

REPORT ON AN ACTUARIAL VALUATION OF THE
SOUTH CAROLINA POLICE OFFICERS
RETIREMENT SYSTEM
PREPARED AS OF JUNE 30, 1969
TOGETHER WITH A STATEMENT OF THE
RESULTS OF AN EXPERIENCE INVESTIGATION

GEORGE B. BUCK CONSULTING ACTUARIES, INC.
EMPLOYEE BENEFIT PLAN CONSULTANTS
TWO PENNSYLVANIA PLAZA, NEW YORK, NEW YORK 10001

AREA CODE 212
695-2800

CABLE ADDRESS
SOUNDPLANS NEW YORK


April 12, 1973

Mr. Purvis Collins, Director
South Carolina Police Officers Retirement System
P. O. Box 11960-Capitol Station
Columbia, S. C. 29211

Dear Mr. Collins:

I am sending you herewith the signed bound copy of the "Report on an Actuarial Valuation of the South Carolina Police Officers Retirement System Prepared as of June 30, 1969 Together with a Statement of the Results of an Experience Investigation".

Very truly yours,


Hugh Gillespie
Consulting Actuary

hg:eh
enc.

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February 26, 1973

State Budget and Control Board
South Carolina Police Officers Retirement System
Columbia, South Carolina

Gentlemen:

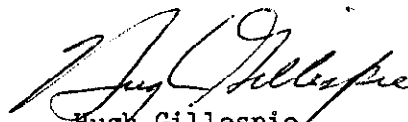
I transmit herewith our report on an actuarial valuation of the South Carolina Police Officers Retirement System, prepared as of June 30, 1969.

The valuation was prepared on the basis of an interest assumption of 4-1/2 per cent and took into account the amendments effective in 1971 improving the basic benefits for active and retired members, introducing a minimum pension on disability retirement and providing a survivor's benefit upon death in active service after attainment of age 55 and completion of 20 years of service. In addition an accidental death benefit program was established. The valuation indicates that the System is in a sound actuarial condition and that there is margin for improvement in the basic benefits.

The report also contains the results of an investigation of the mortality and service experience of members and beneficiaries of the System for the two-year period ended June 30, 1969 which was prepared in accordance with Subsection (5) of Section 61-333 of the retirement law.

I trust that the report is in satisfactory form for use by the Board.

Respectfully submitted,



Hugh Gillespie
Consulting Actuary

REPORT ON AN ACTUARIAL VALUATION OF THE
SOUTH CAROLINA POLICE OFFICERS RETIREMENT SYSTEM
PREPARED AS OF JUNE 30, 1969
TOGETHER WITH A STATEMENT OF THE RESULTS OF
AN EXPERIENCE INVESTIGATION

The South Carolina Police Officers Retirement System was established as of July 1, 1962. Membership in the System is open to any police officer of the State or other employer (county, municipality or other political subdivision of the State and any agency or department thereof) that has been admitted to the System. A police officer whose period of active duty during a year is less than 1,600 hours and his compensation for such service is less than \$2,000 per year is not eligible to join. Membership is compulsory with employees who become police officers of the State or other employers after the employer's date of admission to the System. Police officers in service on the employer's date of admission become members as of such date unless they file elections not to become members of the System and execute a waiver of all present and prospective benefits which would otherwise inure to them on account of their participation in the System. Contributions to provide the benefits under the System are made jointly by the members and the employers.

This report presents the results of an actuarial valuation of the System prepared as of June 30, 1969. The report gives first a summary of the benefit and contribution provisions of the System and a statement of the membership as of the valuation date. Next, the valuation balance sheet showing the assets and liabilities of the System is presented, followed by recommendations regarding the contributions payable by the employers. Finally, summaries of the membership data on which calculations were based are shown.

The valuation took into account the amendments to the System effective in 1971, which increased the basic benefit, provided a minimum pension on disability retirement and added a survivor's benefit upon death in active service after attainment of age 55 and completion of 20 years of credited service. In addition an accidental death benefit program was created.

SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS

A summary of the main benefit and contribution provisions of the System as interpreted for the valuation is presented in the following digest. Credited service of a member includes all service as a police officer since he last became a member of the System and also includes, in the case of a member who became such on or before June 30, 1963, remains a member until death or retirement under the System and who immediately prior to his becoming a member was a participant in another fund, service which was credited to him under such other fund.

REGULAR ALLOWANCE PROGRAM

BENEFITS

Service Retirement Allowance

Condition for Allowance

A member may retire on a service retirement allowance upon the attainment of age 55 and the completion of 5 years of credited service.

Amount of Allowance

Upon service retirement a member receives a service retirement allowance which is equal to:

(1) A basic monthly retirement allowance of \$30.00 plus \$7.00 for each completed year of credited service in excess of 5 years, not exceeding 15 years, plus \$3.50 for each completed year of credited service in excess of 20; plus

(2) An additional monthly retirement allowance which is the actuarial equivalent of the member's accumulated additional contributions at retirement.

Early Retirement Allowance

Condition for Allowance

A member who has completed 20 years of credited service may retire on an early retirement allowance.

Amount of Allowance

Upon early retirement a member is entitled to a deferred allowance commencing at age 55 which is equal to:

(1) A basic deferred allowance equal to the basic service retirement allowance he would have received if he had remained in service to age 55 reduced in the proportion which the number of his completed years of credited service at his early retirement date bears to the number he would have had if he had remained in service to age 55; plus

(2) An additional deferred allowance which is the actuarial equivalent of the member's accumulated additional contributions.

If the member has attained age 50 and completed 25 years of credited service at early retirement date, in lieu of such deferred allowance, he may elect to receive a reduced allowance commencing immediately which is the actuarial equivalent of the deferred allowance.

Disability Retirement Allowance

Condition for Allowance

A member who has completed 5 or more years of credited service and is permanently incapacitated for duty, mentally or physically, may retire or be retired on a disability retirement allowance.

Amount of Allowance

Upon disability retirement a member receives a disability retirement allowance computed as a service retirement allowance based on his completed years of credited service and his accumulated additional contributions at disability retirement; however, for a member who at disability retirement has not completed 20 years of

credited service, the portion of his disability retirement allowance which is based on his basic retirement allowance is determined on the basis of either 20 years of credited service or the number of years of credited service the member would have completed had he remained in service until age 55, whichever is less.

Return of Contributions

Should a member cease to be a police officer except by death or retirement his contributions plus one-half of the accumulated regular interest thereon are returned to him. Should a member die before retirement the amount of his accumulated contributions is paid to his designated beneficiary or estate.

Death Benefit

Upon the death of a member in service a lump sum amount is paid to his designated beneficiary or estate equal to:

(1) The amount of his accumulated basic contributions or \$1,000, whichever is greater; plus

(2) The amount of his accumulated additional contributions.

Upon the death of a retired member who has not elected an option, the excess of his total accumulated contributions at the time his allowance commenced over the sum of the retirement allowance payments made to him is paid to his designated beneficiary or estate.

In the event of the death before retirement of a member who has attained age 55 and completed 20 or more years of credited service, his designated beneficiary may elect to receive in lieu of the lump sum settlement otherwise payable an allowance for life in the same amount as if the member had retired at the time of death and had chosen Option 1.

Such beneficiary may elect to receive in lieu of the member's accumulated additional contributions, an allowance for life which is the actuarial equivalent of the amount of contributions left on deposit in the System.

Pre-Retirement Death
Benefit Program

Upon the death of a contributing member in service who had completed at least one full year of membership, a death benefit is payable to his designated beneficiary or estate, equal to the annual earnable compensation of the member at the time his death occurs. Such death benefit is payable apart and separate from the payment of the member's accumulated contributions.

Accidental Death
Benefit Program

Upon the death in active service as a result of the actual performance of duty of a member whose employer participates under the Program, a pension equal to 50% of the member's budgeted compensation at the time of death is paid to his widow during her widowhood. If there is no eligible widow before the youngest child attains age 18 the pension is paid to surviving children under age 18 or, if at the time of the member's death there is no widow or child under age 18, the pension is paid to his surviving father or mother.

Optional Allowances

Until the first payment on account of a retirement allowance becomes normally due, any member may elect to receive his retirement allowance in accordance with one of the following forms, which are computed to be actuarially equivalent:

Option 1. A reduced retirement allowance payable during the retired member's life, with the provision that after his death the reduced allowance will be continued to his designated beneficiary.

Option 2. A reduced retirement allowance payable during the retired member's life, with the provision that after his death one-half of the reduced allowance will be continued to his beneficiary.

CONTRIBUTIONS

By Members

Each member contributes \$16 per month. Each member may make additional contributions at 7% of the portion of his compensation in excess of the amount taxable to him under the Federal Insurance Contributions Act.

By Employers

The contributions by employers are determined on the basis of actuarial valuations of the System. Currently 8.5% of compensation is being paid.

SUPPLEMENTAL ALLOWANCE PROGRAM

BENEFITS

Payment of Supplemental Allowance

Upon the retirement of a member who has participated in the Supplemental Allowance Program, a supplemental allowance is payable equal to:

(1) An allowance which is the actuarial equivalent of the member's accumulated supplemental contributions; plus

(2) An amount equal to the allowance under (1) above. A member may elect to receive his supplemental allowance in one of the optional forms described under the regular allowance program above.

Return of Supplemental Contributions

Should a member cease to be a police officer for reasons other than death or retirement, his aggregate supplemental contributions are returned to him.

Upon the death of a member prior to retirement his accumulated supplemental contributions are paid to his designated beneficiary or estate.

Upon the death of a retired member who has not elected an option, the excess of his accumulated supplemental contributions at the time his allowance commenced over the sum of supplemental allowance payments made to him is paid to his designated beneficiary or estate.

CONTRIBUTIONS

By Members

Each member participating in the Supplemental Allowance Program contributes 6% of his monthly compensation in excess of \$400. Such member may also elect to contribute the amount which would have resulted had he, during each month of his credited service prior to his date of participation, contributed 2% of the portion of his rate of monthly compensation during the month immediately preceding date of

participation in the program and had such contributions been accumulated with interest at 4% per annum.

By Employers

Each participating employer makes supplemental contributions to match those made by its participating members. Any forfeitures of an employer's contributions on account of terminating members are used to reduce the contributions otherwise payable by such employer.

MEMBERSHIP OF THE SYSTEM

ACTIVE MEMBERSHIP

Table I shows the number of active members included in the valuation as of June 30, 1969.

TABLE I

NUMBER OF ACTIVE MEMBERS INCLUDED
IN THE VALUATION
AS OF JUNE 30, 1969

GROUP	NUMBER
Men	4,193
Women	44
Total	4,237

RETIRED MEMBERS

Table II shows the number and annual retirement allowances of beneficiaries on the roll as of June 30, 1969.

TABLE II
THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES
ON THE ROLL AS OF JUNE 30, 1969

GROUP	NUMBER	ANNUAL RETIREMENT ALLOWANCES
Service and Early Retirements:		
Men	331	\$ 434,352
Women	6	8,328
Total	337	\$ 442,680
Disability Retirements:		
Men	38	\$ 37,380
Women		
Total	38	\$ 37,380
Beneficiaries of Deceased Retired Members:		
Men	14	\$ 11,220
Women		
Total	14	\$ 11,220
Grand Total	389	\$ 491,280

VALUATION BALANCE SHEET

The following valuation balance sheet indicates the present and contingent assets and liabilities of the retirement system as of June 30, 1969. The amounts of the present assets shown on the balance sheet were taken from a statement furnished by the Director of the System.

TABLE III
VALUATION BALANCE SHEET
SHOWING THE ASSETS AND LIABILITIES OF THE
SOUTH CAROLINA POLICE OFFICERS RETIREMENT SYSTEM
AS OF JUNE 30, 1969

ASSETS	
Present assets of System creditable to:	
Employee Annuity Savings Fund - Basic	\$ 4,828,392
Employee Annuity Savings Fund - Supplemental	987,222
Employer Annuity Accumulation Fund - Basic	13,421,683
Employer Annuity Accumulation Fund - Supplemental	<u>1,013,232</u>
Total Present Assets	\$ 20,250,529
Present value of prospective contributions to the Employer Annuity Accumulation Fund-Basic:	
Normal contributions	\$ 11,806,520
Accrued liability contributions	<u>5,396,634</u>
Total Prospective Contributions	<u>17,203,154</u>
Total Assets	<u>\$ 37,453,683</u>
LIABILITIES	
Present value of benefits on account of which contributions have been accumulated to date in the Employee Annuity Savings Fund-Basic	\$ 4,828,392
Present value of benefits on account of which contributions have been accumulated to date in the Employee Annuity Savings Fund-Supplemental	987,222
Present value of benefits on account of which contributions have been accumulated to date in the Employer Annuity Accumulation Fund-Supplemental	1,013,232
Present value of benefits payable on account of beneficiaries now drawing allowances from the Employer Annuity Accumulation Fund-Basic	5,252,842
Present value of benefits to active members to be paid by contributions of the employers into the Employer Annuity Accumulation Fund-Basic	<u>25,371,995</u>
Total Liabilities	<u>\$ 37,453,683</u>

RESULTS OF VALUATION

The valuation balance sheet indicates the following in regard to the funds of the System.

Employee Annuity Savings Fund-Basic

The Employee Annuity Savings Fund-Basic is the fund to which are credited the regular and additional contributions made by members together with interest thereon. When a member retires, the amount of his accumulated contributions is transferred from this fund to the Employer Annuity Accumulation Fund-Basic. The assets credited to the Employer Annuity Savings Fund-Basic on June 30, 1969, which represents the accumulated regular and additional contributions of members to that date, amounted to \$4,828,392. The liabilities of this fund are also shown as \$4,828,392. Future contributions into this fund and benefits payable from such contributions are considered to be of equivalent value and hence are not shown in the balance sheet.

Employee Annuity Savings Fund-Supplemental

The Employee Annuity Savings Fund-Supplemental is the fund to which are credited the supplemental contributions made by members together with interest thereon. When a member retires, the amount of his accumulated contributions is transferred from the Employee Annuity Savings Fund-Supplemental to the Employer Annuity Accumulation Fund-Supplemental and his annuity is paid from the latter fund. The assets credited to the Employee Annuity Savings Fund-Supplemental on June 30, 1969, which represents the accumulated contributions of members to that date, amounted to \$987,222. The liabilities of this fund are also shown as \$987,222. Future contributions into this fund and benefits payable from such contributions are considered to be of equivalent value and hence are not shown in the balance sheet.

Employer Annuity Accumulation Fund-Supplemental

The Employer Annuity Accumulation Fund-Supplemental is the fund to which are credited the supplemental contributions made by employers together with interest thereon. The assets credited to the Employer Annuity

Accumulation Fund-Supplemental on June 30, 1969, which represents the contributions made by employers on behalf of their members to that date, amounted to \$1,013,232. The liabilities of this fund are also shown as \$1,013,232. Future contributions into this fund and benefits payable from such contributions are considered to be of equivalent value and hence are not shown in the balance sheet.

Employer Annuity Accumulation Fund-Basic

The Employer Annuity Accumulation Fund-Basic is the fund to which the contributions made by employers are credited and from which are paid all regular benefits on account of retired members and their beneficiaries.

The present assets creditable to the Employer Annuity Accumulation Fund on June 30, 1969, amounted to \$13,421,683. The liabilities on account of active members amounted to \$25,371,995. In addition, the balance sheet indicates liabilities of \$5,252,842 on account of all benefits payable to retired members or their beneficiaries from the Employer Annuity Accumulation Fund-Basic. The total liabilities, therefore, amounted to \$30,624,837. The difference between these liabilities and the present assets credited to this fund is \$17,203,154, which represents the present value of future contributions to be made by the employers.

The normal cost to provide the benefits for the average new entrant into the System was calculated to be \$316.69 per member. Future normal contributions at this rate have a present value of \$11,806,520. If this amount is subtracted from \$17,203,154, the present value of future contributions to be made by employers, \$5,396,634 remains as the present value of the unfunded accrued liability. If this amount were liquidated by level annual payments over a period of 35 years from the valuation date, the accrued liability contribution is equal to \$72.94 per member based on the 4,237 members included in the valuation.

The total contribution is therefore equal to \$389.63 per member or to 7.4 per cent of the estimated payroll of \$22,370,216 of the membership.

If the employers were to continue to pay 8.5 per cent of payroll, and assuming a constant payroll, the unfunded accrued liability would be liquidated in about 13 years from the valuation date. Thereafter only a normal contribution of 6.0 per cent of payroll would be required of the employers to meet the cost of basic benefits.

In addition the employers pay the one year term cost of the pre-retirement death benefit program which is approximately 1 per cent of payroll. The cost of the accidental death benefit is equal to 1/4 of 1 per cent of payroll of eligible members.

CONCLUSION AND RECOMMENDATIONS

The results of the valuation show that the System is in a sound actuarial condition with only a relatively small unfunded accrued liability remaining to be liquidated. The increase in the unfunded accrued liability reflects the cost of the amendments. If employer contributions are continued at 8.5 per cent of payroll (exclusive of the cost of the pre-retirement and accidental death benefits), the unfunded accrued liability will probably be liquidated within 13 years, and the employer contribution rate could then be reduced to the normal contribution rate which is about 6.0 per cent of payroll.

It should be noted that on the basis of a 35 year funding period as of June 30, 1969, a margin of conservatism still exists in the employer contribution rate of 8.5 per cent, after taking into account the amendments effective in 1971. This results from the fact that employer contributions are a fixed percentage of payroll, and it has been assumed that the payroll will remain constant in the future. If salaries continue to increase in the future as they have since the establishment of the System, employer contributions will be greater than anticipated. On this basis it will probably be possible to make periodic improvements in the basic benefits in the future and maintain the employer contribution as a fixed percentage of payroll.

BASIS FOR THE VALUATION

The valuation of the retirement system was made on the basis of the active service table attached to the June 30, 1967 actuarial report. The 1937 Standard Annuity Table was used as the mortality table for members

retired on account of service and beneficiaries of deceased retired members and such table rated ahead five years was used as the mortality table for members retired on account of disability. An interest rate of 4-1/2 per cent was used.

On the basis of information furnished the actuary by the Director of the Retirement System, cards were prepared for each member and beneficiary in the System. Tabulations were then made showing as of June 30, 1969 the number of active members, classified by age and length of service, and the number and annual retirement allowances of beneficiaries, classified by age. The tabulations are summarized in the following tables.

TABLE 1

THE DISTRIBUTION OF THE NUMBER OF ACTIVE MEMBERS BY AGE AS OF JUNE 30 1969

AGE	MEN	WOMEN
19	2	
20	2	1
21	15	
22	65	1
23	94	
24	120	
25	115	
26	124	1
27	125	2
28	111	1
29	131	
30	101	
31	85	3
32	101	1
33	104	1
34	80	3
35	103	
36	104	
37	75	1
38	99	
39	99	1
40	78	2
41	114	
42	109	1
43	85	1
44	97	6
45	122	3
46	76	
47	92	2
48	96	1
49	118	
50	110	1
51	118	3
52	101	2
53	109	
54	87	
55	94	

TABLE 1
THE DISTRIBUTION OF THE NUMBER OF ACTIVE
MEMBERS BY AGE AS OF JUNE 30 1969

CONTINUED

AGE	MEN	WOMEN
56	80	1
57	85	1
58	82	3
59	70	
60	81	
61	85	1
62	63	
63	36	
64	40	
65	21	
66	26	
67	14	
68	12	
69	12	
70	8	
71	6	
72	2	
73	1	
74	4	
77	1	
78	1	
82	1	
83	1	
TOTAL	4,193	44

TABLE 2
THE DISTRIBUTION OF THE NUMBER OF ACTIVE
MEMBERS BY YEARS OF CREDITED SERVICE
AS OF JUNE 30 1969

YEARS OF SERVICE	MEN	WOMEN
0	398	4
1	553	9
2	447	7
3	349	6
4	275	4
5	173	3
6	213	
7	146	2
8	132	
9	121	
10	57	
11	88	1
12	144	3
13	74	2
14	71	1
15	96	
16	77	
17	71	1
18	61	
19	69	
20	58	1
21	71	
22	83	
23	52	
24	37	
25	19	
26	25	
27	25	
28	41	
29	40	
30	20	
31	22	
32	52	
33	7	
34	5	
35	2	

TABLE 2
THE DISTRIBUTION OF THE NUMBER OF ACTIVE
MEMBERS BY YEARS OF CREDITED SERVICE
AS OF JUNE 30 1969

CONTINUED

YEARS OF SERVICE	MEN	WOMEN
36	5	
37	1	
38	3	
39	4	
42	2	
44	2	
48	1	
50	1	
TOTAL	4,193	44

TABLE 3

THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES
BY AGE AS OF JUNE 30 1969

SERVICE AND EARLY RETIREMENTS

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
54	1	\$ 1,524		
55	3	4,584	1	\$ 1,524
56	7	11,352		
57	8	10,176		
58	16	22,560		
59	13	15,252	1	1,836
60	16	18,156		
61	10	14,220	1	516
62	14	18,504		
63	26	28,536	1	1,836
64	20	22,116		
65	14	15,912		
66	31	45,972	1	2,256
67	19	23,064		
68	15	20,532		
69	26	37,368		
70	15	20,064		
71	22	25,512		
72	14	19,944	1	360
73	9	13,116		
74	8	11,604		
75	4	6,552		
76	6	6,216		
77	1	960		
78	3	5,352		
79	1	336		
80	3	4,356		
81	3	3,516		
82	1	2,508		
84	1	1,704		
89	1	2,784		
TOTAL	331	\$ 434,352	6	\$ 8,328

SUMMARY

NO OPTION	288	\$ 385,104	6	\$ 8,328
OPTION 1	17	17,124		
OPTION 2	26	32,124		

TABLE 4

THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES
BY AGE AS OF JUNE 30 1969

DISABILITY RETIREMENTS

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
33	1	\$ 564		
36	2	1,476		
37	1	1,284		
38	1	1,200		
40	2	1,248		
41	1	564		
43	1	1,752		
44	4	5,136		
45	1	564		
46	2	2,244		
47	1	1,284		
48	2	1,092		
49	1	816		
50	2	1,824		
51	1	432		
52	1	468		
53	1	1,524		
54	5	4,440		
55	1	1,092		
57	1	1,092		
58	2	2,892		
63	1	2,028		
65	1	1,680		
70	2	684		
TOTAL	38	\$ 37,380		

SUMMARY

NO OPTION	30	\$ 29,820
OPTION 1	4	3,624
OPTION 2	4	3,936

TABLE 5

THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES
BY AGE AS OF JUNE 30 1969

BENEFICIARIES OF DECEASED RETIRED MEMBERS

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
40			1	\$ 840
43			1	348
46			1	816
49			2	1,788
51			1	1,176
57			1	744
58			1	588
60			2	852
62			1	1,056
68			1	744
70			1	768
71			1	1,500
TOTAL			14	\$ 11,220

RESULTS OF THE SERVICE AND MORTALITY EXPERIENCE INVESTIGATION

An investigation of the service and mortality experience of members and beneficiaries of the System was made this year in accordance with Subsection (5) of Section 61-333 of the retirement law governing the South Carolina Police Officers Retirement System which provides that the actuary shall make an actuarial investigation into the mortality and service experience of the members and beneficiaries of the System. The present investigation of the System covers the two-year period from July 1, 1967 to June 30, 1969.

The investigation of the experience of beneficiaries of the System includes retired members of the System and beneficiaries of deceased members and was investigated separately for men and women since different tables are used for each of these groups.

The number of members in active service was tabulated for each of the two years under investigation and the expected cases of withdrawal, death and retirement were obtained by use of the rates of withdrawal, death and retirement employed as a basis for the tables attached to our June 30, 1967 actuarial report and used for the valuations since June 30, 1967. The actual number of separations in each year was then tabulated and compared with the expected number of separations. The expected number of deaths among beneficiaries was found by means of the rates of mortality based on the 1937 Standard Annuity Table for members retired on account of service and beneficiaries of deceased retired members and such table rated ahead five years for members retired on account of disability and was compared with the actual number of deaths.

The following summaries give a comparison of the actual and expected cases of separation from active service and the actual and expected number of deaths among beneficiaries. The figures shown as "Expected" represent the totals of the values obtained by the process described in the preceding paragraph.

TABLE 6

COMPARISON OF ACTUAL AND EXPECTED WITHDRAWALS AND RETIREMENTS FROM ACTIVE SERVICE

CENTRAL AGE OF GROUP	NUMBER OF SEPARATIONS		
	Actual	Expected	Ratio of Actual to Expected
	<u>Withdrawals</u>		
20	13	7.4	1.757
25	98	60.7	1.615
30	63	41.2	1.529
35	42	16.7	2.515
40	45	10.1	4.455
45	42	6.0	7.000
50	39	3.5	11.143
55 & over	40	.9	44.444
Total	382	146.5	2.608
	<u>Disability Retirements</u>		
25		.2	0.000
30		.9	0.000
35	1	1.4	.714
40	3	1.9	1.579
45	5	3.4	1.471
50	3	6.3	.476
55 & over	2	4.6	.435
Total	14	18.7	.749
	<u>Service Retirements</u>		
55 & under	16	54.7	.293
60	27	113.9	.237
65	26	103.7	.251
70 & over	9	82.0	.110
Total	78	354.3	.220

TABLE 7
COMPARISON OF ACTUAL AND EXPECTED DEATHS IN ACTIVE SERVICE

CENTRAL AGE OF GROUP	NUMBER OF DEATHS		
	Actual	Expected	Ratio of Actual to Expected
20		.1	0.000
25		.9	0.000
30		1.4	0.000
35	1	1.6	.625
40	1	2.5	.400
45	5	3.9	1.282
50	3	6.5	.462
55	5	7.8	.641
60 & over	3	13.7	.219
Total	18	38.4	.469

TABLE 8

SUMMARY OF MORTALITY EXPERIENCE OF PENSIONERS

GROUP	NUMBER OF DEATHS			Ratio of Actual to Expected
	Actual	Expected		
<u>Retired on Account of Service</u>				
Men	27	19.3		1.399
Women	0	.1		0.000
Total	27	19.4		1.392
<u>Retired on Account of Disability</u>				
Men	3	.8		3.750
Women	1	.01		100.000
Total	4	.81		4.938
<u>Dependents of Deceased Pensioners</u>				
Women	0	.2		0.000

COMMENTS ON SERVICE AND MORTALITY INVESTIGATION

The preceding tables, which summarize the results of the service and mortality experience investigation, indicate the following facts in regard to the experience during the period under observation.

RATES OF WITHDRAWAL

During the period investigated, the actual number of withdrawals from service exceeded the number expected to withdraw according to the tables now in use. The withdrawal experience is financially favorable to the System since fewer members than expected remain in service to qualify for retirement allowances.

RATES OF DISABILITY RETIREMENT

During the period covered by the investigation, the actual number of disability retirements was smaller than the number of disability retirements expected.

RATES OF SERVICE RETIREMENT

During the two-year period under review, the actual number of service retirements was considerably less than anticipated.

RATES OF MORTALITY AMONG ACTIVE MEMBERS

The preceding table indicates that the total number of deaths in active service was about 47 per cent of that expected.