B&CB SC Budget and Control Board

SOUTH CAROLINA RETIREMENT SYSTEMS

South Carolina Police Officers Retirement System (PORS) Annual Actuarial Valuation as of July 1, 2010

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February 24, 2011

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, 2010 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 including the Incidental Death Benefit and the Accidental Death Benefit programs which were previously covered under separate actuarial valuations. 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

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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,

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Principal and Consulting Actuary

Edward A. Macdonald, ASA, FCA, MAAA
President

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The table below summarizes the results of the July 1, 2010 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, 2010	July 1, 2009
Membership		
Number of:		
Active Members	26,568	26,598
Retirees and Beneficiaries	12,566	11,950
Inactive Members	11,899	11,832
Total	51,033	50,380
Payroll	$1,076,467	$1,084,154
Statutory Contribution Rates		
Member	6.50%	6.50%
Employer		
Retirement Contribution	11.995% *	11.13%
Incidental Death Benefit Contribution	**	0.20%
Accidental Death Contribution	**	0.20%
Total Employer Contribution Rate	11.995% *	11.53%
Assets		
Market Value	$2,851,474	$2,483,581
Actuarial Value	$3,612,700	$3,482,220
Return on Market Value	14.3%	(20.1%)
Return on Actuarial Value	3.2%	4.3%
Ratio of Actuarial to Market Value	126.7%	140.2%
Actuarial Information		
Employer Normal Cost %	7.24% **	7.04%
Unfunded Actuarial Liability (UAL)	$1,237,757	$1,081,891
Funded Ratio	74.5%	76.3%
Amortization Period	30 years ***	30 years
Change in Unfunded Actuarial Liability		
Beginning of Year Unfunded Actuarial Liability	$1,081,891	$955,819
Interest on Unfunded Actuarial Liability	86,551	76,466
Amortization Payment with interest	(52,536)	(51,016)
COLA	0	(48,327)
Salary Experience	(80,056)	(27,687)
Other Liability Experience	34,524	53,275
Incidental Death Benefit and Accidental Death	(13)	0
Assumption Changes	0	0
Asset Experience	167,396	123,361
Total Increase / (Decrease)	155,866	$126,072
End of Year Unfunded Actuarial Liability	$1,237,757	$1,081,891

* Reflects 0.233% increase effective July 1, 2011 and 0.232% increase effective July 1, 2012.

** The Incidental Death Benefit and the Accidental Death contribution rates are included with Retirement Contributions.

***Pending Board approval of a 0.305% contribution rate increase effective July 1, 2012 or a 0.158% contribution rate effective July 1, 2012 and a 0.157% contribution rate increase effective July 1, 2013 to maintain a 30-year period.

Summary of Key Findings

The employer contribution rate for the System is scheduled to increase by 0.233% from 11.53% to 11.763% beginning July 1, 2011 and again by 0.232% to 11.995% beginning July 1, 2012. The employer contribution rate is used to pay the employer's portion of the normal cost and to amortize the unfunded actuarial liability (UAL). Beginning July 1, 2010, the Incidental Death Benefit program's assets, liabilities and contributions are included in this valuation reflecting changes dictated by an amendment to death benefits provided by the plan as a result of the passage of Act 176 of 2010. Similarly, we have included the assets, liabilities and contributions associated with the Accidental Death Benefit program due to the minor liability of this program relative to PORS and nature of the form of payment (life annuity to statutory beneficiary).

The employer normal cost rate increased by 0.20% from 7.04% to 7.24% of covered payroll. Of this increase, 0.14% is attributable to the inclusion of the Incidental Death Benefit and Accidental Death programs and the remaining 0.06% increase is attributable to the experience of the active members. The net contribution towards the UAL increases by 0.665% (due to the scheduled increases totaling 0.465% plus the contributions of 0.40% of covered payroll from the Incidental Death Benefit and Accidental Death benefits programs less the 0.20% increase in the normal cost rate) from 4.09% to 4.755%. The unfunded actuarial liability increased from $1,082 million to $1,238 million. The resulting amortization period increased to 32.8 years. In order to satisfy the required 30 year amortization period as of July 1, 2010, the employer contribution rate effective the fiscal year beginning July 1, 2012 would need to increase by 0.305% of covered payroll to 12.30% or alternatively, the employer rate could increase by 0.158% effective July 1, 2012 and 0.157% effective July 1, 2013. The following table summarizes these alternatives:

	Employer Contribution Rates for Fiscal Year beginning: 7/1/2011	7/1/2012	7/1/2013
Current Scheduled Employer Contribution Rates (July 1, 2009 valuation)	11.763%	11.995%	11.995%
Alternative Rate Increases (July 1, 2010 valuation)			
1. One-step Annual Employer Contribution Rate Increase	11.763%	12.30%	12.30%
2. Two-step Annual Employer Contribution Rate Increases	11.763%	12.153%	12.31%

We note the following key findings:

- The UAL grew by $86.6 million due to interest and decreased by $52.5 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 $167.4 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 7.5 years. Table III-3 provides the calculation of the investment loss for this year.

- The System experienced a net actuarial loss of $45.5 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 experienced a $80.1 million gain due to salary experience which reduced the funding period by 3.2 years.

    2. Partially offsetting these gains were losses primarily attributable to the System turnover experience. The losses increased plan liabilities by $34.5 million and increased the funding period by 1.8 years.

    3. The July 1, 2010 valuation reflects the assets and liabilities of the Incidental Death Benefit program and the Accidental Death benefits program. The impact of this was to decrease the UAL slightly but due to additional expected contributions the impact on the funding period is a decrease of 2.3 years.

    4. The net impact of other factors had a minor direct impact on the UAL and did not change the funding period.

As noted above, active member salaries increased less than expected over the latest plan year. Based upon the expectation that rates of salary increases will continue to be dampened over the next few years, we have prepared alternative results for the Board's consideration under the following assumption:

> The expected rates of salary increase for members with 3 or more years of service is reduced by 3% for the fiscal year ending June 30, 2011 and by 1.5% for the fiscal year ending June 30, 2012.

The valuation prepared under this alternate assumption would result in no additional required increase in the employer contribution rate beginning July 1, 2012. The table below provides the impact of the alternate salary increase assumption on the employer contribution rate increases.

	Employer Contribution Rates for Fiscal Year beginning:		
	7/1/2011	7/1/2012	7/1/2013
Current Scheduled Employer Contribution Rates (July 1, 2009 valuation)	11.763%	11.995%	11.995%
Employer Contribution Rates - Alternate Assumption (July 1, 2010 valuation)	11.763%	11.995%	11.995%

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, 2010 and is compared with that reported for the prior year.

Table II-1: Summary of Membership Data

	July 1, 2010	July 1, 2009
Active Members		
Total Number of Active Members	26,568	26,598
Total Annual Compensation	$1,076,467	$1,084,154
Number of Rehired Retired Members	2,068	1,915
Total Annual Compensation	$81,923	$66,341
Retirees and Beneficiaries		
Number of Service Retirements	9,599	9,095
Total Annual Benefit Payments	$186,554	$172,767
Number of Disability Retirements	1,862	1,775
Total Annual Benefit Payments	$35,124	$32,542
Number of Beneficiaries	1,105	1,080
Total Annual Benefit Payments	$12,698	$12,189
Inactive Members		
Number of Non-vested Inactive Members	10,014	9,935
Number of Vested Inactive Members	1,885	1,897

All dollar amounts are in thousands.

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

Table III-1: Market Value Reconciliation and Cash Flow	July 1, 2010	July 1, 2009
1. Beginning of Year Market Value of Assets	$2,530,632 *	$3,138,551
Income		
2. Employer Contributions	$123,205	$119,922
3. Member Contributions	77,051	77,014
Total Contributions	$200,256	$196,936
4. Investment Income (net of expenses)	$359,989	($629,387)
Disbursements		
5. Benefit Payments	$240,669	$224,144
6. Transfers	($1,266)	($1,625)
7. Net Change in Market Value of Assets (2 + 3 + 4 - 5 - 6)	$320,842	($654,970)
8. End of Year Market Value of Assets (1 + 7)	$2,851,474	$2,483,581
Approximate Rate of Return on Market Value of Assets	14.3%	(20.1%)
Net Cash Flow (Contributions less Disbursements)	($39,147)	($25,583)
Cash Flow as a % of Average Market Value	(1.5%)	(0.9%)

All dollar amounts are in thousands.

*Adjusted to include Incidental Death Benefit and Accidental Death Assets

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*	$2,530,632
2. Total Net Cash Flow During the Year (Table III-1 Net Cash Flow)	(39,147)
3. Market Value of Assets at End of Year	2,851,474
4. Actual Investment Income During the Year Based on Market Value:	359,989
5. Expected Earnings for the Year	
a. Market Value of Assets, Beginning of Year (1 x 8.00%)	202,451
b. Net Cash Flow (2 x 8.00% x .5)	(1,566)
c. Total (a) + (b)	200,885
6. Current Year Investment Income: (4 – 5c)	$159,104
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*
2010	$159,104	90%	$143,194
2009	(886,606)	80%	(709,285)
2008	(323,499)	70%	(226,449)
2007	156,569	20%	31,314
Total Amount of Deferred Excess Investment Income			($761,226)

8. Actuarial Value of Assets as of July 1, 2010 (3 - 7)	$3,612,700
Approximate Rate of Return on Actuarial Value of Assets	3.2%

All dollar amounts are in thousands.

*Adjusted to include Incidental Death Benefit and Accidental Death 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 Asset Gain/(Loss)

1. Actuarial Value of Assets at Beginning of Year*	$3,537,786
2. Total Net Cash Flow (Table III-2(2))	(39,147)
3. Expected Return on Actuarial Value of Assets (1 x 8.00% + 2 x 8.00% x .5)	281,457
4. Expected Actuarial Value of Assets at End of Year (1 + 2 + 3)	$3,780,096
5. Actual Actuarial Value of Assets at End of Year (Table III-2(8))	3,612,700
6. Actuarial Gain/(Loss) Due to Investment Experience (5 - 4)	($167,396)

All dollar amounts are in thousands.

*Adjusted to include Incidental Death Benefit and Accidental Death Assets

As recommended in the latest experience study for SCRS (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 for all Systems. 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.

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	$2,606,117
Disability Retirement	253,576
Survivors' Benefits	49,499
Termination	323,128
Incidental Death Benefits	19,525
Accidental Death Benefits	4,945
Total for Active Members	$3,256,790
Inactive Members	
Non-Vested (Refund only)	$21,114
Vested (includes Incidental Death)	89,460
Total for Inactive Members	$110,574
Retirees and Beneficiaries	
Service Retirements	$2,018,410
Disability Retirements	384,726
Beneficiaries	127,347
Incidental Death Benefits	26,688
Accidental Death Benefits	20,601
Total for Retirees and Beneficiaries	$2,577,772
Total Present Value of Benefits	$5,945,136

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	$1,940,222
Disability Retirement	108,505
Survivors' Benefits	33,218
Termination	66,648
Incidental Death Benefits	11,785
Accidental Death Benefits	1,733
Total for Active Members	$2,162,111
Total for Inactive Members (Table IV-1)	110,574
Total for Retirees and Beneficiaries (Table IV-1)	$2,577,772
Total Actuarial Accrued Liability	$4,850,457

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, 2010, the funded ratio of the System is 74.5% as compared to the ratio in prior valuation of 76.3%. 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.

Table IV-3: Unfunded Actuarial Accrued Liability (UAAL)	
1. Total Actuarial Accrued Liability (Table IV-2)	$4,850,457
2. Actuarial Value of Assets (Table III-2(8))	$3,612,700
Unfunded Actuarial Accrued Liability (UAAL) (1 – 2)	$1,237,757

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 requires 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	$1,081,891
2. Expected Amortization Payment	(50,515)
3. Expected Interest (1 x 8.00% + 2 x 8.00% x .5)	84,530
4. Expected End of Year UAAL (1 + 2 + 3)	$1,115,906
5. Actuarial Experience (Gain)/Loss	
COLA Experience	0
Salary Experience	(80,056)
Turnover and Other Liability Experience	34,524
Incidental Death Benefit and Accidental Death	(13)
Asset Experience	167,396
Total Actuarial (Gain)/Loss	$121,851
6. End of Year UAAL (4 + 5)	$1,237,757

All dollar amounts are in thousands.

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	1.71%
Survivors' Benefits	0.20%
Termination	3.10%
Incidental Death Benefits	0.10%
Accidental Death Benefits	0.04%
Total Normal Cost Rate for Active Members	13.74%
Less: Active Member Contribution Rate	6.50%
Employer Normal Cost Rate	7.24%

The established employer contribution rate beginning July 1, 2010 is 11.53% of active member payroll (11.763% effective July 1, 2011 and 11.995% effective July 1, 2012) and includes the 0.20% contribution rate required for funding the Incidental Death Benefit program and the 0.20% contribution rate for funding the Accidental Death benefits program. Beginning July 1, 2010, the assets, liabilities and contributions for these programs are included this valuation. The total 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 Applied to Active Member Payroll*

	% of Payroll
Statutory Employer Contribution Rate	11.995%
Less: Employer Normal Cost Rate (Table V-1)	7.240%
Employer Contribution Rate Available to Amortize UAAL	4.755%
Additional Sources of Amortization Funding	**% of Payroll**
Rehired Retiree participants	18.495%

*Reflects 0.233% increase effective July 1, 2011 and 0.232% increase effective July 1, 2012.
In addition, reflects the Incidental Death Benefit and the Accidental Death contribution rates.

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, 2010 the calculated amortization period required to fully amortize UAAL (Table IV-3) with the expected amortization funding from all sources is 32.8 years.

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 2.8 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, 2009		30.0
(reflecting employer rate increases July 1, 2011 and July 1, 2012)		
2. Change in years due to:		
Expected Decrease	(1.0)	
COLA Experience	0.0	
Salary Experience	(3.2)	
Turnover Experience	1.8	
Other Liability Experience	0.0	
Incidental Death Benefit and Accidental Death	(2.3)	
Asset Experience	7.5	
Total	2.8	
3. Amortization Period Calculated as of July 1, 2010 (2 + 3)		32.8

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, 2010.

Table V-4: Alternative Employer Contribution Rate Increases

Alternative Description	Rate Increase
One Step Annual Employer Contribution Rate Increase Beginning 7/1/2012	0.305%
Two Step Annual Employer Contribution Rate Increase	
Beginning 7/1/2012	0.158%
Beginning 7/1/2013	0.157%
Total Increase	0.315%

Under the alternate salary increase assumption, no rate increases would be required.

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
2010	$3,612,700	$4,850,457	74.5%	$1,237,757	$1,076,467	115.0%
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%

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)
2010	$758,695	$2,577,772	$1,513,990	$3,612,700	100%	100%	18.2%
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%

All dollar amounts are in thousands.

Table VI-3: 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
2010	322	26,568	$1,076,467	$40,517	-0.60%
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%

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
2010	943	$21,877	327	$5,000	12,566	$234,376	7.8%	$18,652
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

Table VI-5: Retired Members and Beneficiaries as of July 1, 2010		
Group	**Number**	**Annual Retirement Allowances**
Service Retirements		
Male	7,781	$162,426,090
Female	1,818	24,127,958
Total	9,599	$186,554,048
Disability Retirements		
Male	1,417	$28,570,859
Female	445	6,553,209
Total	1,862	$35,124,068
Beneficiaries of Deceased Retired Members and Active Members		
Male	79	$607,982
Female	1,026	12,090,248
Total	1,105	$12,698,230
Grand Total	**12,566**	**$234,376,346**

Table VI-6: Valuation Balance Sheet as of July 1, 2010
(Amounts expressed in thousands)

Assets	
Current Assets (Actuarial Value)	
Employee Annuity Savings Fund	$758,695
Employer Annuity Accumulation Fund	2,854,005
Total Current Assets	$3,612,700
Present Value of Future Member Contributions	$529,752
Present Value of Future Employer Contributions	
Normal Contributions	$564,927
Accrued Liability Contributions	1,237,757
Total Future Employer Contributions	$1,802,684
Total Assets	$5,945,136
Liabilities	
Employee Annuity Savings Fund	
Past Member Contributions	$758,695
Present Value of Future Member Contributions	529,752
Total Contributions to Employee Annuity Savings Fund	$1,288,447
Employer Annuity Accumulation Fund	
Benefits Currently in Payment	$2,577,772
Benefits to be Paid to Current Active Members (includes vested terminated members)	2,078,917
Total Contributions to Employer Annuity Accumulation Fund	$4,656,689
Total Liabilities	$5,945,136

Table VI-7: Results of the Valuation as of July 1, 2010 (Amounts expressed in thousands)	
Actuarial Present Value of Future Benefits	
Present Retired Members and Beneficiaries	$2,577,772
Present Active and Inactive Members	3,367,364
Total Actuarial Present Value	$5,945,136
Present Value of Future Normal Contributions	
Employee	$529,752
Employer	564,927
Total Future Normal Contributions	$1,094,679
Actuarial Liability	$4,850,457
Current Actuarial Value of Assets	$3,612,700
Unfunded Actuarial Liability	$1,237,757
Unfunded Actuarial Liablility Rates*	4.09%
Unfunded Actuarial Liability Liquidation Period**	30 years

*Total contribution rate is scheduled to increase by 0.233% effective July 1, 2011 and by 0.232% effective July 1, 2012 and reflects Incidental Death Benefit and Accidental Death contribution rates.

**The total contribution rate is required to increase by 0.305% in FY12 or 0.158% in FY12 and 0.157% in FY13 in order to maintain a 30 year period.

Table A-1: Schedule of Active Participant Data as of July 1, 2010									
	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	1,448	9							1,457
Avg. Pay	31,499	37,241							31,534
25 to 29	3,281	701	9						3,991
Avg. Pay	34,559	38,150	42,933						35,209
30 to 34	1,883	1,482	531	6					3,902
Avg. Pay	35,009	40,079	43,263	49,087					38,079
35 to 39	1,381	997	1,444	427	7				4,256
Avg. Pay	34,966	40,743	44,253	48,543	49,536				40,857
40 to 44	1,123	760	845	1,067	397	12			4,204
Avg. Pay	35,524	40,324	43,844	49,397	53,744	54,467			43,360
45 to 49	884	556	571	541	837	164			3,553
Avg. Pay	34,809	40,192	42,698	47,670	53,440	59,564			44,409
50 to 54	587	422	490	381	443	169	39		2,531
Avg. Pay	36,069	40,875	42,382	47,019	49,086	60,841	74,333		44,263
55 to 59	421	297	321	234	231	62	39	6	1,611
Avg. Pay	36,836	40,499	40,287	46,298	48,244	58,093	68,524	58,609	42,875
60 to 64	195	177	174	114	112	30	14	13	829
Avg. Pay	35,210	42,601	41,490	45,219	49,363	54,252	66,405	67,905	43,123
65 & up	61	48	50	27	25	14	8	1	234
Avg. Pay	39,470	41,650	46,368	49,968	49,579	55,393	57,120	66,571	45,354
Total	11,264	5,449	4,435	2,797	2,052	451	100	20	26,568
Avg. Pay	34,608	40,174	43,275	48,184	51,691	59,222	69,580	65,050	40,517

Table A-2: Comparative Summary of Active Data		
	Prior Year	Current Year
Average Age	39.55 years	39.76 years
Average Service	8.44 years	8.67 years
Average Pay	$ 40,761	$ 40,517
Percent Female	25.4%	24.7%

Table A-3: Number of Annual Retirement Allowances Of Benefit Recipients as of July 1, 2010

Payee Type	Number	Annual Retirement Allowances
Service Retirement		
Maximum & DRO	5,700	$107,295,093
100% J & S	165	2,762,216
100% Pop-up	1,345	23,780,099
50% J & S	149	3,816,074
50% Pop-up	1,074	26,540,468
Level Income	1,166	22,360,098
Total	9,599	$186,554,048
Disability Retirement		
Maximum	1,496	$29,234,687
100% J & S	49	627,503
100% Pop-up	150	1,967,801
50% J & S	29	489,259
50% Pop-up	138	2,804,818
Total	1,862	$35,124,068
Beneficiaries		
Total	1,105	$12,698,230
GRAND TOTAL	12,566	$234,376,346

Table A-4: Distribution of Participants Receiving Benefits as of July 1, 2010

NUMBER OF RETIRED MEMBERS AND THEIR BENEFITS BY AGE

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	444	$ 11,128,460	$ 25,064
50 – 54	897	23,738,533	26,464
55 – 59	1,732	38,844,439	22,428
60 – 64	2,253	43,966,073	19,514
65 – 69	1,798	29,425,952	16,366
70 – 74	1,166	18,102,869	15,526
75 – 79	746	12,008,809	16,098
80 & Over	563	9,338,913	16,588
Total	9,599	$ 186,554,048	$ 19,435

NUMBER OF DISABLED RETIREES AND THEIR BENEFITS BY AGE

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	679	$ 14,694,173	$ 21,641
50 – 54	365	6,775,447	18,563
55 – 59	343	6,016,785	17,542
60 – 64	257	4,113,867	16,007
65 – 69	125	1,993,194	15,946
70 – 74	50	817,098	16,342
75 – 79	28	463,436	16,551
80 & Over	15	250,068	16,671
Total	1,862	$ 35,124,068	$ 18,864

NUMBER OF BENEFICIARIES AND THEIR BENEFITS BY AGE

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	137	$ 1,286,671	$ 9,392
50 – 54	57	767,109	13,458
55 – 59	89	1,099,173	12,350
60 – 64	122	1,439,838	11,802
65 – 69	117	1,356,773	11,596
70 – 74	142	1,762,323	12,411
75 – 79	149	1,805,075	12,115
80 & Over	292	3,181,268	10,895
Total	1,105	$ 12,698,230	$ 11,492

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%

We have also provided alternative results based upon a lower expectation of the rate salary increase for the short-term future. Under this alternative, the rates above for active member with 3 or more years of service are decreased by 3% for the fiscal year ending June 30, 2011 and 1.5% for the fiscal year ending June 30, 2012.

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, 2009 remain with a five-year phase in).

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 to 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.

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 Incidental Death benefits in a lump sum equal to annual compensation. Incidental Death benefits 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 non-vested 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

Reflects changes dictated by an amendment to death benefits provided by the plan as a result of the passage of Act 176 of 2010 and the inclusion of the Accidental Death Benefit program.