

SOUTH CAROLINA RETIREMENT SYSTEM

REPORT OF THE ACTUARY ON

THE THIRTY-EIGHTH VALUATION

PREPARED AS OF JULY 1, 1989

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January 3, 1990

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

Gentlemen:

We transmit herewith our report on the thirty-eighth actuarial valuation of the South Carolina Retirement System, prepared as of July 1, 1989.

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 4.25 per cent of earnable compensation. For Class Two employers the contribution rates should be 7.55 per cent of earnable compensation by the State and 6.70 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, 1989

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>7/1/89</u>	<u>7/1/88</u>
Number of active members:		
Men	54,992	54,474
Women	<u>105,376</u>	<u>102,965</u>
Total	160,368	157,439
Annual earnable compensation of active members during year:		
Men	\$ 1,317,428	\$ 1,220,578
Women	<u>1,987,922</u>	<u>1,802,781</u>
Total	\$ 3,305,350	\$ 3,023,359
Number of retired members and beneficiaries	38,649	36,576
Annual retirement allowances	\$ 281,192	\$ 227,797
Assets for valuation purposes	\$ 6,068,557	\$ 5,413,702
Normal contribution as per cent of compensation:		
Class One Service	2.79%	2.32%
Class Two Service:		
State	3.75	3.74
Others	3.75	3.19
Unfunded accrued liability (UAL)	\$ 2,070,920	\$ 1,327,200
UAL contribution as per cent of compensation:		
Class One Service	1.46%	1.38%
Class Two Service:		
State	3.80	3.26
Others	2.95	2.96
UAL liquidation period (years)	28	21

(continued)

<u>Valuation Date</u>	7/1/89	7/1/88
Pre-retirement death benefit contribution as per cent of compensation	.15%	.15%
Total contributions as per cent of compensation:		
Class One Service	4.40%	3.85%
Class Two Service:		
State	7.70	7.15
Others	6.85	6.30

2. Comments on the valuation results as of July 1, 1989 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 1.45% of average final compensation and for Class II employees to 1.82% of average final compensation. Employee contribution rates remain at 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 7% effective July 1, 1989.
3. Since the previous valuation, the interest rate assumption has been increased from 7-1/2% to 8% and the active service and mortality tables have been revised. 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, 1989 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, 1989 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, 1989.

TABLE I
THE NUMBER AND EARNABLE COMPENSATION OF ACTIVE MEMBERS
AS OF JULY 1, 1989

GROUP	MEN	WOMEN	TOTAL
EMPLOYEES			
Number	42,068	50,244	92,312
Earnable Compensation (\$1,000's)	\$ 999,917	\$ 935,262	\$ 1,935,179
TEACHERS			
Number	12,924	55,132	68,056
Earnable Compensation (\$1,000's)	\$ 317,511	\$ 1,052,660	\$ 1,370,171
TOTAL			
Number	54,992	105,376	160,368
Earnable Compensation (\$1,000's)	\$ 1,317,428	\$ 1,987,922	\$ 3,305,350

NOTE: There are in addition 100,625 inactive members. 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, 1989.

TABLE II
THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF
RETIRED MEMBERS AND BENEFICIARIES ON THE ROLL
AS OF JULY 1, 1989

GROUP	NUMBER	TOTAL ANNUAL RETIREMENT ALLOWANCES (\$ 1,000's)
Service Retirements		
Employees:		
Men	7,882	\$ 67,506
Women	6,357	37,643
Teachers:		
Men	3,296	33,493
Women	<u>14,201</u>	<u>104,344</u>
Total	<u>31,736</u>	<u>\$ 242,986</u>
Disability Retirements		
Employees:		
Men	1,397	\$ 8,113
Women	1,013	5,498
Teachers:		
Men	406	2,970
Women	<u>1,151</u>	<u>7,200</u>
Total	<u>3,967</u>	<u>\$ 23,781</u>
Beneficiaries of Deceased Retired Members and Active Members		
Men	416	\$ 1,869
Women	<u>2,530</u>	<u>12,556</u>
Total	<u>2,946</u>	<u>\$ 14,425</u>
Grand Total	<u>38,649</u>	<u>\$ 281,192</u>

Note: The Retirement Allowances shown do not include the increase in benefits effective July 1, 1989. 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, 1989, these assets amounted to \$1,593,031,000.

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 \$4,475,526,000 as of July 1, 1989.

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, 1989. The following comments on the valuation are pertinent (all dollar amounts are in thousands):

The schedule shows that the System has actuarial liabilities of \$11,656,355, of which \$3,275,332 is for the prospective benefits payable on account of present retired members and beneficiaries and \$8,381,023 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 \$6,068,557 and anticipated future contributions by members of \$2,240,591, leaving a balance of \$3,347,207 to be provided by future contributions of the employers. Of this amount, \$1,276,287 represents the present value of normal contributions by the employers and the balance of \$2,070,920 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 4.25 per cent of earnable compensation, of which 2.79 per cent is attributable to the normal contribution and 1.46 per cent is attributable to the unfunded accrued liability contribution for the period July 1, 1989 to June 30, 1990.

For Class Two employers, the total contribution rate should be 7.55 per cent payable by the State and 6.70 per cent by the other Class Two employers. Of the total rates, 3.75 per cent is attributable to normal contributions of the State and other employers. The unfunded accrued liability rates are therefore 3.80 per cent for the State and 2.95 per cent for other employers for the period July 1, 1989 to June 30, 1990.

On the basis of the above unfunded accrued liability contribution rates and assuming that active payroll will increase by 4% each year, it is anticipated that the unfunded accrued liability of \$2,070,920 shown in the valuation balance sheet will be liquidated within a period of approximately 28 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	2.79%	3.75%	3.75%
Unfunded Accrued Liability	1.46	3.80	2.95
Pre-retirement Death Benefit	<u>.15</u>	<u>.15</u>	<u>.15</u>
Total	4.40%	7.70%	6.85%

SECTION VI - VALUATION BASIS

The valuation of the Retirement System was made on the basis of the rates of separation and mortality tables adopted by the Board on December 14, 1989 and a salary scale and interest rate of 8% adopted by the Board on July 18, 1989. 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, 1989

GROUP	NUMBER
Retirees and beneficiaries currently receiving benefits and terminated employees entitled to benefits but not yet receiving benefits	137,274
Active Members:	
Vested	96,070
Non-vested	<u>64,298</u>
Total	160,368

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, 1989 are presented below. The amounts shown reflect post-retirement increases in allowances already granted and at 4 per cent per year in the future for all retired and active members.

Pension Benefit Obligation
(in \$ thousand)

° Retirees and beneficiaries currently receiving benefits and terminated employees entitled to benefits but not yet receiving benefits	\$ 3,428,970
° Current employees:	
Accumulated contributions	1,516,212
Employer-financed vested	960,716
Employer-financed nonvested	<u>2,740,202</u>
Total Pension Benefit Obligation	\$ 8,646,100

° Net assets available for benefits	\$ 6,068,557
° Unfunded Pension Benefit Obligation	\$ 2,577,543

3. The following first four 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 Available for Benefits	(2) Pension Benefit Obligation	(3) Percentage Funded (1) ÷ (2)	(4) Unfunded Pension Benefit Obligation (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
7/1/89	6,068.6	8,646.1	70.2	2,577.5	3,305.4	78.0

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, 1989
(All dollar amounts are in thousands)

(1)	Actuarial liabilities	
	Present value of prospective benefits payable in respect of:	
	(a) Present retired members and beneficiaries	\$ 3,275,332
	(b) Present active and inactive members	<u>8,381,023</u>
	(c) Total actuarial liabilities	\$ 11,656,355
(2)	Assets of the System	<u>6,068,557</u>
(3)	Present value of future contributions = (1)(c) - (2)	\$ 5,587,798
(4)	Present value of future contributions by members	<u>2,240,591</u>
(5)	Present value of future contributions by employers = (3) - (4)	\$ 3,347,207
(6)	Present value of future normal contributions by employers	\$ 1,276,287
(7)	Present value of unfunded accrued liability contributions by employers = (5) - (6)	\$ 2,070,920
(8)	Unfunded accrued liability rates	
	(a) Class One Service	1.46%
	(b) Class Two Service: State	3.80
	(c) Class Two Service: Others	2.95
(9)	Unfunded accrued liability liquidation period	28 years
(10)	Pre-retirement death benefit contribution rate	.15%

SCHEDULE B

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

INTEREST RATE: 8% 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							
	<u>With- drawal</u>	<u>Death</u>	<u>Dis- ability</u>	<u>Service Retire- ment*</u>	<u>With- drawal</u>	<u>Death</u>	<u>Dis- ability</u>	<u>Service Retire- ment</u>
	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	5.00%	1.74	.20	.20	5.00%
55	2.03	.50	.34	5.00	1.18	.29	.35	5.00
60		.70	.59	10.00		.45	.61	15.00
64		.92	.94	20.00		.66	.82	20.00

Age	Annual Rates of				
	<u>Withdrawal</u>	<u>Death</u>	<u>Dis- ability</u>	<u>Service Retire- ment*</u>	<u>Salary Increase</u>
	Employees			Teachers and Employees	
	<u>Men</u>	<u>Women</u>			
20	13.94%	12.55%	.07%	.04%	11.81%
25	12.46	11.21	.09	.04	10.90
30	9.78	8.80	.11	.06	9.50
35	7.38	6.64	.14	.08	7.81
40	5.57	5.01	.18	.10	7.00
45	4.27	3.84	.28	.15	6.60
50	3.18	2.86	.46	.25	5.00%
55	2.14	1.93	.75	.40	5.00
60			1.08	.61	10.00
64			1.36	.85	20.00

*Plus 0.15 in year when first eligible for unreduced early retirement.

DEATHS AFTER RETIREMENT: 1971 Group Annuity Mortality Tables, rated back one year, for service retirement and dependent beneficiaries. 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.

COST-OF-LIVING INCREASES: For funding purposes, 4% per year for current retirees and active members eligible to retire; for GASB, 4% per year after assumed retirement for all members.

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, 1989 on service retirement, a Class One member receives a retirement allowance equal to 1.45% 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 1.82% 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 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 JUNE 30, 1989

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
16	7 \$	28,746	3 \$	13,201
17	7	44,648	4	30,148
18	23	180,565	11	86,625
19	167	1,523,192	107	884,195
20	313	3,117,888	262	2,437,357
21	409	4,466,413	399	4,245,753
22	529	6,160,510	609	7,107,608
23	704	9,134,363	1,152	15,673,050
24	871	12,277,460	1,731	25,877,203
25	1,048	15,597,687	2,073	32,170,233
26	1,238	19,287,679	2,425	39,100,852
27	1,241	20,566,215	2,635	44,069,933
28	1,358	22,986,735	2,812	48,040,919
29	1,367	24,438,200	2,764	47,107,479
30	1,348	24,977,648	2,884	49,980,317
31	1,480	28,837,298	3,052	54,377,828
32	1,552	29,889,127	3,377	60,074,061
33	1,642	33,369,608	3,468	64,219,100
34	1,572	33,490,997	3,610	67,117,524
35	1,644	35,728,214	3,869	73,355,445
36	1,710	39,106,481	3,878	74,611,614
37	1,817	42,823,860	4,062	79,910,955
38	1,763	43,043,312	4,014	80,867,823
39	1,797	45,350,880	3,984	81,832,111
40	1,928	50,224,262	3,880	79,994,077
41	1,848	50,092,128	3,857	78,959,619
42	2,009	55,444,826	4,190	86,965,978
43	1,800	51,428,047	3,630	74,497,348
44	1,483	41,758,806	2,872	59,185,146
45	1,464	42,064,151	2,857	58,100,526
46	1,444	42,325,602	2,837	58,280,208
47	1,339	38,783,577	2,647	53,817,833
48	1,214	35,765,524	2,336	47,729,580
49	1,194	35,878,752	2,156	43,526,973
50	1,104	32,075,500	1,999	39,637,913
51	1,174	34,956,466	1,910	38,414,143
52	1,013	28,265,094	1,795	35,449,956
53	1,027	29,136,679	1,656	31,768,438
54	983	27,528,487	1,671	31,545,462
55	960	28,154,823	1,548	29,047,262

TABLE 1
 THE NUMBER AND EARNABLE COMPENSATION OF MEMBERS
 DISTRIBUTED BY AGE
 AS OF JULY 1, 1989

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
56	981 \$	26,706,470	1,435 \$	27,419,947
57	999	26,479,391	1,480	27,532,172
58	799	22,322,106	1,285	23,461,387
59	872	23,036,929	1,179	21,582,553
60	760	20,858,600	1,090	19,800,401
61	690	17,366,248	981	17,669,112
62	585	15,545,860	835	15,384,811
63	403	11,176,751	530	9,375,564
64	334	8,707,273	460	8,100,106
65	243	7,324,260	370	6,749,475
66	166	4,071,773	177	2,933,888
67	136	3,418,987	163	2,552,631
68	123	3,529,565	104	1,350,948
69	86	2,192,077	95	1,579,761
70	64	1,608,177	56	806,209
71	46	1,051,169	48	724,943
72	28	555,455	31	459,788
73	29	438,137	16	190,220
74	18	196,078	6	78,379
75	8	63,421	5	40,192
76	9	167,890	1	2,979
77	6	142,367		
78	6	85,281		
79	2	15,857		
81	2	10,097		
82	2	3,288		
83	1	4,485		
88	3	39,479	3	14,504
TOTAL	54,992	\$1,317,427,921	105,376	\$1,987,921,766

SUMMARY

EMPLOYEES	42,068 \$	999,916,752	50,244 \$	935,262,020
TEACHERS	12,924 \$	317,511,169	55,132	\$1,052,659,746

SEE FOOTNOTE TABLE I

TABLE 2
 THE NUMBER AND EARNABLE COMPENSATION OF MEMBERS
 DISTRIBUTED BY YEARS OF CREDITED SERVICE
 AS OF JULY 1, 1989

YEARS OF SERVICE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
0	2,976	\$ 37,980,592	4,328	\$ 56,866,106
1	6,361	99,671,851	12,486	176,189,190
2	4,548	81,900,922	8,841	138,520,671
3	3,985	80,691,884	7,416	123,309,759
4	3,540	74,256,586	7,007	118,874,359
5	3,101	68,243,546	6,700	117,442,894
6	2,368	52,288,230	4,489	81,342,574
7	1,832	42,123,679	3,745	71,207,705
8	2,028	48,607,306	4,048	78,663,675
9	1,943	48,241,942	4,162	79,896,325
10	2,163	53,262,151	4,714	88,740,421
11	1,972	51,065,845	4,353	86,800,123
12	1,705	45,586,670	3,664	74,541,313
13	1,518	41,392,576	3,333	69,708,726
14	1,360	39,622,330	3,140	67,555,594
15	1,636	47,898,136	3,504	77,800,799
16	1,608	48,593,851	3,086	70,179,351
17	1,412	45,568,993	2,650	62,039,778
18	1,210	40,204,821	2,301	54,962,911
19	1,065	34,675,754	1,971	47,567,218
20	983	32,048,801	1,709	42,071,096
21	799	27,115,004	1,351	33,592,562
22	671	22,864,406	1,109	27,252,334
23	606	20,678,824	986	24,728,514
24	548	18,816,367	748	20,072,756
25	452	15,891,322	657	17,834,778
26	411	14,911,887	553	15,123,419
27	365	13,032,744	465	12,616,512
28	295	10,733,372	396	10,689,801
29	302	10,681,506	360	9,749,457
30	290	10,793,111	319	8,927,899
31	205	8,010,137	129	3,588,954
32	154	5,824,949	132	4,022,068
33	136	5,635,502	124	3,684,666
34	105	4,390,783	100	2,825,745
35	72	2,874,832	72	2,189,453

TABLE 2
 THE NUMBER AND EARNABLE COMPENSATION OF MEMBERS
 DISTRIBUTED BY YEARS OF CREDITED SERVICE
 AS OF JULY 1, 1989

CONTINUED

YEARS OF SERVICE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
36	58	\$ 2,376,168	48	\$ 1,342,782
37	49	1,934,795	46	1,334,776
38	44	1,646,508	45	1,306,524
39	30	1,365,178	26	779,550
40	31	1,265,721	19	565,794
41	15	732,695	12	453,057
42	8	416,371	11	290,456
43	11	426,166	7	196,860
44	6	271,848	4	185,807
45	7	309,398	1	33,475
46	3	227,351	3	91,305
47	1	60,084	2	54,781
48	3	186,754		
50			2	48,764
51	1	27,672	2	58,329
TOTAL	54,992	\$1,317,427,921	105,376	\$1,987,921,766

SUMMARY

EMPLOYEES	42,068	\$ 999,916,752	50,244	\$ 935,262,020
TEACHERS	12,924	\$ 317,511,169	55,132	\$1,052,659,746

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, 1989

SERVICE RETIREMENTS AND BENEFICIARIES

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
7			2 \$	11,876
8			2	6,964
9	2 \$	4,238	1	8,920
10			3	6,883
11	1	1,872	4	19,635
12	1	4,008	1	5,998
13	1	2,385	1	4,353
14	1	2,272		
16			1	15,755
17			3	15,080
18	1	6,756	3	11,694
19	1	2,234	4	23,722
20	3	15,291	4	20,594
21	1	7,475	4	13,045
22	4	27,224	2	7,270
23	1	2,176	5	13,396
24	1	3,470	5	23,156
25	4	7,943	3	23,307
26	2	12,173	2	10,768
27	3	8,170	4	13,910
28	2	10,581	4	8,167
29	2	10,265	1	4,851
30	4	12,201	2	3,320
31	3	12,872	3	7,440
32	5	24,884	5	27,318
33	4	23,008	4	10,018
34	2	7,437	8	39,827
35	7	29,059	3	8,277
36	4	17,979	7	24,544
37	4	29,057	8	47,815
38	6	25,446	13	51,735
39	6	18,018	6	15,167
40	5	24,530	5	13,964
41	11	35,334	9	45,936
42	9	45,871	12	63,155
43	2	1,851	18	67,697
44	3	14,540	13	63,790
45	2	4,667	7	47,153
46	8	35,534	10	42,245
47	9	48,704	15	68,945
48	4	37,706	20	111,311
49	14	150,263	18	117,670

TABLE 3

THE DISTRIBUTION OF THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES
OF RETIRED MEMBERS AND BENEFICIARIES BY AGE
AS OF JULY 1, 1989

SERVICE RETIREMENTS AND BENEFICIARIES

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
50	16	\$ 206,931	18	\$ 162,914
51	22	335,277	33	210,370
52	35	563,355	42	506,361
53	41	745,776	53	604,753
54	67	1,132,909	122	1,746,218
55	86	1,485,855	114	1,683,123
56	108	1,908,288	157	2,155,850
57	151	2,905,759	209	2,961,948
58	128	2,472,768	228	3,396,886
59	130	2,339,570	261	3,895,917
60	176	3,310,345	341	4,440,477
61	234	3,540,722	499	5,504,399
62	275	3,576,547	662	5,973,671
63	447	4,570,394	796	5,833,121
64	485	4,960,196	879	6,332,008
65	592	5,584,986	985	6,288,991
66	618	5,776,721	1,034	6,735,872
67	673	5,782,786	1,153	7,381,924
68	690	5,944,388	1,120	6,624,247
69	660	5,287,313	1,137	7,002,945
70	545	4,332,073	1,048	6,407,689
71	597	4,353,968	908	5,201,491
72	506	3,915,867	917	5,206,800
73	527	3,774,257	964	5,264,850
74	461	3,317,734	831	4,903,527
75	430	2,701,394	815	4,807,498
76	402	2,697,498	762	4,265,765
77	360	2,148,613	787	4,453,349
78	339	2,059,474	740	4,136,779
79	291	1,810,287	698	3,745,556
80	256	1,612,711	645	3,933,494
81	213	1,510,620	637	3,679,812
82	170	1,022,421	547	3,318,340
83	162	1,055,414	459	2,704,989
84	113	743,614	403	2,368,065
85	105	627,578	370	2,206,097
86	82	461,069	303	1,644,549
87	68	381,611	263	1,285,376
88	45	324,387	202	1,080,253
89	43	262,485	177	860,099

TABLE 3

THE DISTRIBUTION OF THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES
OF RETIRED MEMBERS AND BENEFICIARIES BY AGE
AS OF JULY 1, 1989

SERVICE RETIREMENTS AND BENEFICIARIES

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
90	22	\$ 126,417	124	\$ 551,079
91	23	170,228	100	504,087
92	15	87,954	61	277,996
93	13	66,079	57	278,329
94	5	24,175	53	238,724
95	3	22,450	40	188,023
96	4	21,302	27	121,792
97	1	5,517	21	109,359
98	3	5,697	15	78,464
99	6	39,306	12	54,364
100	4	22,771	4	27,922
101			4	20,610
102	1	725	2	6,177
103	1	553	1	5,437
104	1	2,607		
105			2	17,809
TOTAL	11,594	\$102,867,236	23,088	\$154,543,216

SUMMARY

LIFE ANNUITY	4,736	\$ 31,111,005	15,070	\$ 90,405,292
CASH REFUND	1,073	8,647,545	1,534	10,706,446
100% J+S	1,617	13,251,874	477	2,226,708
50% J+S	1,338	15,912,022	400	3,099,055
SOC. SEC. LEVELING	1,248	19,677,389	2,586	31,272,041
BENEFICIARIES	416	1,868,371	2,530	12,555,607
100% POP-UP	602	5,248,597	207	1,524,253
50% POP-UP	564	7,150,433	284	2,753,814

TABLE 4

THE DISTRIBUTION OF THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES
OF RETIRED MEMBERS BY AGE
AS OF JULY 1, 1989

DISABILITY RETIREMENTS

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
25	1	\$ 448		
29			1	\$ 1,315
30	2	4,526		
31			2	6,332
32	3	9,047	1	2,962
33	3	13,232	5	43,058
34	5	20,403	4	16,479
35	14	66,619	9	27,991
36	5	14,650	8	41,001
37	3	8,744	13	53,967
38	9	33,800	7	37,221
39	8	30,803	14	78,532
40	12	69,883	10	105,417
41	15	76,322	16	72,752
42	14	75,018	18	112,880
43	18	99,258	24	125,822
44	12	62,895	20	121,930
45	20	120,740	16	73,910
46	16	89,434	23	127,934
47	12	92,034	27	128,011
48	22	114,464	26	143,003
49	23	139,213	19	123,321
50	22	112,334	22	163,098
51	33	182,269	25	112,674
52	42	319,040	33	183,800
53	35	274,307	32	189,276
54	35	239,576	44	200,408
55	48	320,626	48	334,146
56	43	391,333	59	366,519
57	57	361,821	61	323,453
58	61	384,971	60	432,857
59	76	519,195	71	430,215
60	64	406,600	72	446,878
61	84	516,354	104	666,883
62	88	577,861	109	651,149
63	84	509,686	102	674,553
64	95	619,495	106	643,319
65	78	489,048	93	585,146
66	79	526,888	99	548,719
67	65	389,665	100	537,506

TABLE 4

THE DISTRIBUTION OF THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES
OF RETIRED MEMBERS BY AGE
AS OF JULY 1, 1989

DISABILITY RETIREMENTS

CONTINUED

AGE	MEN		WOMEN	
	NUMBER	AMOUNT	NUMBER	AMOUNT
68	92	542,976	99	591,799
69	76	489,076	87	595,267
70	81	427,925	94	513,813
71	61	319,300	77	399,200
72	40	262,739	81	480,784
73	45	266,762	66	329,050
74	33	176,729	56	338,880
75	35	158,166	42	217,370
76	25	123,970	40	208,411
77	3	7,774	9	45,207
78	3	11,786	5	24,712
79	1	3,786	2	7,359
80	1	735	1	1,656
82			1	5,161
87			1	4,974
102	1	8,988		
TOTAL	1,803	\$ 11,083,314	2,164	\$ 12,698,080

SUMMARY

LIFE ANNUITY	975	\$ 6,255,267	1,768	\$ 10,451,252
CASH REFUND	179	1,150,264	158	1,015,668
100% J+S	324	1,488,044	134	580,987
50% J+S	168	1,233,285	63	391,863
SOC. SEC. LEVELING			1	9,283
100% POP-UP	77	373,550	19	86,155
50% POP-UP	80	582,904	21	162,872