

SOUTH CAROLINA RETIREMENT SYSTEM

REPORT OF THE ACTUARY ON

THE THIRTY-SEVENTH VALUATION

PREPARED AS OF JULY 1, 1988

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200 Galleria Parkway, N.W. Suite 1060
Atlanta, Georgia 30339

August 30, 1989

State Budget and Control Board
South Carolina Retirement System
Columbia, South Carolina 29211

Gentlemen:

We transmit herewith our report on the thirty-seventh actuarial valuation of the South Carolina Retirement System, prepared as of July 1, 1988.

The actuarial assumptions are, in the aggregate, reasonable, and represent our best estimate of anticipated experience under the System. The actuarial cost method utilized is the projected benefit method with level percentage entry age normal cost and open-end accrued liability. This cost method is specifically recognized as an acceptable method by the Employee Retirement Income Security Act of 1974. The current assets applicable to the System were supplied by the Retirement System office. They are valued at adjusted amortized cost.

In our opinion, the Schedule of Valuation Results included in this report correctly presents the condition of the South Carolina Retirement System as to those benefits which are funded on an actuarial reserve basis.

The valuation indicates that for Class One employers the total contribution rate payable should be 3.70 per cent of earnable compensation. For Class Two employers the contribution rates should be 7.00 per cent of earnable compensation by the State and 6.15 per cent of earnable compensation by other employers.

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

Respectfully submitted,

(Signed) DONALD M. OVERHOLSER

Donald M. Overholser
Consulting Actuary

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REPORT ON AN ACTUARIAL VALUATION OF THE
SOUTH CAROLINA RETIREMENT SYSTEM
PREPARED AS OF JULY 1, 1988

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the valuation and a comparison with the preceding valuation's results are summarized below (all dollar amounts are in thousands):

<u>Valuation Date</u>	<u>7/1/88</u>	<u>7/1/87</u>
Number of active members:		
Men	54,474	53,295
Women	102,965	99,090
Total	157,439	152,385
Annual earnable compensation of active members during year:		
Men	\$ 1,220,578	\$ 1,146,860
Women	1,802,781	1,649,652
Total	\$ 3,023,359	\$ 2,796,512
Number of retired members and beneficiaries	36,576	34,940
Annual retirement allowances	\$ 227,797	\$ 203,070
Assets for valuation purposes	\$ 5,413,702	\$ 4,805,381
Normal contribution as per cent of compensation:		
Class One Service	2.32%	2.32%
Class Two Service:		
State	3.74	3.74
Others	3.19	3.19
Unfunded accrued liability (UAL)	\$ 1,327,200	\$ 851,277
UAL contribution as per cent of compensation:		
Class One Service	1.38%	1.38%
Class Two Service:		
State	3.26	3.26
Others	2.96	2.96
UAL liquidation period (years)	21	16

(continued)				
Valuation Date	:	7/1/88	:	7/1/87
Pre-retirement death benefit contribution as per cent of compensation	:	.15%	:	.15%
Total contributions as per cent of compensation:	:		:	
Class One Service	:	3.85%	:	3.85%
Class Two Service:	:		:	
State	:	7.15	:	7.15
Others	:	6.30	:	6.30

2. Comments on the valuation results as of July 1, 1988 are given in Section IV and further discussion of the contribution levels is set out in Section V. The System was amended since the previous valuation to change the benefit formula for Class I employees to 1.35% of average final compensation and for Class II employees to 1.70% of average final compensation. Employee contribution rates have been changed to 5% of all compensation for Class I employees and 6% of all compensation for Class II employees. Benefits for retired members have been increased by an additional 10% effective July 1, 1988.
3. Since the previous valuation, the interest rate assumption has been increased from 7% to 7-1/2% and the salary increase assumption has been increased 1/2% at each age. Schedule B of this report outlines the full set of actuarial assumptions and methods employed.

SECTION II - MEMBERSHIP DATA

1. Data needed with respect to each active member, retired member and beneficiary of the System and also with respect to terminations during the valuation year were furnished to the actuary by the Retirement System office on a magnetic tape.

2. From the data, tabulations were made showing as of July 1, 1988 the number and annual earnable compensation of active members classified by age and years of service and the number and retirement allowances of retired members and beneficiaries as of July 1, 1988 classified by age. These tabulations are presented in Schedule D.
3. The following table shows the number and annual earnable compensation of active members of the Retirement System as of July 1, 1988.

TABLE I
THE NUMBER AND EARNABLE COMPENSATION OF ACTIVE MEMBERS
AS OF JULY 1, 1988

GROUP	:	MEN	:	WOMEN	:	TOTAL
EMPLOYEES	:		:		:	
Number	:	41,295	:	48,447	:	89,742
Earnable Compensation (\$1,000's)	:	\$ 910,773	:	\$ 820,405	:	\$ 1,731,178
TEACHERS	:		:		:	
Number	:	13,179	:	54,518	:	67,697
Earnable Compensation (\$1,000's)	:	\$ 309,805	:	\$ 982,376	:	\$ 1,292,181
TOTAL	:		:		:	
Number	:	54,474	:	102,965	:	157,439
Earnable Compensation (\$1,000's)	:	\$ 1,220,578	:	\$ 1,802,781	:	\$ 3,023,359

NOTE: There are in addition 80,786 inactive members, 10,624 active members not on the payroll as of the valuation date, and 647 members with insufficient information. The results of the valuation were adjusted to take these members into account.

4. The following table shows the number and annual amount of retirement allowances payable to retired members and to beneficiaries of deceased retired and active members as of July 1, 1988.

TABLE II

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF
RETIRED MEMBERS AND BENEFICIARIES ON THE ROLL
AS OF JULY 1, 1988

GROUP	NUMBER	TOTAL ANNUAL RETIREMENT ALLOWANCES (\$ 1,000's)
Service Retirements		
Employees:		
Men	7,480	\$ 54,307
Women	5,935	30,364
Teachers:		
Men	3,118	26,497
Women	<u>13,526</u>	<u>85,386</u>
Total	<u>30,059</u>	<u>\$ 196,554</u>
Disability Retirements		
Employees:		
Men	1,357	\$ 6,867
Women	925	4,323
Teachers:		
Men	386	2,559
Women	<u>1,096</u>	<u>5,930</u>
Total	<u>3,764</u>	<u>\$ 19,679</u>
Beneficiaries of Deceased Retired Members and Active Members		
Men	391	\$ 1,550
Women	<u>2,362</u>	<u>10,014</u>
Total	<u>2,753</u>	<u>\$ 11,564</u>
Grand Total	<u>36,576</u>	<u>\$ 227,797</u>

Note: The Retirement Allowances shown do not include the increase in benefits effective July 1, 1988. However, the improvement was included in determining the liabilities for funding.

SECTION III - ASSETS

The amounts of the present assets taken into account in this valuation are at adjusted amortized cost. The values of the assets were taken from a statement furnished by the Director of the System and exclude reserve assets creditable to the Group Life Insurance Fund for pre-retirement lump sum death benefits.

Included in the valuation are the assets of the employee annuity savings fund which represent the accumulated contributions of members together with interest thereon. As of July 1, 1988, these assets amounted to \$1,415,351,000.

Also included in the valuation are the assets of the employer annuity accumulation fund to which the contributions made by employers are credited and from which are paid all benefits on account of retired members and their beneficiaries. The assets of the accumulation fund amounted to \$3,998,351,000 as of July 1, 1988.

SECTION IV - COMMENTS ON THE VALUATION

Schedule A of this report contains the results of the valuation which show present and prospective assets and liabilities of the System as of July 1, 1988. The following comments on the valuation are pertinent (all dollar amounts are in thousands):

The schedule shows that the System has actuarial liabilities of \$10,405,348, of which \$2,571,753 is for the prospective benefits payable on account of present retired members and beneficiaries and \$7,833,595 is for the prospective benefits payable on account of present active and inactive members. These liabilities include the reserves for all current and future cost-of-living increases to current retired members and beneficiaries and active members

currently eligible for service retirement. Against these liabilities, the System has present assets of \$5,413,702 and anticipated future contributions by members of \$2,276,092, leaving a balance of \$2,715,554 to be provided by future contributions of the employers. Of this amount, \$1,388,354 represents the present value of normal contributions by the employers and the balance of \$1,327,200 represents the present value of unfunded accrued liability contributions.

The retirement act provides that the contributions of employers shall consist of a normal contribution to cover the liability on account of service currently rendered and an unfunded accrued liability contribution on account of liabilities for past service which are not covered by present assets.

The following rates of contribution are payable by employers exclusive of the rate required for the pre-retirement lump sum death benefit:

For Class One employers, the total employer contribution rate should be 3.70 per cent of earnable compensation, of which 2.32 per cent is attributable to the normal contribution and 1.38 per cent is attributable to the unfunded accrued liability contribution for the period July 1, 1988 to June 30, 1989.

For Class Two employers, the total contribution rate should be 7.00 per cent payable by the State and 6.15 per cent by the other Class Two employers. Of the total rates, 3.74 per cent and 3.19 per cent are attributable to normal contributions of the State and other employers, respectively. The unfunded accrued liability rates are therefore 3.26 per cent for the State and 2.96 per cent for other employers for the period July 1, 1988 to June 30, 1989.

On the basis of the above unfunded accrued liability contribution rates and assuming that active payroll will increase by 3% each year, it is anticipated that the unfunded accrued liability of \$1,327,200 shown in the valuation balance sheet will be liquidated within a period of approximately 21 years from the valuation date.

We recommend that the rate for employers participating in the Pre-retirement Death Benefit Program remain at .15 per cent of earnable compensation in addition to the appropriate rate above.

SECTION V - CONTRIBUTIONS PAYABLE UNDER THE SYSTEM

The following table gives the rates of contribution payable by employers, as determined on the basis of the present valuation.

RATES OF CONTRIBUTION	CLASS ONE	CLASS TWO	
		State	Others
Normal	2.32%	3.74%	3.19%
Unfunded Accrued Liability	1.38	3.26	2.96
Pre-retirement Death Benefit	.15	.15	.15
Total	3.85%	7.15%	6.30%

SECTION VI - VALUATION BASIS

The valuation of the Retirement System was made on the basis of the rates of separation and mortality tables in effect since June 11, 1974 and a salary scale and interest rate of 7-1/2% adopted by the Board on May 10, 1988. An outline of the actuarial assumptions and methods employed is presented in Schedule B.

SECTION VII - ACCOUNTING INFORMATION

1. Governmental Accounting Standards Board Statement No. 5 sets forth certain items of information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

NUMBER OF ACTIVE AND RETIRED MEMBERS
AS OF JULY 1, 1988

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits and terminated employees entitled to benefits but not yet receiving benefits	117,362
Active Members:	
Vested	92,785
Non-vested	<u>64,654</u>
Total	157,439

2. Another such item is the pension benefit obligation, a standardized measure of the System's liabilities. It is the amount owed for benefits allocated to employee service before the balance sheet date, when total projected benefits (including the effects of projected salary increases) are allocated equally over all years of employee service before and after the balance sheet date. The pension benefit obligation, prepared in accordance with Governmental Accounting Standards Board Statement No. 5, and a comparison with net assets available for benefits as of July 1, 1988, are presented below.

Pension Benefit Obligation
(in \$ thousand)

° Retirees and beneficiaries currently receiving benefits and terminated employees entitled to benefits but not yet receiving benefits	\$ 2,727,983
° Current employees:	
Accumulated contributions	1,337,235
Employer-financed vested	928,381
Employer-financed nonvested	<u>2,384,205</u>
Total Pension Benefit Obligation	\$ 7,377,804
° Net assets available for benefits	\$ 5,413,702
° Unfunded Pension Benefit Obligation	\$ 1,964,102

3. The following first three years of the ten-year historical trend information, prepared in accordance with Governmental Accounting Standards Board Statement No. 5, provides information on progress made in accumulating sufficient assets to pay benefits when due. A purpose of the chart is to establish a consistent method for analyzing and making comparisons among different public retirement systems.

Required Supplementary Information Analysis of Funding Progress
(in \$ million)

Fiscal Year Begin.	(1) Net Assets Avail- able for Benefits	(2) Pension Benefit Obli- gation	(3) Percent- age Funded (1) ÷ (2)	(4) Unfunded Pension Benefit Obli- gation (2) - (1)	(5) Annual Covered Payroll	(6) Unfunded PBO as % of Covered Payroll (4) ÷ (5)
7/1/86	\$ 4,202.4	\$ 5,747.5	73.1%	\$ 1,545.1	\$ 2,634.4	58.7%
7/1/87	4,805.4	6,447.5	74.5	1,642.1	2,796.5	58.7
7/1/88	5,413.7	7,377.8	73.4	1,964.1	3,023.4	65.0

Analysis of the dollar amounts of net assets available for benefits, pension benefit obligation, and unfunded pension benefit obligation in isolation can be misleading. Expressing the net assets available for benefits as a percentage of the pension benefit obligation provides one indication of the Retirement System's funding status on a going-concern basis. Analysis of this percentage over time indicates whether the System is becoming financially stronger or weaker. Generally, the greater this percentage, the stronger the Retirement System.

SCHEDULE ARESULTS OF THE VALUATION AS OF JULY 1, 1988
(All dollar amounts are in thousands)

(1)	Actuarial liabilities	
	Present value of prospective benefits payable in respect of:	
	(a) Present retired members and beneficiaries	\$ 2,571,753
	(b) Present active and inactive members	<u>7,833,595</u>
	(c) Total actuarial liabilities	\$ 10,405,348
(2)	Assets of the System	<u>5,413,702</u>
(3)	Present value of future contributions = (1)(c) - (2)	\$ 4,991,646
(4)	Present value of future contributions by members	<u>2,276,092</u>
(5)	Present value of future contributions by employers = (3) - (4)	\$ 2,715,554
(6)	Present value of future normal contributions by employers	\$ 1,388,354
(7)	Present value of unfunded accrued liability contributions by employers = (5) - (6)	\$ 1,327,200
(8)	Unfunded accrued liability rates	
	(a) Class One Service	1.38%
	(b) Class Two Service: State	3.26
	(c) Class Two Service: Others	2.96
(9)	Unfunded accrued liability liquidation period	21 years
(10)	Pre-retirement death benefit contribution rate	.15%

SCHEDULE B

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: 7-1/2% per annum, compounded annually.

SEPARATIONS FROM SERVICE AND SALARY INCREASES: Representative values of the assumed annual rates of separation and annual rates of salary increase are as follows:

Age	Annual Rates of							
	With- drawal	Death	Dis- ability	Service Retire- ment	With- drawal	Death	Dis- ability	Service Retire- ment
	Men Teachers				Women Teachers			
20	11.11%	.04%	.01%		13.79%	.03%	.02%	
25	9.97	.05	.01		12.83	.03	.03	
30	7.91	.08	.02		9.12	.04	.04	
35	6.06	.12	.03		5.61	.06	.04	
40	4.67	.18	.06		3.43	.08	.07	
45	3.67	.25	.11		2.33	.13	.12	
50	2.83	.35	.20	4.00%	1.74	.20	.20	4.00%
55	2.03	.50	.34	5.50	1.18	.29	.35	6.00
60		.70	.59	7.50		.45	.61	8.00
64		.92	.94	20.00		.66	.82	35.00

Age	With- drawal	Death	Dis- ability	Service Retire- ment	Salary Increase
	Employees				Teachers and Employees
20	11.11%	.07%	.04%		11.81%
25	9.97	.09	.04		10.90
30	7.91	.11	.06		9.50
35	6.06	.14	.08		7.81
40	4.67	.18	.10		7.00
45	3.67	.28	.15		6.60
50	2.83	.46	.25	2.00%	6.30
55	2.03	.75	.40	3.50	6.10
60		1.08	.61	5.00	5.90
65		1.36	.85	17.50	5.80

DEATHS AFTER RETIREMENT: Combined Annuity Mortality Tables, Modified and Makehamized, for service retirement and dependent beneficiaries with a 2 year setback in ages for men employees, a 3 year setback for women employees, men teachers and men dependents and a 4 year setback for women teachers and women dependents. A special mortality table is used for disability retirements.

LOADING OR CONTINGENCY RESERVES: None.

VALUATION METHOD: Projected benefit with level percentage entry age normal cost and open-end unfunded accrued liability. Gains and losses are reflected in the period remaining to liquidate the unfunded accrued liability. Lump sum death benefits are provided on a one-year term cost basis.

ASSET VALUATION METHOD: Adjusted amortized cost.

SCHEDULE CSUMMARY OF MAIN SYSTEM PROVISIONS AS
INTERPRETED FOR VALUATION PURPOSESBACKGROUND

The South Carolina Retirement System was established as of July 1, 1945. There are two classes of employers and members under the System. Those employers becoming participants in the System on or after July 1, 1964 are Class Two employers. Class One employers include all employers who elected, by written notice to the Board not later than December 31, 1964, to remain and have their members remain under the provisions of the System as in effect on June 30, 1964. Class Two employers include all employers who elect, by written notice to the Board in allowable election periods, to participate and have their members participate as Class Two members provided such employers and employees in their employ make additional required contributions.

A summary of the main benefit provisions of the System, as interpreted in preparing the actuarial valuation, and a summary of the sources of revenue from which benefits are paid is presented in the following digest. "Average final compensation" means the average annual earnable compensation of a member during the twelve consecutive quarters of his creditable service producing the highest such average. "Prior service" means service prior to July 1, 1945 for which credit is allowed. "Membership service" means service rendered while a member of the System for which credit is allowed. The term "creditable service" means the sum of prior service and membership service.

BENEFITS

Service Retirement Allowance

Condition for Retirement

A retirement allowance is payable upon the request of any teacher or employee who has attained age 60 or has rendered 30 or more years of creditable service.

A member must retire at age 70 except that with the approval of both his employer and the Board, the member may remain in service to the end of the fiscal year in which he reaches his seventy-second birthday.

Amount of Allowance

Effective July 1, 1988 on service retirement, a Class One member receives a retirement allowance equal to 1.35% of average final compensation, multiplied by the number of years of his creditable service.

On service retirement, a Class Two member receives a retirement allowance equal to 1.70% of average final compensation, multiplied by the number of years of his creditable service.

If a member has not attained age 65 or completed 30 years of creditable service at the time of retirement, his allowance is reduced $\frac{5}{12}$ of 1% for each month by which his age at retirement is less than age 65.

Disability Retirement Allowance

Condition for Allowance

A disability retirement allowance is payable to any member who while in service becomes permanently incapacitated for duty mentally or physically.

Amount of Allowance

Upon disability retirement, on or after July 1, 1976, a Class One or a Class Two member receives a service retirement allowance if he has attained age 65; otherwise he receives a disability retirement allowance equal to the service retirement allowance which would have been payable had he continued in service to age 65, minus

the actuarial equivalent of the contributions he would have made during such continued service. The compensation to be used for purposes of computing this benefit is the average final compensation as of the date of disability.

Deferred Retirement Allowance

Condition for Allowance

A deferred retirement allowance, commencing at age 60, is payable to any member who ceases to be a teacher or an employee after he has rendered at least 5 years of creditable service, provided he leaves his contributions in the System.

Amount of Allowance

The deferred retirement allowance is computed like a service retirement allowance, except that the employee annuity is the actuarial equivalent at age 60 of the member's contributions with such interest credits as are allowed.

Supplemental Minimum Allowance

Upon retirement after 20 or more years of creditable service a supplemental monthly sum is paid, in addition to the regular allowance and any amount provided from the general funds of the State, to provide a minimum of \$150 per month plus \$1 per month for each completed year of service in excess of 20, reduced by $\frac{5}{12}$ of 1% for each month by which the member's age at retirement is less than age 65 unless he has completed 35 years of creditable service.

Return of Contributions and Optional Death Benefit

Upon the withdrawal of a member without a retirement benefit, he is paid his total contributions with the accumulated regular interest thereon.

Upon the death of a member before retirement, his accumulated contributions are payable to his designated beneficiary or to his estate.

Upon the death of a member before retirement who had 30 years of creditable service or had attained age 65, or who had 20 years of creditable service and attained age 60, the person nominated to receive the amount of the member's accumulated contributions may elect to receive, in lieu of such accumulated contributions, an allowance for life in an amount as if the member had retired on the date of his death under Option 2 as described below. If such a person has received a refund of the member's accumulated contributions, he may, upon repayment of such refund in a single sum, receive the allowance under Option 2 from the time of the repayment of the contributions to the System.

Upon the death of a member before retirement who had 15 years of creditable service, the person nominated to receive the amount of the member's accumulated contributions may elect to receive, in lieu of such accumulated contributions and the Group Life Insurance payment, an allowance for life in an amount as if the member had retired on the date of his death and had elected for payments to commence at age 60 under Option 2 as described below. The compensation to be used for purposes of computing this benefit is the average final compensation as of the date of death.

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

Lump Sum Death Benefit

Upon the death of a contributing member in service after the completion of one year of membership service or at any time if death is a result of an injury arising out of and in the course of the performance of duty, a lump sum equal to the member's annual earnable compensation at the time of death is paid to the person he has nominated for the refund of his accumulated contributions or estate, provided the member's employer is a participant in the Pre-retirement

Death Benefit Program. Benefits under this program are to be provided in the form of group life insurance.

Optional Allowance

Until the first payment on account of any benefit 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, if he dies within 10 years from his retirement date, an amount equal to his accumulated contributions at retirement, less 1/120 for each month he received a retirement allowance payment, shall be paid to a designated person.

Option 2. A reduced retirement allowance payable during the retired member's life, with the provision that after his death the reduced retirement allowance is to be continued to a designated beneficiary.

Option 3. A reduced retirement allowance payable during the retired member's life, with the provision that after his death one-half the reduced retirement allowance is to be continued to a designated beneficiary.

Option 4. A retirement allowance in such amount that, together with his Social Security benefit, he will receive approximately the same income per annum before and after the earliest age at which he is eligible for a Social Security benefit. A member who makes an election of this Option 4 shall be deemed to have made a further election of Option 1.

Option 5. A member may elect Option 2 or Option 3 with the added provision that in the event the designated beneficiary predeceases the member, the retirement allowance payable to the member after the designated beneficiary's death shall be equal to the retirement allowance which would have been payable had the member not elected the option.

Post-Retirement
Increases in Allowances

If the increase in the Consumer Price Index for the previous year ending December 31 equals or exceeds 3%, the retirement allowance of each beneficiary in receipt of an allowance for at least one year as of said December 31 is to be increased by 4%. Any increase in allowance granted hereunder through July 1, 1980 is to be permanent, irrespective of any subsequent decrease in the Consumer Price Index, and is to be included in determining any subsequent increase.

The allowance of a surviving annuitant of a beneficiary whose allowance is increased under this section is to be increased by the same percent, when and if payable.

CONTRIBUTIONS

By Members

Effective July 1, 1988, without regard to the member's Social Security coverage, Class One members contribute at the rate of 5% of earnable compensation, and Class Two members contribute at the rate of 6% of earnable compensation.

By Employers

Employers make annual contributions consisting of a "normal contribution" and an "accrued liability contribution". The "normal contribution" rate is determined by the actuary after each valuation. The "accrued liability contribution" rate is determined by the first actuarial valuation of the System, provided, however, that such rate shall be increased on the basis of subsequent valuations if benefits are increased. Such rate may be decreased if the actuary engaged by the Board certifies that such reduction will not impair the System. Each year's accrued liability payment is to be at least 3% greater than the preceding annual accrued liability payment subject to the preceding sentence. On and after July 1, 1946, all employers' contributions for teachers are paid by the State.

SCHEDULE D

TABLE 1

THE NUMBER AND EARNABLE COMPENSATION OF MEMBERS
DISTRIBUTED BY AGE
AS OF JULY 1, 1988

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
16	1	\$ 2,523	3	\$ 15,183
17	11	72,471	12	43,490
18	30	153,665	26	99,954
19	185	1,297,961	121	966,851
20	303	2,704,690	268	2,384,404
21	441	4,287,520	413	4,085,218
22	567	5,951,348	633	6,195,550
23	754	8,862,004	1,247	15,552,551
24	925	11,717,560	1,818	24,578,285
25	1,126	15,307,227	2,252	32,513,268
26	1,152	16,519,118	2,523	37,614,179
27	1,284	19,439,758	2,770	42,330,432
28	1,307	20,758,185	2,687	41,837,889
29	1,379	22,559,662	2,853	45,018,900
30	1,466	25,449,520	2,937	48,311,894
31	1,513	26,370,241	3,265	53,492,385
32	1,602	29,591,545	3,353	57,539,396
33	1,541	30,141,162	3,491	59,834,856
34	1,626	32,124,823	3,725	65,701,235
35	1,722	35,779,211	3,782	67,809,224
36	1,819	39,833,856	3,922	71,834,732
37	1,766	39,754,966	3,940	73,492,968
38	1,775	41,580,741	3,831	72,701,973
39	1,914	46,542,983	3,775	72,942,340
40	1,861	46,581,483	3,703	70,801,953
41	1,954	50,601,044	4,149	79,785,775
42	1,791	47,847,021	3,535	67,249,442
43	1,466	39,087,922	2,798	53,716,875
44	1,470	39,210,498	2,825	53,302,173
45	1,430	39,506,027	2,779	52,916,394
46	1,306	35,811,840	2,608	49,463,920
47	1,216	33,675,934	2,313	44,022,914
48	1,180	33,697,165	2,130	40,047,453
49	1,110	30,279,246	2,004	37,082,013
50	1,164	32,354,629	1,881	35,314,709
51	1,028	26,865,705	1,785	32,954,788
52	1,039	28,205,248	1,673	29,919,041
53	991	26,190,763	1,705	30,377,389
54	994	27,089,439	1,572	27,996,157
55	1,002	25,558,937	1,480	26,751,624

TABLE 1
THE NUMBER AND EARNABLE COMPENSATION OF MEMBERS
DISTRIBUTED BY AGE
AS OF JULY 1, 1988

CONTINUED

MEN			WOMEN	
AGE	NUMBER	AMOUNT	NUMBER	AMOUNT
56	1,034	\$ 26,046,411	1,529	\$ 26,738,318
57	838	22,159,754	1,321	23,114,616
58	909	22,911,386	1,250	21,677,385
59	802	20,377,678	1,175	20,121,439
60	748	17,988,195	1,142	19,329,788
61	680	17,354,284	1,046	17,858,439
62	555	13,859,416	759	12,123,220
63	422	10,201,042	577	9,358,064
64	318	8,617,455	513	8,806,666
65	267	6,518,931	291	4,522,633
66	171	4,356,753	232	3,326,731
67	148	3,991,964	160	2,030,917
68	107	2,290,284	136	2,041,381
69	75	1,726,447	80	977,172
70	56	1,124,434	70	868,442
71	34	512,099	46	626,518
72	35	438,279	18	178,598
73	21	187,398	12	140,683
74	8	75,653	8	109,223
75	9	125,076	4	72,702
76	8	147,182	2	17,129
77	5	80,276	2	18,079
78	3	41,245	1	31,574
79	1	7,279	2	63,260
80	2	10,419		
81	3	10,561		
82	1	4,158		
84			1	6,780
85	1	6,539	1	21,486
87	1	8,867		
88	1	33,219		
TOTAL	54,474	\$1,220,578,325	102,965	\$1,802,781,020

SUMMARY

EMPLOYEES 41,295 \$ 910,772,650 48,447 \$ 820,405,306

TEACHERS 13,179 \$ 309,805,675 54,518 \$ 982,375,714

SEE FOOTNOTE TABLE I

TABLE 2

THE NUMBER AND EARNABLE COMPENSATION OF MEMBERS
DISTRIBUTED BY YEARS OF CREDITED SERVICE
AS OF JULY 1, 1988

YEARS OF SERVICE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
0	3,053	\$ 36,432,088	4,786	\$ 57,039,664
1	6,066	83,637,195	11,271	138,338,437
2	4,846	85,375,013	8,903	128,964,032
3	4,149	77,106,196	7,980	121,189,734
4	3,561	69,763,094	7,532	118,597,216
5	2,627	51,906,818	4,917	80,011,637
6	2,023	42,660,722	4,091	70,069,070
7	2,246	48,824,594	4,346	76,888,012
8	2,117	47,371,227	4,503	78,658,957
9	2,348	53,055,809	4,982	85,791,256
10	2,107	50,099,585	4,621	84,762,553
11	1,834	45,023,541	3,886	72,830,873
12	1,645	41,273,569	3,508	67,854,126
13	1,438	38,666,817	3,279	64,821,744
14	1,708	46,067,089	3,660	75,406,544
15	1,691	47,675,087	3,218	68,184,966
16	1,494	44,890,356	2,776	60,745,168
17	1,248	38,733,367	2,386	53,494,524
18	1,112	33,867,811	2,049	46,598,132
19	1,017	31,285,872	1,779	41,178,398
20	834	26,290,867	1,436	33,289,342
21	708	22,607,989	1,155	26,671,843
22	642	20,731,654	1,039	24,463,377
23	563	18,266,449	771	19,564,253
24	473	15,773,268	707	17,662,172
25	429	14,495,799	584	15,298,164
26	372	12,311,983	479	12,456,351
27	314	10,500,671	425	10,947,542
28	317	10,584,375	380	9,771,516
29	300	10,329,606	364	9,511,963
30	273	9,618,050	254	6,688,197
31	174	6,293,805	199	5,590,962
32	171	6,766,591	162	4,484,900
33	121	4,585,804	124	3,314,079
34	84	3,145,041	103	2,968,647
35	75	2,753,487	68	1,835,234

TABLE 2

THE NUMBER AND EARNABLE COMPENSATION OF MEMBERS
DISTRIBUTED BY YEARS OF CREDITED SERVICE
AS OF JULY 1, 1988

CONTINUED

YEARS OF SERVICE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
36	60 \$	2,169,121	58 \$	1,640,504
37	59	2,160,243	62	1,669,842
38	43	1,697,197	34	944,602
39	39	1,473,397	27	791,841
40	25	1,135,142	22	698,077
41	19	889,343	13	339,946
42	16	642,457	8	221,309
43	10	541,479	5	195,187
44	13	538,159	1	30,551
45	4	245,785	4	106,160
46	1	57,307	3	65,558
47	4	230,577	1	35,405
49			2	40,361
50	1	26,829	2	58,092

TOTAL 54,474 \$1,220,578,325 102,965 \$1,802,781,020

SUMMARY

EMPLOYEES 41,295 \$ 910,772,650 48,447 \$ 820,405,306

TEACHERS 13,179 \$ 309,805,675 54,518 \$ 982,375,714

SEE FOOTNOTE TABLE I

TABLE 3

THE DISTRIBUTION OF THE NUMBER
AND ANNUAL RETIREMENT ALLOWANCES
OF RETIRED MEMBERS AND BENEFICIARIES
BY AGE AS OF JULY 1, 1988

SERVICE RETIREMENTS AND BENEFICIARIES

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
9	1 \$	3,612	1 \$	420
11	1	3,516		
12	1	2,092		
16			1	4,777
17	1	36,704	2	2,862
18	1	1,959	1	5,118
19	1	8,240	5	24,311
20	1	6,557	3	8,965
21	3	12,082	3	19,209
22			4	7,944
23	1	3,044	4	16,861
24	6	13,922	2	2,868
25	2	10,678	3	10,877
26	4	13,247	2	3,618
27	2	9,282		
28	2	5,993	2	2,310
29	3	6,391	2	15,355
30	3	11,291	3	3,956
31	5	18,900	3	10,367
32	5	20,367	5	13,092
33	5	18,398	7	31,839
34	6	23,278	6	23,186
35	2	15,905	4	23,612
36	5	29,322	8	52,179
37	5	14,258	13	41,712
38	2	1,948	7	15,683
39	6	24,853	4	13,036
40	12	30,678	6	31,199
41	7	22,373	8	32,016
42	4	8,103	16	42,935
43	4	9,234	12	43,510
44	2	2,229	8	42,779
45	8	31,443	8	38,445
46	10	43,927	14	51,836
47	6	36,795	13	72,608
48	10	71,872	14	62,366
49	9	83,137	11	49,268
50	16	180,246	24	122,920

TABLE 3

THE DISTRIBUTION OF THE NUMBER
AND ANNUAL RETIREMENT ALLOWANCES
OF RETIRED MEMBERS AND BENEFICIARIES
BY AGE AS OF JULY 1, 1988

SERVICE RETIREMENTS AND BENEFICIARIES

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
51	18 \$	220,307	22 \$	203,293
52	29	403,611	27	203,598
53	44	586,377	71	832,604
54	56	742,237	67	728,486
55	73	1,052,672	105	1,206,689
56	108	1,733,919	144	1,688,806
57	101	1,637,833	180	2,153,093
58	107	1,612,694	204	2,540,503
59	146	2,405,207	248	3,019,043
60	151	2,160,883	326	3,672,435
61	192	2,522,828	479	4,797,898
62	287	3,178,098	552	4,364,400
63	417	3,688,508	756	4,829,255
64	517	4,320,727	860	4,801,436
65	519	4,251,867	890	5,061,206
66	637	4,684,776	1,064	6,082,475
67	681	5,263,873	1,079	5,721,377
68	660	4,621,962	1,121	6,007,622
69	564	3,884,634	1,003	5,466,849
70	590	3,792,820	902	4,573,939
71	530	3,424,108	926	4,592,783
72	557	3,558,382	960	4,577,443
73	484	3,142,046	850	4,444,729
74	453	2,490,452	811	4,142,876
75	425	2,473,839	766	3,710,656
76	373	1,928,149	788	3,889,758
77	352	1,927,375	743	3,721,327
78	315	1,743,804	719	3,405,648
79	270	1,539,994	660	3,501,222
80	208	1,297,809	656	3,291,185
81	180	933,855	589	3,171,569
82	162	938,736	491	2,445,874
83	133	746,980	467	2,375,951
84	117	597,381	415	2,144,053
85	85	410,107	329	1,635,768
86	79	361,524	283	1,235,575
87	50	352,478	232	1,065,265
88	49	286,445	177	862,707
89	24	125,485	138	555,905
90	24	162,637	113	495,513

TABLE 3

THE DISTRIBUTION OF THE NUMBER
AND ANNUAL RETIREMENT ALLOWANCES
OF RETIRED MEMBERS AND BENEFICIARIES
BY AGE AS OF JULY 1, 1988

SERVICE RETIREMENTS AND BENEFICIARIES

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
91	19	\$ 93,128	85	\$ 355,897
92	12	62,863	71	295,250
93	7	42,693	69	277,882
94	5	32,356	40	173,580
95	5	19,531	34	137,493
96	4	7,670	26	118,447
97	2	12,142	22	102,895
98	3	27,037	14	60,123
99	2	9,367	5	22,408
100			5	22,608
101			4	7,531
102			1	4,769
103	1	4,245		
104			2	9,786
105			1	1,914
106			2	8,999
TOTAL	10,989	\$ 82,354,327	21,823	\$125,764,435

SUMMARY

LIFE ANNUITY	4,562	\$ 25,340,135	14,343	\$ 74,812,954
CASH REFUND	1,071	7,446,423	1,576	9,710,238
100% J+S	1,532	10,636,911	475	1,975,610
50% J+S	1,323	13,382,853	425	2,826,668
SOC. SEC. LEVELING	1,083	14,486,757	2,239	23,418,677
BENEFICIARIES	391	1,550,576	2,362	10,013,507
100% POP-UP	522	4,045,451	179	1,125,457
50% POP-UP	505	5,465,221	224	1,881,324

TABLE 4

THE DISTRIBUTION OF THE NUMBER
AND ANNUAL RETIREMENT ALLOWANCES
OF RETIRED MEMBERS BY AGE
AS OF JULY 1, 1988

DISABILITY RETIREMENTS

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
24	1	\$ 407		
28			1	\$ 1,195
29	2	4,048		
30			2	5,662
31	1	2,289	1	2,598
32	3	7,566	4	11,339
33	2	10,825	3	11,099
34	9	22,428	6	18,958
35	6	26,733	3	9,842
36	2	4,686	10	35,709
37	6	15,955	5	22,520
38	8	26,923	11	38,963
39	8	64,033	9	24,542
40	11	48,215	13	46,211
41	11	46,304	13	59,805
42	12	39,648	17	73,929
43	12	65,625	18	100,357
44	19	99,518	13	71,140
45	11	58,099	21	104,136
46	11	73,565	23	100,804
47	18	80,106	21	122,112
48	18	81,828	15	79,302
49	21	93,588	17	96,687
50	27	120,302	23	76,566
51	31	173,140	26	108,607
52	29	222,049	24	114,203
53	31	190,691	36	125,524
54	41	235,912	43	264,840
55	40	277,413	48	261,911
56	50	285,226	57	274,626
57	57	422,132	53	311,538
58	63	387,434	61	342,042
59	56	310,593	65	319,760
60	77	449,930	88	463,404
61	79	498,082	98	591,964
62	83	446,813	98	557,832
63	101	572,218	101	534,565
64	81	455,529	94	515,358
65	92	519,310	99	499,176

TABLE 4

THE DISTRIBUTION OF THE NUMBER
AND ANNUAL RETIREMENT ALLOWANCES
OF RETIRED MEMBERS BY AGE
AS OF JULY 1, 1988

DISABILITY RETIREMENTS

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
66	70	\$ 348,737	101	\$ 475,221
67	99	511,707	103	545,034
68	78	419,551	86	509,330
69	81	383,101	97	458,473
70	73	337,951	85	358,467
71	45	245,542	81	442,461
72	55	255,938	67	291,780
73	36	170,715	56	299,598
74	33	127,242	49	215,082
75	34	137,477	40	180,190
76	3	6,820	8	39,086
77	2	9,974	4	22,618
78			1	4,558
79	2	10,229		
81			1	4,527
85			1	4,639
86			1	4,363
90	1	6,583		
97	1	14,672		
TOTAL	1,743	\$ 9,425,402	2,021	\$ 10,254,253

SUMMARY

LIFE ANNUITY	924	\$ 5,216,633	1,656	\$ 8,466,412
CASH REFUND	177	1,000,617	155	834,361
100% J+S	324	1,293,508	119	448,456
50% J+S	179	1,190,061	56	294,077
SOC. SEC. LEVELING			1	8,143
100% POP-UP	68	286,278	18	80,834
50% POP-UP	71	438,305	16	121,970