

STATE EMPLOYEES' RETIREMENT SYSTEM

Actuarial Valuation
as of
December 31, 1977

HUGGINS
& COMPANY, INC.

CONSULTING ACTUARIES • EMPLOYEE BENEFIT PLAN CONSULTANTS

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June 14, 1978

Mr. Richard L. Witmer, Secretary
State Employees' Retirement Board
204 Labor and Industry Building
Harrisburg, Pennsylvania 17120

STATE EMPLOYEES' RETIREMENT SYSTEM

Actuarial Valuation as of December 31, 1977

Dear Mr. Witmer:

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, 1977, 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 R, inclusive.

Respectfully submitted,

HUGGINS & COMPANY, INC.

By 

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

RHS:bes

PART I - VALUATION AS OF DECEMBER 31, 1977

A complete actuarial valuation of the State Employees' Retirement System was made as of December 31, 1977 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, 1977.
2. Liabilities of the Retirement Fund as of December 31, 1977, showing the various account balances.
3. Actuarial liabilities as of December 31, 1977.

In the statement of the assets, it will be noted that the total book value of investments, after adjustment for amortization, amounted to \$2,110,239,548. In addition to the other items, it will be noted that there was an amount of \$117,498,836 of Accounts Receivable which represents amounts due from the Commonwealth. The total assets amount to \$2,265,589,466.

The account balances total \$2,265,589,466, 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 \$292,833,005 is before any transfers to adjust account balances.

Comments on the statement of actuarial liabilities are made following the statement. It will be noted that the total actuarial liabilities amount to \$5,923,222,006.

STATE EMPLOYEES' RETIREMENT FUND

STATEMENT OF ASSETS AS OF DECEMBER 31, 1977

Cash	\$	39,477
 <u>Investments</u>		
Unmatured (Par Value) of investments	\$2,137,109,001	
Net Accrual on Investments after amortization	<u>26,869,453</u>	2,110,239,548
Interest due and accrued		32,355,646
Members contribution in transit		5,455,960
Accounts Receivable (Due from Commonwealth)		<u>117,498,835</u>
 TOTAL ASSETS		 <u>\$2,265,589,466</u>

STATE EMPLOYEES' RETIREMENT FUND

STATEMENT OF ACCOUNT BALANCES AS OF DECEMBER 31, 1977

Members' Savings Account	\$ 752,896,941
Annuity Reserve Account	1,183,221,239
State Police Benefit Account	119,578,234
Enforcement Officers Benefit Account	10,665,049
State Accumulation Account	292,833,005
Supplemental Annuity Account	(95,012,861)
Accounts payable (Miscellaneous Liability)	<u>1,407,859</u>
 Total Account Balances and Miscellaneous Liabilities	 <u>\$2,265,589,466</u>

STATE EMPLOYEES' RETIREMENT FUND

STATEMENT OF ACTUARIAL LIABILITIES AS OF DECEMBER 31, 1977

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

Annuity Reserve Account:

Superannuation	\$ 932,439,287	
Disability	55,220,545	
Withdrawal	<u>114,327,369</u>	
Sub-total		\$1,101,987,201
Supplemental Annuities		<u>75,587,238</u>
Total		\$1,177,574,439

State Police Benefit Account 86,810,157

Enforcement Officers Benefit Account 7,967,322

Total for annuitants and beneficiaries \$1,272,351,918

Present value of benefits to active and inactive members for -

Superannuation and withdrawal	\$4,132,749,452	
Disability	75,262,315	
Death	300,830,567	
Refunds	<u>140,619,895</u>	
Total for active and inactive members		\$4,649,462,229

Miscellaneous 1,407,859

TOTAL ACTUARIAL LIABILITIES \$5,923,222,006

Liability related to present annuitants and beneficiaries ... \$1,272,351,918

A breakdown of the liability of \$1,272,351,918 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, 1977 Total Annuity Reserve</u>
<u>Other Than State Police or Enforcement Officers</u>	
Superannuation	\$ 932,439,287
Disability	55,220,545
Withdrawal	<u>114,327,369</u>
Sub-total	\$1,101,987,201
Supplemental Annuities	<u>75,587,238</u>
Total	\$1,177,574,439
<u>State Police</u>	86,810,157
<u>Enforcement Officers</u>	<u>7,967,322</u>
Total Liabilities	<u>\$1,272,351,918</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 \$1,177,574,439 must be compared with the Annuity Reserve Account balance of \$1,183,221,239 indicating a surplus of \$5,646,800 in the Annuity Reserve Account. A transfer of this surplus amount should be made from the Annuity Reserve Account as of December 31, 1977 in order to bring the account into balance with the corresponding liability.

The required reserves for benefits payable to retired State Police or their beneficiaries amount to \$86,810,157. The corresponding account balance is \$119,578,234 which produces a balance of assets over liabilities of \$32,768,077. In prior years two accounts were maintained for State Police: State Police Members' Annuity Reserve Account and State Police Benefit Account. Under Act 31 there is only one account, State Police Benefit Account. Reserves for annuitants are transferred to this account upon a member's re-

tirement. Special contributions for active members are also credited to this account. The balance of \$32,768,077 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 \$7,967,322. This reflects the reserves for both the members' portion and the State's portion as noted earlier in this report. The corresponding account balance is \$10,665,049 which produces a balance of assets over liabilities of \$2,697,727. One account, Enforcement Officers Benefit Account, is maintained under Act 31 for Enforcement Officers in the same manner as the State Police Benefit Account described above.

Liabilities for supplemental retirement allowances were created by Act 230, approved July 31, 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 March 1, 1974, made provision for additional supplemental allowances. When the liabilities for supplemental retirement allowances were created, corresponding funds were 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 \$95,012,861 as of December 31, 1977. The actuarial liabilities as of December 31, 1977 for Supplemental Annuities payable amount to \$75,587,238. This later amount represents the value as of December 31, 1977 of all supplemental annuities payable in the future as a result of Act 230 and Act 31 and is part of the total liability to be offset by the Annuity Reserve Account. The deficiency of \$ 95,012,861 in the Supplemental Annuity Account represents the unfunded portion of the original deficiency that existed in this account.

In the data received from the Commonwealth we were furnished the amounts of supplemental annuities which became effective under Act 31, approved March 1, 1974 as well as the amounts of supplemental annuities which became effective under Act 230, approved July 1, 1968. Of the total liability of \$75,587,238 shown above for supplemental annuities, \$5,654,072 represents the liability for supplemental annuities which became effective in 1968 and \$69,933,166 represents the liability for supplemental annuities which became effective in 1974.

The number of present annuitants and beneficiaries and their annual annuities as of December 31, 1977 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, 1977				
	Number	Basic	Supplemental		Total Annuity
			1968	1974	
<u>Other Than State Police or Enforcement Officers</u>					
Superannuation	30,616	\$ 96,340,420	\$ 793,661	\$6,768,085	\$103,902,166
Disability	2,266	6,054,313	49,004	279,193	6,382,510
Withdrawal	<u>4,116</u>	<u>10,463,320</u>	<u>63</u>	<u>601,676</u>	<u>11,065,059</u>
Sub-total	36,998	\$112,858,053	\$ 842,728	\$7,648,954	\$121,349,735
<u>State Police</u>	1,385	7,603,835	111,580	748,786	8,464,201
<u>Enforcement Officers</u> ...	<u>111</u>	<u>809,378</u>	<u>4,772</u>	<u>56,299</u>	<u>870,449</u>
Totals	<u>38,494</u>	<u>\$121,271,266</u>	<u>\$ 959,080</u>	<u>\$8,454,039</u>	<u>\$130,684,385</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 \$4,649,462,229

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	73,552	53,279	126,831
Salaries	\$1,122,839,957	\$606,397,225	\$1,729,237,182

Inactive Members:

There were 1,418 inactive members for whom a liability was calculated and included in the valuation results.

Miscellaneous \$ 1,407,859

This item is the total of the reserve for outstanding checks, member withdrawals payable, annuities payable and Blue Cross premiums.

Total actuarial liabilities \$ 5,923,222,006

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, 1977 and those related to subsequent service.

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

The actuarial assumptions used in this valuation are summarized in Schedule R at the end of this report. These are based on the experience of the Retirement System in 1971-1975 with interest assumed at 5½% per annum.

PART II - REQUIRED TRANSFERS TO ADJUST ACCOUNT BALANCE

In discussing the various account balances in Part I, references were made in several places to reserve transfers that should be made as of December 31, 1977 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 ...	\$1,183,221,239	\$1,177,574,439	(+) \$ 5,646,800

As previously mentioned in Part I, the adjustment to be made to the books to accord with the requirements of Act 31 of 1974 lead to the following transfer:

<u>From</u>	<u>To</u>	<u>Amount</u>
Annuity Reserve Account	State Accumulation Account	<u>\$5,646,800</u>

As result of this transfer the various account balances are as follows after adjustment:

	<u>Adjusted Account Balance</u>
Members' Annuity Savings Account	\$ 752,896,941
Annuity Reserve Account	1,177,574,439
State Police Benefit Account	119,578,234
Enforcement Officers Benefit Account	10,665,049
State Accumulation Account	298,479,805
Supplemental Annuity Account	(-) 95,012,861
Miscellaneous	<u>1,407,859</u>
Total Account Balances	<u>\$2,265,589,466</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, 1977

A S S E T S

L I A B I L I T I E S

Present assets:

Members' Annuity Savings Account	\$ 752,896,941
Annuity Reserve Account	1,177,574,439
State Police Benefit Account	119,578,234
Enforcement Officers Benefit Account	10,665,049
State Accumulation Account	298,479,805
Supplemental Annuity Account	(-) 95,012,861
Miscellaneous	<u>1,407,859</u>
Total present assets (book value)	\$2,265,589,466*

Present Value of Future Contributions

Members' Savings Account (Employee)	\$ 837,812,423
State Accumulation Account (Employer)	2,724,807,256
Supplemental Annuity Account (Employer)	<u>95,012,861</u>

Total future assets

TOTAL ASSETS

*Total present assets (book value)

distributed as follows:

Cash	\$ 39,477
Investments (net of amortization)	2,110,239,548
Interest due and accrued	32,355,646
Members contribution in transit	5,455,960
Due from Commonwealth	<u>117,498,835</u>

Total present assets

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

<u>Annuity Reserve Account:</u>	
Superannuation	\$ 932,439,287
Disability	55,220,545
Withdrawal	114,327,369
Sub-total	\$1,101,987,201
Supplemental Annuities: 1968	5,654,072
1974	<u>69,933,166</u>

Total

State Police Benefit Account

Enforcement Officers Benefit Account

Total for annuitants and beneficiaries

Present value of benefits to active and inactive members for -

Superannuation and withdrawal	\$ 4,132,749,452
Disability	75,262,315
Death	300,830,567
Refunds	140,619,895

Total for active and inactive members

Miscellaneous

TOTAL LIABILITIES

129,003,134

4,411,329,398.

955,645,669

6,354,648,803

PART III - CONTRIBUTION RATES

In the actuarial balance sheet submitted on page 10, the present assets of \$2,265,589,466, represented by the various account balances, are compared with the total liabilities of \$5,923,222,006. The difference of \$3,657,632,540 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 \$837,812,423. In addition, the present value of the employer contributions to the State Accumulation Account is \$2,724,807,256 and to the Supplemental Annuity Account is \$95,012,861.

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 (5½%) 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 deducting 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	8.44%
Disability	0.20
Death	0.48
Refunds	<u>1.71</u>
Total normal cost percentage	10.83%

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 kept in mind that if a member withdraws before he has a non-forfeitable right to a benefit under the plan, his contributions are withdrawable. The corresponding employer contri-

butions 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, it is necessary to reduce such contribution rate by the value of the refunds which will be made to the withdrawing participants. This was determined to be 1.71% of payroll as indicated in the above table of normal cost percentages. Deducting this refund value of 1.71% of future compensation from the total contribution rate of 5% leaves a balance of 3.29% as the effective percentage of compensation which will be available as member contributions to provide benefits to a new participant. Deducting this effective net contribution of 3.29% from the total normal cost percentage of 10.83% shown above, leaves a balance of 7.54% as the employer normal contribution rate contemplated under Section 5508(b) of the State Employees Retirement Code.

As shown in the balance sheet on page 10, the present value of future employer contributions (i.e. future contributions to the State Accumulation Account) is \$2,724,807,256. 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 ...	\$2,724,807,256
Present value of future normal cost contributions (7.54% of future payroll)	<u>1,175,132,218</u>
Present value of future contributions to fund the Unfunded Accrued Liability	\$1,549,675,038

The present value of future contributions to fund the unfunded accrued liability of \$1,549,675,038 is the present unfunded accrued liability since the present value of all future contributions for this purpose must be equal to this liability.

1705 333 87

The unfunded accrued liability of \$1,549,675,038 is composed of two parts: one part is to be funded over 30 years from July 1, 1969 and the 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> <u>30 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	\$1,108,188,102	\$62,733,547	3.59%
1974	<u>441,486,916</u>	<u>20,972,254</u>	<u>1.20</u>
	\$1,549,675,018	\$83,705,801	4.79%

*Payment for 1978 expressed as a percentage of the estimated total payroll for active members in 1978 of \$1,745,952,691.

The accrued liability for supplemental allowances is also composed of two parts: one part is to be funded over 20 years from July 1, 1969 and the other part over 20 years from July 1, 1974 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	\$ 6,219,899	\$ 744,363	0.04%
1974	<u>88,792,962</u>	<u>8,326,422</u>	<u>0.48</u>
	\$ 95,012,861	\$ 9,070,785	0.52%

*Payment for 1978 expressed as a percentage of the estimated total payroll for active members in 1978.

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%. It should be pointed out that, in the past, the extra contribution for State Police and Enforcement Officers was expressed as a percentage of total payroll of all participants covered under the plan. 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	10.83%	↔ 10.98
Member Deductions	<u>3.29</u>	<u>3.49</u>
Employer portion of Normal Costs	7.54%	7.49
Payment on Unfunded Accrued Liability other than for Supplemental Allowances	4.79	5.07
Payment on Unfunded Accrued Liability for Supplemental Allowances	<u>0.52</u>	<u>.47</u>
Total Employer Contribution Rate	<u>12.85%</u>	13.03

PART IV - SUMMARY

In Part I of the report, we presented the statements of assets, account balances and actuarial liabilities as of December 31, 1977. 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, 1977 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 \$5,646,800

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 ..	7.54%
Accrued liability contribution rate - State Accumulation Account	<u>4.79</u>
Total contribution rate-State Accumulation Account ...	<u>12.33</u>
Accrued liability contribution rate - Supplemental Annuity Account	<u>0.52</u>
Total employer contribution rate	<u>12.85%</u>

The total unfunded accrued liability as of December 31, 1977 is \$1,549,675,038

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,			
	1977	1976	1975	1974
Number	^{127,417} 126,831	128,675	129,396	132,716
Total salaries	^{1,790,017,545} \$1,729,237,182	\$1,627,627,072	\$1,474,081,506	\$1,431,203,515
Average salary	\$ ^{14,048} 13,634	\$ 12,649	\$ 11,392	\$ 10,784

APPENDIX - SCHEDULES OF MEMBERSHIP as of DECEMBER 31, 1977

The following schedules of the membership as of December 31, 1977 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, 1977, 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 and amount of the basic monthly benefits and supplemental monthly benefits being paid to surviving male beneficiaries of superannuation annuitants.

In Schedule F 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 G are shown, according to age nearest birthday, the number and amount of the basic monthly benefits and supplemental monthly benefits being paid to surviving female beneficiaries of superannuation annuitants.

In Schedule H 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 I 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 J are shown, according to sex and age nearest birthday, the number and amount of both the basic monthly benefit and supplemental monthly benefit being paid to surviving beneficiaries of the disabled annuitants.

In Schedule K 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 L 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 the withdrawal annuitants.

In Schedule M 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 N are shown, according to age nearest birthday, the number and amount of the basic monthly benefit and supplemental monthly benefit being paid to surviving female beneficiaries of the withdrawal annuitants.

In Schedule O is shown, the summary of all annuities outstanding as of December 31, 1977 whether superannuation, disability, withdrawal or supplemental and whether being paid to members or their survivors.

In Schedule P is shown, for comparison, the outstanding membership both active and annuitant as of December 31, 1972, December 31, 1973, December 31, 1974, December 31, 1975, December 31, 1976 and December 31, 1977.

In Schedule Q, the benefits and member contributions and provisions of the plan as of December 31, 1977 are summarized.

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

ACTIVE MEMBERSHIP as of December 31, 1977

M A L E

CLASS Age 1977	A & B		C		D		E		GRAND TOTAL	
	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
16	1	\$ 1,040	0	\$ 0	0	\$ 0	0	\$ 0	1	\$ 1,040
17	2	5,680	0	0	0	0	0	0	2	5,680
18	33	208,646	0	0	0	0	0	0	33	208,646
19	87	639,672	0	0	0	0	0	0	87	639,672
20	202	1,613,179	0	0	0	0	0	0	202	1,613,179
21	343	2,982,365	0	0	0	0	0	0	343	2,982,365
22	500	4,426,327	0	0	0	0	0	0	500	4,426,327
23	763	7,250,157	0	0	0	0	0	0	763	7,250,157
24	1,063	10,920,540	0	0	0	0	0	0	1,063	10,920,540
25	1,356	14,489,830	0	0	0	0	0	0	1,356	14,489,830
26	1,530	17,625,483	0	0	0	0	0	0	1,530	17,625,483
27	1,645	19,587,337	27	454,728	0	0	0	0	1,672	20,042,065
28	1,992	25,016,758	52	829,119	0	0	0	0	2,044	25,908,877
29	2,136	27,802,503	128	2,249,736	1	15,600	0	0	2,265	30,067,839
30	2,310	30,874,191	216	3,829,062	3	46,800	3	53,559	2,532	34,803,612
31	2,570	36,031,571	374	6,640,659	0	0	1	19,500	2,945	42,691,730
32	1,704	24,091,396	257	4,588,488	4	62,400	0	0	1,965	28,742,284
33	1,597	23,422,655	248	4,428,056	0	0	1	19,434	1,846	27,870,145
34	1,648	24,618,885	266	4,789,870	0	0	3	47,449	1,917	29,456,204
35	1,873	28,785,010	259	4,693,896	1	15,600	2	39,000	2,135	33,533,506
36	1,493	23,455,158	185	3,377,508	2	31,200	2	20,892	1,682	26,884,758
37	1,410	22,585,377	177	3,263,649	5	78,000	0	0	1,592	25,927,026
38	1,338	22,051,667	152	2,832,326	4	62,400	4	99,625	1,498	25,046,018
39	1,338	22,364,797	114	2,147,223	4	62,400	3	51,646	1,459	24,626,066
40	1,343	22,274,991	92	1,733,700	3	46,800	6	132,730	1,444	24,188,221
41	1,312	21,609,351	85	1,648,703	2	31,200	6	138,088	1,405	23,427,342
42	1,308	22,229,504	69	1,347,274	4	62,400	9	235,201	1,390	23,874,379
43	1,384	23,291,515	72	1,413,327	3	46,800	6	164,687	1,465	24,916,329
44	1,386	23,248,978	49	974,581	2	31,200	4	91,752	1,441	24,346,511

SCHEDULE A (1)

ACTIVE MEMBERSHIP as of December 31, 1977

M A L E

CLASS Age 1977	A & B		C		D		E		GRAND TOTAL	
	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
45	1,424	\$ 24,280,831	37	\$ 756,656	2	\$ 31,200	8	\$ 325,398	1,471	\$ 25,394,085
46	1,485	25,335,305	47	939,426	9	140,400	18	486,973	1,559	26,902,104
47	1,604	27,212,751	67	1,399,749	3	46,800	9	300,265	1,683	28,959,565
48	1,565	26,672,643	45	926,367	5	63,166	10	286,559	1,625	27,948,735
49	1,530	25,688,289	40	833,062	3	46,800	16	506,206	1,589	27,074,357
50	1,726	28,702,034	54	1,165,378	6	123,000	22	692,351	1,808	30,682,763
51	1,625	26,391,974	56	1,175,566	6	93,600	18	480,955	1,705	28,142,095
52	1,760	29,234,668	53	1,134,645	2	31,200	20	562,744	1,835	30,963,257
53	1,767	28,650,837	47	1,044,090	7	109,200	28	747,788	1,849	30,551,915
54	1,765	28,990,374	40	841,243	5	78,000	20	560,104	1,830	30,469,721
55	1,822	29,397,740	35	748,848	12	187,200	21	568,691	1,890	30,902,479
56	1,744	27,996,080	23	469,448	11	196,237	16	505,016	1,794	29,166,781
57	1,719	27,148,709	21	440,002	4	62,400	29	908,003	1,773	28,559,114
58	1,705	26,816,036	14	304,303	5	78,000	22	700,425	1,746	27,898,764
59	1,536	23,355,024	11	267,875	6	123,000	18	464,365	1,571	24,210,264
60	1,573	24,129,554	7	150,664	5	78,000	18	513,411	1,603	24,871,629
61	1,497	22,212,409	4	51,461	7	109,200	19	549,454	1,527	22,922,524
62	1,296	18,879,183	0	0	1	15,600	22	698,293	1,319	19,593,076
63	1,053	15,531,605	0	0	4	62,400	19	592,204	1,076	16,186,209
64	934	13,938,672	1	19,500	3	46,800	11	274,160	949	14,279,132
65	687	10,053,896	1	16,497	1	15,600	22	680,139	711	10,766,132
66	453	6,486,061	0	0	6	95,306	14	307,984	473	6,889,351
67	330	4,423,196	0	0	0	0	15	387,207	345	4,810,403
68	241	3,290,480	1	9,539	4	62,400	14	435,431	260	3,797,850
69	201	2,997,233	0	0	3	46,800	9	317,744	213	3,361,777

SCHEDULE A (2)

ACTIVE MEMBERSHIP as of December 31, 1977

M A L E

CLASS Age 1977	A & B		C		D		E		GRAND TOTAL	
	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary
70	151	\$ 2,166,387	0	\$ 0	0	\$ 0	10	\$ 312,094	161	\$ 2,478,481
71	112	1,596,146	0	0	0	0	3	157,108	115	1,753,254
72	93	1,321,464	0	0	0	0	2	87,398	95	1,408,862
73	66	971,037	0	0	0	0	1	45,500	67	1,016,537
74	64	828,272	0	0	0	0	3	145,000	67	973,272
75	38	504,858	0	0	0	0	1	54,500	39	559,358
76	47	762,035	1	957	0	0	3	136,100	51	899,092
77	27	362,039	0	0	0	0	1	45,550	28	407,589
78	83	665,941	0	0	0	0	1	47,000	84	712,941
79	24	315,696	0	0	0	0	0	0	24	315,696
80	11	117,473	0	0	0	0	0	0	11	117,473
81	9	141,396	0	0	0	0	0	0	9	141,396
82	7	82,025	0	0	0	0	0	0	7	82,025
83	4	59,104	0	0	0	0	0	0	4	59,104
84	3	51,046	0	0	0	0	0	0	3	51,046
85	3	22,668	0	0	0	0	0	0	3	22,668
87	3	21,250	0	0	0	0	0	0	3	21,250
Totals	<u>69,454</u>	<u>\$1,041,308,984</u>	<u>3,427</u>	<u>\$64,000,181</u>	<u>158</u>	<u>\$2,535,109</u>	<u>513</u>	<u>\$14,995,683</u>	<u>73,552</u>	<u>\$1,122,839,957</u>

Average Age 43.77 37.38 51.51 56.04 43.57

Average Salary \$14,993 \$18,675 \$16,045 \$29,231 \$15,266

ACTIVE MEMBERSHIP as of December 31, 1977

F E M A L E

CLASS	A & B		C		D		E		GRAND TOTAL
	Age 1977	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	
17	0	\$ 0	0	\$ 0	0	\$ 0	0	\$ 0	0
18	65	313,116	0	0	0	0	0	0	65
19	310	2,219,325	0	0	0	0	0	0	310
20	559	4,420,774	0	0	0	0	0	0	559
21	820	6,868,933	0	0	0	0	0	0	820
22	1,132	10,094,332	0	0	0	0	0	0	1,132
23	1,495	13,694,666	0	0	0	0	0	0	1,495
24	1,846	17,610,763	0	0	0	0	0	0	1,846
25	1,978	19,582,436	0	0	0	0	0	0	1,978
26	1,955	20,298,194	0	0	0	0	0	0	1,955
27	1,793	18,821,254	1	17,670	0	0	0	0	1,794
28	1,679	18,267,352	7	115,245	0	0	0	0	1,686
29	1,543	17,072,277	2	34,912	0	0	0	0	1,545
30	1,543	17,611,375	2	34,809	0	0	0	0	1,545
31	1,534	17,837,085	3	51,027	0	0	15,612	0	1,538
32	1,021	11,887,036	2	33,401	0	0	0	0	1,023
33	907	10,861,520	2	34,238	0	0	0	0	909
34	944	11,113,876	0	0	0	0	0	0	944
35	1,030	12,151,680	0	0	0	0	0	0	1,030
36	829	9,649,230	0	0	0	0	0	0	829
37	842	10,209,880	0	0	0	0	0	0	842
38	838	9,934,118	0	0	0	0	13,268	0	839
39	881	10,585,992	2	31,093	0	0	0	0	883
40	872	10,656,134	0	0	0	0	12,102	0	873
41	880	10,545,079	0	0	0	0	34,741	0	882
42	836	9,892,767	0	0	0	0	19,500	0	837
43	925	11,322,058	1	11,707	1	15,600	19,500	0	928
44	848	10,211,589	3	47,929	0	0	19,500	0	852

SCHEDULE B (1)

ACTIVE MEMBERSHIP as of December 31, 1977

F E M A L E

CLASS	A & B		C		D		E		GRAND TOTAL
	Age 1977	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	
45	953	11,423,598	0	0	0	2	62,972	955	11,486,570
46	996	12,241,727	0	0	0	3	44,253	999	12,285,980
47	1,071	12,861,111	2	31,626	0	2	34,970	1,075	12,927,707
48	1,084	12,979,783	1	16,967	1	3	53,434	1,089	13,065,784
49	1,095	13,197,685	0	0	0	4	97,804	1,099	13,295,489
50	1,214	14,651,512	0	0	0	4	65,643	1,218	14,717,155
51	1,256	15,309,212	0	0	1	4	65,270	1,261	15,390,082
52	1,245	15,216,579	0	0	1	3	51,493	1,249	15,283,672
53	1,305	15,726,873	2	24,479	0	9	162,934	1,316	15,914,286
54	1,377	16,672,418	0	0	0	4	88,208	1,381	16,760,626
55	1,296	15,936,623	1	12,926	0	1	19,500	1,298	15,969,049
56	1,277	15,446,886	0	0	0	2	33,683	1,279	15,480,569
57	1,298	16,105,677	0	0	0	1	15,492	1,299	16,121,169
58	1,311	15,941,995	1	15,785	0	3	50,640	1,315	16,008,420
59	1,137	13,731,229	2	24,358	1	3	109,500	1,143	13,880,687
60	1,044	12,550,679	1	9,952	0	1	18,599	1,046	12,579,230
61	911	10,831,857	1	13,807	0	0	0	912	10,845,664
62	885	10,579,585	0	0	1	1	10,918	887	10,606,103
63	613	7,239,051	0	0	0	0	0	613	7,239,051
64	488	5,901,112	1	13,807	1	3	74,890	493	6,005,409
65	418	5,079,034	0	0	0	7	153,309	425	5,232,343
66	246	2,794,684	0	0	0	2	39,000	248	2,833,684
67	189	2,246,147	1	12,696	1	1	10,672	192	2,285,115
68	127	1,478,048	0	0	0	0	0	127	1,478,048
69	84	928,197	0	0	0	0	0	84	928,197

SCHEDULE B (2)

ACTIVE MEMBERSHIP as of December 31, 1977

F E M A L E

CLASS	A & B		C		D		E		GRAND TOTAL
	Age 1977	No.	Annual Salary	No.	Annual Salary	No.	Annual Salary	No.	
70		86	\$ 1,014,243	0	\$ 0	0	\$ 0	86	\$ 1,014,243
71		65	717,736	0	0	0	0	65	717,736
72		35	397,454	0	0	0	0	35	397,454
73		30	280,739	0	0	0	0	30	280,739
74		26	251,439	0	0	0	0	26	251,439
75		28	208,566	0	0	0	0	28	208,566
76		22	227,303	0	0	0	0	22	227,303
77		14	127,759	0	0	0	0	14	127,759
78		14	116,306	0	0	0	0	14	116,306
79		6	41,623	0	0	0	0	6	41,623
80		4	31,140	0	0	0	0	4	31,140
81		3	41,370	0	0	0	0	3	41,370
82		2	12,838	0	0	0	0	2	12,838
83		1	3,626	0	0	0	0	1	3,626
84		0	0	0	0	0	0	0	0
85		1	10,299	0	0	0	0	1	10,299
Totals		53,162	\$ 604,286,584	38	\$ 588,434	8	\$ 124,800	71	\$ 1,397,407
Average Age			41.20		40.74		55.75		53.21
Average Salary			\$11,367		\$15,485		\$15,600		\$19,682
									\$ 606,397,225
									41.21
									\$11,382

SCHEDULE B (3)

SUMMARY OF ACTIVE MEMBERS as of DECEMBER 31, 1977

<u>By Sex</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Average Age</u>	<u>Average Annual Salary</u>
Male	73,552	\$1,122,839,957	43.57	\$15,266
Female	53,279	606,397,225	41.21	11,382
Total	126,831	\$1,729,237,182	42.58	\$13,634
<u>By Class</u>				
A & B	122,616	\$1,645,595,568	42.66	\$13,421
C	3,465	64,588,615	37.42	18,640
D	166	2,659,909	51.71	16,024
E	584	16,393,090	55.70	28,070
Total	126,831	\$1,729,237,182	42.58	\$13,634
<u>Class A by Category (Class)</u>				
0 (A & B)	119,369	\$1,591,037,995	42.66	\$13,329
1, 5, 6 (C)	2,916	46,781,489	41.81	16,043
2 (D)	88	1,435,200	42.91	16,309
3, 4 (E)	239	6,259,179	48.83	26,189
Total	122,612	\$1,645,513,863	42.65	\$13,420

SCHEDULE C

SUPERANNUATION ANNUITIES as of DECEMBER 31, 1977

MALE MEMBERS

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefit		
			1968	1974 on 1968	1974
47	3	\$ 707.74	\$ 0	\$ 0	\$ 30.08
50	4	3,459.71	0	0	0
51	14	10,379.77	0	0	0
52	28	23,526.09	0	0	11.58
53	35	25,721.97	0	0	4.29
54	40	29,759.97	0	0	261.05
55	47	34,819.31	0	0	515.57
56	56	39,560.89	0	0	340.82
57	54	39,486.42	0	0	512.12
58	68	51,077.79	0	0	1,296.10
59	40	31,938.92	0	0	807.12
60	81	56,699.82	0	0	1,284.10
61	262	152,427.65	0	0	1,504.63
62	403	199,819.02	73.34	22.01	3,338.76
63	759	330,698.14	259.74	77.93	4,225.92
64	898	345,648.47	540.51	162.17	6,426.25
65	1,069	361,263.47	349.15	104.74	7,126.58
66	1,226	425,712.81	512.13	153.64	9,459.74
67	1,362	412,181.16	672.66	201.81	14,069.70
68	1,375	419,371.65	416.88	125.07	16,323.16
69	1,197	347,369.12	578.91	173.67	20,689.12
70	1,205	350,511.95	439.54	131.87	25,843.62
71	1,130	294,057.94	481.92	144.61	26,547.91
72	1,020	262,976.51	895.47	268.69	26,754.32
73	848	205,896.77	1,424.62	427.38	27,320.68
74	723	169,767.86	1,454.05	436.20	25,176.11
75	715	157,549.41	2,017.94	604.75	26,738.25
76	537	122,848.01	2,521.29	756.50	22,243.71
77	472	116,983.69	2,100.68	630.30	20,481.27
78	395	76,925.03	2,877.63	863.37	16,989.10
79	356	82,459.22	3,014.21	903.14	16,426.21
80	265	51,415.75	2,878.94	863.74	11,686.24
81	225	46,033.44	2,516.36	754.96	9,685.07
82	212	39,816.00	3,231.65	969.60	9,454.04
83	185	38,618.30	3,506.13	1,051.96	8,589.32
84	157	31,147.00	3,121.87	935.51	7,498.18
85	122	28,898.50	2,426.97	721.90	5,855.32
86	99	19,800.29	2,393.34	717.99	5,130.21
87	72	14,251.62	1,734.38	520.36	3,195.34
88	44	10,433.03	1,177.16	353.19	2,681.36
89	34	5,951.58	586.86	176.06	1,032.21
90	35	5,295.63	970.80	291.24	1,372.55
91	19	2,687.62	751.53	225.47	780.04
92	15	1,991.16	531.53	159.48	597.34
93	9	1,215.15	285.23	85.57	319.11
94	5	1,203.44	131.81	39.54	175.96

SUPERANNUATION ANNUITIES as of DECEMBER 31, 1977

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefit</u>		
			<u>1968</u>	<u>1974 on 196</u>	<u>1974</u>
95	6	598.52	86.83	26.06	179.58
96	4	494.80	66.85	20.06	134.48
97	3	2,404.52	217.30	65.19	721.35
98	4	663.48	133.38	40.02	199.06
99	1	39.06	5.78	1.73	11.72
100	1	36.00	12.75	3.83	10.80
102	1	732.09	59.52	17.86	219.63
104	1	133.92	21.28	6.38	40.18
Total	<u>17,941</u>	<u>\$5,485,467.18</u>	<u>\$47,478.92</u>	<u>\$14,235.55</u>	<u>\$392,316.96</u>

SCHEDULE D(2)

SUPERANNUATION ANNUITIES TO SURVIVING BENEFICIARIES as of DECEMBER 31, 1977

MALES

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefit</u>		
			<u>1968</u>	<u>1974 on 1968</u>	<u>1974</u>
12	1	\$ 124.11	0	0	\$ 0
15	1	184.66	0	0	0
18	1	184.66	0	0	0
22	1	179.58	0	0	0
27	1	22.33	0	0	0
29	1	310.34	0	0	0
31	1	303.05	0	0	0
32	2	751.64	0	0	31.56
33	2	699.94	0	0	0
34	1	493.30	0	0	0
36	2	191.35	0	0	0
37	5	646.27	0	0	0
39	2	482.18	0	0	23.45
40	1	114.87	0	0	0
41	3	434.47	0	0	0
45	3	724.49	0	0	0
46	2	319.14	0	0	0
49	2	189.33	0	0	0
50	1	563.27	0	0	0
52	1	70.12	0	0	0
53	2	93.82	0	0	0
54	1	82.59	0	0	0
56	5	1,132.13	0	0	22.83
57	1	94.44	0	0	0
59	2	91.43	0	0	4.08
60	1	591.04	0	0	0
61	2	2,061.95	0	0	0
62	4	1,175.97	0	0	9.31
63	3	1,171.31	0	0	0
64	2	802.35	0	0	0
65	4	1,875.99	0	0	22.11
66	6	1,505.84	0	0	0
67	8	3,341.40	0	0	256.83
68	4	1,370.39	0	0	0
69	1	701.45	0	0	0
70	5	1,843.24	0	0	0
71	2	819.41	0	0	9.05
72	4	1,023.19	0	0	19.49
73	1	37.98	0	0	0
74	2	197.59	0	0	24.64
75	6	1,128.80	0	0	125.67
78	2	420.24	0	0	0
79	1	63.73	0	0	0
80	5	1,405.20	0	0	0
81	2	82.81	0	0	9.71
82	2	242.84	0	0	61.50
83	1	86.31	0	0	0
85	2	251.87	0	0	75.55
104	1	192.31	0	0	0
105	1	402.56	0	0	0
106	2	813.97	0	0	0
109	1	147.64	0	0	0
TOTAL	<u>120</u>	<u>\$32,240.89</u>	<u>0</u>	<u>0</u>	<u>\$695.78</u>

SUPERANNUATION ANNUITIES as of DECEMBER 31, 1977

FEMALE MEMBERS

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefit		
			1968	1974 on 1968	1974
52	1	\$ 134.80	\$ 0	\$ 0	\$ 0
54	3	1,640.48	0	0	0
55	3	2,040.76	0	0	33.49
56	2	1,398.01	0	0	0
57	9	5,857.07	0	0	0
58	11	8,596.62	0	0	8.68
59	16	11,816.85	0	0	0
60	28	12,707.76	0	0	0
61	182	59,238.77	13.98	4.19	90.92
62	301	97,697.05	.75	.23	30.16
63	607	188,939.55	0	0	64.60
64	681	193,628.51	9.90	2.97	1,022.84
65	706	199,780.11	0	0	2,566.75
66	822	218,754.77	10.50	3.15	3,936.09
67	808	209,965.46	7.46	2.24	5,756.60
68	775	201,095.16	0	0	7,785.77
69	708	171,120.29	0	0	10,222.58
70	687	157,682.83	25.21	7.56	12,256.01
71	640	136,196.75	32.85	9.85	14,601.92
72	537	107,751.20	158.92	47.67	13,630.27
73	503	96,388.45	381.08	114.39	13,886.45
74	430	81,188.13	692.04	207.70	12,316.41
75	401	72,760.71	942.85	281.59	12,067.23
76	295	54,745.67	1,119.19	335.78	11,463.16
77	286	51,829.76	1,475.16	442.70	10,026.64
78	260	45,633.86	1,699.68	510.03	9,051.09
79	220	36,014.24	2,183.34	655.10	8,306.11
80	194	27,930.39	1,747.35	523.39	6,772.06
81	191	29,327.00	2,186.31	649.38	6,434.74
82	156	20,451.19	2,225.86	667.63	5,360.22
83	134	18,600.81	2,095.23	628.64	4,835.16
84	123	15,329.63	2,030.09	609.08	3,790.50
85	100	14,439.54	1,921.16	574.94	3,687.00
86	74	8,773.95	1,404.20	421.28	2,427.96
87	59	8,787.75	1,358.25	407.49	2,405.76
88	55	6,664.72	965.73	289.71	1,590.58
89	39	4,319.85	725.49	217.65	1,178.29
90	30	3,445.30	707.97	212.41	1,018.14
91	12	960.19	263.14	78.94	288.07
92	21	2,546.12	561.79	168.57	763.85
93	10	1,037.86	214.10	64.23	298.20
94	12	1,228.46	462.11	138.64	368.52
95	3	269.44	97.73	29.32	80.83
96	2	538.08	44.77	13.43	161.43
97	4	455.04	53.18	15.96	136.50
99	1	66.78	48.32	7.25	10.01
Total	11,142	\$2,589,775.72	\$27,865.69	\$8,343.09	\$190,751.59

SCHEDULE F

SUPERANNUATION ANNUITIES TO SURVIVING BENEFICIARIES as of DECEMBER 31, 1977

FEMALES

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefit		
			1968	1974 on 1968	1974
11	4	\$ 554.09	0	0	\$ 0
12	2	321.88	0	0	0
13	1	421.83	0	0	0
15	1	196.51	0	0	0
16	1	131.10	0	0	0
25	1	178.48	0	0	0
27	2	341.06	0	0	6.18
28	3	376.24	0	0	0
29	2	803.09	0	0	0
30	1	299.03	0	0	0
31	1	366.98	0	0	0
32	0	0	0	0	0
33	1	227.16	0	0	0
34	1	132.98	0	0	0
35	1	31.50	0	0	0
36	1	115.29	0	0	0
37	2	1,066.61	0	0	0
38	1	254.19	0	0	0
39	1	157.44	0	0	0
40	1	70.12	0	0	0
41	3	660.83	0	0	7.61
42	2	238.93	0	0	0
43	3	205.67	0	0	0
44	1	139.08	0	0	0
45	2	322.76	0	0	0
46	3	521.92	0	0	0
47	5	781.22	0	0	0
48	5	606.12	0	0	0
49	5	1,174.04	0	0	0
50	8	1,938.47	0	0	0
51	17	4,269.51	0	0	107.40
52	11	1,716.34	0	0	46.30
53	18	4,671.01	0	0	26.61
54	14	3,615.60	0	0	0
55	9	2,968.01	0	0	0
56	28	6,757.20	0	0	42.88
57	23	5,159.15	0	0	133.60
58	48	12,945.41	0	0	207.52
59	36	10,497.82	0	0	207.53
60	41	13,768.84	0	0	104.43
61	53	11,755.54	0	0	45.99
62	90	25,919.07	0	0	185.26
63	79	24,122.15	0	0	391.16
64	89	20,886.16	0	0	297.34
65	90	26,897.43	0	0	350.32
66	98	22,691.87	0	0	641.37
67	104	26,542.39	0	0	615.49
68	112	27,719.86	0	0	587.31
69	106	25,724.06	0	0	662.99
70	121	27,492.07	0	0	826.35
71	121	22,013.40	0	0	1,091.27
72	111	24,123.28	0	0	786.66
73	91	16,805.15	0	0	598.10
74	96	16,924.82	0	0	765.44

SUPERANNUATION ANNUITIES TO SURVIVING BENEFICIARIES as of DECEMBER 31, 1977

FEMALES

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefit		
			1968	1974 on 1968	1974
75	98	\$ 22,045.72	0	0	\$ 1,028.19
76	94	19,039.15	0	0	855.35
77	95	16,585.81	0	0	848.96
78	84	12,747.24	0	0	536.72
79	75	11,101.81	0	0	475.79
80	76	13,004.42	0	0	633.22
81	71	12,237.78	0	0	375.23
82	53	8,974.57	0	0	204.98
83	60	6,909.50	0	0	64.83
84	38	5,231.07	0	0	188.54
85	37	5,547.45	0	0	351.04
86	24	2,266.04	0	0	90.36
87	38	4,318.69	0	0	69.61
88	19	2,148.95	0	0	12.46
89	14	1,661.17	0	0	3.63
90	17	2,925.75	0	0	24.49
91	10	994.15	0	0	11.04
92	10	2,575.23	0	0	74.98
93	12	1,003.22	0	0	0
94	2	107.00	0	0	0
95	4	628.10	0	0	84.57
96	1	278.94	0	0	83.69
97	0	0	0	0	0
98	1	45.00	0	0	0
99	1	131.55	0	0	0
100	1	104.16	0	0	31.25
103	1	117.67	0	0	0
104	4	1,524.87	0	0	0
105	1	932.73	0	0	0
106	1	153.37	0	0	0
107	3	531.26	0	0	0
109	1	147.64	0	0	0
110	1	96.06	0	0	0
Total	<u>2,618</u>	<u>\$554,736.83</u>	<u>0</u>	<u>0</u>	<u>\$14,784.04</u>

DISABILITY ANNUITIES as of DECEMBER 31, 1977

MALE MEMBERS

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefit		
			1968	1974 on 1968	1974
28	2	\$ 539.85	0	\$ 0	0
29	2	446.05	0	0	0
31	2	479.31	0	0	12.69
32	3	895.54	0	0	0
34	3	898.26	0	0	0
35	4	1,368.83	0	0	0
36	2	558.32	0	0	0
37	8	1,680.21	0	0	68.35
38	7	1,818.88	0	0	22.61
39	5	1,305.09	0	0	0
40	5	1,006.90	0	0	29.96
41	6	1,563.33	0	0	20.88
42	7	2,106.48	0	0	0
43	6	1,218.42	0	0	32.56
44	13	3,446.99	0	0	27.70
45	15	3,977.53	21.74	6.53	172.13
46	12	3,395.53	.97	.29	64.68
47	17	4,425.44	12.57	3.77	105.97
48	23	6,753.19	0	0	130.99
49	24	7,215.98	21.06	6.32	116.61
50	34	10,653.72	0	0	157.44
51	29	8,731.62	0	0	134.93
52	40	13,715.34	0	0	206.52
53	36	11,912.53	0	0	343.48
54	54	16,041.95	10.82	3.25	403.66
55	54	17,399.70	30.81	9.24	404.59
56	65	19,882.02	0	0	201.90
57	72	19,651.15	7.89	2.37	420.28
58	72	21,644.21	10.08	3.02	448.61
59	94	25,034.69	42.95	12.90	653.08
60	105	28,635.65	46.96	14.09	494.01
61	84	21,519.21	7.20	2.16	508.97
62	50	11,269.88	43.47	13.04	574.99
63	63	11,790.35	93.73	28.14	1,092.13
64	54	9,452.09	49.84	14.95	949.79
65	43	6,603.85	72.31	21.71	911.38
66	31	3,974.34	71.99	21.60	657.16
67	23	2,074.19	75.47	22.65	433.63
68	13	1,301.50	92.43	27.73	355.30
69	12	994.61	141.17	42.36	281.95
70	12	1,029.85	79.81	23.94	306.03
71	16	1,504.76	209.23	62.77	451.46
72	16	1,231.66	188.02	56.42	369.50
73	8	589.16	117.47	35.25	176.75
74	10	679.73	110.38	33.10	203.93
75	2	307.24	36.00	10.80	92.18
76	1	57.18	9.14	2.74	17.15
77	4	404.43	204.90	61.47	121.32
78	2	140.99	72.54	21.76	42.30
79	2	139.99	93.48	28.04	42.00
82	1	57.36	86.04	25.81	17.21
83	3	202.79	115.89	34.77	60.84
87	1	38.43	53.41	16.02	11.53
Total	1,272	\$313,766.30	\$2,229.77	\$669.01	\$12,351.13

DISABILITY ANNUITIES as of DECEMBER 31, 1977

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefit</u>		
			<u>1968</u>	<u>1974 on 1968</u>	<u>1974</u>
27	1	\$ 199.65	\$ 0	\$ 0	\$ 0
28	1	391.80	0	0	0
30	3	625.21	0	0	0
31	1	273.91	0	0	0
32	2	392.14	0	0	6.93
33	1	234.12	0	0	0
34	4	986.98	0	0	9.22
35	4	845.51	0	0	12.29
36	2	234.74	0	0	25.69
37	4	878.04	0	0	0
38	2	663.05	0	0	0
39	2	482.05	0	0	0
40	5	965.21	1.03	.31	38.70
41	2	460.79	0	0	0
42	7	1,494.78	0	0	23.22
43	4	847.06	0	0	30.43
44	3	847.51	0	0	19.97
45	6	1,194.84	0	0	51.53
46	9	1,398.34	0	0	103.56
47	12	2,354.81	3.53	1.06	77.12
48	3	510.58	0	0	37.02
49	9	1,675.73	3.80	1.14	106.10
50	19	3,992.47	8.94	2.69	127.94
51	18	4,308.13	10.92	3.28	43.35
52	29	6,947.11	0	0	109.63
53	40	11,741.97	7.35	2.21	247.33
54	40	9,671.44	17.97	5.40	226.94
55	49	10,491.06	34.07	10.22	416.66
56	55	14,072.60	4.00	1.20	335.26
57	38	7,548.97	24.96	7.49	305.72
58	69	16,647.52	11.82	3.54	509.93
59	52	11,711.59	20.15	6.05	394.99
60	65	14,280.69	13.38	4.01	397.42
61	50	8,539.49	34.19	10.26	402.59
62	52	10,940.93	19.81	5.95	593.86
63	46	6,513.72	99.91	29.98	743.70
64	42	5,787.19	63.59	19.07	662.24
65	40	5,538.71	88.64	26.59	825.75
66	30	2,306.26	144.43	43.33	524.78
67	20	1,978.37	141.31	42.41	498.53
68	21	2,016.13	81.54	24.46	511.25
69	14	1,273.27	141.48	42.45	372.61
70	15	1,192.13	160.97	48.30	336.61
71	11	892.18	136.29	40.88	267.68
72	8	593.38	61.05	18.32	178.00
73	4	205.27	68.72	20.63	61.59
74	10	622.84	102.80	30.86	186.86
75	3	141.82	60.52	18.15	42.55
76	7	455.83	197.46	59.25	136.74
77	4	271.23	76.84	23.04	81.37
78	2	123.10	27.15	8.15	36.94
79	3	211.29	78.31	23.49	63.38

SCHEDULE I(1)

DISABILITY ANNUITIES as of DECEMBER 31, 1977

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefit</u>		
			<u>1968</u>	<u>1974 on 1968</u>	<u>1974</u>
80	5	\$ 337.97	\$ 154.18	\$ 45.38	\$ 99.70
81	4	267.35	99.04	29.71	80.21
83	1	64.39	14.81	4.44	19.32
86	2	139.17	85.16	25.55	41.75
87	1	46.33	16.41	4.92	13.90
91	1	40.33	27.16	8.15	12.10
Totals	<u>957</u>	<u>\$179,869.08</u>	<u>\$2,343.72</u>	<u>\$ 702.32</u>	<u>\$10,450.96</u>

SCHEDULE I(2)

DISABILITY ANNUITIES TO SURVIVING BENEFICIARIES as of DECEMBER 31, 1977

MALES

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefit		
			1968	1974 on 1968	1974
46	1	\$ 456.88	0	0	0
49	1	129.02	0	0	0
51	1	226.26	0	0	0
59	1	148.30	0	0	0
61	1	151.06	0	0	0
64	1	177.53	0	0	0
65	1	120.04	0	0	0
67	2	588.14	0	0	0
68	1	138.38	0	0	0
76	1	335.14	0	0	0
78	1	188.20	0	0	0
83	1	129.02	0	0	0
Totals	<u>13</u>	<u>\$ 2,787.97</u>	<u>0</u>	<u>0</u>	<u>0</u>

FEMALES

14	1	\$ 111.14	0	0	0
23	1	602.51	0	0	0
31	1	38.54	0	0	0
33	1	108.51	0	0	0
44	1	164.19	0	0	0
49	1	643.28	0	0	0
50	1	95.20	0	0	0
51	3	856.22	0	0	0
52	2	620.62	0	0	0
53	4	941.61	0	0	0
54	1	108.82	0	0	0
55	2	390.77	0	0	0
56	1	138.20	0	0	0
57	5	1,167.69	0	0	0
58	5	1,226.78	0	0	0
59	3	844.44	0	0	0
60	4	877.16	0	0	0
61	2	523.99	0	0	0
62	1	77.31	0	0	0
63	2	984.91	0	0	0
64	3	1,074.16	0	0	0
65	1	225.46	0	0	0
66	2	562.59	0	0	0
68	2	828.88	0	0	0
69	1	310.78	0	0	0
71	1	144.18	0	0	0
75	1	129.02	0	0	0
102	1	238.50	0	0	0
Total	<u>54</u>	<u>\$ 14,035.46</u>	<u>0</u>	<u>0</u>	<u>0</u>

WITHDRAWAL ANNUITIES as of DECEMBER 31, 1977

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefit</u>		
			<u>1968</u>	<u>1974 on 1968</u>	<u>1974</u>
30	2	\$ 66.73	\$ 0	\$ 0	\$ 0
31	6	247.17	0	0	0
32	9	429.95	0	0	0
33	4	214.59	0	0	0
34	9	426.36	0	0	0
35	11	651.78	0	0	0
36	15	1,207.45	0	0	0
37	15	676.37	0	0	0
38	14	1,314.66	0	0	0
39	10	829.91	0	0	0
40	16	1,246.17	0	0	21.04
41	11	1,061.33	0	0	0
42	15	1,710.50	0	0	0
43	26	2,043.51	0	0	0
44	18	1,522.09	0	0	0
45	21	3,629.37	0	0	0
46	26	4,775.94	0	0	0
47	22	3,193.77	0	0	0
48	27	5,928.44	0	0	0
49	29	4,995.86	0	0	0
50	33	8,620.02	0	0	0
51	30	6,604.16	0	0	0
52	32	8,326.93	0	0	79.10
53	46	12,140.49	0	0	124.14
54	42	9,941.23	0	0	61.91
55	34	9,938.70	0	0	146.02
56	54	15,837.71	0	0	124.31
57	82	31,089.61	0	0	306.67
58	90	26,036.36	0	0	296.05
59	77	25,721.49	0	0	131.99
60	100	34,212.27	0	0	430.19
61	108	33,274.26	0	0	2,190.70
62	101	30,751.31	0	0	2,401.51
63	106	32,439.72	0	0	2,926.66
64	85	23,398.38	0	0	2,463.48
65	87	20,611.56	0	0	2,694.60
66	76	19,110.85	0	0	2,686.19
67	71	13,172.61	0	0	2,621.07
68	53	7,945.63	0	0	1,969.56
69	70	9,497.30	0	0	2,560.75
70	48	5,359.54	0	0	1,575.12
71	51	6,256.97	0	0	1,877.19
72	40	4,981.94	0	0	1,494.61
73	43	4,354.13	0	0	1,270.78
74	38	4,478.01	0	0	1,243.32
75	32	2,689.88	0	0	806.99
76	26	1,445.77	0	0	422.76
77	29	2,221.36	0	0	666.45
78	36	2,867.16	0	0	860.19
79	26	1,749.34	0	0	524.80

SCHEDULE K(1)

WITHDRAWAL ANNUITIES as of DECEMBER 31, 1977

MALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefit</u>		
			<u>1968</u>	<u>1974 on 1968</u>	<u>1974</u>
80	30	2,479.49	0	0	743.89
81	30	2,668.11	0	0	800.48
82	20	1,769.60	0	0	530.90
83	7	468.00	0	0	140.41
84	3	546.27	0	0	163.89
85	1	23.33	0	0	7.00
86	2	128.66	0	0	38.59
87	1	76.24	0	0	22.87
88	2	380.87	0	0	114.27
89	2	199.53	0	0	59.86
90	1	36.91	0	0	11.08
91	1	87.26	0	0	26.18
93	1	120.06	0	0	36.01
Totals	<u>2,153</u>	<u>\$460,230.97</u>	<u>0</u>	<u>0</u>	<u>\$37,673.58</u>

SCHEDULE K(2)

WITHDRAWAL ANNUITIES TO SURVIVING BENEFICIARIES as of DECEMBER 31, 1977

MALES

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefit</u>		
			<u>1968</u>	<u>1974 on 1968</u>	<u>1974</u>
18	1	\$ 99.52	0	0	0
19	2	212.30	0	0	0
21	1	210.10	0	0	0
23	1	157.21	0	0	0
24	2	382.69	0	0	0
28	1	91.90	0	0	0
32	1	192.08	0	0	0
33	1	13.05	0	0	0
34	1	156.69	0	0	0
36	1	564.02	0	0	0
38	1	38.43	0	0	0
39	1	126.26	0	0	0
40	1	182.04	0	0	0
51	2	935.27	0	0	0
53	1	274.78	0	0	0
55	1	451.37	0	0	0
56	1	216.62	0	0	0
57	2	731.84	0	0	0
58	2	2,578.06	0	0	0
60	3	1,506.27	0	0	0
61	1	1,282.95	0	0	0
62	2	225.90	0	0	0
63	2	590.33	0	0	0
65	1	445.09	0	0	0
67	2	998.87	0	0	0
68	2	1,011.04	0	0	0
69	2	1,785.76	0	0	0
70	3	652.48	0	0	0
72	1	162.62	0	0	0
73	1	354.65	0	0	0
74	1	64.16	0	0	0
79	1	187.79	0	0	0
86	1	77.43	0	0	0
107	1	402.98	0	0	0
108	1	153.09	0	0	0
109	1	93.93	0	0	0
Total	<u>50</u>	<u>\$17,609.57</u>	<u>0</u>	<u>0</u>	<u>0</u>

SCHEDULE L

WITHDRAWAL ANNUITIES as of DECEMBER 31, 1977

FEMALE MEMBERS

Age	Number	Basic Monthly Benefit	Supplemental Monthly Benefits		
			1968	1974 on 1968	1974
28	1	\$ 29.64	\$ 0	\$ 0	\$ 0
29	6	204.43	0	0	0
30	4	110.69	0	0	0
31	11	367.93	0	0	0
32	8	291.21	0	0	0
33	2	61.26	0	0	0
34	8	334.30	0	0	0
35	7	310.59	0	0	0
36	9	440.19	0	0	0
37	8	399.92	0	0	0
38	8	591.64	0	0	0
39	3	237.14	0	0	0
40	4	203.35	0	0	0
41	3	167.17	0	0	0
42	7	457.97	0	0	0
43	7	496.48	0	0	0
44	3	238.01	0	0	0
45	13	1,117.66	0	0	0
46	12	1,242.26	0	0	0
47	14	1,550.34	0	0	0
48	15	2,361.44	0	0	0
49	19	1,868.53	0	0	0
50	17	2,087.68	0	0	0
51	29	3,790.36	0	0	0
52	35	5,087.86	0	0	0
53	25	4,440.45	0	0	0
54	39	5,384.54	0	0	12.89
55	43	8,285.91	0	0	0
56	50	8,902.70	0	0	0
57	76	14,824.78	0	0	45.55
58	75	18,720.31	0	0	0
59	99	28,135.03	0	0	0
60	110	29,562.14	0	0	0
61	98	25,500.40	0	0	628.71
62	85	30,153.35	0	0	801.55
63	63	20,682.84	0	0	1,005.48
64	53	14,752.69	0	0	1,415.79
65	53	12,717.17	0	0	1,601.05
66	59	15,329.06	0	0	2,287.36
67	54	12,023.25	0	0	2,277.34
68	38	6,006.22	0	0	1,470.16
69	39	5,624.89	0	0	1,497.69
70	31	4,491.46	0	0	1,293.54
71	34	4,176.24	5.23	1.57	1,158.56
72	31	3,387.91	0	0	989.20
73	22	1,503.36	0	0	451.04
74	24	2,713.64	0	0	785.87

SCHEDULE M (1)

WITHDRAWAL ANNUITIES as of DECEMBER 31, 1977

FEMALE MEMBERS

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>		
			<u>1968</u>	<u>1974 on 1968</u>	<u>1974</u>
75	22	\$ 2,277.20	\$ 0	\$ 0	\$ 658.93
76	10	736.89	0	0	200.09
77	15	969.51	0	0	290.87
78	20	1,649.27	0	0	494.81
79	16	1,210.61	0	0	363.20
80	9	599.80	0	0	179.93
81	6	449.95	0	0	134.98
82	8	479.71	0	0	143.92
83	2	100.92	0	0	30.28
84	3	100.18	0	0	30.05
85	6	419.09	0	0	125.72
86	1	225.23	0	0	67.57
87	1	16.22	0	0	4.87
88	1	70.07	0	0	21.02
89	1	65.80	0	0	19.74
90	4	96.84	0	0	29.05
91	2	40.52	0	0	12.16
92	1	19.81	0	0	5.94
93	3	123.58	0	0	37.08
94	1	48.35	0	0	14.51
101	1	90.68	0	0	27.21
Totals	<u>1,587</u>	<u>\$311,156.62</u>	<u>\$5.23</u>	<u>\$1.57</u>	<u>\$20,613.71</u>

SCHEDULE M (2)

WITHDRAWAL ANNUITIES TO SURVIVING BENEFICIARIES as of DECEMBER 31, 1977

FEMALES

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>		
			<u>1968</u>	<u>1974 on 1968</u>	<u>1974</u>
11	3	\$ 451.55	\$ 0	\$ 0	\$ 0
12	1	158.98	0	0	0
14	2	519.92	0	0	0
21	1	99.52	0	0	0
23	1	99.52	0	0	0
26	1	264.70	0	0	0
28	1	248.31	0	0	0
30	1	311.30	0	0	0
31	2	1,227.13	0	0	0
32	1	529.01	0	0	0
34	2	624.49	0	0	0
35	1	93.92	0	0	0
37	2	679.64	0	0	0
38	1	125.35	0	0	0
40	2	284.56	0	0	0
41	3	3,652.96	0	0	0
42	3	192.71	0	0	0
43	1	400.76	0	0	0
44	2	2,260.92	0	0	0
45	3	291.85	0	0	0
46	2	984.68	0	0	0
47	8	3,843.57	0	0	0
48	11	2,765.83	0	0	0
49	9	2,816.01	0	0	0
50	8	1,764.86	0	0	6.35
51	9	2,296.26	0	0	0
52	2	898.13	0	0	0
53	18	6,919.08	0	0	0
54	17	7,336.21	0	0	0
55	18	5,626.88	0	0	0
56	15	5,295.39	0	0	0
57	22	6,276.57	0	0	0
58	17	5,858.77	0	0	0
59	22	5,786.16	0	0	0
60	25	8,088.34	0	0	28.40
61	15	4,063.21	0	0	20.99
62	21	6,711.47	0	0	0
63	25	6,900.37	0	0	46.63
64	19	4,791.32	0	0	66.75
65	27	6,692.36	0	0	80.03
66	28	7,019.70	0	0	95.68
67	13	2,411.55	0	0	0
68	20	3,443.79	0	0	63.35
69	23	4,256.75	0	0	70.16

SCHEDULE N (1)

WITHDRAWAL ANNUITIES TO SURVIVING BENEFICIARIES as of DECEMBER 31, 1977

FEMALES

<u>Age</u>	<u>Number</u>	<u>Basic Monthly Benefit</u>	<u>Supplemental Monthly Benefits</u>		
			<u>1968</u>	<u>1974 on 1968</u>	<u>1974</u>
70	19	\$ 2,747.88	0	0	\$ 43.26
71	17	2,217.23	0	0	11.06
72	21	2,117.87	0	0	66.43
73	20	2,375.58	0	0	13.07
74	10	1,181.85	0	0	0
75	16	1,648.79	0	0	28.97
76	10	940.51	0	0	40.45
77	16	1,910.28	0	0	66.32
78	10	1,368.13	0	0	54.98
79	4	527.13	0	0	84.42
80	2	96.51	0	0	0
81	2	233.97	0	0	6.41
82	4	458.63	0	0	20.24
83	0	0	0	0	0
84	1	109.19	0	0	0
85	2	223.32	0	0	0
104	1	157.21	0	0	0
106	1	226.07	0	0	0
107	1	140.45	0	0	0
109	2	217.32	0	0	0
Totals	<u>587</u>	<u>\$144,262.28</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 913.95</u>

SCHEDULE N (1)

SUMMARY OF ANNUITIES as of DECEMBER 31, 1977

	Number	Basic Monthly Benefit	Supplemental Monthly Benefit		Total	Age	Average
			1968	1974 on 1968			1974
<u>Superannuation</u>							
Male	17,941	\$ 5,485,467.18	\$47,478.92	\$14,235.55	\$ 5,939,498.61	70.27	\$305.75
Female	11,142	2,589,775.72	27,865.69	8,343.09	2,816,736.09	70.62	232.43
Surviving							
Beneficiaries:							
Male	120	32,240.89	0	0	32,936.67	61.11	268.67
Female	2,618	554,736.83	0	0	569,520.87	70.90	211.89
Total	31,821	8,662,220.62	75,344.61	22,578.64	9,358,692.24	70.41	272.22
<u>Disability</u>							
Male	1,272	313,766.30	2,229.77	669.01	329,016.21	57.78	246.67
Female	957	179,869.08	2,343.72	702.32	193,366.08	58.97	187.95
Surviving							
Beneficiaries:							
Male	13	2,787.97	0	0	2,787.97	64.15	214.46
Female	54	14,035.46	0	0	14,035.46	56.98	259.92
Total	2,296	510,458.81	4,573.49	1,371.33	539,205.72	58.29	222.33
<u>Withdrawal</u>							
Male	2,153	460,230.97	0	0	497,904.55	61.39	213.76
Female	1,587	311,156.62	5.23	1.57	331,777.13	60.83	196.06
Surviving							
Beneficiaries:							
Male	50	17,609.57	0	0	17,609.57	56.12	352.19
Female	587	144,262.28	0	0	145,176.23	65.13	245.76
Total	4,377	933,259.44	5.23	1.57	992,467.48	61.63	213.22
TOTAL ANNUITIES	38,494	\$10,105,938.87	\$79,923.33	\$23,951.54	\$10,890,365.44	68.69	\$262.53

C o m p a r i s o n o f M e m b e r s h i p						
	As of December 31, 1972		As of December 31, 1973		As of December 31, 1974	
	Number	Salary	Number	Salary	Number	Salary
<u>ACTIVE MEMBERS</u>						
Male	73,158	\$ 802,894,998	67,819	\$ 780,691,327	63,101	\$ 794,712,154
Female	48,349	396,390,129	45,860	403,287,896	42,420	412,269,253
<u>Total Membership</u> <u>and Salaries</u>	<u>121,507</u>	<u>\$1,199,285,127</u>	<u>113,679</u>	<u>\$1,183,979,223</u>	<u>105,521</u>	<u>\$1,206,981,407</u>

ANNUITANTS

Total Annuityants	24,693	26,724	28,774
<u>TOTAL MEMBERSHIP</u>	<u>146,200</u>	<u>140,403</u>	<u>134,295</u>

SCHEDULE P (1)

<u>C o m p a r i s o n o f M e m b e r s h i p</u>						
	<u>As of December 31, 1975</u>		<u>As of December 31, 1976</u>		<u>As of December 31, 1977</u>	
	<u>Number</u>	<u>Salary</u>	<u>Number</u>	<u>Salary</u>	<u>Number</u>	<u>Salary</u>
<u>ACTIVE MEMBERS</u>						
Male	75,778	\$ 969,925,816	74,974	\$1,061,361,348	73,552	\$1,122,839,957
Female	53,618	504,155,690	53,701	566,265,724	53,279	606,397,225
<u>Total Membership</u> <u>and Salaries</u>	<u>129,396</u>	<u>\$1,474,081,506</u>	<u>128,675</u>	<u>\$1,627,627,072</u>	<u>126,831</u>	<u>\$1,729,237,182</u>
<u>ANNUITANTS</u>						
Total Annuityants	31,312		34,761		38,494	
<u>TOTAL MEMBERSHIP</u>	<u>160,708</u>		<u>163,436</u>		<u>165,325</u>	

SCHEDULE P (2)

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:

Eligible 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	
	<u>Prior to 1/1/73</u>	<u>On and After 1/1/73</u>
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 of Social Security Integration credits. "Average Non-Covered Salary" is the average annual salary

SCHEDULE Q (2)

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.

SCHEDULE Q (4)

A percentage cost-of-living increase was also applied as of July 1, 1968 to the benefits of annuitants in receipt of superannuation and disability allowances which became effective prior to January 1, 1967. The percentages varied according to year of retirement and began with 1% increase for those retiring in 1966 and increased to 150% for those who retired in 1933 and earlier. Such supplemental benefit was based on the single life benefits payable to member annuitants and discontinued at their death.

A percentage cost-of-living increase was applied as of July 1, 1974 to the benefits of annuitants in receipt of superannuation or disability allowances which became effective prior to July 1, 1972. The percentages varied according to year of retirement and began with a 5% increase for those retired between July 1, 1971 and June 30, 1972 and increased to 30% for those who retired prior to July 1, 1957. Such cost-of-living supplements are payable under the terms and conditions as provided under the option plan in effect as of July 1, 1974. Such supplemental annuities are also payable to withdrawal annuitants beginning after superannuation age (but not prior to 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%

SCHEDULE Q (5)

(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, a contribution is required to fund the Supplemental Allowance effective in 1968 over 20 years from July, 1969 and the Supplemental Allowance effective in 1974 over 20 years from July, 1974.

SCHEDULE Q (6)

ACTUARIAL ASSUMPTIONS

Interest Rate: 5½% 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:

<u>CLASS*</u>	<u>AGE</u>	<u>R A T E S O F S E P A R A T I O N D U E T O</u>				<u>SALARY SCALE</u>
		<u>Withdrawal</u>	<u>Death</u>	<u>Disability</u>	<u>Retirement</u>	
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).