1	1	-	24	22,295
45-49	3	4	3	1	-	3	-	14	25,745
50-54	1	3	1	1	1	2	2	11	24,944
55-59	1	3	2	2	-	1	-	9	22,324
60-64	-	1	2	-	1	2	-	6	23,402
65 & over	1	-	-	-	-	-	1	2	19,325
Total	<u>113</u>	<u>58</u>	<u>32</u>	<u>9</u>	<u>3</u>	<u>9</u>	<u>3</u>	<u>227</u>	<u>\$21,349</u>

Average age 35.1
Average service 6.9

STATE EMPLOYEES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1983

LEGISLATORS

Age	Males - Full Years of Service to December 31, 1983							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
Under 20	-	-	-	-	-	-	-	-	\$ -
20-24	-	-	-	-	-	-	-	-	-
25-29	7	1	-	-	-	-	-	8	25,622
30-34	15	12	1	-	-	-	-	28	25,623
35-39	15	9	10	-	-	-	-	34	25,854
40-44	9	10	7	4	2	-	-	32	26,166
45-49	5	7	10	1	2	-	-	25	27,261
50-54	3	11	7	5	2	3	1	32	26,849
55-59	7	6	4	3	5	2	2	29	26,675
60-64	2	4	2	6	4	6	2	26	27,006
65 & over	<u>2</u>	<u>-</u>	<u>5</u>	<u>3</u>	<u>2</u>	<u>2</u>	<u>1</u>	<u>15</u>	25,623
Total	<u>65</u>	<u>60</u>	<u>46</u>	<u>22</u>	<u>17</u>	<u>13</u>	<u>6</u>	<u>229</u>	<u>\$26,373</u>

Average age 47.4
 Average service 10.7

Age	Females - Full Years of Service to December 31, 1983							Total	Average Salary
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
Under 20	-	-	-	-	-	-	-	-	\$ -
20-24	-	-	-	-	-	-	-	-	-
25-29	1	-	-	-	-	-	-	1	25,623
30-34	-	-	1	-	-	-	-	1	25,618
35-39	1	-	-	-	-	-	-	1	25,627
40-44	-	-	-	-	-	-	-	-	-
45-49	1	-	-	-	-	-	-	1	25,624
50-54	-	-	-	-	-	-	-	-	-
55-59	-	1	-	-	-	-	-	1	25,624
60-64	-	1	1	-	-	-	2	4	25,623
65 & over	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>1</u>	25,623
Total	<u>3</u>	<u>2</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>10</u>	<u>\$25,623</u>

Average age 51.6
 Average service 15.4

STATE EMPLOYEES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1983

JUDGES AND JUSTICES OF THE PEACE

<u>Age</u>	<u>Males - Full Years of Service to December 31, 1983</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>		
Under 20	-	-	-	-	-	-	-	-	\$ -
20-24	-	-	-	-	-	-	-	-	-
25-29	2	2	-	-	-	-	-	4	25,550
30-34	21	10	2	-	-	-	-	33	24,866
35-39	26	18	6	1	-	-	-	51	31,671
40-44	26	23	7	4	-	-	-	60	38,310
45-49	17	36	12	18	1	1	-	85	41,828
50-54	23	35	29	19	12	-	-	118	42,086
55-59	20	26	45	52	13	3	2	161	39,514
60-64	13	30	30	54	10	8	1	146	39,410
65 & over	<u>2</u>	<u>8</u>	<u>16</u>	<u>29</u>	<u>6</u>	<u>4</u>	<u>2</u>	<u>67</u>	39,050
Total	<u>150</u>	<u>188</u>	<u>147</u>	<u>177</u>	<u>42</u>	<u>16</u>	<u>5</u>	<u>725</u>	<u>\$39,051</u>

Average age 53.0

Average service 11.0

<u>Age</u>	<u>Females - Full Years of Service to December 31, 1983</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>		
Under 20	-	-	-	-	-	-	-	-	\$ -
20-24	-	-	-	-	-	-	-	-	-
25-29	2	-	1	-	-	-	-	3	24,242
30-34	2	3	1	-	-	-	-	6	23,391
35-39	3	2	1	-	-	-	-	6	27,975
40-44	4	4	1	1	-	-	-	10	27,020
45-49	8	7	4	3	-	-	-	22	25,279
50-54	4	3	6	3	-	-	-	16	24,323
55-59	4	4	8	17	-	-	-	33	27,113
60-64	2	2	5	6	-	-	-	15	28,660
65 & over	<u>1</u>	<u>-</u>	<u>4</u>	<u>2</u>	<u>-</u>	<u>1</u>	<u>-</u>	<u>8</u>	40,571
Total	<u>30</u>	<u>25</u>	<u>31</u>	<u>32</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>119</u>	<u>\$27,274</u>

Average age 51.7

Average service 9.7

STATE EMPLOYEES' RETIREMENT SYSTEM

I. AGE, SERVICE AND SALARY PROFILE OF ACTIVE PARTICIPANTS DECEMBER 31, 1983

ALL EMPLOYEES*

<u>Age</u>	<u>Males - Full Years of Service to December 31, 1983</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>	<u>Total</u>	
Under 20	27	-	-	-	-	-	-	27	\$13,646
20-24	1,498	228	-	-	-	-	-	1,726	15,135
25-29	2,984	1,922	303	-	-	-	-	5,209	17,671
30-34	2,463	3,410	2,935	248	-	-	-	9,056	20,272
35-39	1,730	2,516	4,816	2,423	88	-	-	11,573	23,061
40-44	1,150	1,297	2,389	2,774	1,264	102	-	8,976	24,469
45-49	871	1,049	1,505	1,745	1,323	850	74	7,417	24,990
50-54	788	1,046	1,489	1,443	1,216	1,079	608	7,669	24,800
55-59	755	955	1,593	1,523	1,144	986	971	7,927	24,206
60-64	410	674	1,057	1,206	752	463	572	5,134	23,702
65 & over	127	202	344	283	161	77	105	1,299	24,386
Total	12,803	13,299	16,431	11,645	5,948	3,557	2,330	66,013	\$22,866

Average age 43.6

Average service 12.5

<u>Age</u>	<u>Females - Full Years of Service to December 31, 1983</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>	<u>Total</u>	
Under 20	126	-	-	-	-	-	-	126	\$12,743
20-24	2,330	540	-	-	-	-	-	2,870	14,249
25-29	2,658	2,867	855	-	-	-	-	6,380	16,350
30-34	1,899	2,671	3,525	558	-	-	-	8,653	17,683
35-39	1,621	1,694	2,078	1,533	131	-	-	7,057	18,467
40-44	1,295	1,374	1,381	908	555	80	-	5,593	18,347
45-49	1,064	1,244	1,394	845	476	297	41	5,361	18,518
50-54	859	1,051	1,320	1,178	532	326	211	5,477	18,442
55-59	655	941	1,539	1,414	689	356	328	5,922	18,492
60-64	291	525	1,009	970	452	242	184	3,673	18,353
65 & over	87	136	218	208	88	78	93	908	18,546
Total	12,885	13,043	13,319	7,614	2,923	1,379	857	52,020	\$17,815

Average age 41.8

Average service 10.3

* Includes Active and Inactive (Departments 710, 712 and 714) Employees.

STATE EMPLOYES' RETIREMENT SYSTEM

II. AGE AND BENEFIT PROFILE OF INACTIVE PARTICIPANTS DECEMBER 31, 1983

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>
Under 50	-	\$ -	-	\$ -	-	\$ -
50-54	119	1,446,434	9	84,592	128	1,531,026
55-59	471	5,731,215	84	900,043	555	6,631,258
60-64	3,310	24,531,674	2,456	12,912,819	5,766	37,444,493
65-69	6,734	35,963,506	4,862	20,482,925	11,596	56,446,431
70-74	6,686	32,802,408	4,465	18,489,033	11,151	51,291,441
75-79	4,193	19,595,914	2,683	10,164,734	6,876	29,760,648
80-84	1,819	8,321,098	1,304	4,462,837	3,123	12,783,935
85-89	643	2,832,296	516	1,654,129	1,159	4,486,425
90 & Over	179	798,386	210	607,892	389	1,406,278
Total	24,154	\$132,022,931	16,589	\$69,759,004	40,743	\$201,781,935

Average age 71.1
Average annual pension ...\$4,953

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>
Under 30	2	\$ 1,121	18	\$ 10,611	20	\$ 11,732
30-34	127	73,837	402	248,631	529	322,468
35-39	626	519,748	466	367,495	1,092	887,243
40-44	642	789,509	301	321,295	943	1,110,804
45-49	513	1,095,616	280	442,223	793	1,537,839
50-54	684	2,248,679	434	1,036,470	1,118	3,285,149
55-59	871	4,362,267	799	2,809,716	1,670	7,171,983
60-64	878	5,230,478	856	3,497,607	1,734	8,728,085
65 & Over	1,049	4,055,528	850	3,300,645	1,899	7,356,173
Total	5,392	\$18,376,783	4,406	\$12,034,693	9,798	\$30,411,476

Average age 54.3
Average annual pension....\$3,104

STATE EMPLOYEES' RETIREMENT SYSTEM

II. AGE AND BENEFIT PROFILE OF INACTIVE PARTICIPANTS DECEMBER 31, 1983

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>
Under 30	1	\$ 3,162	5	\$ 19,709	6	\$ 22,871
30-34	16	63,388	20	81,524	36	144,912
35-39	67	305,115	38	160,167	105	465,282
40-44	88	402,315	57	236,825	145	639,140
45-49	117	590,443	67	269,407	184	859,850
50-54	245	1,342,040	132	587,674	377	1,929,714
55-59	473	2,522,107	280	1,153,364	753	3,675,471
60-64	503	2,243,841	395	1,467,312	898	3,711,153
65 & over	417	1,407,727	392	1,026,203	809	2,433,930
Total	<u>1,927</u>	<u>\$8,880,138</u>	<u>1,386</u>	<u>\$5,002,185</u>	<u>3,313</u>	<u>\$13,882,323</u>

Average age 58.7
Average annual pension ...\$4,190

BENEFICIARIES

<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	5	\$ 18,885	7	\$ 29,041	12	\$ 47,926
25-29	4	10,651	10	25,699	14	36,350
30-34	7	18,834	13	36,003	20	54,837
35-39	10	37,630	20	60,499	30	98,129
40-44	20	94,889	23	53,810	43	148,699
45-49	16	46,667	44	120,001	60	166,668
50-54	13	57,026	99	384,201	112	441,227
55-59	17	53,224	265	1,105,027	282	1,158,251
60-64	33	122,210	475	1,828,062	508	1,950,272
65-69	47	177,966	792	2,744,848	839	2,922,814
70-74	37	151,271	941	3,061,969	978	3,213,240
75-79	27	90,701	800	2,300,682	827	2,391,383
80-84	9	25,319	540	1,358,561	549	1,383,880
85-89	7	22,948	272	634,138	279	657,086
90 & Over	6	8,373	129	211,806	135	220,179
Total	<u>258</u>	<u>\$ 936,594</u>	<u>4,430</u>	<u>\$13,054,347</u>	<u>4,688</u>	<u>\$14,890,941</u>

Average age 70.9
Average annual pension ...\$3,176

STATE EMPLOYEES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1983
(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). All employees who become members (or who rejoin the Retirement System) on and after March 1, 1974.
- Class C - Officers and employees of the Pennsylvania State Police and enforcement officers of the Pennsylvania Liquor Control Board who were members prior to March 1, 1974.
- Class D-3 - Members of the General Assembly who were members prior to March 1, 1974.
- Class E-1 - Members of the Judiciary who were members prior to March 1, 1974.
- Class E-2 - Justices of the Peace paid by the Commonwealth who were members prior to March 1, 1974.

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1983
(as embodied in Act 31, approved March 1, 1974)

Age Requirements for Superannuation Retirement (with full formula benefits)

Class A* - Age 60, except for members of the General Assembly, enforcement officers, correction officers, psychiatric security aides and officers of the Pennsylvania State Police for whom the requirement is age 50.

Classes C and D-3 - Age 50.

Class E-1 - Age 60.

Class E-2 - Age 60.

* Members of Class A with 35 or more years of credited service are entitled to at least full formula benefits regardless of age.

Formula for Superannuation Retirement Annuity

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

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>	
C	1	
D-3	3.75	
E-1	2.	for each of the first 10 years of judicial service plus 1.5 for each subsequent year.
E-2	1.5	

NOTE: There are conditions under which long-service members or members retiring at very young or advanced ages may receive somewhat larger benefits than those described above.

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1983
(as embodied in Act 31, approved March 1, 1974)

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 were age 60 at retirement.

In addition to the above benefits, a member who, prior to March 1, 1974, has elected "Social Security Integration Credits" is entitled to a single-life annuity of 2% of his "Average Non-Covered Salary" for each year of Social Security Integration credits. "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. In effect, the years of Social Security Integration Credit are the same as total credited service unless the member did not elect coverage when first eligible.

Age and Service Requirements for Early Retirement

In the case of withdrawal, 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 at superannuation retirement age earned to the date of early retirement.

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1983
(as embodied in Act 31, approved March 1, 1974)

Age and Service Requirements for Disability Retirement

A member is eligible for disability retirement if he is unable to perform his current job prior to superannuation retirement age and has at least 5 years of service, except an officer of the State Police or an enforcement officer for whom there is no 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% of F.A.S. at time of disability. If the benefit so calculated is less than 33-1/3% of F.A.S., the disability benefit is equal to the smaller of:

- (a) the benefit calculated as for superannuation retirement based on service to superannuation, or
- (b) 33-1/3% 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.

STATE EMPLOYES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1983
(as embodied in Act 31, approved March 1, 1974)

Eligibility for Death Benefit Prior to Retirement

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

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 he retired the day before he dies, assuming he had elected Option 1 if no other option had been elected.

Death Benefits After Retirement

A member may elect one of several typical optional reduced pensions in lieu of his maximum single-life annuity provided by the formula. However, if he 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 his total single-life allowance including any cost of living supplements up to not less than at the rate of \$84.50 for each year of credited service.

STATE EMPLOYEES' RETIREMENT SYSTEM

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1983
(as embodied in Act 31, approved March 1, 1974)

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 July 1, 1979 for annuitants who had retired prior to July 1, 1978. The increase percentages varied according to year of retirement and began with a 5% increase for those who retired between July 1, 1977 and June 30, 1978 and increased to 31% for those who retired prior to March 1, 1974. Other supplemental annuities have become effective as of July 1, 1968 and July 1, 1974.

Rate of Member Contribution

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

Class A - 6.25% of total salary

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

Class C - 6.25%

Class D-3 - Assumed to be 20.00%

Class E-1 - Assumed to be 10% during the first 10 years of judicial service and 8.75% thereafter.

Class E-2 - Assumed to be 8.75%

- (ii) Additional contribution for Social Security Integration Credit

A member of any class who elected before March 1, 1974 Social Security Integration Credit pays 5% 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% 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, 1983
(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, his accumulated member contributions are paid to his beneficiary; also, any member terminating service when not eligible for another form of benefit is paid a refund of his accumulated contributions and interest; any other terminating member may elect the refund of his accumulated contributions and interest in lieu of the retirement allowance to which he is entitled.

Employer Contributions

The State pays the balance of the required contributions in excess of the members contributions in accordance with the law. Basically, the employer contribution is the normal cost plus an accrued liability contribution funded over 30 years, assuming the accrued liability contribution increases at least 4% each year. In addition, contributions are required to fund each of the Supplemental Allowances over a 20-year period.

STATE EMPLOYEES' RETIREMENT SYSTEM

I. ACTUARIAL ASSUMPTIONS

Interest Rate: 5-1/2% per annum, compounded annually.

Service Tables: Service tables for active members based on the experience of the Retirement System in 1975-80, with values at specimen ages in five separate classes as follows:

CLASS*	AGE	Rates of Separation Due To					Dis-ability	Early Retirement**	Super-annuation Retirement**	Salary Scale
		Withdrawal after Years of Service			Death					
		1	5	11						
A and B (MALE)	25	.2279	.1074	.0040	.0012	.0007	.0340	-	\$ 4,000	
	35	.2008	.0750	.0036	.0012	.0020	.0270	-	6,721	
	45	.1649	.0498	.0033	.0039	.0051	.0160	-	9,313	
	55	.1286	.0320	-	.0099	.0135	.0210	.1924	12,028	
	65	-	-	-	.0251	-	-	.4329	15,389	
A and B (FEMALE)	25	.1829	.1290	.0023	.0005	.0006	.0321	-	4,000	
	35	.1516	.0836	.0019	.0010	.0016	.0204	-	6,721	
	45	.1320	.0543	.0016	.0018	.0041	.0149	-	9,313	
	55	.1280	.0353	-	.0038	.0102	.0258	.1800	12,028	
	65	-	-	-	.0121	-	-	.4000	15,389	
C (MALE and FEMALE)	25	.1303	.0102	.0002	.0012	.0007	.0125	-	4,000	
	35	.1303	.0102	.0002	.0039	.0020	.0125	-	6,448	
	45	.1303	.0102	-	.0099	.0051	.0125	-	9,231	
	55	-	-	-	.0251	-	-	.0843	12,165	
	65	-	-	-	.0475	-	-	.5000	15,566	
D (MALE and FEMALE)	25	.0300	.0160	.0145	.0012	.0007	.0390	-	4,000	
	35	.0300	.0160	.0145	.0039	.0020	.0390	-	5,118	
	45	.0300	.0160	-	.0099	.0051	.0390	-	6,549	
	55	-	-	-	.0251	-	-	.0700	8,379	
	65	-	-	-	.0475	-	-	.2500	10,723	
E (MALE and FEMALE)	25	.0950	.0200	.0070	.0012	.0007	.0183	-	4,000	
	35	.0950	.0200	.0070	.0039	.0020	.0183	-	5,118	
	45	.0950	.0200	.0070	.0099	.0051	.0183	-	6,549	
	55	.0950	.0200	-	.0251	.0135	.0183	-	8,379	
	65	-	-	-	.0475	-	-	.1000	10,723	

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

Disability Allowances: The mortality tables used for those receiving disability allowances are modifications based on sex of 1965 Railroad Retirement Board Mortality among Totally Disabled Annuitants.

* As defined in Retirement Law prior to March 1, 1974 amendment (Act 31).

** Retirement Rates are assumed to decrease by 20% after 1990.

STATE EMPLOYEES' RETIREMENT SYSTEM

II. 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 (@ 5.5%). Each year twenty (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 eighty (80) percent to be recognized over the next four years. This asset valuation method began with the December 31, 1982 valuation. To begin this process, the actuarial value of assets was set equal to the book value of assets as of December 31, 1981 and carried forward.

III. ACTUARIAL COST METHOD

A variation of the Entry Age Actuarial Cost Method was used to determine liabilities and costs related to superannuation, withdrawal, death and disability benefits. The normal cost for new entrants is calculated as a level percentage of compensation. Then the present value of future benefits for active and inactive participants and annuitants is reduced by the present value of future normal costs, the present value of future member contributions, the value of the supplemental annuities, and the actuarial value of assets. The remaining amount is the unfunded actuarial accrued liability.

The annual contribution rate is equal to the sum of the normal cost, plus amounts necessary to amortize the unfunded actuarial accrued liability, and the supplemental annuity liability. Actuarial gains and losses are included in the unfunded actuarial accrued liability and are amortized accordingly.

The Unit Credit Actuarial Cost Method was used to determine the actuarial present value of accumulated plan benefits (both vested and nonvested) as of the valuation date.

STATE EMPLOYEES' RETIREMENT SYSTEM

DEFINITIONS OF TECHNICAL TERMS

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.

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

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.

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.

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