

STATE EMPLOYES' RETIREMENT SYSTEM

Actuarial Valuation
as of
December 31, 1979

PART I - VALUATION AS OF DECEMBER 31, 1979

A complete actuarial valuation of the State Employees' Retirement System was made as of December 31, 1979 in which the actuarial liabilities were calculated, based on the contributions and benefits in effect on that date. These results were compared with the account balances as of that date and, after adjusting the account balances for deficiencies or surpluses, an actuarial balance sheet was prepared.

This Part I consists of the following three statements:

1. Assets of the Retirement Fund as of December 31, 1979.
2. Liabilities of the Retirement Fund as of December 31, 1979, showing the various account balances.
3. Actuarial liabilities as of December 31, 1979.

In the statement of the assets, it will be noted that the total book value of investments, after adjustment for amortization, amounted to \$2,760,368,501. In addition to the other items, it will be noted that there was an amount of \$139,026,056 of Accounts Receivable which represents amounts due from the Commonwealth. The total assets amount to \$2,941,866,016.

The account balances total \$2,941,866,016, matching the assets of the Retirement Fund, and are allocated as shown in the statement. The account balance in the State Annuity Accumulation Account of \$458,660,860 is before any transfers to adjust account balances.

Comments on the statement of actuarial liabilities are made following the statements. It will be noted that the total actuarial liabilities amount to \$7,266,828,252.

STATE EMPLOYES' RETIREMENT FUND

STATEMENT OF ASSETS AS OF DECEMBER 31, 1979

Cash	\$	35,474
<u>Investments</u>		
Unmatured (Par Value) of investments	\$2,803,043,966	
Net Accrual on Investments after amortization	<u>42,675,465</u>	2,760,368,501
Interest due and accrued		40,024,707
Members contribution in transit		2,411,278
Accounts Receivable (Due from Commonwealth)		<u>139,026,056</u>
TOTAL ASSETS		<u>\$2,941,866,016</u>

STATE EMPLOYES' RETIREMENT FUND

STATEMENT OF ACCOUNT BALANCES AS OF DECEMBER 31, 1979

Members' Savings Account	\$ 871,222,435
Annuity Reserve Account	1,517,948,945
State Police Benefit Account	161,008,678
Enforcement Officers Benefit Account	11,285,641
State Accumulation Account	458,660,860
Supplemental Annuity Account	(79,451,733)
Accounts payable (Miscellaneous Liability)	<u>1,191,190</u>
TOTAL ACCOUNT BALANCES AND MISCELLANEOUS LIABILITIES	<u>\$2,941,866,016</u>

STATE EMPLOYES' RETIREMENT FUND

STATEMENT OF ACTUARIAL LIABILITIES AS OF DECEMBER 31, 1979

Present value of benefits payable on account of annuitants and beneficiaries
from -

Annuity Reserve Account:

Superannuation	\$1,096,406,149
Disability	77,366,031
Withdrawal	162,245,827
Death (beneficiaries)	<u>78,210,774</u>
Sub-total	\$1,414,228,781
Supplemental Annuities	<u>288,084,991</u>
Total	\$1,702,313,772

State Police Benefit Account 107,276,536

Enforcement Officers Benefit Account 8,329,247

Total for annuitants and beneficiaries \$1,817,919,555

Present value of benefits to active and inactive members for -

Superannuation and withdrawal	\$4,810,387,214
Disability	93,115,640
Death	403,039,737
Refunds	<u>141,174,916</u>

Total for active and inactive members \$5,447,717,507

Miscellaneous 1,191,190

TOTAL ACTUARIAL LIABILITIES \$7,266,828,252

Liability related to present annuitants and beneficiaries .. \$1,817,919,555

A breakdown of the liability of \$1,817,919,555 related to present annuitants and beneficiaries according to the type of benefit payment is shown in the following table.

<u>Category of Annuitants or Beneficiaries</u>	<u>Liability as of December 31, 1979 Total Annuity Reserve</u>
<u>Other Than State Police or Enforcement Officers</u>	
Superannuation	\$1,096,406,149
Disability	77,366,031
Withdrawal	162,245,827
Death	<u>78,210,774</u>
Sub-total	\$1,414,228,781
Supplemental Annuities	<u>288,084,991</u>
Total	\$1,702,313,772
<u>State Police</u>	107,276,536
<u>Enforcement Officers</u>	<u>8,329,247</u>
Total Liabilities	<u>\$1,817,919,555</u>

It is interesting to compare the above liabilities with the corresponding amounts shown in the statement of account balance on page 3. The liabilities of \$1,702,313,772 must be compared with the Annuity Reserve Account balance of \$1,517,948,945 indicating a deficit of \$184,364,827 in the Annuity Reserve Account. A transfer of this deficit amount should be made to the Annuity Reserve Account as of December 31, 1979 in order to bring the account into balance with the corresponding liability.

This deficit of \$184,364,827 consists of two parts. Increased Supplemental Annuities are being provided as a result of the enactment in 1979 of Act 130. In order to meet the liability for these Supplemental Annuities the actuarial value of these payments which amounted to \$225,692,242 must be transferred from the Supplemental Annuity Account to the Annuity Reserve Account. Section 5507 of Act 31 specifies that Supplemental Annuities are to be funded in equal annual instalments over a twenty year period. In the future, appropriations should be credited to the Supplemental Annuity Account but benefit payments should be charged to the Annuity Reserve Account.

When this transfer is accomplished, the net deficit of \$184,364,827 in the Annuity Reserve Account will be fully covered and a surplus of \$41,327,415 will remain.

The required reserves for benefits payable to retired State Police or their beneficiaries amount to \$107,276,536. The corresponding account balance in the State Police Benefit Account is \$161,008,678 which produces a balance of assets over liabilities of \$53,732,142. Reserves for annuitants are transferred to this account upon a member's retirement. Special contributions for active members are also credited to this account. The balance of \$53,732,142 previously referred to is not a surplus but is a reserve for benefits payable to State Police members who are currently active or inactive.

The required reserves for benefits payable to retired Enforcement Officers and their beneficiaries amount to \$8,329,247. This reflects the reserves for both the members' portion and the State's portion as noted earlier in this report. The corresponding account balance in the Enforcement Officers Benefit Account is \$11,285,641 which produces a balance of assets over liabilities of \$2,956,394.

Liabilities for supplemental retirement allowances were created by Act 230, approved in 1968, which also made provision for a Supplemental Retirement Allowance Account to receive the Commonwealth appropriations for supplemental and cost-of-living allowances. Act 31, approved in 1974, and Act 130, approved in 1979, made provision for additional supplemental allowances. As noted previously, when the liabilities for supplemental retirement allowances are created, corresponding funds are transferred to the Annuity Reserve Account. The transfer to the Annuity Reserve Account was charged to the Supplemental Annuity Account creating a deficiency in this account. As

the Commonwealth appropriates moneys to fund supplemental retirement allowances, these amounts are credited to the Supplemental Annuity Account. The Supplemental Annuity Account shows a negative balance of \$79,451,733 as of December 31, 1979. The actuarial liabilities as of December 31, 1979 for Supplemental Annuities payable amount to \$288,084,991. This latter amount represents the value as of December 31, 1979 of all supplemental annuities payable in the future as a result of Act 230, Act 31 and Act 130 and is part of the total liability to be offset by the Annuity Reserve Account. The deficiency of \$79,451,733 in the Supplemental Annuity Account represents the unfunded portion of the deficiency that existed in this account prior to the passage of Act 130. With the transfer of \$225,692,242 from the Supplemental Annuity Account to the Annuity Reserve Account to cover the liabilities generated by Act 130, the Supplemental Annuity Account will become \$305,143,975. The actuarial liability for Supplemental Annuities will not equal the Supplemental Annuity Account since the contributions to fund Supplemental Annuities do not exactly match the benefit payments.

The number of present annuitants and beneficiaries and their annual annuities as of December 31, 1979 are shown in the following table. This information reflects the data supplied us by the Commonwealth.

Category of Annuitants or Beneficiaries	Annual Annuities as of December 31, 1979			Total Annuity
	Number	Basic	Supplemental	
<u>Other Than State Police or Enforcement Officers</u>				
Superannuation	32,862	\$114,574,045	\$26,994,760	\$141,568,805
Disability	2,676	8,387,364	1,452,345	9,839,709
Withdrawal	5,209	13,522,560	2,140,635	15,663,195
Death Benefit	<u>3,727</u>	<u>10,586,246</u>	<u>365,110</u>	<u>10,951,356</u>
Sub-total	44,474	\$147,070,215	\$30,952,850	\$178,023,065
<u>State Police</u>	1,544	9,523,544	2,571,367	12,094,911
<u>Enforcement Officers</u>	<u>119</u>	<u>888,522</u>	<u>231,535</u>	<u>1,120,057</u>
Totals	<u>46,137</u>	<u>\$157,482,281</u>	<u>\$33,755,752</u>	<u>\$191,238,033</u>

The age distributions of the annuitants and beneficiaries in the various kinds of retirement as supplied by the Commonwealth are shown in schedules at the end of this report, as listed in the Appendix.

Liability related to present active and inactive members .. \$5,447,717,507

The data related to the active and inactive members of the system as supplied by the Commonwealth are summarized briefly in the table below.

Active members:

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Number	70,726	54,086	124,812
Salaries	\$1,215,782,698	\$715,031,471	\$1,930,814,169

Inactive Members:

There were 3,313 inactive members for whom a liability was calculated and included in the valuation results.

In computing the liability related to active and inactive members, we have made two modifications in past practice. The first relates to the service accrued under the various classes of service. Over the past few years, the SERS Staff has been able to prepare data for many of the active members summarizing their accrued service by class. We have made use of this data for the first time in the 1979 Actuarial Valuation in lieu of the approximation techniques previously employed.

The second change relates to the costs associated with using a 4% actuarial interest assumption for optional forms of payment and a 5-1/2% actuarial interest assumption for the valuation. We have adjusted the liability values to reflect the added cost to the system of continuing the use of the lower interest rate for optional forms.

Miscellaneous

	<u>\$ 1,191,190</u>
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This item is the total of the reserve for outstanding checks, member withdrawals payable, annuities payable and payroll deduction payable.

Total actuarial liabilities \$7,266,828,252

The total actuarial liability represents the present value of all obligations of the System for all expected future benefits, both those related to service prior to December 31, 1979 and those related to subsequent service.

A summary of the major benefit provisions and the provisions related to member contributions are shown in Schedule N at the end of this report.

The actuarial assumptions used in this valuation are summarized in Schedule O at the end of this report. These are based on the experience of the Retirement System in 1971-1975 with interest assumed at 5-1/2% per annum.

PART II - REQUIRED TRANSFERS TO ADJUST ACCOUNT BALANCE

In discussing the various account balances in Part I, reference was made to a reserve transfer that should be made as of December 31, 1979 in order to bring the accounts into balance. A summary of the account balances and actuarial liabilities, along with the corresponding surplus or deficiency, is as follows:

<u>Fund</u>	<u>Account Balance</u>	<u>Actuarial Liability</u>	<u>Surplus (+) or Deficiency (-)</u>
Annuity Reserve Account .	\$1,517,948,945	\$1,702,313,772	(-)\$184,364,827

As previously mentioned in Part I, the adjustments to be made to the books to accord with the requirements of Act 31 of 1974 and Act 130 of 1979 lead to the following transfers:

<u>From</u>	<u>To</u>	<u>Amount</u>
Annuity Reserve Account ...	State Accumulation Account ...	\$ 41,327,415
Supplemental Annuity Account	Annuity Reserve Account	225,692,242

As result of these transfers the various account balances are as follows after adjustment:

	<u>Adjusted Account Balance</u>
Members' Annuity Savings Account	\$ 871,222,435
Annuity Reserve Account	1,702,313,772
State Police Benefit Account	161,008,678
Enforcement Officers Benefit Account ..	11,285,641
State Accumulation Account	499,988,275
Supplemental Annuity Account	(-)305,143,975
Miscellaneous	<u>1,191,190</u>
Total Account Balances	<u>\$2,941,866,016</u>

These account balances are now ready for use in our actuarial balance sheet where they appear as "Present Assets" when compared with the actuarial liabilities. The actuarial balance sheet is presented on the following page.

ACTUARIAL BALANCE SHEET SHOWING PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES
of STATE EMPLOYEES' RETIREMENT SYSTEM as of DECEMBER 31, 1979

A S S E T S

Present assets:

Members' Annuity Savings Account	\$ 871,222,435
Annuity Reserve Account	1,702,313,772
State Police Benefit Account	161,008,678
Enforcement Officers Benefit Account ...	11,285,641
State Accumulation Account	499,988,275
Supplemental Annuity Account	(-) 305,143,975
Miscellaneous	<u>1,191,190</u>
Total present assets (book value)	\$2,941,866,016*

Present value of future contributions

Members' Savings Account (Employee)	\$ 873,964,191
State Accumulation Account (Employer) ...	3,145,854,070
Supplemental Annuity Account (Employer) ...	<u>305,143,975</u>

Total future assets

4,324,962,236

TOTAL ASSETS

\$7,266,828,252

*Total present assets (book value)
distributed as follows:

Cash	\$ 35,474
Investments (net of amortization) ...	2,760,368,501
Interest due and accrued	40,024,707
Members contribution in transit	2,411,278
Due from Commonwealth	<u>139,026,056</u>

Total present assets

\$2,941,866,016

L I A B I L I T I E S

Present value of benefits payable on account
of annuitants and beneficiaries from

<u>Annuity Reserve Account:</u>	
Superannuation	\$ 1,096,406,149
Disability	77,366,031
Withdrawal	162,245,827
Death	78,210,774
Sub-total	\$1,414,228,781
Supplemental Annuities	<u>288,084,991</u>

Total

\$1,702,313,772

State Police Benefit Account

107,276,536

Enforcement Officers Benefit Account

8,329,247

Total for annuitants and beneficiaries ..

\$1,817,919,555

Present value of benefits to active
and inactive members for -

Superannuation and withdrawal	\$ 4,810,387,214
Disability	93,115,640
Death	403,039,737
Refunds	141,174,916

Total for active and inactive members ..

\$5,447,717,507

Miscellaneous

1,191,190

TOTAL LIABILITIES

\$7,266,828,252

PART III - CONTRIBUTION RATES

In the actuarial balance sheet submitted on page 11, the present assets of \$2,941,866,016, represented by the various account balances, are compared with the total liabilities of \$7,266,828,252. The difference of \$4,324,962,236 represents the future assets representing the present value of expected future member and employer contributions.

It will be noted that the present value of future employee contributions appears as \$873,964,191. In addition, the present value of the employer contributions to the State Accumulation Account is \$3,145,854,070 and to the Supplemental Annuity Account is \$305,143,975.

Section 5508(b) of the State Employees' Retirement Code states:

"The employer normal contribution rate shall be determined after each actuarial valuation on the basis of an annual five and one-half percent (5-1/2%) interest rate and such mortality and other tables as shall be adopted by the board. Until all accrued liability contributions have been completed, the employer normal contribution rate shall be determined as a level percentage of the compensation of the average new active member, which percentage, if contributed on the basis of his prospective compensation throughout his entire period of active State service, would be sufficient to fund the liability for any prospective benefit payable to him, except a supplemental benefit as provided in Section 5708, in excess of that portion funded by his prospective member contributions. After all accrued liability contributions have been completed, the employer normal contribution rate shall be determined by deduct-

ing from the present value of the liabilities for all prospective benefits, except supplemental benefits as provided in Section 5708, the sum of the total assets in the fund on the valuation date, excluding the balance in the supplemental annuity account, and the present value of prospective member contributions, and dividing the remainder by the present value of the future compensation of all active members."

Since accrued liability contributions have not been completed, we determined the employer normal contribution rate in accordance with the above provisions. We first obtained the normal contribution rate, as a level percentage of compensation, which would be required for new active members to fund the liability for any prospective benefit payable to such new members. In making this contribution we used data for all active members who had not yet completed one year of credited service. Using the entry age normal cost method, the normal cost contribution, expressed as a level percentage of future compensation of new employees, was determined as follows:

<u>Benefit</u>	<u>Normal Cost as a Percent of Payroll for Active Members</u>
Superannuation and Withdrawal	8.66%
Disability	0.23
Death	0.50
Refunds	<u>1.77</u>
Total normal cost percentage	11.16%

Section 5508(b) made reference to the normal contribution rate for prospective benefits in excess of that portion funded by the members' contributions. In determining what benefits are provided by a member's contributions as contrasted to the employer's contribution, it should be noted that if a member withdraws before he has a non-forfeitable right to a benefit un-

der the plan, his contributions are withdrawable. The corresponding employer contributions made for such terminating employee remain in the fund. Thus, while all Class A members contribute five percent of pay, the present value of such future contributions is not as great as a corresponding contribution of five percent of total payroll by the employer. Therefore, in determining what benefits are provided by future member contributions, we have in the past reduced such contribution rate by the value of the refunds which will be made to the withdrawing participants. (This was determined to be 1.77% of payroll as indicated in the above table of normal cost percentages. Deducting this refund value of 1.77% of future compensation from the total contribution rate of 5% leaves a balance of 3.23% as the effective percentage of compensation which will be available as member contributions to provide benefits to a new participant.)

An alternative interpretation of Section 5508(b) has been suggested. This alternative approach was set forth by the State Employees' Retirement Board and Staff in their April 30, 1979 proposed changes to Act 31. The proposed changes were suggested in order to remove ambiguity from the Act. Upon reexamination of the statutory language of Act 31 we have concluded that either the past practice or the alternative can be inferred from the Act.

Since the alternative approach (i.e., the approach embodied in the proposed changes to Act 31 is preferred by many who have addressed the problem and since it involves a possible interpretation of Section 5508(b), we have modified past procedure by determining the employer normal cost as follows:

Total normal cost	11.16%
Employee contribution	<u>5.00</u>
Employer normal cost	6.16%

As shown in the balance sheet on page 11, the present value of future employer contributions (i.e., future contributions to the State Accumulation Account) is \$3,145,854,070. Part of this represents the present value of future employer normal cost contributions, and part of this represents the value of future contributions to fund the unfunded accrued liability. This breakdown is shown below:

Present value of future employer contributions other than for Supplemental Retirement Allowances	\$3,145,854,070
Present value of future normal cost contributions (6.16% of future payroll) ...	<u>1,060,021,778</u>
Present value of future contributions to fund the Unfunded Accrued Liability	\$2,085,832,292

The present value of future contributions to fund the unfunded accrued liability of \$2,085,832,292 is the present unfunded accrued liability since the present value of all future contributions for this purpose must be equal to this liability.

The unfunded accrued liability of \$2,085,832,292 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. The two parts and the amount required to fund each over the applicable period allowing for annual salary increases of 4% are as follows:

<u>Funding Period:</u> 30 Years from July 1	<u>Amount of Liability</u>	<u>Annual Payment to Fund</u>	
		<u>Amount</u>	<u>Percent*</u>
1969	\$1,483,257,448	\$ 91,322,340	4.60%
1974	<u>602,574,844</u>	<u>30,547,239</u>	<u>1.54</u>
	\$2,085,832,292	\$121,869,579	6.14%

*Payment for 1980 expressed as a percentage of the estimated total payroll for active members in 1980 of \$1,984,935,685.

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. This may be summarized as follows:

<u>Funding Period:</u> <u>20 Years from July 1</u>	<u>Amount of</u> <u>Liability</u>	<u>Annual Payment to Fund</u>	
		<u>Amount</u>	<u>Percent*</u>
1969	\$ 4,771,226	\$ 658,554	0.03%
1974	74,680,507	7,609,589	0.38
1979	<u>225,692,242</u>	<u>18,892,303</u>	<u>0.95</u>
	\$305,143,975	\$27,160,446	1.36%

*Payment for 1980 expressed as a percentage of the estimated total payroll for active members in 1980.

Section 5508(d) provides in part that, in addition to determining the contributions required for other members of the Retirement System "...The actuary shall determine the Commonwealth or other employer contributions required for active members of Class C and officers of the Pennsylvania State Police and enforcement officers and investigators of the Pennsylvania Liquor Control Board who are members of Class A to finance their benefits in excess of those to which other members of Class A are entitled. Such additional contributions shall be determined separately for officers and employees of the Pennsylvania State Police and for enforcement officers and investigators of the Pennsylvania Liquor Control Board."

As noted earlier in this report, the amounts currently carried in the State Police Benefit Account and the Enforcement Officers' Benefit Account exceed the liability for pensioners and beneficiaries corresponding to these two accounts. Thus, assets are currently on hand to meet at least part of the liability for the special benefit payable to these two categories of participants. The liability for the special benefit in excess of the assets on

hand was expressed as a percentage of the future compensation of the two groups involved in order to determine the extra contribution to be made. In view of the assets held in the Enforcement Officers' Benefit Account in comparison to liabilities, it is recommended that no special contribution be made for enforcement officers. For State Police, the liability for special benefits in excess of assets currently on hand was expressed as a percent of payroll for State Police. This percent was found to be 3.25%. The percentage contribution previously mentioned is to be applied to the total payroll for State Police only and not the total payroll of all covered participants under the plan.

The cost discussed above, excluding the special contribution to be made for State Police, expressed as a percentage of the total payroll of all active covered participants may be summarized as follows:

Total Normal Cost	11.16%
Member Deductions	5.00
Employer portion of Normal Costs	<u>6.16%</u>
Payment on Unfunded Accrued Liability other than for Supplemental Allowances	6.14
Payment on Unfunded Accrued Liability for Supplemental Allowances	<u>1.36</u>
Total Employer Contribution Rate	<u>13.66%</u>

It should be noted that the 13.66% of payroll employer contribution rate will serve as a basis for the 1981-82 fiscal year appropriation. When the appropriation request is prepared, appropriate adjustments will be made for changes in payroll to that point as well as to reflect the anticipated timing of the contributions.

PART IV - SUMMARY

In Part I of the report, we presented the statements of assets, account balances and actuarial liabilities as of December 31, 1979. The actuarial liabilities were discussed in some detail.

In Part II, we discussed the surplus or deficiency in each account and recommended a transfer as of December 31, 1979 in order to bring the Annuity Reserve Account into balance with the actuarial liability. This transfer is as follows:

<u>From</u>	<u>To</u>	
Annuity Reserve Account	State Accumulation Account	\$ 41,327,415
Supplemental Annuity Account	Annuity Reserve Account	225,692,242

Using this adjusted account balance we developed an actuarial balance sheet in which we compared the present assets and the future assets with the total actuarial liability, with the future assets serving as the balancing item.

In Part III, we developed the following rates of employer contribution to the Retirement Fund:

Normal contribution rate-State Accumulation Account	6.16%
Accrued liability contribution rate-State Accumulation Account	<u>6.14</u>
Total contribution rate-State Accumulation Account	12.30%
Accrued liability contribution rate-Supplemental Annuity Account	<u>1.36</u>
Total employer contribution rate	<u>13.66%</u>

The total unfunded accrued liability as of December 31, 1979 is \$2,085,832,292.

The special contribution for State Police was found to be 3.25% of the total payroll for State Police.

Shown below is a summary of the number of active participants together with their total salaries that have been used in the last four valuations. The average salary is also shown for each of these four years.

	As of December 31,			
	<u>1979</u>	<u>1978</u>	<u>1977</u>	<u>1976</u>
Number	124,812	127,417	126,831	128,675
Total salaries .	\$1,930,814,169	\$1,790,017,545	\$1,729,237,182	\$1,627,627,072
Average salary . \$	15,470	\$ 14,048	\$ 13,634	\$ 12,649

APPENDIX - SCHEDULES OF MEMBERSHIP as of DECEMBER 31, 1979

The following schedules of the membership as of December 31, 1979 are supporting schedules to the valuation because it was upon this membership that the liabilities were calculated. The schedules show the distribution of the membership by age nearest birthday as of December 31, 1979, separated according to whether or not they are contributors or annuitants. The schedules also show the annual salaries in the case of active members and the total amounts of annuities in the case of annuitants.

In Schedule A are shown, according to age nearest birthday and class of membership, the total number and annual salary of the male members still remaining in active membership. At the end of the schedule, their average age and average annual salary is shown.

In Schedule B are shown, according to age nearest birthday and class of membership, the total number and annual salary of the female members still remaining in active membership. At the end of the schedule, their average age and average salary is shown.

In Schedule C is shown a summary of the two preceding schedules, including the total number of active members and the total annual salaries both by sex and by class. Due to two new changes, a summary is given of Class A by category. One change is that all recently hired members will be put into Class A. Second, the categories take over the function of the old classes.

In Schedule D are shown, according to age nearest birthday, the number of male members who are receiving superannuation annuities and the total amounts of the basic monthly benefits and supplemental monthly benefits.

In Schedule E are shown, according to age nearest birthday, the number of female members who are receiving superannuation annuities and the total amounts of the basic monthly benefits and supplemental monthly benefits.

In Schedule F are shown, according to age nearest birthday, the number of male members who are receiving disability annuities and the total amounts of members' basic monthly benefits and supplemental monthly benefits.

In Schedule G are shown, according to age nearest birthday, the number of female members who are receiving disability annuities and the total amounts of members' basic monthly benefits and supplemental monthly benefits.

In Schedule H are shown, according to age nearest birthday, the number of male members who are receiving withdrawal annuities and the total amount of the basic monthly benefit and supplemental monthly benefit.

In Schedule I are shown, according to age nearest birthday, the number of female members who are receiving withdrawal annuities and the total amount of the basic monthly benefit and supplemental monthly benefit.

In Schedule J are shown, according to age nearest birthday, the number and amount of the basic monthly benefit and supplemental monthly benefit being paid to surviving male beneficiaries of annuitants and members who died in active service.

In Schedule K are shown, according to age nearest birthday, the number and amount of the basic monthly benefit and supplemental monthly benefits paid to surviving female beneficiaries of annuitants and members who died in active service.

In Schedule L is shown the summary of all annuities outstanding as of December 31, 1979 whether superannuation, disability, withdrawal or supplemental and whether being paid to members or their survivors.

In Schedule M is shown, for comparison, the outstanding membership both active and annuitant as of December 31, 1976, December 31, 1977, December 31, 1978 and December 31, 1979.

In Schedule N, the benefits and member contributions and provisions of the plan as of December 31, 1979 are summarized.

The actuarial assumptions used in this valuation are shown in Schedule O.

ACTIVE MEMBERSHIP as of December 31, 1979

M A L E

CLASS Age	A & B		C		D		E		GRAND TOTAL	
	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
17	3	\$ 43,620							3	\$ 43,620
18	36	356,212							36	356,212
19	89	877,415							89	877,415
20	180	1,781,747							180	1,781,747
21	288	2,851,248							288	2,851,248
22	385	4,147,376							385	4,147,376
23	563	6,155,058							563	6,155,058
24	734	8,457,024							734	8,457,024
25	981	11,852,102							981	11,852,102
26	1,269	16,034,432							1,269	16,034,432
27	1,457	19,097,365							1,457	19,097,365
28	1,538	21,124,762							1,538	21,124,762
29	1,686	23,772,165	28	\$ 546,755					1,714	24,318,920
30	2,065	30,586,477	51	1,013,771					2,116	31,600,248
31	2,118	32,469,657	129	2,577,724	2	\$ 33,372			2,249	35,080,753
32	2,292	35,591,757	215	4,292,144	3	60,840	5	\$ 104,300	2,515	40,049,041
33	2,510	40,831,814	366	7,400,663			1	19,500	2,877	48,251,977
34	1,704	28,631,760	249	5,028,210	4	87,077			1,957	33,747,047
35	1,558	26,220,035	238	4,805,009			1	19,434	1,797	31,043,478
36	1,640	28,349,855	265	5,384,679			3	48,321	1,908	33,782,855
37	1,841	32,765,032	250	5,126,921	1	20,280	2	39,000	2,094	37,951,233
38	1,498	26,657,965	186	3,831,596	2	44,059	2	39,000	1,668	30,572,620
39	1,415	25,818,769	173	3,567,794	3	65,173			1,591	29,451,736
40	1,358	25,686,672	147	3,084,833	4	85,118	4	99,625	1,513	28,956,248
41	1,402	25,966,802	113	2,381,068	2	40,560	3	51,646	1,520	28,440,076
42	1,363	25,459,759	85	1,792,925	1	20,280	6	134,293	1,455	27,407,257
43	1,338	25,021,628	85	1,839,861	1	20,280	5	95,402	1,429	26,977,171
44	1,347	25,426,529	68	1,492,672	4	83,286	7	170,351	1,426	27,172,838

SCHEDULE A(1)

ACTIVE MEMBERSHIP as of December 31, 1979

M A L E

CLASS	A & B		C		D		E		GRAND TOTAL						
	Age	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary				
45	1,412	\$	26,654,879	69	\$	1,526,668	3	\$	57,720	6	\$	174,948	1,490	\$	28,414,215
46	1,395		26,233,123	48		1,070,482	1		28,779	4		91,752	1,448		27,429,136
47	1,450		27,244,728	36		822,986	2		40,560	8		325,098	1,496		28,433,372
48	1,544		29,067,877	48		1,076,812	7		144,733	17		451,612	1,616		30,741,034
49	1,648		31,084,807	68		1,573,509	3		60,840	9		300,915	1,728		33,020,071
50	1,600		30,520,672	44		1,010,479	3		60,840	10		277,812	1,657		31,869,803
51	1,557		28,768,873	37		847,259	3		63,006	16		510,064	1,613		30,189,202
52	1,747		32,249,771	52		1,263,267	3		60,812	23		704,800	1,825		34,278,650
53	1,639		29,527,566	63		1,485,632	4		81,120	18		497,249	1,724		31,591,567
54	1,749		31,845,904	44		1,055,513	1		20,280	21		595,357	1,815		33,517,054
55	1,729		31,441,356	42		1,043,218	5		117,897	29		814,991	1,805		33,417,462
56	1,757		31,175,874	37		877,760	3		85,560	21		558,304	1,818		32,697,498
57	1,759		31,720,208	29		687,568	8		177,780	21		601,691	1,817		33,187,247
58	1,700		30,357,256	14		316,692	6		123,846	15		460,966	1,735		31,258,760
59	1,652		29,365,127	17		374,629	3		62,779	27		808,375	1,699		30,610,910
60	1,568		27,408,093	6		118,541	6		130,888	20		662,068	1,620		28,319,590
61	1,290		21,466,095	2		40,924	5		129,911	17		430,519	1,314		22,067,449
62	1,237		20,449,235	1		20,070	3		73,093	19		514,604	1,260		21,057,002
63	865		14,748,810	2		44,400	5		103,399	19		550,396	911		15,447,005
64	735		12,002,718				1		20,280	18		581,723	754		12,604,721
65	623		10,453,177				3		62,839	18		579,640	644		11,095,656
66	393		6,578,936	1		12,000	2		40,560	10		266,638	406		6,898,134
67	238		4,000,412				18			18		581,966	256		4,582,378
68	206		3,446,586				4		83,286	9		199,742	219		3,729,614
69	150		2,448,310				11			11		291,081	161		2,739,391

SCHEDULE A(2)

ACTIVE MEMBERSHIP as of December 31, 1979

M A L E

CLASS	A & B		C		D		E		GRAND TOTAL		
	Age	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
70	108	\$ 1,746,823	4	\$ 90,060	6	\$ 158,990	118	\$ 1,995,873			
71	72	1,257,407	3	60,840			75	1,318,247			
72	77	1,349,316					77	1,349,316			
73	55	963,357			2	112,500	57	1,075,857			
74	45	694,291					45	694,291			
75	38	692,759					38	692,759			
76	27	440,093			1	55,000	28	495,093			
77	12	164,050					12	164,050			
78	22	388,526					22	388,626			
79	10	134,832					10	134,832			
80	14	230,382					14	230,382			
81	12	186,349					12	186,349			
82	3	44,121					3	44,121			
83	3	65,521					3	65,521			
84	3	41,682					3	41,682			
85	2	51,532					2	51,532			
86	2	55,052					2	55,052			
87	1	11,470					1	11,470			
89	1	8,865					1	8,865			
Totals	66,848	\$1,130,826,958	3,308	\$69,434,034	118	\$2,542,033	452	\$12,979,673	70,726	\$1,215,782,698	
Average Age	43.84		39.05		53.02		56.36		43.71		
Average Salary	\$16,916		\$20,990		\$21,543		\$28,716		\$17,190		

SCHEDULE A(3)

ACTIVE MEMBERSHIP as of December 31, 1979

F E M A L E

CLASS Age	A & B		C		D		E		GRAND TOTAL	
	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
18	55	\$ 787,890							95	\$ 787,890
19	235	2,163,869							235	2,163,869
20	456	4,430,851							456	4,430,851
21	642	6,530,281							642	6,530,281
22	866	8,872,293							866	8,872,293
23	1,132	12,191,283							1,132	12,191,283
24	1,301	14,740,504							1,301	14,740,504
25	1,614	18,540,385							1,614	18,540,385
26	1,848	21,950,264							1,848	21,950,264
27	1,938	23,662,282							1,938	23,662,282
28	1,841	23,014,414							1,841	23,014,414
29	1,707	21,919,941	1	\$ 19,936					1,708	21,939,877
30	1,641	21,382,959	6	109,376					1,647	21,492,335
31	1,544	20,462,990	1	19,478					1,545	20,482,468
32	1,529	20,507,588	2	38,679					1,531	20,546,267
33	1,533	21,071,548	2	39,153	1	\$ 15,612			1,536	21,126,313
34	1,056	14,422,281	2	28,718					1,058	14,450,999
35	965	13,233,740							965	13,233,740
36	1,015	13,882,452							1,015	13,882,452
37	1,120	15,480,625							1,120	15,480,625
38	939	12,758,010							939	12,758,010
39	927	13,026,094							927	13,026,094
40	958	13,337,499			1	14,560			959	13,352,059
41	995	13,688,455	2	34,768					997	13,723,223
42	939	13,168,245	1	14,156					941	13,194,503
43	950	13,071,885			2	34,741			952	13,106,626
44	930	12,901,067			1	19,500			931	12,920,567

SCHEDULE B(1)

ACTIVE MEMBERSHIP as of December 31, 1979

F E M A L E

CLASS Age	A & B		C		D		E		GRAND TOTAL	
	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
45	1,045	\$ 14,462,756	1	\$ 13,173	1	\$	1	\$ 19,500	1,047	\$ 14,495,429
46	926	12,757,182	2	42,030	1		1	19,500	929	12,818,712
47	1,045	14,650,866			2		2	61,904	1,047	14,712,770
48	1,067	15,021,492			3		3	44,253	1,070	15,065,745
49	1,147	15,810,765	1	15,373	2		2	34,970	1,150	15,861,108
50	1,114	15,264,876	1	19,196	1	\$ 18,720	3	53,434	1,119	15,356,226
51	1,171	16,138,993			4		4	97,804	1,175	16,236,797
52	1,291	17,794,441			4		4	69,274	1,295	17,863,715
53	1,314	18,406,197			4		4	65,270	1,318	18,471,467
54	1,310	18,213,967			1	18,720	3	50,798	1,314	18,283,485
55	1,283	17,744,622	1	14,562	9		9	162,934	1,293	17,922,118
56	1,397	19,440,059	1	19,196	4		4	88,208	1,402	19,547,463
57	1,281	17,834,856			1		1	19,500	1,282	17,854,356
58	1,255	17,281,446			2		2	33,862	1,257	17,315,308
59	1,251	17,678,703			1		1	15,492	1,252	17,694,195
60	1,225	17,000,417	1	15,704	3		3	50,716	1,229	17,066,837
61	926	12,541,356	2	27,135	3		3	109,500	931	12,677,991
62	817	10,931,282			1		1	18,599	818	10,949,881
63	551	7,477,740	1	13,174					552	7,490,914
64	519	7,060,599			1	20,280	1	10,918	521	7,091,797
65	417	5,676,892							417	5,676,892
66	241	3,351,706			3		3	74,890	244	3,426,596
67	174	2,398,199			6		6	135,725	180	2,533,924
68	109	1,464,633			2		2	39,000	111	1,503,633
69	99	1,421,557			1		1	10,672	100	1,432,229

SCHEDULE B(2)

ACTIVE MEMBERSHIP as of December 31, 1979

F E M A L E

<u>CLASS</u>	<u>A & B</u>		<u>C</u>		<u>D</u>		<u>E</u>		<u>GRAND TOTAL</u>	
	<u>No.</u>	<u>Annual Salary</u>	<u>No.</u>	<u>Annual Salary</u>	<u>No.</u>	<u>Annual Salary</u>	<u>No.</u>	<u>Annual Salary</u>	<u>No.</u>	<u>Annual Salary</u>
<u>Age</u>										
70	62	\$ 898,911							62	\$ 898,911
71	43	598,994							43	598,994
72	45	627,834							45	627,834
73	38	523,112							38	523,112
74	22	323,127							22	323,127
75	21	270,600							21	270,600
76	10	134,035							10	134,035
77	16	217,370							16	217,370
78	12	171,539							12	171,539
79	9	102,100							9	102,100
80	8	95,260							8	95,260
81	3	40,560							3	40,560
82	2	29,080							2	29,080
83	1	22,867							1	22,867
84	1	14,540							1	14,540
87	1	11,480							1	11,480
Totals	53,985	\$ 713,106,706	28	\$ 483,807	3	\$ 57,720	70	\$ 1,383,238	54,086	\$ 715,031,471
Average Age		41.49		41.21		56.00		55.04		41.51
Average Salary		\$13,209		\$17,279		\$19,240		\$19,762		\$13,220

SCHEDULE B(3)

SUMMARY OF ACTIVE MEMBERS as of DECEMBER 31, 1979

	<u>Number</u>	<u>Annual Salary</u>	<u>Average Age</u>	<u>Average Annual Salary</u>
<u>By Sex</u>				
Male	70,726	\$1,215,782,698	43.71	\$17,190
Female	54,086	715,031,471	41.51	13,220
Total	<u>124,812</u>	<u>\$1,930,814,169</u>	<u>42.76</u>	<u>\$15,470</u>
<u>By Class</u>				
A & B	120,833	\$1,843,933,664	42.79	\$15,260
C	3,336	69,917,841	39.06	20,958
D	121	2,599,753	53.09	21,486
E	522	14,362,911	56.18	27,515
Total	<u>124,812</u>	<u>\$1,930,814,169</u>	<u>42.76</u>	<u>\$15,470</u>
<u>Classes A & B</u>				
<u>by Category</u>				
0	117,180	\$1,775,252,793	42.84	\$15,150
1, 5, 6	3,234	57,913,652	40.34	17,908
2	123	2,488,487	42.83	20,232
3, 4	296	8,278,732	49.65	27,969
Total	<u>120,833</u>	<u>\$1,843,933,664</u>	<u>42.79</u>	<u>\$15,260</u>

SCHEDULE C

SUPERANNUATION ANNUITIES AS OF DECEMBER 31, 1979

MALE MEMBERS

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefits	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
36	1	\$ 35.20		
41	1	83.74		
45	1	33.34		
49	5	607.11		\$ 154.75
50	6	3,786.80		
51	12	10,070.17		
52	31	27,846.27		639.96
53	38	28,339.95		1,423.48
54	58	50,960.27		2,606.96
55	66	49,936.97		3,353.47
56	71	52,774.57		6,046.86
57	83	64,905.99		7,477.97
58	91	66,951.43		6,772.84
59	99	83,796.90		7,352.97
60	129	100,088.05		11,335.97
61	260	157,526.29		6,311.25
62	434	228,132.05	\$ 7.03	11,890.10
63	853	389,857.38		19,371.42
64	948	401,331.07	113.67	32,955.69
65	1,170	468,542.43	419.84	50,981.28
66	1,405	534,495.93	889.05	64,447.59
67	1,455	492,282.48	516.17	74,446.66
68	1,387	475,174.50	839.38	89,060.40
69	1,444	435,254.02	1,125.79	99,163.20
70	1,424	434,064.05	655.74	105,749.52
71	1,209	361,055.62	936.36	104,549.21
72	1,192	354,453.24	636.58	116,592.78
73	1,068	280,182.37	743.76	99,159.30
74	968	255,015.70	1,395.03	95,574.48
75	795	202,166.62	2,224.57	84,059.33
76	660	159,954.87	2,018.95	69,476.04
77	644	149,424.25	2,976.28	67,937.37
78	474	116,713.85	3,661.47	54,863.56
79	427	115,431.71	3,225.57	51,263.05
80	349	70,181.16	4,123.49	39,101.66
81	313	70,333.75	4,348.47	37,264.71
82	225	42,790.48	3,883.69	24,654.93
83	193	42,288.46	3,786.81	22,684.48
84	162	32,425.76	4,140.68	18,623.48
85	150	30,203.72	4,622.98	16,021.93
86	110	23,909.55	3,636.08	13,568.88
87	93	24,410.62	2,812.15	11,083.77
88	73	16,668.40	3,229.46	10,315.53
89	48	10,619.82	1,957.45	5,352.68
90	27	8,067.93	1,086.84	4,726.79

SCHEDULE D(1)

SUPERANNUATION ANNUITIES AS OF DECEMBER 31, 1979

MALE MEMBERS

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefits	
			Not Continuing to Beneficiary	Continuing to Beneficiary
91	26	\$ 7,884.93	\$ 647.35	\$ 2,544.52
92	24	3,856.09	1,122.37	2,356.64
93	11	1,736.07	795.84	1,220.49
94	8	1,252.60	604.08	880.58
95	2	206.67	93.43	145.30
96	4	978.75	109.73	362.10
97	2	323.49	49.08	227.42
98	1	32.85		23.10
99	2	2,241.87	243.35	1,046.22
100	1	161.89	29.46	48.57
101	1	39.06	9.84	27.46
104	1	732.09	92.35	514.66
106	3	1,134.27	36.24	278.10
Total	<u>20,738</u>	<u>\$6,943,755.47</u>	<u>\$63,846.46</u>	<u>\$1,558,091.46</u>

SCHEDULE D(2)

SUPERANNUATION ANNUITIES AS OF DECEMBER 31, 1979

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
50	1	\$ 45.34		
51	1	345.04		
52	1	700.74		
53	3	705.38		
54	2	347.48		\$ 26.96
55	8	2,675.10		37.21
56	7	3,452.05		112.85
57	12	7,286.68		381.93
58	11	8,427.52		104.05
59	24	16,171.86		673.60
60	65	37,822.66		1,102.03
61	252	93,419.67		1,480.54
62	322	111,827.15		3,370.09
63	569	179,388.38	\$ 23.80	6,016.32
64	698	208,714.04	1.29	12,605.49
65	826	259,610.77		24,884.73
66	956	279,823.38	16.86	32,559.75
67	953	272,583.90		41,686.25
68	948	255,941.39	13.65	49,441.96
69	866	228,560.43	12.70	49,454.57
70	822	211,560.76		56,523.01
71	714	171,310.66	1.31	54,578.97
72	709	166,120.81	42.93	56,567.86
73	636	138,860.26	58.58	55,301.38
74	529	106,577.35	256.38	46,698.48
75	484	92,744.33	609.08	43,706.62
76	419	79,996.18	1,097.47	37,345.25
77	375	67,522.11	1,420.18	33,921.37
78	288	54,026.76	1,786.89	29,687.51
79	268	47,328.67	2,424.88	26,722.21
80	247	42,808.09	2,578.88	23,622.78
81	200	32,704.18	3,294.98	19,798.31
82	157	23,670.39	2,456.41	14,464.10
83	172	27,307.52	3,286.04	15,671.51
84	139	18,757.37	3,286.25	11,962.68
85	110	15,434.49	2,708.37	9,898.41
86	97	11,647.98	2,726.75	7,282.59
87	83	12,148.70	2,491.85	7,659.68
88	56	6,832.87	1,755.59	4,473.76
89	48	7,051.90	1,761.09	4,648.69

SCHEDULE E(1)

SUPERANNUATION ANNUITIES AS OF DECEMBER 31, 1979

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
90	38	\$ 5,351.18	\$ 1,213.01	\$ 3,030.04
91	28	3,071.51	965.94	2,049.27
92	23	2,548.89	1,018.00	1,771.62
93	6	401.33	232.56	282.13
94	12	1,219.40	419.87	857.23
95	8	703.78	317.70	494.79
96	6	678.34	357.76	476.86
97	3	269.44	166.44	189.41
98	1	35.88	9.77	25.23
99	4	455.04	90.58	319.88
101	1	66.78	72.80	33.81
104	1	282.33		14.12
Total	<u>13,209</u>	<u>\$3,317,344.24</u>	<u>\$38,976.64</u>	<u>\$794,017.89</u>

SCHEDULE E(2)

WITHDRAWAL ANNUITIES AS OF DECEMBER 31, 1979

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
29	3	\$ 118.91		
30	9	334.86		
31	18	649.99		
32	30	1,152.84		
33	66	3,414.49		
34	47	2,598.25		
35	50	3,178.39		
36	49	3,140.61		
37	73	4,640.76		
38	54	3,749.59		
39	58	4,059.10		
40	47	4,408.21		
41	43	5,271.12		
42	50	6,824.07		\$ 98.53
43	50	5,929.22		
44	39	5,961.27		
45	41	6,005.06		
46	57	6,410.22		
47	54	11,479.55		61.49
48	51	9,853.15		
49	63	12,411.31		
50	64	16,785.32		
51	56	13,929.58		252.54
52	70	20,230.48		364.81
53	63	18,751.14		241.86
54	68	21,522.63		429.14
55	88	31,452.47		856.98
56	97	36,185.25		345.37
57	88	32,089.26		733.71
58	109	39,081.24		321.05
59	131	51,573.46		696.38
60	145	56,940.65		574.91
61	97	37,566.53		4,781.12
62	98	35,280.39	\$207.22	7,007.77
63	100	30,791.41		9,812.76
64	93	29,032.04		10,315.89
65	96	29,974.45		11,951.82
66	79	21,970.88		9,355.25
67	82	19,330.58		9,230.33
68	69	16,398.77		8,366.94
69	63	11,619.79		6,719.21
70	50	7,339.86		4,674.87
71	66	9,012.35		6,115.86
72	42	4,534.59		3,147.98
73	46	5,206.91		3,617.54

SCHEDULE F(1)

WITHDRAWAL ANNUITIES AS OF DECEMBER 31, 1979

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
74	32	\$ 4,311.89		\$ 2,944.91
75	37	3,784.19		2,630.62
76	31	3,466.17		2,393.98
77	28	2,268.21		1,575.41
78	22	1,226.50		847.88
79	24	1,689.73		1,187.94
80	33	2,728.11		1,917.89
81	23	1,448.01		994.19
82	27	2,264.69		1,592.13
83	27	2,504.36		1,760.62
84	16	1,259.56		885.48
85	6	335.57		235.92
86	2	506.01		355.73
88	2	128.66		90.44
89	1	76.24		53.59
90	2	380.87		267.77
91	1	88.34		62.11
92	1	36.91		25.96
93	1	87.26		61.35
Total	<u>3,228</u>	<u>\$726,782.28</u>	<u>\$207.22</u>	<u>\$119,958.03</u>

SCHEDULE F(2)

WITHDRAWAL ANNUITIES AS OF DECEMBER 31, 1979

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
28	5	\$ 171.45		
29	8	334.56		
30	12	484.42		
31	21	779.35		
32	19	784.00		
33	37	1,819.42		
34	28	1,436.51		
35	18	960.29		
36	34	1,759.45		
37	20	1,240.46		
38	22	1,259.21		
39	22	1,348.37		
40	17	1,694.27		
41	10	995.57		
42	13	919.87		
43	15	1,473.64		
44	18	1,683.53		\$ 2.63
45	19	1,757.28		
46	11	992.22		
47	23	2,408.86		
48	25	3,337.88		
49	25	3,556.20		
50	35	6,880.92		
51	36	6,277.06		
52	42	7,731.47		
53	54	11,714.48		
54	67	11,579.54		
55	72	16,520.68		
56	86	18,846.18		30.20
57	98	25,184.68		
58	99	23,935.27		
59	139	42,877.53		277.01
60	127	36,969.08		
61	114	36,314.10		5,053.02
62	102	28,713.43		4,622.64
63	92	24,810.24		5,857.37
64	82	29,756.49		8,296.91
65	59	19,023.04		6,326.12
66	49	14,255.91		6,180.57
67	50	11,664.90		5,698.41
68	54	14,731.26		7,589.94
69	50	11,154.11		6,297.79
70	33	5,444.89		3,458.57
71	39	5,524.11	\$ 5.97	3,650.94
72	30	4,564.56		3,113.94

SCHEDULE G(1)

WITHDRAWAL ANNUITIES AS OF DECEMBER 31, 1979

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
73	31	\$ 3,917.50		\$ 2,849.06
74	28	3,152.66		2,268.09
75	18	1,255.34		882.55
76	22	2,576.46		1,815.51
77	21	2,189.23		1,628.67
78	10	736.89		490.56
79	14	845.48		562.25
80	19	1,472.14		1,034.96
81	13	887.06		604.16
82	8	487.54		342.73
83	5	410.80		288.80
84	7	335.67		235.98
85	1	33.49		23.55
86	2	69.77		49.05
87	5	407.17		375.22
88	1	225.23		158.34
90	1	70.07		49.26
92	3	80.30		56.45
93	2	40.52		28.50
94	1	19.81		13.92
95	2	75.00		52.72
96	1	48.35		34.00
Total	<u>2,246</u>	<u>\$465,007.22</u>	<u>\$ 5.97</u>	<u>\$80,300.39</u>

SCHEDULE G(2)

DISABILITY ANNUITIES AS OF DECEMBER 31, 1979

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
29	1	\$ 241.36		
30	3	769.15		\$ 62.63
31	6	1,532.10		59.57
32	2	762.82		
33	7	2,067.91		171.31
34	6	2,210.43		122.89
35	6	1,829.42		
36	4	1,489.08		147.96
37	13	4,326.53		245.92
38	3	824.27		35.48
39	9	2,390.25		406.20
40	8	2,041.98		292.47
41	9	2,566.08		183.84
42	6	1,962.14		152.97
43	11	3,171.56		236.11
44	11	4,542.43		200.85
45	14	4,671.53		305.23
46	20	6,830.17		594.38
47	24	7,401.58	\$ 32.29	748.73
48	28	10,340.78	1.65	700.53
49	28	9,431.31	16.34	898.72
50	37	13,864.95		1,214.79
51	37	13,210.49	35.87	1,130.83
52	52	19,953.94		1,994.32
53	45	16,982.94		1,413.31
54	59	23,307.61		2,414.62
55	65	23,333.32		2,435.90
56	75	26,820.36	18.44	2,910.74
57	93	31,709.28	45.10	3,540.21
58	86	29,178.14		2,892.23
59	104	31,834.79	13.44	3,894.54
60	104	31,653.65	17.15	4,204.88
61	116	33,843.95	40.65	5,013.57
62	101	28,283.41	56.41	4,924.10
63	68	17,385.65	12.27	4,122.54
64	40	9,411.16	21.60	3,013.48
65	50	9,417.58	138.85	3,863.28
66	48	8,397.98	84.88	3,730.94
67	36	5,765.79	111.72	2,887.66
68	25	3,289.22	120.05	1,656.73
69	19	1,768.70	81.48	1,031.67
70	10	964.07	145.99	663.32
71	11	973.79	240.43	665.79
72	8	679.23	92.20	473.68
73	12	1,146.81	310.42	806.24

SCHEDULE H(1)

DISABILITY ANNUITIES AS OF DECEMBER 31, 1979

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
74	11	\$ 818.16	\$ 249.47	\$ 575.16
75	8	589.16	200.07	414.18
76	7	463.99	158.01	326.19
77	2	307.24	61.31	216.00
78	1	57.18	15.57	40.19
79	4	404.43	348.95	284.30
80	1	73.33	82.72	51.55
84	1	57.36	146.52	40.33
85	1	84.36	33.04	59.31
Total	<u>1,556</u>	<u>\$457,434.90</u>	<u>\$2,932.89</u>	<u>\$68,472.37</u>

SCHEDULE H(2)

DISABILITY ANNUITIES AS OF DECEMBER 31, 1979

FEMALE MEMBERS

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefits	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
29	4	\$ 951.24		\$ 53.14
30	1	391.80		19.59
31	1	348.16		17.41
32	6	1,401.31		68.06
33	2	533.80		40.38
34	2	559.27		52.00
35	4	1,156.49		
36	5	1,279.18		218.35
37	4	874.90		121.90
38	4	851.96		121.46
39	9	2,450.05		130.67
40	4	1,260.99		53.06
41	5	1,607.05		29.87
42	9	2,309.87	\$ 1.75	248.93
43	6	1,822.86		79.31
44	11	2,486.87		340.68
45	8	2,217.42		230.29
46	11	3,828.47		245.83
47	8	1,788.48		252.05
48	19	4,839.31		462.03
49	26	6,952.93	6.01	710.53
50	14	3,510.83		260.37
51	19	5,056.41	6.47	621.16
52	30	8,178.22	15.24	837.44
53	28	7,202.30	18.60	679.50
54	42	11,891.33	.01	1,431.92
55	53	16,022.94	12.52	2,139.24
56	50	14,026.71	30.61	1,886.17
57	68	17,579.28	58.03	2,517.90
58	74	18,516.59	6.81	2,662.61
59	61	13,225.73	42.52	1,632.34
60	91	23,621.21	17.96	3,575.03
61	53	11,202.57	34.32	2,371.15
62	64	14,072.38	22.78	3,181.29
63	46	8,241.63	58.23	2,459.29
64	44	8,855.78	14.61	3,200.36
65	41	6,124.19	147.59	2,746.05
66	40	5,616.40	56.10	2,495.41
67	37	5,132.25	150.96	2,633.96
68	26	2,017.16	235.16	1,243.36
69	19	1,944.50	240.67	1,242.55
70	21	2,002.77	141.65	1,291.35
71	14	1,373.73	250.62	953.47
72	10	719.05	231.24	503.41
73	9	685.86	211.01	482.20

SCHEDULE I(1)

DISABILITY ANNUITIES AS OF DECEMBER 31, 1979

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
74	5	\$ 407.18	\$ 52.81	\$ 286.23
75	3	151.88	96.18	106.78
76	9	560.26	164.44	393.88
77	3	141.82	103.06	99.70
78	7	455.83	336.29	320.43
79	4	271.23	130.85	190.68
80	2	123.10	46.24	86.55
81	3	211.29	133.37	148.52
82	5	337.97	261.42	235.39
83	3	155.93	157.31	109.61
85	1	64.39	19.25	19.32
88	2	139.17	145.02	97.84
89	1	46.33	27.94	32.57
Total	<u>1,151</u>	<u>\$249,798.61</u>	<u>\$3,685.65</u>	<u>\$48,670.57</u>

SCHEDULE I(2)

BENEFICIARIES RECEIVING PAYMENTS
AS OF DECEMBER 31, 1979

MALES

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefits	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
13	1	\$ 198.34		
15	1	1,540.39		
17	1	184.66		
20	3	957.92		
21	4	707.13		
23	1	480.95		
24	2	333.15		
26	2	439.16		
27	3	993.92		
28	1	495.20		
29	3	783.92		
30	4	1,345.24		
31	3	1,250.61		
32	1	113.03		
33	1	303.05		
34	2	940.14		\$ 31.56
35	2	104.98		
36	4	1,061.31		
37	3	909.62		
38	4	1,090.51		
39	6	837.91		70.20
40	2	1,038.95		
41	5	857.96		23.45
42	2	296.91		
43	3	408.82		
45	2	538.53		8.33
47	2	626.40		
48	4	1,062.99		
49	2	1,108.81		
50	1	623.36		
51	5	869.72		
52	1	228.39		
53	3	1,161.53		
54	1	70.12		
55	4	464.70		27.81
56	2	215.87		
57	4	1,446.78		14.07
58	7	1,648.56		22.83
59	6	1,549.15		
60	3	2,910.55		
61	5	1,022.65		4.08
62	7	2,660.42		
63	7	3,105.11		161.39
64	5	1,300.60		9.31
65	6	2,311.01		146.79

SCHEDULE J(1)

BENEFICIARIES RECEIVING PAYMENTS
AS OF DECEMBER 31, 1979

MALES

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
66	5	\$ 2,147.12		\$ 37.56
67	10	3,651.86		92.15
68	7	2,233.49		
69	13	6,413.69		119.36
70	9	3,025.56		35.08
71	8	3,432.43		7.21
72	10	3,132.78		237.01
73	4	1,691.42		30.57
74	4	284.70		58.43
75	2	392.63	\$ 2.23	229.48
76	4	1,224.45		38.61
77	5	883.81		88.92
80	2	424.03		
81	4	797.29		
82	4	1,374.70		
83	2	82.81		9.71
84	3	755.03		61.50
85	1	86.31		
87	1	157.13		47.13
106	1	192.31		
107	1	402.56		
108	2	813.97		
109	1	402.98		
Total	<u>244</u>	<u>\$76,602.09</u>	<u>\$ 2.23</u>	<u>\$ 1,612.54</u>

SCHEDULE J(2)

BENEFICIARIES RECEIVING PAYMENTS
AS OF DECEMBER 31, 1979

FEMALES

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>	
			<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>
13	6	\$ 923.05		
14	4	2,021.25		
16	3	663.08		
18	1	131.10		
21	1	252.25		
22	1	673.74		
23	1	99.52		
25	2	702.03		
27	3	1,872.53		
28	2	547.88		
29	4	671.63		\$ 6.18
30	5	1,265.55		
31	5	1,454.54		
32	3	706.45		
33	4	839.15		
35	2	335.67		
36	2	600.78		
37	3	777.89		
38	4	491.76		
39	5	2,200.49		
40	6	2,169.01		
41	7	1,625.16		6.88
42	4	499.93		
43	7	4,670.38		7.61
44	7	731.16		
45	5	744.79		
46	6	3,087.88		
47	12	3,164.51		62.15
48	8	2,099.39		
49	18	6,586.28		
50	17	6,904.09		
51	20	5,612.54		
52	27	10,044.59		28.71
53	41	11,446.34		63.62
54	25	7,411.72		46.30
55	52	19,922.48		140.83
56	46	17,588.65		111.41
57	38	12,955.01		206.40
58	74	22,597.45		96.14
59	73	19,985.33		231.69
60	85	23,703.64		321.78
61	86	25,482.79		442.54
62	107	36,146.17	\$.65	634.96
63	99	23,275.32		151.54
64	151	43,776.12		610.40

SCHEDULE K(1)

BENEFICIARIES RECEIVING PAYMENTS
AS OF DECEMBER 31, 1979

FEMALES

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefits	
			Not Continuing to Beneficiary	Continuing to Beneficiary
65	127	\$ 37,876.72		\$ 738.78
66	141	34,322.37		978.33
67	156	45,745.38		1,337.76
68	151	37,862.93		1,476.23
69	146	35,724.50		1,765.73
70	157	39,941.76		1,436.05
71	153	36,673.27	\$ 4.70	1,873.24
72	150	33,063.03		1,820.52
73	150	26,841.12		1,985.00
74	146	30,560.15	17.07	2,183.31
75	122	23,936.37		1,708.29
76	119	20,776.08		1,279.72
77	120	23,959.03	25.68	1,800.88
78	108	20,949.06	17.11	1,483.16
79	120	19,582.54	1.61	1,479.50
80	89	12,901.18		803.67
81	75	11,353.73	.65	922.17
82	72	12,071.95	51.04	975.16
83	75	11,159.01	48.68	738.52
84	52	9,155.87	5.74	333.99
85	54	7,507.61	54.68	545.51
86	36	5,155.95	21.86	290.24
87	34	4,715.06	8.66	367.41
88	18	1,539.57		33.59
89	33	3,567.42		99.99
90	18	1,875.85		15.89
91	12	1,428.93		21.69
92	11	960.41		24.49
93	7	681.18		47.33
94	7	1,550.17		74.98
95	9	835.60		
96	1	44.93		
97	2	373.22		84.57
100	1	45.00		
102	1	104.16		31.25
104	1	238.50		
105	1	117.67		
106	2	382.48		
107	1	932.73		
108	1	153.37		
109	4	671.71		
Total	<u>3,765</u>	<u>\$886,798.64</u>	<u>\$258.13</u>	<u>\$31,926.09</u>

SCHEDULE K(2)

SUMMARY OF ANNUITIES AS OF DECEMBER 31, 1979

	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Not Continuing to Beneficiary</u>	<u>Continuing to Beneficiary</u>	<u>Total</u>	<u>Average Monthly Benefit</u>
<u>Superannuation</u>						
Male	20,738	\$ 6,943,755.47	\$ 63,846.46	\$1,558,091.46	\$ 8,565,693.39	\$413.04
Female	13,209	3,317,344.24	38,976.64	794,017.89	4,150,338.77	314.21
Total	33,947	10,261,099.71	102,823.10	2,352,109.35	12,716,032.16	374.58
<u>Withdrawal</u>						
Male	3,228	\$ 726,782.28	\$ 207.22	\$ 119,958.03	\$ 846,947.53	\$262.38
Female	2,246	465,007.22	5.97	80,300.39	545,313.58	242.79
Total	5,474	1,191,789.50	213.19	200,258.42	1,392,261.11	254.34
<u>Disability</u>						
Male	1,556	\$ 457,434.90	\$ 2,932.89	\$ 68,472.37	\$ 528,840.16	\$339.87
Female	1,151	249,798.61	3,685.65	48,670.57	302,154.83	262.52
Total	2,707	707,233.51	6,618.54	117,142.94	830,994.99	306.98
<u>Beneficiaries</u>						
Male	244	\$ 76,602.09	\$ 2.23	\$ 1,612.54	\$ 78,216.86	\$320.56
Female	3,765	886,798.64	258.13	31,926.09	918,982.86	244.09
Total	4,009	963,400.73	260.36	33,538.63	997,199.72	248.74

C O M P A R I S O N O F M E M B E R S H I P

	<u>December 31, 1976</u>		<u>December 31, 1977</u>		<u>December 31, 1978</u>		<u>December 31, 1979</u>	
	<u>Number</u>	<u>Salary</u>	<u>Number</u>	<u>Salary</u>	<u>Number</u>	<u>Salary</u>	<u>Number</u>	<u>Salary</u>
			<u>A C T I V E M E M B E R S</u>					
Male	74,974	\$1,061,361,348	73,552	\$1,122,839,957	73,112	\$1,146,108,973	70,726	\$1,215,782,698
Female	53,701	566,265,724	53,279	606,397,225	54,305	643,908,572	54,086	715,031,471
Total	<u>128,675</u>	<u>\$1,627,627,072</u>	<u>126,831</u>	<u>\$1,729,237,182</u>	<u>127,417</u>	<u>\$1,790,017,545</u>	<u>124,812</u>	<u>\$1,930,814,169</u>

A N N U I T A N T S

Male	19,651	21,549	23,412	25,766
Female	15,110	16,945	18,585	20,371
Total	<u>34,761</u>	<u>38,494</u>	<u>41,997</u>	<u>46,137</u>

BENEFIT AND CONTRIBUTION PROVISIONS as of DECEMBER 31, 1974
(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.

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.

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

Classes C and D-3 - Age 50.

Class E-1 - Age 60.

Class E-2 - Age 60.

Formula for Superannuation Retirement Annuity

The standard single-life annuity applicable to members of Class A, is equal to 2% of the final 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:

Class	Class of Service Multiplier	
	Prior to 1/1/73	On and After 1/1/73
C	1	1
D-3	3.75	1.731
E-1	2. for each of the first 10 years of judicial service plus 1.5 for each subsequent year.	1.50 for each of the first 10 years of judicial service plus 1.125 for each subsequent year.
E-2	1.5	1.125

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

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

SCHEDULE N(2)

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.

Age and Service Requirements for Disability Retirement

A member is eligible for disability retirement if he is totally and permanently disabled 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.

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.

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 - 5% 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 - 5%

Class D-3 - 8.655%

Class E-1 - 7.5% during the first 10 years of judicial service and 5.625% thereafter.

Class E-2 - 5.625%

- (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.

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.

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 1971-75, with values at specimen ages in five separate classes as follows:

CLASS*	AGE	R A T E S O F S E P A R A T I O N				D U E T O Retirement	SALARY SCALE
		Withdrawal	Death	Disability			
A and B (MALE)	25	.1993	.0010	.0001	.0010	\$ 4,000	
	35	.1031	.0018	.0004	.0020	8,136	
	45	.0838	.0039	.0013	.0043	13,655	
	55	.0750	.0105	.0047	.0124	21,398	
	65	-	.0127	-	.1900	33,231	
A and B (FEMALE)	25	.1900	.0005	.0001	.0001	4,000	
	35	.1124	.0010	.0003	.0016	8,136	
	45	.0715	.0020	.0012	.0033	13,655	
	55	.0645	.0039	.0045	.0111	21,398	
	65	-	.0055	-	.2300	33,231	
C (MALE and FEMALE)	25	.0117	.0010	.0001	.0001	4,000	
	35	.0020	.0018	.0004	.0012	7,109	
	45	.0100	.0039	.0013	.0032	11,221	
	55	-	.0105	-	.0525	16,300	
	65	-	.0127	-	.3100	22,992	
D (MALE and FEMALE)	25	.0766	.0010	.0001	-	4,000	
	35	.0524	.0018	.0004	-	5,642	
	45	.0067	.0039	.0013	.0067	7,959	
	55	-	.0105	-	.0680	11,227	
	65	-	.0127	-	.1690	15,837	
E (MALE and FEMALE)	25	.0274	.0010	.0001	-	4,000	
	35	.0140	.0018	.0004	-	5,642	
	45	.0084	.0039	.0013	.0004	7,959	
	55	.0088	.0105	.0047	.0061	11,227	
	65	-	.0127	-	.0475	15,837	

Superannuation and Withdrawal Allowances: The mortality table used for those receiving superannuation and withdrawal 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).

SCHEDULE O

HUGGINS & COMPANY, INC.
MEMBER - THE HAY GROUP

Consulting Actuaries

229 S. 18 ST. • RITTENHOUSE SQUARE • PHILADELPHIA, PA 19103 • (215) 893-0270

June 11, 1980

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

STATE EMPLOYES' RETIREMENT SYSTEM

Actuarial Valuation as of December 31, 1979


Dear Mr. Cusma:

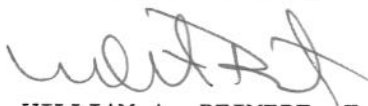
Herewith please find the valuation report showing statements of assets, account balances and actuarial liabilities of the State Employees' Retirement System as of December 31, 1979, together with an actuarial balance sheet in which these statements are consolidated. Reserve liabilities and statistical tables were determined based upon the data submitted by the Commonwealth.

There are attached supporting schedules from A to O, inclusive.

Respectfully submitted,

HUGGINS & COMPANY, INC.

By 
ROBERT H. SMITH, F.S.A.
Member American Academy of Actuaries


WILLIAM A. REIMERT, F.S.A.
Member American Academy of Actuaries

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