



**South Carolina Retirement System  
(SCRS)  
Annual Actuarial Valuation  
as of July 1, 2009**

May 10, 2010

State Budget and Control Board  
South Carolina Retirement System  
P.O. Box 11960  
Columbia, SC 29211-1960

Members of the Board:

The laws governing the operation of the South Carolina Retirement System provide that actuarial valuations of the assets and liabilities of the System shall be made annually. We have conducted the annual actuarial valuation of the South Carolina Retirement System as of July 1, 2009 and the results of the valuation are contained in the following report.

A funding objective of the System is that contribution rates as a percentage of payroll will remain relatively level over time. As these contribution rates are set by the Board, the valuation is used to determine the sufficiency of the contributions to maintain or improve the measures of the System's funding progress (i.e. *funded ratio*, *funding period*) and provide for the complete funding of all actuarial liabilities within 30 years.

In performing the valuation, we relied on data supplied by the System and performed limited tests on the data for consistency and reasonableness. All benefits provided under the South Carolina Code of Laws are included in the valuation with the exception of the Group Life Insurance Plan benefits which are covered under a separate actuarial valuation. The normal cost and accrued liability of the System are developed using the entry age normal cost method. Under this method, the normal cost is level percent of payroll necessary to fully fund the expected benefits to be earned over the career of each individual active member. The normal cost is partially funded with active member contributions with the remainder funded by employer contributions.

In determining the System's liabilities, future events, such as investment returns, salary increases, deaths, retirements, etc., are anticipated based upon the set of actuarial assumptions as approved by the Board. The assets of the system for valuation purposes are developed using an asset smoothing technique which spreads the recognition of the unexpected portion market related gains and losses over a period of years with the goal of dampening the impact of market volatility upon valuation results.

An unfunded accrued liability exists in the amount equal to the excess of accrued liability over valuation assets. The amortization period of the System is the number of years required to fully amortize the unfunded accrued liability with the expected amount of employer contributions in excess of the employers' portion of the normal cost. The System's current assets together with the scheduled contributions are expected to fully fund the System's liabilities within 30 years. In our opinion, SCRS continues to operate on an actuarially sound basis.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

This is to certify that the undersigned are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions and methods that are internally consistent and reasonably based on the actual experience of the System.

Respectfully submitted,



John J. Garrett, ASA, FCA, MAAA  
Principal and Consulting Actuary



Edward A. Macdonald, ASA, FCA, MAAA  
President

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## Section I: Board Summary

The table below summarizes the results of the July 1, 2009 actuarial valuation as compared with the prior year. Note that all dollar amounts are shown in thousands.

<b>Table I-1: Comparative Summary of Principal Results</b>		
	<b>July 1, 2009</b>	<b>July 1, 2008</b>
<b>Membership</b>		
Number of:		
Active Members	192,319	192,820
TERI Members	6,633	7,506
Retirees and Beneficiaries	101,381	97,016
Inactive Members	<u>156,999</u>	<u>155,038</u>
Total	457,332	452,380
Payroll (excludes ORP & TERI members)	\$7,761,808	\$7,559,172
<b>Statutory Contribution Rates</b>		
Member	6.50%	6.50%
Employer		
Retirement Contribution	9.24%	9.24%
Group Life Insurance Contribution	<u>0.15%</u>	<u>0.15%</u>
Total Employer Contribution Rate	9.39%	9.39%
<b>Assets</b>		
Market Value	\$17,724,414	\$23,124,394
Actuarial Value	\$25,183,062	\$24,699,678
Return on Market Value	(20.8%)	(2.7%)
Return on Actuarial Value	4.7%	7.7%
Ratio of Actuarial to Market Value	142.1%	106.8%
<b>Actuarial Information</b>		
Employer Normal Cost %	3.36%	3.36%
Unfunded Actuarial Liability (UAL)	\$11,967,253	\$10,963,741
Funded Ratio	67.8%	69.3%
Amortization Period	30 years*	29 years
<b>Change in Unfunded Actuarial Liability</b>		
Beginning of Year Unfunded Actuarial Liability	\$10,963,741	\$10,225,000
Interest on Unfunded Actuarial Liability	877,099	741,000
Amortization Payment with Interest	(640,104)	(580,000)
COLA	(411,521)	205,000
Salary Experience	(25,433)	160,000
Other Liability Experience	349,592	302,000
Benefit Changes	0	2,637,000
Assumption Changes	0	(2,663,000)
Asset Experience	853,879	(63,000)
Total Increase / (Decrease)	\$1,003,512	739,000
End of Year Unfunded Actuarial Liability	\$11,967,253	\$10,964,000

\*Pending Board approval of a 0.30% contribution rate increase effective 7/1/2012 to maintain a 30 year period.

## Section I: Board Summary

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### Summary of Key Findings

The current employer contribution rate for the System is 9.39%, including a 0.15% contribution for the Group Life Fund. The 9.24% net employer contribution is used to pay the employer's portion of the normal cost and to amortize the unfunded actuarial accrued liability (UAAL).

The actuarially determined employer normal cost contribution rate remained at 3.36% of covered payroll for FY 2011. Therefore, the net contribution towards the UAAL also remained at 5.88% of covered payroll. The unfunded actuarial liability increased from \$10.96 billion to \$11.97 billion. The resulting amortization period increased to 32.1 years. In order to satisfy the required 30-year amortization period as of July 1, 2009, the employer contribution rate effective the fiscal year beginning July 1, 2012 would need to increase by 0.30% of covered payroll to 9.69% (includes 0.15% for Group Life Insurance). We note the following key findings:

- The UAAL grew by \$877 million due to interest and decreased by \$640 million due to the amortization payment. This results in a 1 year decrease to the amortization period.
- The System experienced an actuarial loss on plan assets of \$854 million as a result of investment return on the actuarial value of assets being less than the assumed rate. The loss increased the amortization period by 4.1 years. Table III-3 provides the calculation of the investment loss for this year.
- The System experienced a net actuarial gain \$87 million on plan liabilities due to non-investment related experience. Table IV-4 provides the reconciliation of the UAAL which is summarized as follows:
  1. The System provides post-retirement Cost of Living Adjustments based upon the annual change in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) up to 2.00%. The benefits paid to eligible retirees and beneficiaries are expected to increase at a rate of 2.00% annually. The CPI-W for the year ended December 31, 2008 declined from the prior year and resulted in no increase to the benefits amounts. This resulted in a \$412 million decrease in plan liabilities and reduced the amortization period by 1.9 years.
  2. The System experienced a \$25 million gain due to salary experience which reduced the funding period by 0.1 years.

## Section I: Board Summary

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3. Partially offsetting these gains were losses primarily attributable to the System turnover experience. The losses increased plan liabilities by \$350 million and increased the funding period by 1.1 years.
4. Other factors, such as lower than expected active member payroll and the change in actuarial firms, resulted in a 1.4 year increase in the amortization period. These factors had a minor direct impact on the UAAL.

Section II of the report provides summarized information on the membership data used in the valuation. Section III of the report covers the System's assets and Section IV of the report covers the System's liabilities. The results of the valuation are provided in Section V of the report and the accounting information is in Section VI. The appendices provide additional information on: A) the System members; B) the actuarial assumptions and methods; and C) the summary of plan provisions. It should be noted that all information contained in this report for periods prior to July 1, 2009 were produced by a prior actuarial consulting firm.

## Section II: Membership Data

Data regarding the membership of the System for use in the valuation were furnished by the Retirement Systems. The following table summarizes the membership data as of July 1, 2009 and is compared with that reported for the prior year.

<b>Table II-1: Summary of Membership Data</b>		
	<b>July 1, 2009</b>	<b>July 1, 2008</b>
<b>Active Members</b>		
Number of State Employees	54,347	55,053
Total Annual Compensation	\$2,396,568	\$2,376,315
Number of Public School Employees	85,491	85,569
Total Annual Compensation	\$3,378,595	\$3,269,682
Number of Other Agency Employees	52,481	52,198
Total Annual Compensation	\$1,986,645	\$1,913,175
Total Number of Active Members	192,319	192,820
Total Annual Compensation	\$7,761,808	\$7,559,172
Number of Active TERI Participants	6,633	7,506
Total Annual Compensation	\$390,542	\$428,861
Number of Rehired Retired Members	14,281	14,289
Total Annual Compensation	\$542,433	\$511,716
Number of ORP Members	21,207	18,559
Total Annual Compensation	\$974,487	\$888,473
<b>Retirees and Beneficiaries</b>		
Number of Service Retirements <sup>1</sup>	88,830	85,828
Total Annual Benefit Payments	\$1,746,852	\$1,688,441
Number of Disability Retirements	11,567	11,302
Total Annual Benefit Payments	\$145,524	\$141,918
Number of Beneficiaries	7,617	7,392
Total Annual Benefit Payments	\$81,601	\$78,739
<b>Inactive Members<sup>2</sup></b>		
Number of Non-vested Inactive Members	139,133	137,553
Number of Vested Inactive Members	17,866	17,485

*All dollar amounts are in thousands.*

1. Number of Service Retirements includes Active TERI participants and Rehired Retirees.

2. Non-vested inactive members are those with less than 5 years of service and only entitled to a refund.



## Section III: System Assets

The following tables provide information on the System's assets and cash flow.

<b>Table III-1: Market Value Reconciliation and Cash Flow</b>		
	<b>July 1, 2009</b>	<b>July 1, 2008</b>
1. Beginning of Year Market Value of Assets	\$23,124,394	\$24,412,197
<b>Income</b>		
2. Employer Contributions	\$815,225	\$762,666
3. Member Contributions	<u>564,872</u>	<u>540,845</u>
Total Contributions	\$1,380,097	\$1,303,511
4. Investment Income (net of expenses)	(\$4,748,038)	(\$656,330)
<b>Disbursements</b>		
5. Benefit Payments	\$2,030,328	\$1,932,919
6. Transfers	\$1,711	\$2,065
7. Net Change in Market Value of Assets (2 + 3 + 4 - 5 - 6)	(\$5,399,980)	(\$1,287,803)
8. End of Year Market Value of Assets (1 + 7)	\$17,724,414	\$23,124,394
Approximate Rate of Return on Market Value of Assets	(20.8%)	(2.7%)
Net Cash Flow (Contributions less Disbursements)	(\$651,942)	(\$631,473)
Cash Flow as a % of Average Market Value	(3.2%)	(2.7%)
<i>All dollar amounts are in thousands.</i>		

A mature System such as SCRS is expected to exhibit negative net cash flow as the number of members receiving benefit payments becomes a larger portion of total membership. In a year with a significant increase or decrease in the market value of assets, the cash flow as a percent of market value will likewise fluctuate.

## Section III: System Assets

### Development of Actuarial Value of Assets

The Actuarial Value of Assets represents a "smoothed" value developed with the purpose to dampen the impact of market volatility on the assets used in determining valuation results. The Actuarial Value of Assets has been calculated by spreading the recognition of excess investment income over ten years (five years for income prior to July 1, 2007). The amount of excess investment income in each year is the difference between expected and actual market value investment income. Table III-2 provides the calculation of the amount of the current year market value excess investment income to be phased-in as well as the total amount of deferred excess investment income from the current and prior years calculated in the development of the actuarial value of assets.

<b>Table III-2: Development of Actuarial Value of Assets</b>			
<b>Calculation of Current Year Excess Investment Income</b>			
1. Market Value of Assets at Beginning of Year			\$23,124,394
2. Value of TERI Accounts at Beginning of Year			551,911
3. TERI Net Cash Flow During the Year			(121,106)
4. Total Net Cash Flow During the Year (3 + Table III-1 Net Cash Flow)			(773,048)
5. Market Value of Assets at End of Year			17,724,414
6. Value of TERI Accounts at End of Year			430,805
7. Actual Investment Income During the Year Based on Market Value			(4,748,038)
8. Expected Earnings for the Year			
a. Market Value of Assets, Beginning of Year [(1 + 2) x 8.00%]			1,894,104
b. Net Cash Flow (4 x 8.00% x .5)			<u>(30,922)</u>
c. Total (a + b)			1,863,182
9. Current Year Excess Investment Income (7 – 8c)			(\$6,611,220)
<b>Calculation of Total Amount of Deferred Excess Investment Income</b>			
10. Amounts of Excess Investment Income from Current and Prior Years			
<u>Valuation Year</u>	<u>Excess Investment Income</u>	<u>Percent Deferred</u>	<u>Amount Deferred</u>
2009	(\$6,611,220)	90%	(\$5,950,098)
2008	(2,446,593)	80%	(1,957,274)
2007	1,339,490	40%	535,796
2006	(435,359)	20%	<u>(87,072)</u>
Total Amount of Deferred Excess Investment Income			(\$7,458,648)
11. Actuarial Value of Assets as of July 1, 2009 (5 - 10)			\$25,183,062
Approximate Rate of Return on Actuarial Value of Assets			4.7%
<i>All dollar amounts are in thousands.</i>			

## Section III: System Assets

The actuarial valuation assumes the investment income on the assets of the System is 8.00% annually. This assumption is based upon the reasonable long-term expected return on the assets. In each year, the System will experience actuarial gains and losses due to the actual investment return of the assets.

**Table III-3: Calculation of Actuarial Investment Gain/(Loss)**

1. Actuarial Value of Assets at Beginning of Year	\$24,699,678
2. Value of TERI Accounts Beginning of Year	551,911
3. Total Net Cash Flow (Table III-2(4))	(773,048)
4. Expected Return on Actuarial Value of Assets $[(1 + 2) \times 8.00\% + 3 \times 8.00\% \times .5]$	1,989,205
5. Value of TERI Accounts End of Year	<u>430,805</u>
6. Expected Actuarial Value of Assets at End of Year $(1 + 2 + 3 + 4 - 5)$	\$26,036,941
7. Actual Actuarial Value of Assets at End of Year (Table III-2(11))	<u>\$25,183,062</u>
8. Actuarial Gain/(Loss) Due to Investment Experience $(7 - 6)$	(\$853,879)

*All dollar amounts are in thousands.*

As recommended in the latest experience study (covering the 5 year period ending June 30, 2007), the Board moved to adopt an increase to the asset smoothing period from 5 to 10 years for gains and losses experienced after June 30, 2007. The change to a longer asset smoothing period had the purpose of adjusting for the additional expected volatility of returns due to less restrictive asset allocation and the expansion of allowable asset classes in which the system can now invest. Maintaining a restriction on the asset smoothing method, such as the corridor, is contrary to the implementation of an extended smoothing period.

## Section IV: System Liabilities

The present value of benefits is the value as of the valuation date of all future benefits expected to be paid to current members of the System. Table IV-1 presents the present value of benefits by category as of the valuation date.

<b>Table IV-1: Present Value of Benefits</b>	
<b>Active Members</b>	
Service Retirement	\$17,404,218
Disability Retirement	1,383,510
Survivors' Benefits	303,263
Termination	<u>1,450,799</u>
Total for Active Members	\$20,541,790
<b>Inactive Members</b>	
Non-Vested (Refund only)	\$180,063
Vested	<u>583,700</u>
Total for Inactive Members	\$763,763
<b>Retirees and Beneficiaries</b>	
Service Retirements	\$19,176,679
Disability Retirements	1,428,559
Beneficiaries	<u>776,323</u>
Total for Retirees and Beneficiaries	\$21,381,561
<b>Total Present Value of Benefits</b>	<b>\$42,687,114</b>
<i>All dollar amounts are in thousands.</i>	

An actuarial cost method allocates each individual's present value of benefits to past and future years of service. The actuarial accrued liability includes the portion of the active member present value of benefits allocated to past service as well as the entire present value of benefits for retirees, beneficiaries and inactive members. Table IV-2 presents the actuarial accrued liability as of the valuation date for active members.

## Section IV: System Liabilities

<b>Table IV-2: Actuarial Accrued Liability</b>	
Active Members	
Service Retirement	\$13,817,703
Disability Retirement	873,199
Survivors' Benefits	215,696
Termination	<u>98,393</u>
Total for Active Members	\$15,004,991
Total for Inactive Members (Table IV-1)	763,763
Total for Retirees and Beneficiaries (Table IV-1)	<u>\$21,381,561</u>
Total Actuarial Accrued Liability	\$37,150,315
All dollar amounts are in thousands.	

The funded ratio of the System is the ratio of the actuarial value of assets (Table III-2) divided by the actuarial accrued liability (Table IV-2) as of the valuation date. As of July 1, 2009, the funded ratio of the System is 67.8% as compared to the ratio in prior valuation of 69.3%. The decline in the funded ratio is primarily attributable to the investment experience during the year. The ratio is a commonly used measure of the funding progress of a System and can be useful in reviewing the historical trend of a System's funding progress. Such a review should also consider the impact to this measure over the historical period due to changes to plan benefits, changes to the actuarial assumptions and methods, and significant impact that investment experience can have on the ratio over short-term periods. We caution that no single "point in time" measure can provide a universal basis for comparing one System to another.

Under the valuation funding method, an unfunded actuarial accrued liability (UAAL) exists to the extent that the actuarial accrued liability exceeds the actuarial value of assets as presented in Section III. The calculation of the UAAL as of the valuation date is shown in Table IV-3.

<b>Table IV-3: Unfunded Actuarial Accrued Liability (UAAL)</b>	
1. Total Actuarial Accrued Liability (Table IV-2)	\$37,150,315
2. Actuarial Value of Assets (Table III-2(11))	<u>\$25,183,062</u>
Unfunded Actuarial Accrued Liability (UAAL) (1 – 2)	\$11,967,253
All dollar amounts are in thousands.	

## Section IV: System Liabilities

Although the terminology used to describe the excess of the System's actuarial accrued liability over the System's actuarial value of assets is called the "unfunded" actuarial accrued liability, there is a dedicated source of funding for this liability. The scheduled contributions are expected to completely fund the System's liabilities (pay off the UAAL) within 30 years.

The calculation of the System's actuarial assets and liabilities require the use of several assumptions concerning the future experience of the System and its members. In each annual valuation, the latest year of actual experience is compared to that expected by the prior valuation. The differences are actuarial gains and losses which decrease or increase the UAAL. Table IV-4 provides for the reconciliation of the UAAL and shows the primary sources of this year's gains and losses due to actuarial experience.

<b>Table IV-4: Reconciliation of the UAAL</b>	
1. Beginning of Year UAAL	\$10,963,741
2. Expected Amortization Payment	(615,485)
3. Expected Interest (1 x 8.00% + 2 x 8.00% x .5)	<u>852,480</u>
4. Expected End of Year UAAL (1 + 2 + 3)	\$11,200,736
5. Actuarial Experience (Gain)/Loss	
Salary Experience	(25,433)
COLA	(411,521)
Turnover and Other Liability Experience	349,592
Asset Experience	<u>853,879</u>
Total Actuarial (Gain)/Loss	\$766,517
6. End of Year UAAL (4 + 5)	\$11,967,253
All dollar amounts are in thousands.	

## Section V: Actuarial Valuation Results

The employer contribution rate established by the Board funds the employers' portion of the normal cost and amortizes the UAAL over a period not to exceed 30 years. The primary result of the actuarial valuation is to test the sufficiency of the employer contribution rate to meet these funding requirements.

Section IV of this report presented the System's actuarial accrued liability as the portion of the present value of benefits allocated to past years of service. The portion of the active members' present value of benefits allocated to future years of service is funded through annual normal cost contributions comprised of both active member and employer contributions. The System's annual normal cost rate is calculated as a percent of covered payroll which is expected to remain level over all future years of service. The portion of the total normal cost rate in excess of the active member contribution rate is the employer normal cost rate. The normal cost rate developed as of the valuation date is presented in Table V-1.

<b>Table V-1: Normal Cost Rate</b>	
<b>Normal Cost Rate of Active Members by Expected Benefit Type</b>	
Service Retirement	6.46%
Disability Retirement	0.89%
Survivors' Benefits	0.16%
Termination	<u>2.35%</u>
Total Normal Cost Rate for Active Members	9.86%
Less: Active Member Contribution Rate	<u>6.50%</u>
Employer's Normal Cost Rate	3.36%

The established employer contribution rate is currently 9.39% of active member payroll and includes the 0.15% contribution rate required for funding the Group Life Insurance (GLI) benefit program. The net 9.24% employer contribution rate is available to fund the annual normal cost and amortize the UAAL as a level percent of payroll. In addition, there are other, less significant sources of UAAL amortization funding based upon the payroll of Teacher and Employee Retirement Incentive (TERI) participants, Optional Retirement Plan (ORP) participants and retirees reemployed in positions covered by the System. The contribution rates of these groups, along with the rate of active member payroll which is available to amortize the UAAL, is shown in Table V-2.

## Section V: Actuarial Valuation Results

Table V-2: UAAL Amortization Rate	
<b>Calculation of Amortization Rate on Active Member Payroll</b>	
	<b>% of Payroll</b>
Statutory Employer Contribution Rate	9.39%
Less: Group Life Insurance Benefit Rate	0.15%
Less: Employer Normal Cost Rate (Table V-1)	<u>3.36%</u>
Employer Contribution Rate Available to Amortize UAAL	5.88%
<b>Additional Sources of Amortization Funding</b>	
	<b>% of Payroll</b>
TERI participants (entered prior to 7/1/2005)	9.24%
TERI participants (entered on or after 7/1/2005)	15.74%
ORP participants	4.24%
Rehired Retiree participants	15.74%

The System's amortization period or funding period is the calculated number of years necessary to fully amortize the UAAL with the available contribution amounts from all sources. The calculation assumes that the payroll of all sources, active members, TERI participants, ORP participants and rehired retirees, will increase at an annual rate of 4.0% each future year. The assumed rate of payroll growth reflects the System's assumption for long-term wage inflation and does not anticipate future increases in number of participants. The calculation also anticipates that the remaining participants that entered TERI prior to July 1, 2005 will leave TERI by June 30, 2010. Based upon this method, as of July 1, 2009 the calculated amortization period required to fully amortize UAAL (Table IV-3) with the expected amortization funding from all sources is 32.1 years.



## Section V: Actuarial Valuation Results

If all actuarial assumptions were met exactly, the amortization period would be expected to have decreased by 1 year from the period calculated in the prior valuation. The actual experience of the latest valuation has increased the amortization period by 4.1 years. The sources and magnitude of changes to the calculated amortization period due to the actual experience over the plan year are provided in Table V-3.

<b>Table V-3: Reconciliation of Calculated Amortization Period</b>	
	<u>Years</u>
1. Amortization Period Calculated as of July 1, 2008	28.5
2. Change in years due to:	
Expected Decrease	(1.0)
COLA Experience	(1.9)
Salary Experience	(0.1)
Turnover Experience	1.1
Other Experience (e.g. Payroll Growth)	1.4
Asset Experience	<u>4.1</u>
Total	3.6
3. Amortization Period Calculated as of July 1, 2009 (1 + 2)	32.1

If the calculated amortization period exceeds the statutory maximum, the Board may schedule an increase(s) in the employer contribution rate in order to re-establish a 30-year amortization period as of the valuation date. For the Board's consideration, in Table V-4 we have provided a schedule of increases to the employer contribution rate that will satisfy a 30-year amortization period as of July 1, 2009.

<b>Table V-4: Alternative Employer Contribution Rate Increases</b>	
<u>Alternative Description</u>	<u>Rate Increase</u>
Annual Employer Contribution Rate Increase beginning 7/1/2012	0.30%

## Section VI: Accounting Statement Information

The Tables provided in this Section present disclosure information necessary to comply with GASB requirements and are relevant for the annual financial reporting of the System.

**Table VI-1: GASB Statement No. 25 Schedule of Funding Progress**

Actuarial Valuation as of July 1	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Actuarial Assets as a % of Actuarial Liabilities	Unfunded AAL (UAAL)	Annual Active Member Payroll	UAAL as a % of Active Member Payroll
2009	\$ 25,183,062	\$ 37,150,315	67.8%	\$11,967,253	\$ 7,761,808	154.2%
2008	24,699,678	35,663,419	69.3%	10,963,741	7,559,172	145.0%
2007	23,541,438	33,766,678	69.7%	10,225,240	7,093,181	144.2%
2006	22,293,446	32,018,519	69.6%	9,725,073	6,733,379	144.4%
2005	21,625,510	30,217,471	71.6%	8,591,961	6,356,489	135.2%
2004	20,862,659	25,977,852	80.3%	5,115,193	6,180,599	82.8%
2003	20,197,936	24,398,931	82.8%	4,200,995	6,240,768	67.3%

All dollar amounts are in thousands.

**Table VI-2: Solvency Test**

Actuarial Valuation as of July 1	Actuarial Accrued Liability for:			Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
	Active Member Contributions	Retirants & Beneficiaries	Employer Funded Portion of Active Members		(1)	(2)	(3)
	(1)	(2)	(3)				
2009	\$5,980,022	\$21,381,561	\$9,788,732	\$25,183,062	100%	89.8%	0.0%
2008	5,708,620	20,624,862	9,329,937	24,699,678	100%	92.1%	0.0%
2007	5,464,756	19,084,672	9,217,250	23,541,438	100%	94.7%	0.0%
2006	5,229,175	17,800,254	8,989,090	22,293,446	100%	95.9%	0.0%
2005	4,915,423	16,891,954	8,410,094	21,625,510	100%	98.9%	0.0%
2004	4,750,077	14,184,765	7,043,010	20,862,659	100%	100.0%	27.4%
2003	4,627,360	13,240,368	6,531,203	20,197,936	100%	100.0%	35.7%

All dollar amounts are in thousands.

## Section VI: Accounting Statement Information

**Table VI-3: Active Member and Payroll Information**

Actuarial Valuation as of July 1	Number of Employers	Number of Active Members	Annual Payroll (\$000's)	Annual Average Pay	Percentage Increase in Average Pay
2009	781	192,319	\$7,761,808	\$40,359	2.95%
2008	776	192,820	7,559,172	39,203	3.89%
2007	777	187,968	7,093,181	37,736	3.28%
2006	763	184,282	6,733,379	36,538	4.06%
2005	768	181,022	6,356,489	35,114	3.30%
2004	763	181,827	6,180,599	33,992	1.06%
2003	763	185,538	6,240,768	33,636	3.50%
2002	746	189,166	6,147,712	32,499	3.42%
2001	739	191,494	6,017,537	31,424	5.15%
2000	729	196,825	5,881,847	29,884	5.49%

**Table VI-4: Schedule of Retirants Added to and Removed from Rolls**

Year Ended July 1	Added to Rolls		Removed from Rolls		Roll End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances (\$000's)	Number	Annual Allowances (\$000's)	Number	Annual Allowances (\$000's)		
2009	6,190	\$101,813	2,698	\$36,834	108,014	\$1,974,077	3.4%	\$18,276
2008	6,021	132,856	2,396	30,178	104,522	1,909,098	5.7%	18,265
2007	5,944	130,286	2,252	28,455	100,897	1,806,420	6.0%	17,904
2006	4,621	118,271	2,083	24,099	97,205	1,704,589	5.8%	17,536
2005	7,203	167,748	2,143	23,537	94,667	1,610,417	9.8%	17,011
2004	7,319	151,477	2,132	22,656	89,607	1,466,206	9.6%	16,363
2003	7,866	163,867	2,510	27,662	84,420	1,337,385	11.3%	15,842
2002	7,344	140,077	2,334	24,531	79,064	1,201,180	10.6%	15,193
2001	12,523	284,739	2,474	23,735	74,054	1,085,634	31.7%	14,660
2000	4,772	93,459	1,830	17,139	64,005	824,630	10.2%	12,884

## Section VI: Accounting Statement Information

<b>Table VI-5: Retired Members and Beneficiaries as of July 1, 2009</b>		
<b>Group</b>	<b>Number</b>	<b>Annual Retirement Allowances</b>
<b>Service Retirements</b>		
Employees:		
Male	20,445	\$469,329,404
Female	<u>24,570</u>	<u>394,669,901</u>
Total	45,015	\$863,999,305
Teachers:		
Male	8,411	\$205,374,004
Female	<u>35,404</u>	<u>677,578,930</u>
Total	43,815	\$882,952,934
<b>Disability Retirements</b>		
Employees:		
Male	3,067	\$39,581,855
Female	<u>3,883</u>	<u>45,902,373</u>
Total	6,950	\$85,484,228
Teachers:		
Male	901	\$12,558,258
Female	<u>3,716</u>	<u>47,481,363</u>
Total	4,617	\$60,039,621
<b>Beneficiaries of Deceased Retired and Active Members</b>		
Male	1,625	\$13,384,201
Female	<u>5,992</u>	<u>68,216,945</u>
Total	7,617	\$81,601,146
<b>Grand Total</b>	<b><u>108,014</u></b>	<b><u>\$1,974,077,234</u></b>

## Appendix A: Additional Membership Data

<b>Table A-1: Schedule of Active Participant Data as of July 1, 2009</b>									
<b>AGE</b>	<b>Years of Service</b>								<b>Total</b>
	<b>Under 5</b>	<b>5 to 9</b>	<b>10 to 14</b>	<b>15 to 19</b>	<b>20 to 24</b>	<b>25 to 29</b>	<b>30 to 34</b>	<b>35 &amp; up</b>	
<b>Under 25</b>	5,937	47							5,984
<b>Avg. Pay</b>	25,809	27,193							25,820
<b>25 to 29</b>	13,678	2,672	44	1					16,395
<b>Avg. Pay</b>	32,770	37,791	36,023	37,705					33,597
<b>30 to 34</b>	9,511	6,809	2,308	14					18,642
<b>Avg. Pay</b>	33,424	41,756	45,594	47,718					37,985
<b>35 to 39</b>	8,885	5,831	6,770	1,664	34	1			23,185
<b>Avg. Pay</b>	33,943	40,528	49,025	51,758	49,128	47,458			41,305
<b>40 to 44</b>	8,104	5,228	5,009	4,654	1,782	51			24,828
<b>Avg. Pay</b>	32,015	38,659	44,845	52,424	52,260	47,789			41,313
<b>45 to 49</b>	7,949	5,646	5,099	3,930	5,031	2,087	18		29,760
<b>Avg. Pay</b>	31,975	37,311	41,903	48,656	55,030	57,869	44,069		42,612
<b>50 to 54</b>	6,766	5,045	5,161	3,946	4,145	3,594	616	11	29,284
<b>Avg. Pay</b>	32,100	37,376	40,600	46,216	52,251	59,250	60,185	46,993	43,190
<b>55 to 59</b>	5,490	4,207	4,427	3,684	3,539	2,266	695	94	24,402
<b>Avg. Pay</b>	33,458	37,432	41,811	44,520	49,947	58,380	63,860	60,329	43,004
<b>60 to 64</b>	3,175	2,884	2,532	2,194	2,032	1,228	245	111	14,401
<b>Avg. Pay</b>	32,034	37,013	41,592	44,938	49,752	55,486	67,953	78,445	42,146
<b>65 &amp; up</b>	1,629	1,466	1,006	563	389	242	73	70	5,438
<b>Avg. Pay</b>	22,083	26,894	34,417	39,702	49,620	57,043	66,868	77,076	32,320
<b>Total</b>	71,124	39,835	32,356	20,650	16,952	9,469	1,647	286	192,319
<b>Avg. Pay</b>	31,960	38,355	43,626	47,911	52,230	58,130	63,012	70,946	40,359

<b>Table A-2: Comparative Summary of Active Data</b>		
	<b>Prior Year</b>	<b>Current Year</b>
Average Age	44.75 years	44.98 years
Average Service	9.73 years	9.94 years
Average Pay	\$ 39,203	\$ 40,359
Percent Female	69.7%	69.6%

## Appendix A: Additional Membership Data

<b>Table A-3: Number of Annual Retirement Allowances Of Benefit Recipients as of July 1, 2009</b>		
<b>SERVICE RETIREMENT</b>		
<b>Payee Type</b>	<b>Number</b>	<b>Annual Retirement Allowances</b>
<b>a. Employees</b>		
Maximum & DRO	29,410	\$506,986,028
10 Year Certain & Life	408	6,995,245
100% J & S	1,206	25,908,879
100% Pop-up	5,914	126,245,875
50% J & S	780	23,173,796
50% Pop-up	4,475	120,304,867
Level Income	<u>2,822</u>	<u>54,384,615</u>
Total	45,015	\$863,999,305
<b>b. Teachers</b>		
Maximum & DRO	30,991	\$594,961,284
10 Year Certain & Life	435	7,964,764
100% J & S	416	7,488,930
100% Pop-up	3,616	75,221,257
50% J & S	310	8,154,425
50% Pop-up	3,069	77,092,172
Level Income	<u>4,978</u>	<u>112,070,102</u>
Total	43,815	\$882,952,934
<b>c. Total</b>		
Maximum & DRO	60,401	\$1,101,947,312
10 Year Certain & Life	843	14,960,009
100% J & S	1,622	33,397,809
100% Pop-up	9,530	201,467,132
50% J & S	1,090	31,328,221
50% Pop-up	7,544	197,397,038
Level Income	<u>7,800</u>	<u>166,454,718</u>
Total	88,830	\$1,746,952,239

## Appendix A: Additional Membership Data

<b>Table A-3 (Cont.): Number of Annual Retirement Allowances Of Benefit Recipients as of July 1, 2009</b>		
<b>DISABILITY RETIREMENT</b>		
<b>Payee Type</b>	<b>Number</b>	<b>Annual Retirement Allowances</b>
<b>a. Employees</b>		
Maximum	5,550	\$68,934,827
10 Year Certain & Life	128	1,520,390
100% J & S	278	2,571,827
100% Pop-up	496	5,095,715
50% J & S	99	1,416,446
50% Pop-up	<u>399</u>	<u>5,945,021</u>
Total	6,950	\$85,484,228
<b>b. Teachers</b>		
Maximum	3,960	\$51,918,397
10 Year Certain & Life	78	997,260
100% J & S	115	1,045,016
100% Pop-up	231	2,341,437
50% J & S	41	620,197
50% Pop-up	<u>192</u>	<u>3,117,314</u>
Total	4,617	\$60,039,621
<b>c. Total</b>		
Maximum	9,510	\$120,853,224
10 Year Certain & Life	206	2,517,650
100% J & S	393	3,616,843
100% Pop-up	727	7,437,152
50% J & S	140	2,036,643
50% Pop-up	<u>591</u>	<u>9,062,335</u>
Total	11,567	\$145,523,849
<b>BENEFICIARIES</b>		
<b>Payee Type</b>	<b>Number</b>	<b>Annual Retirement Allowances</b>
a. Employees	5,252	\$57,996,692
b. Teachers	<u>2,365</u>	<u>23,604,454</u>
c. Total	7,617	\$81,601,146

## Appendix A: Additional Membership Data

<b>Table A-4: Distribution of Participants Receiving Benefits as of July 1, 2009</b>			
<b>NUMBER OF RETIRED MEMBERS AND THEIR BENEFITS BY AGE</b>			
<b>Age</b>	<b>Number of Members</b>	<b>Total Annual Benefits</b>	<b>Average Annual Benefits</b>
Under 50	471	\$ 7,842,662	\$ 16,651
50 – 54	4,509	114,057,254	25,295
55 – 59	11,710	315,179,215	26,915
60 – 64	18,036	417,629,226	23,155
65 – 69	17,514	323,415,812	18,466
70 – 74	12,943	212,868,593	16,447
75 – 79	10,053	157,724,925	15,689
80 & Over	<u>13,594</u>	<u>198,234,552</u>	<u>14,583</u>
Total	88,830	\$ 1,746,952,239	\$ 19,666
<b>NUMBER OF DISABLED RETIREES AND THEIR BENEFITS BY AGE</b>			
<b>Age</b>	<b>Number of Members</b>	<b>Total Annual Benefits</b>	<b>Average Annual Benefits</b>
Under 50	1,292	\$ 15,036,020	\$ 11,638
50 – 54	1,334	17,422,153	13,060
55 – 59	2,177	29,708,802	13,647
60 – 64	2,652	34,508,977	13,012
65 – 69	1,888	23,313,192	12,348
70 – 74	1,054	11,817,455	11,212
75 – 79	582	6,695,901	11,505
80 & Over	<u>588</u>	<u>7,021,349</u>	<u>11,941</u>
Total	11,567	\$ 145,523,849	\$ 12,581
<b>NUMBER OF BENEFICIARIES AND THEIR BENEFITS BY AGE</b>			
<b>Age</b>	<b>Number of Members</b>	<b>Total Annual Benefits</b>	<b>Average Annual Benefits</b>
Under 50	1,157	\$ 7,808,464	\$ 6,749
50 – 54	405	3,555,671	8,779
55 – 59	552	5,904,444	10,696
60 – 64	770	8,753,413	11,368
65 – 69	817	9,120,986	11,164
70 – 74	842	10,002,258	11,879
75 – 79	891	10,346,154	11,612
80 & Over	<u>2,183</u>	<u>26,109,756</u>	<u>11,960</u>
Total	7,617	\$ 81,601,146	\$ 10,713



## Appendix B: Actuarial Assumptions and Methods

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### Investment Rate of Return

Assumed annual rate of 8.00% net of investment and administrative expenses composed of a 3.00% inflation component and a 5.00% real rate of return component.

### Rates of Annual Salary Increase

Rates of annual salary increase are assumed to vary for the first 14 years of service due to expected merit and promotional increases which differs by employee group. Beginning with the 15<sup>th</sup> year of service, the assumed annual rate of increase is 4.00% for both groups and for all future years of service.

The 4.00% rate of increase is composed of a 3.00% inflation component and a 1.00% real rate of wage increase (productivity) component.

<b>Rates of Annual Salary Increase Assumption</b>		
<b><u>Years of Service</u></b>	<b><u>General Employees</u></b>	<b><u>Teachers</u></b>
<b>0</b>	8.00%	8.00%
<b>1</b>	5.75%	8.00%
<b>2</b>	5.00%	5.50%
<b>3</b>	4.75%	5.25%
<b>4</b>	4.50%	5.00%
<b>5</b>	4.50%	5.00%
<b>6</b>	4.50%	5.00%
<b>7</b>	4.50%	4.75%
<b>8</b>	4.50%	4.75%
<b>9</b>	4.50%	4.75%
<b>10</b>	4.25%	4.75%
<b>11</b>	4.25%	4.50%
<b>12</b>	4.25%	4.40%
<b>13</b>	4.25%	4.40%
<b>14</b>	4.25%	4.40%
<b>15+</b>	4.00%	4.00%

## Appendix B: Actuarial Assumptions and Methods

### Active Member Decrement Rates

- a. Assumed Rate of Service Retirement and TERI Entry are shown in the table below.

Annual Rates of Retirement and TERI Entry						
Teachers						
Age	Reduced Service (Early) Retirement		First Eligible Unreduced Service (Normal) Retirement		Subsequent Eligibility for Unreduced Service (Normal) Retirement	
	Male	Female	Male	Female	Male	Female
50	0%	0%	50%	55%	20%	25%
55	10%	11%	80%	70%	30%	30%
60	11%	14%	65%	70%	45%	40%
61	15%	16%	75%	70%	50%	45%
62	25%	21%	80%	85%	60%	50%
63	18%	20%	50%	65%	40%	40%
64	22%	15%	40%	50%	35%	30%
65	0%	0%	45%	50%	50%	50%
66	0%	0%	20%	20%	30%	30%
67	0%	0%	20%	20%	25%	30%
68	0%	0%	20%	20%	25%	25%
69	0%	0%	20%	20%	25%	25%
70	0%	0%	100%	100%	100%	100%
Employees						
Age	Reduced Service (Early) Retirement		First Eligible Unreduced Service (Normal) Retirement		Subsequent Eligibility for Unreduced Service (Normal) Retirement	
	Male	Female	Male	Female	Male	Female
50	0%	0%	35%	45%	15%	15%
55	8%	10%	45%	55%	20%	25%
60	8%	13%	55%	60%	15%	20%
61	12%	14%	40%	65%	15%	20%
62	21%	21%	80%	70%	20%	35%
63	14%	18%	45%	60%	15%	25%
64	12%	15%	35%	45%	15%	20%
65	0%	0%	40%	45%	35%	35%
66	0%	0%	20%	20%	25%	25%
67	0%	0%	20%	20%	25%	25%
68	0%	0%	20%	20%	20%	25%
69	0%	0%	20%	20%	20%	25%
70	0%	0%	100%	100%	100%	100%

- b. Election of Teachers and Employees Retention Incentive (TERI)

We assumed 37.5% of members electing to either retire or enter TERI before age 65 will elect to enter TERI and will remain in TERI for three years.

## Appendix B: Actuarial Assumptions and Methods

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c. Active Member Mortality

Rates of active member mortality are based upon the RP 2000 Employee Mortality Table. Sample rates are shown in the table below.

<b>Active Member Mortality Assumption</b>				
<b>Age</b>	<b>General Employees</b>		<b>Teachers</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
25	0.04%	0.01%	0.03%	0.01%
30	0.04%	0.02%	0.03%	0.01%
35	0.08%	0.03%	0.06%	0.03%
40	0.11%	0.05%	0.08%	0.04%
45	0.15%	0.07%	0.11%	0.06%
50	0.21%	0.11%	0.16%	0.09%
55	0.30%	0.16%	0.23%	0.14%
60	0.49%	0.26%	0.37%	0.22%
64	0.70%	0.35%	0.53%	0.30%

d. Rates of Disability Incidence

Rate of disability incidence for active members is based upon the 2002 – 2007 Experience Study. Sample rates are shown in the table below.

<b>Active Member Disability Incidence</b>				
<b>Age</b>	<b>General Employees</b>		<b>Teachers</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
25	0.06%	0.06%	0.05%	0.06%
30	0.13%	0.08%	0.08%	0.08%
35	0.19%	0.16%	0.10%	0.08%
40	0.32%	0.21%	0.20%	0.13%
45	0.44%	0.30%	0.33%	0.28%
50	0.63%	0.51%	0.52%	0.44%
55	1.01%	0.81%	0.85%	0.72%
60	1.27%	1.24%	1.31%	1.10%
64	1.58%	1.72%	1.64%	1.38%

## Appendix B: Actuarial Assumptions and Methods

### e. Rates of Withdrawal

Rate of withdrawal for active members prior to eligibility for retirement are based upon the 2002 – 2007 Experience Study. Rates are developed for each employee group and differ by gender and service. Sample rates are shown in the table below.

PROBABILITY OF DECREMENT DUE TO WITHDRAWAL											
Male Teachers by Years of Service											
Age	0	1	2	3	4	5	6	7	8	9	10+
25	0.2964	0.2029	0.1384	0.0973	0.0721	0.0578	0.0513	0.0508	0.0518	0.0538	0.0560
30	0.2721	0.1922	0.1356	0.0990	0.0776	0.0662	0.0607	0.0577	0.0538	0.0477	0.0387
35	0.2531	0.1823	0.1316	0.0990	0.0805	0.0708	0.0657	0.0611	0.0540	0.0429	0.0273
40	0.2371	0.1730	0.1271	0.0979	0.0817	0.0730	0.0679	0.0619	0.0529	0.0390	0.0199
45	0.2239	0.1649	0.1228	0.0960	0.0811	0.0726	0.0669	0.0600	0.0503	0.0359	0.0167
50	0.2135	0.1587	0.1192	0.0936	0.0787	0.0698	0.0628	0.0553	0.0460	0.0335	0.0174
55	0.2063	0.1549	0.1168	0.0908	0.0742	0.0645	0.0557	0.0479	0.0401	0.0317	0.0222
60	0.1996	0.1518	0.1143	0.0865	0.0669	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Female Teachers by Years of Service											
Age	0	1	2	3	4	5	6	7	8	9	10+
25	0.2299	0.1608	0.1209	0.1006	0.0892	0.0841	0.0827	0.0802	0.0731	0.0660	0.0601
30	0.2269	0.1664	0.1260	0.1015	0.0878	0.0802	0.0751	0.0696	0.0618	0.0527	0.0426
35	0.2171	0.1597	0.1208	0.0966	0.0830	0.0748	0.0682	0.0615	0.0536	0.0434	0.0303
40	0.2045	0.1477	0.1106	0.0885	0.0759	0.0683	0.0616	0.0551	0.0475	0.0368	0.0215
45	0.1930	0.1361	0.1001	0.0798	0.0685	0.0619	0.0561	0.0504	0.0435	0.0329	0.0163
50	0.1866	0.1296	0.0937	0.0738	0.0633	0.0570	0.0523	0.0478	0.0417	0.0317	0.0154
55	0.1879	0.1308	0.0935	0.0727	0.0626	0.0543	0.0509	0.0474	0.0420	0.0331	0.0190
60	0.1948	0.1379	0.0986	0.0758	0.0660	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Male Employees by Years of Service											
Age	0	1	2	3	4	5	6	7	8	9	10+
25	0.3288	0.2466	0.1902	0.1554	0.1345	0.1166	0.0963	0.0783	0.0650	0.0595	0.0662
30	0.2939	0.2211	0.1726	0.1425	0.1236	0.1089	0.0951	0.0821	0.0704	0.0603	0.0530
35	0.2678	0.1997	0.1553	0.1285	0.1122	0.1010	0.0916	0.0822	0.0716	0.0586	0.0424
40	0.2456	0.1804	0.1384	0.1140	0.1002	0.0922	0.0861	0.0791	0.0695	0.0549	0.0335
45	0.2257	0.1636	0.1233	0.1003	0.0882	0.0825	0.0781	0.0727	0.0639	0.0493	0.0266
50	0.2082	0.1501	0.1115	0.0891	0.0774	0.0717	0.0675	0.0626	0.0547	0.0419	0.0224
55	0.1942	0.1410	0.1041	0.0814	0.0691	0.0600	0.0543	0.0488	0.0419	0.0328	0.0212
60	0.1827	0.1351	0.1002	0.0770	0.0632	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Female Employees by Years of Service											
Age	0	1	2	3	4	5	6	7	8	9	10+
25	0.2981	0.2459	0.2060	0.1772	0.1560	0.1385	0.1248	0.1159	0.1094	0.1030	0.0940
30	0.2710	0.2236	0.1864	0.1591	0.1395	0.1253	0.1145	0.1059	0.0970	0.0853	0.0688
35	0.2506	0.2015	0.1657	0.1410	0.1244	0.1130	0.1042	0.0958	0.0857	0.0712	0.0505
40	0.2329	0.1803	0.1451	0.1233	0.1101	0.1010	0.0935	0.0854	0.0748	0.0592	0.0367
45	0.2172	0.1622	0.1275	0.1080	0.0972	0.0894	0.0825	0.0746	0.0644	0.0493	0.0276
50	0.2041	0.1493	0.1151	0.0966	0.0864	0.0787	0.0715	0.0637	0.0543	0.0414	0.0234
55	0.1946	0.1429	0.1091	0.0895	0.0778	0.0688	0.0605	0.0526	0.0445	0.0353	0.0240
60	0.1873	0.1412	0.1079	0.0855	0.0701	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

## Appendix B: Actuarial Assumptions and Methods

### Post-Retirement Mortality

- a. Healthy retirees and beneficiaries - The UP-94 Mortality Table rates, with the male teachers and both employee groups' female rates set back one year. Sample rates are shown in the table below.

Healthy Post-Retirement Mortality Assumption				
Age	General Employees		Teachers	
	Male	Female	Male	Female
50	0.28%	0.14%	0.25%	0.14%
55	0.48%	0.22%	0.43%	0.22%
60	0.86%	0.42%	0.76%	0.42%
65	1.56%	0.82%	1.39%	0.82%
70	2.55%	1.37%	2.34%	1.37%
75	4.00%	2.19%	3.66%	2.19%
80	6.67%	3.80%	6.01%	3.80%
85	10.46%	6.56%	9.64%	6.56%

- b. A separate table of mortality rates is used for disabled retirees based upon the RP-2000 Disabled Retiree Mortality Table. The following are sample rates:

Disabled Post-Retirement Mortality Assumption				
Age	General Employees		Teachers	
	Male	Female	Male	Female
50	2.46%	1.27%	2.17%	1.27%
55	3.01%	1.82%	2.66%	1.82%
60	3.57%	2.40%	3.15%	2.40%
65	4.26%	3.08%	3.76%	3.08%
70	5.32%	4.14%	4.69%	4.14%
75	6.98%	5.75%	6.16%	5.75%
80	9.30%	7.95%	8.20%	7.95%
85	12.04%	11.02%	10.62%	11.02%

### Marriage Assumption

100% of all active members are assumed to be married, with female spouses being 3 years younger than males.

### Asset Valuation Method

The actuarial value of assets is equal to the market value of assets less a ten-year phase in of the excess (shortfall) between expected market investment return (including the return on TERI balances) and actual net investment income (excess returns and shortfalls determined prior to July 1, 2008 remain with a five-year phase in).

## **Appendix B: Actuarial Assumptions and Methods**

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### **Actuarial Cost Method**

The contribution rate is set by statute for both employees and employers. The funding period is determined, as described below, using the Entry Age Normal actuarial cost method. The Entry Age Normal actuarial cost method allocates the plan's actuarial present value of future benefits to various periods based upon service. The portion of the present value of future benefits allocated to years of service prior to the valuation date is the actuarial accrued liability, and the portion allocated to years following the valuation date is the present value of future normal costs. The normal cost is determined for each active member as the level percent of payroll necessary to fully fund the expected benefits to be earned over the career of each individual active member. The normal cost is partially funded with active member contributions with the remainder funded by employer contributions.

An unfunded accrued liability exists in the amount equal to the excess of accrued liability over valuation assets. The amortization period of the System is the number of years required to fully amortize the unfunded accrued liability with the expected amount of employer contributions in excess of the employers' portion of the normal cost.

The calculation of the amortization period takes into account scheduled increases to contribution rates applicable to future years and payroll growth. Also, the calculation of the amortization period reflects additional contributions the System receives with respect to post 7/1/2005 TERI participants, ORP participants and return to work retirees. These contributions are assumed to grow at the same payroll growth rate as for active SCRS employees. It is assumed that amortization payments are made monthly at the end of the month.

### **Unused Annual Leave**

To account for the effect of unused annual leave on Annual Final Compensation, liabilities for active members are increased 2.14%

### **Unused Sick Leave**

To account for the effect of unused sick leave on members' final credited service, the service of active members who retire is increased 3 months

### **Future Cost-of-living Increases**

Benefits are assumed to increase 2% annually beginning on the July 1<sup>st</sup> next following receipt of 12 monthly benefit payments.

### **Administrative and Investment Expenses**

The investment return assumption represents the expected return net of all administrative and investment expenses.

### **Payroll Growth Rate**

The total annual payroll of active members (also applies to TERI, ORP and rehired retiree participants) is assumed to increase at an annual rate of 4.00%. This rate represents the underlying expected annual rate of wage inflation and does not anticipate increases in the number of members.

### **Changes from Prior Valuation**

None.

## Appendix C: Summary of Plan Provisions

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This summary of plan provisions is based on our understanding of the benefits as described by the South Carolina Code of Laws, summary plan descriptions and the South Carolina Retirement Systems. It is intended to only describe the essential features of the plan. All eligibility requirements and benefit amounts shall be determined in strict accordance with the law.

### Effective Date

July 1, 1945

### Eligibility Requirements

All full-time, part-time, or temporary personnel who fill a permanent position as a public school employee, public higher education personnel, state employees, and city, county and other local public employees of participating employers must join as a condition of employment as of the effective date of employment, unless they elect to participate in one of the Optional Retirement Plans (ORP).

Employees in non-permanent positions may choose to join.

### Creditable Service

The sum of "prior service" and "membership service." Prior service means service rendered prior to membership for which credit is allowed. Membership service means service during which contributions have been made. This is counted in years, months, and days.

There are a number of different types of services that may be purchased by an employee under special rules, such as military service.

### Average Final Compensation (AFC)

The total of the highest 12 consecutive quarters of compensation earned divided by 3. Compensation generally includes gross salary or wages, overtime, sick pay, wage deferrals, and termination pay for unused annual leave. The unused annual leave is added to the sum of the highest 12 consecutive quarters prior to dividing by 3. For members who joined the system on or after January 1, 1996, compensation for benefit and contribution purposes is limited in accordance with IRS Code Section 401(a)17.

### Normal Retirement

Eligibility - Attainment of age 65 with 5 years of creditable service, or completion of 28 years of creditable service.

Benefit - 1.82% of AFC times creditable service.

### Early Retirement

Eligibility - Attainment of age 60 with 5 years of creditable service, or attainment of age 55 with 25 years of creditable service.

Benefit - Benefit accrued to date of retirement, reduced 5% for each year prior to 65 (for age 60 eligibility), or 4% for each year prior to 28 years (for age 55 with 25 years eligibility).

### Teachers and Employees Retention Incentive (TERI)

Upon meeting retirement eligibility, a member can elect to enter the TERI for a maximum of five (5) years, after which employment will cease. The retirement benefits will be accumulated in TERI

## Appendix C: Summary of Plan Provisions

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accounts and will be paid to the members upon the earlier of actual retirement or the end of participation period. The amount credited to the TERI account is based upon the calculation and form of benefit selected by the member at TERI entry. COLAs are credited to the TERI account. No interest is credited to the TERI account. Employee contributions (for those entering TERI on and after 7/1/2005) and employer contributions continue during TERI participation.

### Disability Retirement

Eligibility - Disability prior to normal retirement age with at least 5 years of creditable service. The service requirement is waived for job related disability.

Benefit - Benefit equal to the amount that would have been payable at age 65 assuming continued employment and AFC at date of disability, less the equivalent benefit that would have been provided by the employee contributions that would have been made until age 65.

### Death Benefits

Death prior to age 60 or 15 years of creditable service

Refund of employee contributions with interest plus Group Life Insurance in a lump sum equal to annual earnable compensation at time of death. Group Life Insurance payable only to members whose employer participates and with at least 1 year of creditable service, unless death is job related.

Death after age 60 or with 15 years of creditable service

Same as above. However, instead of the refund of employee contributions with interest, the beneficiary may elect to receive an annuity equal to the amount that would have been payable had the employee retired the day before death under Option B described below.

### Employee Contributions

The member contribution rate is 6.50% of earnable compensation. Accumulated member contributions are credited with interest at the rate of 4% per year.

### Vested Benefit Upon Termination

Eligibility - 100% vesting upon completion of 5 years of creditable service.

Benefit - Accrued benefit as of date of termination payable as of age 60.

### Termination Benefit

Eligibility - Elect return of accumulated employee contributions.

Benefit - Return of employee contributions plus interest.

### Optional Forms of Retirement Income

Option A Monthly life annuity with guaranteed return of employee contributions plus interest. (This is the normal form of payment).

Option B Monthly life annuity with 100% of reduced benefit continued to beneficiary upon death, reverting to maximum option if beneficiary predeceases retiree.



## **Appendix C: Summary of Plan Provisions**

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Option C Monthly life annuity with 50% of reduced benefit continued to beneficiary upon death, reverting to maximum option if beneficiary predeceases retiree.

### **Cost of Living Adjustment**

Beginning the July 1<sup>st</sup> following one year of receiving benefits, the monthly benefit amount will increase by the calendar year change in CPI but not to exceed 2%. Additional ad hoc COLAs may be paid as approved by the State Budget and Control Board and based upon the financial condition of the System and the requirements of Act 311 (amortization period less than 25 years, amortization period decrease by at least one-year after granting ad hoc COLA, etc.).

### **Changes from Prior Valuation**

None