SOUTH CAROLINA RETIREMENT SYSTEMS

SC Budget and Control Board

South Carolina Police Officers Retirement System (PORS) 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 Police Officers Retirement System (PORS) 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 Police Officers 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 benefits which are covered under a separate actuarial valuation and the Accidental Death Benefits. 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, PORS 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.

Table I-1: Comparative Summary of Principal Results

	July 1, 2009	July 1, 2008
Membership		
Number of:		
Active Members	26,598	26,427
Retirees and Beneficiaries	11,950	11,286
Inactive Members	11,832	11,558
Total	50,380	49,271
Payroll	$1,084,154	$1,060,747
Statutory Contribution Rates		
Member	6.50%	6.50%
Employer		
Retirement Contribution	11.13%	10.65%
Group Life Insurance Contribution	0.20%	0.20%
Accidental Death Contribution	0.20%	0.20%
Total Employer Contribution Rate	11.53%	11.05%
Assets		
Market Value	$2,483,581	$3,138,551
Actuarial Value	$3,482,220	$3,363,136
Return on Market Value	(20.1%)	(2.7%)
Return on Actuarial Value	4.3%	7.1%
Ratio of Actuarial to Market Value	140.2%	107.2%
Actuarial Information		
Employer Normal Cost %	7.04%	7.11%
Unfunded Actuarial Liability (UAL)	$1,081,891	$955,819
Funded Ratio	76.3%	77.9%
Amortization Period*	30 years	30 years
Change in Unfunded Actuarial Liability		
Beginning of Year Unfunded Actuarial Liability	$955,819	$570,300
Interest on Unfunded Actuarial Liability	76,466	41,300
Amortization Payment with Interest	(51,016)	(45,600)
COLA	(48,327)	41,400
Salary Experience	(27,687)	16,000
Other Liability Experience	53,275	100
Benefit Changes	0	641,900
Assumption Changes	0	(314,500)
Asset Experience	123,361	4,900
Total Increase / (Decrease)	$126,072	$385,500
End of Year Unfunded Actuarial Liability	$1,081,891	$955,800

*Pending Board approval of a 0.48% contribution rate increase effective 7/1/2012 to maintain a 30 year period.

Section I: Board Summary

Summary of Key Findings

The employer contribution rate for the System beginning July 1, 2010 is scheduled to increase by 0.48% to 11.53%. This rate includes the 0.20% contribution for the Group Life Fund Insurance benefits and the 0.20% contribution for the Accidental Death benefits. The 11.13% employer contribution rate (net of the insurance benefits) is used to pay the employer's portion of the normal cost and to amortize the unfunded actuarial liability (UAL).

The actuarially determined employer normal cost contribution rate decreased from 7.11% to 7.04% of covered payroll for FY 2011. Therefore, the net contribution towards the UAL increases by 0.55% (due to both the scheduled 0.48% increase and the 0.07% decline in the normal cost rate) from 3.54% to 4.09%. The unfunded actuarial liability increased from $956 million to $1,082 million. The resulting amortization period increased to 35 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 0.48% of covered payroll to 12.01% (which includes the 0.40% for insurance benefits). We note the following key findings:

- The UAL grew by $76.5 million due to interest and decreased by $51.0 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 $123.4 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 7.2 years. Table III-3 provides the calculation of the investment loss for this year.

- The System experienced a net actuarial gain of $22.7 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 $48.3 million decrease in plan liabilities and reduced the amortization period by 2.4 years.

2. The System experienced a $27.7 million gain due to salary experience which reduced the funding period by 1.3 years.

3. Partially offsetting these gains were losses primarily attributable to the System turnover experience. The losses increased plan liabilities by $53.3 million and increased the funding period by 2.0 years.

4. Other factors, primarily the less than expected increase in active member payroll, resulted in a 0.5 year increase in the amortization period. These factors had a minor direct impact on the UAL.

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.

Table II-1: Summary of Membership Data

	July 1, 2009	July 1, 2008
Active Members		
Total Number of Active Members	26,598	26,427
Total Annual Compensation	$1,084,154	$1,060,747
Number of Rehired Retired Members	1,915	1,716
Total Annual Compensation	$66,341	$64,735
Retirees and Beneficiaries		
Number of Service Retirements	9,095	8,539
Total Annual Benefit Payments	$172,767	$160,727
Number of Disability Retirements	1,775	1,694
Total Annual Benefit Payments	$32,542	$30,786
Number of Beneficiaries	1,080	1,053
Total Annual Benefit Payments	$12,189	$11,928
Inactive Members		
Number of Non-vested Inactive Members	9,935	9,647
Number of Vested Inactive Members	1,897	1,911

All dollar amounts are in thousands.

Section III: System Assets

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

Table III-1: Market Value Reconciliation and Cash Flow	July 1, 2009	July 1, 2008
1. Beginning of Year Market Value of Assets	$3,138,551	$3,245,480
Income		
2. Employer Contributions	$119,922	$110,050
3. Member Contributions	77,014	75,666
Total Contributions	$196,936	$185,716
4. Investment Income (net of expenses)	($629,387)	($86,357)
Disbursements		
5. Benefit Payments	$224,144	$208,296
6. Transfers	($1,625)	($2,008)
7. Net Change in Market Value of Assets (2 + 3 + 4 - 5 - 6)	($654,970)	($106,929)
8. End of Year Market Value of Assets (1 + 7)	$2,483,581	$3,138,551
Approximate Rate of Return on Market Value of Assets	(20.1%)	(2.7%)
Net Cash Flow (Contributions less Disbursements)	($25,583)	($20,572)
Cash Flow as a % of Average Market Value	(0.9%)	(0.6%)

All dollar amounts are in thousands.

A mature System such as PORS 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.

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.

Table III-2: Development of Actuarial Value of Assets

Calculation of Current Year Excess Investment Income	
1. Market Value of Assets at Beginning of Year	$3,138,551
2. Total Net Cash Flow During the Year (Table III-1 Net Cash Flow)	(25,583)
3. Market Value of Assets at End of Year	2,483,581
4. Actual Investment Income During the Year Based on Market Value	(629,387)
5. Expected Earnings for the Year	
a. Market Value of Assets, Beginning of Year (1 x 8.00%)	251,084
b. Net Cash Flow (2 x 8.00% x .5)	(1,023)
c. Total (a + b)	250,061
6. Current Year Excess Investment Income (4 – 5c)	($879,448)
Calculation of Total Amount of Deferred Excess Investment Income	
7. Amounts of Excess Investment Income from Current and Prior Years	

Valuation Year	Excess Investment Income	Percent Deferred	Amount Deferred
2009	($879,448)	90%	($791,503)
2008	(320,908)	80%	(256,726)
2007	156,569	40%	62,628
2006	(65,188)	20%	(13,038)
Total Amount of Deferred Excess Investment Income			($998,639)

8. Actuarial Value of Assets as of July 1, 2009 (3 - 7)	$3,482,220
Approximate Rate of Return on Actuarial Value of Assets	4.3%

All dollar amounts are in thousands.

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	$3,363,136
2. Total Net Cash Flow (Table III-2(2))	(25,583)
3. Expected Return on Actuarial Value of Assets (1 x 8.00% + 2 x 8.00% x .5)	268,028
4. Expected Actuarial Value of Assets at End of Year (1 + 2 + 3)	$3,605,581
5. Actual Actuarial Value of Assets at End of Year (Table III-2(8))	$3,482,220
6. Actuarial Gain/(Loss) Due to Investment Experience (5 - 4)	($123,361)

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.

Table IV-1: Present Value of Benefits	
Active Members	
Service Retirement	$2,573,010
Disability Retirement	252,380
Survivors' Benefits	49,094
Termination	323,153
Total for Active Members	$3,197,637
Inactive Members	
Non-Vested (Refund only)	$19,984
Vested	86,765
Total for Inactive Members	$106,749
Retirees and Beneficiaries	
Service Retirements	$1,867,145
Disability Retirements	358,143
Beneficiaries	123,397
Total for Retirees and Beneficiaries	$2,348,685
Total Present Value of Benefits	$5,653,071

All dollar amounts are in thousands.

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.

Table IV-2: Actuarial Accrued Liability	
Active Members	
Service Retirement	$1,900,523
Disability Retirement	107,676
Survivors' Benefits	32,741
Termination	67,737
Total for Active Members	$2,108,677
Total for Inactive Members (Table IV-1)	106,749
Total for Retirees and Beneficiaries (Table IV-1)	$2,348,685
Total Actuarial Accrued Liability	$4,564,111

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 76.3% as compared to the ratio in prior valuation of 77.9%. 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.

Table IV-3: Unfunded Actuarial Accrued Liability (UAAL)	
1. Total Actuarial Accrued Liability (Table IV-2)	$4,564,111
2. Actuarial Value of Assets (Table III-2(8))	$3,482,220
Unfunded Actuarial Accrued Liability (UAAL) (1 – 2)	$1,081,891

All dollar amounts are in thousands.

Although the terminology used to describe the excess of the System's actuarial accrued liability over the System's actuarial value of assets is call the "unfunded" actuarial accrued liability, there is a dedicated source of funding for this liability. The scheduled employer and employee 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.

Table IV-4: Reconciliation of the UAAL

1. Beginning of Year UAAL	$955,819
2. Expected Amortization Payment	(49,053)
3. Expected Interest (1 x 8.00% + 2 x 8.00% x .5)	74,503
4. Expected End of Year UAAL (1 + 2 + 3)	$981,269
5. Actuarial Experience (Gain)/Loss	
Change due to Transition	$12,716
COLA	(48,327)
Salary Experience	(27,687)
Turnover and Other	40,559
Asset Experience	123,361
Total Actuarial (Gain)/Loss	$100,622
6. End of Year UAAL (4 + 5)	$1,081,891

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.

Table V-1: Normal Cost Rate

Normal Cost Rate of Active Members by Expected Benefit Type	
Service Retirement	8.59%
Disability Retirement	1.69%
Survivors' Benefits	0.20%
Termination	3.06%
Total Normal Cost Rate for Active Members	13.54%
Less: Active Member Contribution Rate	6.50%
Employer's Normal Cost Rate	7.04%

The established employer contribution rate beginning July 1, 2010 is 11.53% of active member payroll and includes the 0.20% contribution rate required for funding the Group Life Insurance (GLI) benefit program and the 0.20% contribution rate for funding the Accidental Death benefit program. The net 11.13% employer contribution rate is available to fund the annual normal cost and amortize the UAAL as a level percent of payroll. In addition, the amortization payment includes contributions made on the payroll of retirees reemployed in positions covered by the System. The rate of active member payroll which is available to amortize the UAAL and the rehired retiree rate is shown in Table V-2.

Table V-2: UAAL Amortization Rate

Calculation of Amortization Rate on Active Member Payroll	**% of Payroll**
Statutory Employer Contribution Rate	11.53%
Less: Group Life Insurance Benefit Rate	0.20%
Less: Accidental Death Benefit Rate	0.20%
Less: Employer Normal Cost Rate (Table V-1)	7.04%
Employer Contribution Rate Available to Amortize UAAL	4.09%
Additional Source of Amortization Funding	**% of Payroll**
Rehired Retiree participants	17.63%

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 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. 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 35.0 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 6.0 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.

Table V-3: Reconciliation of Calculated Amortization Period

		Years
1. Amortization Period Calculated as of July 1, 2008		30.0
2. Change in years due to:		
Expected Decrease	(1.0)	
COLA Experience	(2.4)	
Salary Experience	(1.3)	
Turnover Experience	2.0	
Other Liability Experience	0.5	
Asset Experience	7.2	
Total	5.0	
3. Amortization Period Calculated as of July 1, 2009 (1 + 2)		35.0

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.

Table V-4: Alternative Employer Contribution Rate Increases

Alternative Description	Rate Increase
Annual Employer Contribution Rate Increase beginning 7/1/2012	0.48%

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	$3,482,220	$4,564,111	76.3%	$1,081,891	$1,084,154	99.8%
2008	3,363,136	4,318,955	77.9%	955,819	1,060,747	90.1%
2007	3,160,240	3,730,544	84.7%	570,304	992,849	57.4%
2006	2,935,841	3,466,281	84.7%	530,440	931,815	56.9%
2005	2,774,606	3,173,930	87.4%	399,324	850,610	46.9%
2004	2,616,835	2,984,584	87.7%	367,749	822,448	44.7%
2003	2,511,369	2,744,849	91.5%	233,480	800,394	29.2%

All dollar amounts are in thousands.

Table VI-2: Solvency Test

	Actuarial Accrued Liability for:						
Actuarial Valuation as of July 1	Active Member Contributions	Retirants & Beneficiaries	Employer Funded Portion of Active Members	Valuation Assets	Portion of Aggregate Accrued Liabilities Covered by Assets		
	(1)	(2)	(3)		(1)	(2)	(3)
2009	$726,214	$2,348,685	$1,489,212	$3,482,220	100%	100%	27.4%
2008	697,423	2,183,645	1,437,887	3,363,136	100%	100%	33.5%
2007	658,023	1,818,914	1,253,607	3,160,240	100%	100%	54.5%
2006	622,008	1,668,449	1,175,824	2,935,841	100%	100%	54.9%
2005	585,701	1,530,199	1,058,030	2,774,606	100%	100%	62.3%
2004	548,699	1,415,627	1,020,258	2,616,835	100%	100%	64.0%
2003	516,313	1,265,173	963,363	2,511,369	100%	100%	75.8%

All dollar amounts are in thousands.

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	318	26,598	$1,084,154	$40,761	1.55%
2008	313	26,427	1,060,747	40,139	3.68%
2007	313	25,645	992,849	38,715	3.09%
2006	314	24,813	931,815	37,554	5.05%
2005	314	23,795	850,610	35,747	3.16%
2004	314	23,734	822,448	34,653	3.35%
2003	314	23,871	800,394	33,530	6.08%
2002	302	23,963	757,393	31,607	3.59%
2001	296	24,821	757,335	30,512	5.50%
2000	297	24,782	716,749	28,922	4.82%

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

	Added to Rolls		Removed from Rolls		Roll End of Year			
Year Ended July 1	Number	Annual Allowances ($000's)	Number	Annual Allowances ($000's)	Number	Annual Allowances ($000's)	% Increase in Annual Allowances	Average Annual Allowances
2009	931	$17,937	267	$3,879	11,950	$217,499	6.9%	$18,201
2008	779	17,458	194	2,691	11,286	203,441	7.8%	18,026
2007	772	16,474	205	2,745	10,701	188,674	7.8%	17,631
2006	678	16,880	205	2,691	10,134	174,945	8.8%	17,263
2005	778	12,576	173	2,147	9,661	160,756	9.8%	16,640
2004	894	16,256	265	2,923	9,056	146,348	10.0%	16,114
2003	947	18,614	226	2,733	8,427	133,015	13.6%	15,784
2002	956	17,378	220	2,639	7,706	117,134	14.4%	15,200
2001	989	17,235	341	3,986	6,970	102,395	14.9%	14,691
2000	549	9,979	152	1,581	6,322	89,146	10.4%	14,101

Table VI-5: Retired Members and Beneficiaries as of July 1, 2009		
Group	**Number**	**Annual Retirement Allowances**
Service Retirements		
Male	7,435	$151,628,577
Female	1,660	21,138,617
Total	9,095	$172,767,194
Disability Retirements		
Male	1,358	$26,621,969
Female	417	5,920,257
Total	1,775	$32,542,226
Beneficiaries of Deceased Retired and Active Members		
Male	74	$553,891
Female	1,006	11,635,260
Total	1,080	$12,189,151
Grand Total	**11,950**	**$217,498,571**

Appendix A: Additional Membership Data

Table A-1: Schedule of Active Participant Data as of July 1, 2009									
	Years of Service								
AGE	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & up	Total
Under 25	1,619	8							1,627
Avg. Pay	31,816	37,067							31,842
25 to 29	3,411	591	3						4,005
Avg. Pay	34,640	38,313	38,867						35,185
30 to 34	1,865	1,488	495	2					3,850
Avg. Pay	35,557	40,641	43,851	42,241					38,592
35 to 39	1,482	1,075	1,458	413	6				4,434
Avg. Pay	35,532	41,395	44,725	49,345	51,142				41,284
40 to 44	1,174	737	794	992	398	11			4,106
Avg. Pay	35,711	40,277	43,928	50,121	55,245	59,858			43,559
45 to 49	859	600	519	513	833	137			3,461
Avg. Pay	36,180	40,890	43,461	48,035	53,463	62,686			45,054
50 to 54	589	486	455	351	413	160	40		2,494
Avg. Pay	36,333	41,311	42,432	48,447	49,692	60,834	71,371		44,467
55 to 59	431	312	302	215	212	62	39	8	1,581
Avg. Pay	37,532	41,414	41,793	47,120	48,199	55,052	66,868	78,414	43,464
60 to 64	209	196	149	99	116	32	16	8	825
Avg. Pay	35,239	42,863	39,500	47,691	49,317	55,878	64,646	64,952	42,952
65 & up	54	47	38	29	27	15	3	2	215
Avg. Pay	38,105	43,491	46,146	48,658	57,790	54,350	57,399	73,694	46,333
Total	11,693	5,540	4,213	2,614	2,005	417	98	18	26,598
Avg. Pay	34,947	40,717	43,682	49,003	52,295	59,944	68,053	71,906	40,761

Table A-2: Comparative Summary of Active Data		
	Prior Year	Current Year
Average Age	39.39 years	39.55 years
Average Service	8.24 years	8.44 years
Average Pay	$ 40,139	$ 40,761
Percent Female	25.9%	25.4%

Appendix A: Additional Membership Data

Table A-3: Number of Annual Retirement Allowances Of Benefit Recipients as of July 1, 2009

Payee Type	Number	Annual Retirement Allowances
Service Retirement		
Maximum & DRO	5,370	$98,376,749
100% J & S	175	2,829,121
100% Pop-up	1,189	20,419,921
50% J & S	156	3,951,845
50% Pop-up	989	23,973,711
Level Income	1,216	23,215,847
Total	9,095	$172,767,194
Disability Retirement		
Maximum	1,420	$26,935,811
100% J & S	51	647,226
100% Pop-up	144	1,823,042
50% J & S	30	495,033
50% Pop-up	130	2,641,114
Total	1,775	$32,542,226
Beneficiaries		
Total	1,080	$12,189,151
GRAND TOTAL	11,950	$217,498,571

Table A-4: Distribution of Participants Receiving Benefits as of July 1, 2009

NUMBER OF RETIRED MEMBERS AND THEIR BENEFITS BY AGE

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	467	$ 11,313,112	$ 24,225
50 – 54	849	22,144,890	26,083
55 – 59	1,667	36,739,354	22,039
60 – 64	2,116	40,256,071	19,025
65 – 69	1,654	25,757,378	15,573
70 – 74	1,131	17,449,264	15,428
75 – 79	702	10,902,480	15,531
80 & Over	509	8,204,645	16,119
Total	9,095	$ 172,767,194	$ 18,996

NUMBER OF DISABLED RETIREES AND THEIR BENEFITS BY AGE

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	670	$ 14,042,743	$ 20,959
50 – 54	335	5,940,122	17,732
55 – 59	341	5,740,196	16,833
60 – 64	231	3,716,530	16,089
65 – 69	111	1,693,910	15,260
70 – 74	48	792,787	16,516
75 – 79	26	415,478	15,980
80 & Over	13	200,460	15,420
Total	1,775	$ 32,542,226	$ 18,334

NUMBER OF BENEFICIARIES AND THEIR BENEFITS BY AGE

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	137	$ 1,241,638	$ 9,063
50 – 54	57	767,098	13,458
55 – 59	84	1,027,716	12,235
60 – 64	115	1,305,399	11,351
65 – 69	122	1,440,867	11,810
70 – 74	146	1,818,111	12,453
75 – 79	145	1,688,609	11,646
80 & Over	274	2,899,713	10,583
Total	1,080	$ 12,189,151	$ 11,286

Appendix B: Actuarial Assumptions and Methods

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 11 years of service due to expected merit and promotional increases. Beginning with the 12th year of service, the assumed annual rate of increase is 4.50% for both groups and for all future years of service.

The 4.50% rate of increase is composed of a 3.00% inflation component and a 1.50% real rate of wage increase (productivity) component.

Rates of Annual Salary Increase Assumption	
Years of Service	**Annual Rate of Increase**
0	11.50%
1	6.75%
2	5.75%
3	5.50%
4	5.25%
5	5.00%
6	4.75%
7	4.75%
8	4.75%
9	4.75%
10	4.75%
11	4.75%
12+	4.50%

Appendix B: Actuarial Assumptions and Methods

Active Member Decrement Rates

a. Table below provides a summary of the assumed rates of service retirement, mortality while actively employed, and disability.

Annual Rates of Decrements			
Age	**Service Retirement***	**Pre-Retirement Mortality**	**Disability**
20		0.03%	0.12%
25		0.03%	0.14%
30		0.04%	0.18%
35		0.07%	0.35%
40		0.10%	0.46%
45	20.00%	0.14%	0.69%
50	20.00%	0.19%	0.86%
55	14.00%	0.27%	
60	15.00%	0.44%	
64	25.00%	0.63%	

* Plus an additional 22% for participants under age 55 in the year they first become eligible for service retirement.

All employees are assumed to retire by age 65. In addition, 25% of disabilities are assumed to be duty-related, and 5% of pre-retirement deaths are assumed to be accidental (duty-related).

b. Table below provides a summary of the assumed rates of withdrawal for active members prior to eligibility for retirement.

PROBABILITY OF DECREMENT DUE TO WITHDRAWAL											
	Years of Service										
Age	0	1	2	3	4	5	6	7	8	9	10+
25	0.2494	0.1816	0.1342	0.1047	0.0885	0.0780	0.0715	0.0640	0.0545	0.0524	0.0618
30	0.2478	0.1822	0.1376	0.1107	0.0959	0.0876	0.0810	0.0732	0.0633	0.0545	0.0481
35	0.2450	0.1795	0.1359	0.1104	0.0967	0.0899	0.0837	0.0763	0.0665	0.0539	0.0381
40	0.2398	0.1739	0.1304	0.1055	0.0927	0.0868	0.0814	0.0747	0.0653	0.0510	0.0305
45	0.2312	0.1649	0.1212	0.0964	0.0845	0.0783	0.0738	0.0681	0.0595	0.0458	0.0256
50	0.2193	0.1532	0.1090	0.0839	0.0730	0.0646	0.0610	0.0564	0.0490	0.0382	0.0236
55	0.2050	0.1393	0.0944	0.0684	0.0587						
60	0.1871	0.1228	0.0773	0.0503	0.0419						

Post-Retirement Mortality

For healthy retirees and beneficiaries, the UP-94 Mortality Table rates, with the female rates set back one year and male rates set forward three years. A separate table of mortality rates is used for disabled retirees. The following are sample rates for the retirees and beneficiaries:

Post-Retirement Mortality Assumption			
	Healthy		**Disabled**
Age	Male	Female	All
50	0.39%	0.14%	2.30%
55	0.68%	0.22%	2.89%
60	1.23%	0.42%	3.62%
65	2.14%	0.82%	4.07%
70	3.35%	1.37%	4.43%
75	5.40%	2.19%	5.05%
80	8.87%	3.80%	6.77%
85	13.65%	6.56%	10.09%

Marriage Assumption

100% of all active members are assumed to be married, with female spouses being 4 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 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

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 return to work retirees. These contributions are assumed to grow at the same payroll growth rate as for active 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 3.75%

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 1st 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 rehired retiree participants) is assumed to increase at an annual rate of 4.00%. This rate does not anticipate increases in the number of members.

Changes from Prior Valuation

None.

Appendix C: Summary of Plan Provisions

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, 1962

Eligibility Requirements

All police officers or firefighters who work at least 1,600 hours and have compensation of at least $2,000 during the fiscal year.

Creditable Service

Creditable 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 55, and completion of 5 years of creditable service or completion of 25 years of creditable service.

Benefit - 2.14% of AFC times creditable service (Class II).

Disability Retirement

Eligibility - Disability prior to age 55 with at least 5 years of creditable service. The service requirement is waived for job related disability.

Benefit - Benefit equal to the amount of retirement benefit that would have been payable assuming continued employment to age 55 and AFC at date of disability.

Death Benefits

Death prior to age 55

Prior to completion of 15 years of creditable service:

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

After completion of 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 member terminated the day before death and elected payment to commence at age 55 under Option B described below.

Death after 55

Same as above.

Accidental Death Benefit

If death occurs and is duty related, then a monthly annuity equal to 50% of the member's compensation at the time of death is paid to the statutory beneficiary until the beneficiary's death.

Member Contribution

The member contribution rate is 6.50% of 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 and refund benefit declined.

Benefit - Accrued service retirement benefit as of date of termination payable as of age 55.

Refund Benefit

Eligibility - All nonvested members, and at members election, vested members.

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.

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

Options B and C are actuarially reduced.

Cost of Living Adjustment

Beginning the July 1st 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

Appendix C: Summary of Plan Provisions

None