



**Retirement System for  
Judges and Solicitors of the  
State of South Carolina  
(JSRS)  
Annual Actuarial Valuation  
as of July 1, 2010**



# Cavanaugh Macdonald

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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 Retirement System for Judges and Solicitors of the State of South Carolina (JSRS) 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 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 a period not to exceed 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. 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.

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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 16 years. In our opinion, JSRS 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,

A handwritten signature in blue ink, appearing to read 'John J. Garrett'.

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

A handwritten signature in blue ink, appearing to read 'Edward A. Macdonald'.

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, 2010 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, 2010</b>	<b>July 1, 2009</b>
<b>Membership</b>		
Number of:		
Active Members <sup>1</sup>	144	144
Retirees and Beneficiaries	180	170
DROP and Retired in Place Members	14	14
Inactive Members	<u>4</u>	<u>4</u>
Total	328	318
Payroll	\$18,661	\$18,661
<b>Statutory Contribution Rates (Including Incidental Death)</b>		
Member	10.00%	10.00%
Employer	<u>45.09%</u>	<u>45.09%</u>
Total	55.09%	55.09%
<b>Assets</b>		
Market Value	\$111,226	\$99,989
Actuarial Value	\$142,871	\$141,797
Return on Market Value	14.8%	(21.0%)
Return on Actuarial Value	2.9%	4.2%
Ratio of Actuarial to Market Value	128.5%	141.8%
<b>Actuarial Information</b>		
Employer Normal Cost %	12.16%	12.02%
Unfunded Actuarial Liability (UAL)	\$72,952	\$72,566
Funded Ratio	66.2%	66.1%
Amortization Period	16 Years	16 Years
<b>Change in Unfunded Actuarial Liability</b>		
Beginning of Year Unfunded Actuarial Liability	\$72,566	75,083
Interest on Unfunded Actuarial Liability	5,805	6,007
Amortization Payment with Interest	(6,821)	(6,614)
COLA	(4,623)	(4,183)
Salary Experience	(1,942)	(2,132)
Other Liability Experience	816	(528)
Benefit Changes	0	0
Assumption Changes	0	0
Asset Experience	7,151	4,933
Total Increase / (Decrease)	386	(2,517)
End of Year Unfunded Actuarial Liability	\$72,952	\$72,566

<sup>1</sup> Active member counts include unfilled positions. Also includes 14 members as of July 1, 2010 and 14 members as of July 1, 2009 who were in DROP or retired in place.



### Summary of Key Findings

The current employer contribution rate for the System is 45.09%. The contribution is used to pay the employer's portion of the normal cost and to amortize the unfunded actuarial liability (UAL) and includes 0.45% for funding the incidental death benefits.

The actuarially determined employer normal cost contribution rate increased from 12.02% to 12.16% of covered payroll. Therefore, the net contribution towards the UAL decreased from 33.07% to 32.93% of covered payroll. The unfunded actuarial liability increased from \$72.6 million to \$73.0 million. The resulting amortization period remained at approximately 16 years. We note the following key findings:

- The UAL grew by \$5.8 million due to interest and decreased by \$6.8 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 \$7.2 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 2.2 years. Table III-3 provides the calculation of the investment loss for this year.
- The System experienced a net actuarial gain \$5.7 million on plan liabilities due to non-investment related experience. Table IV-4 provides the reconciliation of the UAL which is summarized as follows:
  1. The System experienced a \$1.9 million gain due to salary experience which reduced the funding period by 0.6 years, and a \$4.6 million gain on cost of living increases to retired members which reduced the funding period by 1.3 years.
  2. In addition, there was a small liability loss primarily attributable to the System turnover experience. The loss increased plan liabilities by \$0.8 million and increased the funding period by 0.2 years.
  3. Other factors, such as the anticipated payroll growth, resulted in a 0.7 year increase in the amortization period. These factors had a minor direct impact on the UAAL.



## Section I: Board Summary

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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 is important to note 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.

<b>Table II-1: Summary of Membership Data</b>		
	<b>July 1, 2010</b>	<b>July 1, 2009</b>
<b>Active Members</b>		
Total Number of Active Members <sup>1</sup>	144	144
Total Annual Compensation <sup>2</sup>	\$18,661	\$18,661
Number of DROP & Retired-in-Place Members	14	14
Total Annual Compensation	\$1,760	\$1,762
<b>Retirees and Beneficiaries</b>		
Number of Service Retirements <sup>3</sup>	134	128
Total Annual Benefit Payments	\$12,592	\$12,039
Number of Disability Retirements	1	1
Total Annual Benefit Payments	\$93	\$93
Number of Beneficiaries	59	55
Total Annual Benefit Payments	\$1,676	\$1,613
<b>Inactive Members</b>		
Number of Non-vested Inactive Members	3	3
Number of Vested Inactive Members	1	1

*All dollar amounts are in thousands.*

<sup>1</sup> Represents the number of scheduled positions and includes 14 members as of July 1, 2010 and 14 members as of July 1, 2009 who are either in the DROP or have retired in place.

<sup>2</sup> Compensation includes the expected compensation of scheduled positions and participants who are either in DROP or have retired in place.

<sup>3</sup> Includes the participants who are either in DROP or have retired in place.



## 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, 2010</b>	<b>July 1, 2009</b>
1. Beginning of Year Market Value of Assets	\$99,989	\$129,431
<b>Income</b>		
2. Employer Contributions	\$8,414	\$8,414
3. Member Contributions	<u>\$2,343</u>	<u>\$2,524</u>
Total Contributions	\$10,757	\$10,938
4. Investment Income (net of expenses)	\$14,545	(\$26,845)
<b>Disbursements</b>		
5. Benefit Payments	\$14,179	\$13,618
6. Transfers	(\$114)	(\$83)
7. Net Change in Market Value of Assets (2 + 3 + 4 - 5 - 6)	\$11,237	(\$29,442)
8. End of Year Market Value of Assets (1 + 7)	\$111,226	\$99,989
Approximate Rate of Return on Market Value of Assets	14.8%	(21.0%)
Net Cash Flow (Contributions less Disbursements)	(\$3,308)	(\$2,597)
Cash Flow as a % of Average Market Value	(3.1%)	(2.3%)
<i>All dollar amounts are in thousands.</i>		

A mature System such as JSRS 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.

**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	\$99,989
2. Value of DROP Accounts at Beginning of Year	698
3. DROP Net Cash Flow During the Year	45
4. Total Net Cash Flow During the Year (3 + Table III-1 Net Cash Flow)	(3,263)
5. Market Value of Assets at End of Year	\$111,226
6. Value of DROP Accounts at End of Year	743
7. Actual Investment Income During the Year Based on Market Value	\$14,545
8. Expected Earnings for the Year	
a. Market Value of Assets, Beginning of Year [(1 + 2) x 8.00%]	8,055
b. Net Cash Flow (4 x 8.00% x .5)	(120)
c. Total (a + b)	7,935
9. Current Year Excess Investment Income (7 – 8c)	6,610

#### Calculation of Total Amount of Deferred Excess Investment Income

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>
2010	\$6,610	90%	5,949
2009	(37,137)	80%	(29,710)
2008	(13,277)	70%	(9,294)
2007	7,052	20%	1,410

Total Amount of Deferred Excess Investment Income (\$31,645)

11. Actuarial Value of Assets as of July 1, 2010 (5 - 10)	\$142,871
Approximate Rate of Return on Actuarial Value of Assets	2.9%

*All dollar amounts are in thousands.*



## 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	\$141,797
2. Value of DROP Accounts Beginning of Year	698
3. Total Net Cash Flow (Table III-2(4))	(3,263)
4. Expected Return on Actuarial Value of Assets $[(1 + 2) \times 8.00\% + 3 \times 8.00\% \times .5]$	11,234
5. Value of DROP Accounts End of Year	743
6. Expected Actuarial Value of Assets at End of Year $(1 + 2 + 3 + 4 - 5)$	150,022
7. Actual Actuarial Value of Assets at End of Year (Table III-2(11))	\$142,871
8. Actuarial Gain/(Loss) Due to Investment Experience $(7 - 6)$	(\$7,151)

*All dollar amounts are in thousands.*

As recommended in the latest experience study of 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.



## 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	\$85,219
Disability Retirement	5,283
Survivors' Benefits	<u>3,459</u>
Total for Active Members	\$93,961
<b>Inactive Members</b>	
Non-Vested (Refund only)	\$86
Vested	<u>484</u>
Total for Inactive Members	\$570
<b>Retirees and Beneficiaries</b>	
Service Retirements	\$134,143
Disability Retirements	635
Beneficiaries	<u>15,918</u>
Total for Retirees and Beneficiaries	\$150,696
<b>Total Present Value of Benefits</b>	<b>\$245,227</b>

*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 for active members.



## Section IV: System Liabilities

<b>Table IV-2: Actuarial Accrued Liability</b>	
Active Members	
Service Retirement	\$62,314
Disability Retirement	1,258
Survivors' Benefits	<u>985</u>
Total for Active Members	\$64,557
Total for Inactive Members (Table IV-1)	\$570
Total for Retirees and Beneficiaries (Table IV-1)	\$150,696
Total Actuarial Accrued Liability	\$215,823
<i>All dollar amounts are in thousands.</i>	

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 66.2% as compared to the ratio in prior valuation of 66.1%. 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)	\$215,823
2. Actuarial Value of Assets (Table III-2(11))	<u>\$142,871</u>
Unfunded Actuarial Accrued Liability (UAAL) (1 – 2)	\$72,952
<i>All dollar amounts are in thousands.</i>	

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



## Section IV: System Liabilities

source of funding for this liability. The scheduled contributions are expected to completely fund the System's liabilities (pay off the UAAL) within 16 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	\$72,566
2. Expected Amortization Payment	(6,559)
3. Expected Interest (1 x 8.00% + 2 x 8.00% x .5)	<u>5,543</u>
4. Expected End of Year UAAL (1 + 2 + 3)	\$71,550
5. Actuarial Experience (Gain)/Loss	
COLA	(4,623)
Salary Experience	(1,942)
Other Liability Experience	816
Asset Experience	<u>7,151</u>
Total Actuarial (Gain)/Loss	\$1,402
6. End of Year UAAL (4 + 5)	\$72,952

*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	17.48%
Disability Retirement	2.86%
Survivors' Benefits	<u>1.82%</u>
Total Normal Cost Rate for Active Members	22.16%
Less: Active Member Contribution Rate	<u>10.00%</u>
Employer's Normal Cost Rate	12.16%

The established employer contribution rate, currently 45.09% of active member payroll, 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 DROP and retired in place participants in 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



<b>Table V-2: UAAL Amortization Rate</b>	
<b>Calculation of Amortization Rate on Active Member Payroll</b>	
	<b>% of Payroll</b>
Statutory Employer Contribution Rate	45.09%
Less: Employer Normal Cost Rate (Table V-1)	<u>12.16%</u>
Employer Contribution Rate Available to Amortize UAAL	32.93%
<b>Additional Sources of Amortization Funding</b>	
	<b>% of Payroll</b>
DROP participants	55.09%
Retired in Place participants	55.09%

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, DROP participants and retired in place participants, will increase at an annual rate of 3.25% 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 16 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 decreased the amortization period by 0.2 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, 2009	15.7
2. Change in years due to:	
Expected Decrease	(1.0)
COLA Experience	(1.3)
Salary Experience	(0.6)
Other Liability Experience	0.9
Asset Experience	<u>2.2</u>
Total	0.2
3. Amortization Period Calculated as of July 1, 2010 (1 + 2)	15.9



## Section VI: Accounting Statement Information

The Tables provided in this Section present disclosure information necessary to comply with GASB requirements and information 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	\$142,871	\$215,823	66.2%	\$72,952	\$18,661	390.9%
2009	141,797	214,363	66.1%	72,566	18,661	388.9%
2008	138,323	213,406	64.8%	75,083	18,661	402.4%
2007	132,990	229,388	58.0%	96,398	16,407	587.5%
2006	124,837	211,384	59.1%	86,547	15,929	543.3%
2005	118,888	204,847	58.0%	85,959	15,465	555.8%
2004	112,016	185,052	60.5%	73,036	14,870	491.2%
2003	106,114	166,655	63.7%	60,541	14,437	419.3%
2002	100,074	166,440	60.1%	66,366	14,211	467.0%
2001	94,795	159,246	59.5%	64,451	14,109	456.8%

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)		(1)	(2)	(3)
2010	\$17,816	\$150,696	\$47,311	\$142,871	100%	83.0%	0.0%
2009	18,431	144,464	51,468	141,797	100%	85.4%	0.0%
2008	17,367	141,510	54,529	138,323	100%	85.5%	0.0%
2007	18,999	149,435	60,954	132,990	100%	76.3%	0.0%
2006	21,857	112,823	76,704	124,837	100%	91.3%	0.0%
2005	20,005	110,876	73,966	118,888	100%	89.2%	0.0%
2004	17,640	106,159	61,253	112,016	100%	88.9%	0.0%
2003	16,545	96,409	53,701	106,114	100%	92.9%	0.0%
2002	16,162	101,716	48,562	100,074	100%	82.5%	0.0%
2001	15,254	97,512	46,480	94,795	100%	81.6%	0.0%

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
2010	3	144	\$18,661	129,590	0.00%
2009	3	144	18,661	129,590	0.00%
2008	3	144	18,661	129,590	1.10%
2007	2	128	16,407	128,176	3.00%
2006	2	128	15,929	124,445	3.00%
2005	2	128	15,465	120,820	4.00%
2004	2	128	14,870	116,172	3.00%
2003	2	128	14,437	112,789	1.59%
2002	2	128	14,211	111,026	0.73%
2001	2	128	14,109	110,223	4.26%

**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)		
2010	18	\$1,210	8	\$593	194	\$14,361	4.5%	\$74,025
2009	10	903	4	259	184	13,744	4.9%	74,696
2008	6	545	3	156	178	13,100	3.1%	73,596
2007	32	2,690	1	30	175	12,711	26.5%	72,634
2006	4	464	1	28	144	10,051	4.5%	69,799
2005	3	581	1	27	141	9,615	6.1%	68,191
2004	11	925	2	139	139	9,061	9.5%	65,190
2003	11	716	7	493	130	8,275	2.8%	63,654
2002	13	706	5	248	126	8,052	6.0%	63,905
2001	9	685	6	442	118	7,594	3.3%	64,356



<b>Table VI-5: Retired Members and Beneficiaries as of July 1, 2010</b>		
<b>Group</b>	<b>Number</b>	<b>Annual Retirement Allowances</b>
<b>Service Retirements*</b>		
Employees:		
Male	120	\$11,663,428
Female	<u>14</u>	<u>928,855</u>
Total	134	\$12,592,283
<b>Disability Retirements</b>		
Employees:		
Male	1	\$92,914
Female	<u>0</u>	<u>0</u>
Total	1	\$92,914
<b>Beneficiaries of Deceased Retired and Active Members</b>		
Male	6	\$51,098
Female	<u>53</u>	<u>1,624,612</u>
Total	59	\$1,675,710
<b>Grand Total</b>	<b><u>194</u></b>	<b><u>\$14,360,907</u></b>

\*Includes DROP and retired in place members.

## Section VI: Accounting Statement Information



**Table VI-6: Valuation Balance Sheet**

As of July 1, 2010

(Amounts expressed in thousands)

<u>Assets</u>	
Current Assets (Actuarial Value)	
Employee Annuity Savings Fund	\$17,816
Employer Annuity Accumulation Fund	<u>125,055</u>
Total Current Assets	\$142,871
Present Value of Future Member Contributions	\$13,313
Present Value of Future Employer Contributions	
Normal Contributions	\$16,091
Accrued Liability Contributions	<u>72,952</u>
Total Future Employer Contributions	\$89,043
Total Assets	<u>\$245,227</u>
<u>Liabilities</u>	
Employee Annuity Savings Fund	
Past Member Contributions	\$17,816
Present Value of Future Member Contributions	<u>13,313</u>
Total Contributions to Employee Annuity Savings Fund	\$31,129
Employer Annuity Accumulation Fund	
Benefits Currently in Payment	\$150,696
Benefits to be Paid to Current Active Members (includes vested terminated members)	<u>63,402</u>
Total Benefits Payable from Employer Annuity Accumulation Fund	\$214,098
Total Liabilities	<u>\$245,227</u>



<b>Table VI-7: Results of the Valuation</b>	
As of July 1, 2010	
(Amounts expressed in thousands)	
<b><u>Actuarial Present Value of Future Benefits</u></b>	
Present Retired Members and Beneficiaries	\$150,696
Present Active and Inactive Members	<u>94,531</u>
Total Actuarial Present Value	\$245,227
<b><u>Present Value of Future Normal Contributions</u></b>	
Employee	\$13,313
Employer	<u>16,091</u>
Total Future Normal Contributions	\$29,404
<b><u>Actuarial Liability</u></b>	\$215,823
<b><u>Current Actuarial Value of Assets</u></b>	\$142,871
<b><u>Unfunded Actuarial Liability</u></b>	\$72,952
<b><u>Unfunded Actuarial Liability Rates</u></b>	
Active Members	32.93%
DROP and Retired-in-Place Members (including employee contributions)	55.09%
<b><u>Unfunded Actuarial Liability Liquidation Period</u></b>	16 years



## Appendix A: Additional Membership Data

<b>Table A-1: Schedule of Active Participant Data as of July 1, 2010</b>									
AGE	Years of Service								Total
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	≥ 35	
<b>Under 35</b>									
<b>Avg. Pay</b>									
<b>35 to 39</b>	1								1
<b>Avg. Pay</b>	130,312								130,312
<b>40 to 44</b>	12	1		3					16
<b>Avg. Pay</b>	123,932	130,312		129,169					125,313
<b>45 to 49</b>	8	3	5	1	4				21
<b>Avg. Pay</b>	121,520	129,772	128,940	130,312	130,312				126,559
<b>50 to 54</b>	6	2	3	7	7	3			28
<b>Avg. Pay</b>	128,663	128,597	130,312	128,317	130,802	129,169			129,337
<b>55 to 59</b>	7	1	7	6	3	4	4		32
<b>Avg. Pay</b>	128,842	126,883	127,863	128,597	129,169	131,169	126,107		128,500
<b>60 to 64</b>	9			1	2	5	7		24
<b>Avg. Pay</b>	129,550			126,883	128,597	132,895	127,356		129,416
<b>65 &amp; up</b>	3	1	1	3	1	1	9		19
<b>Avg. Pay</b>	129,169	130,312	130,312	129,169	130,312	130,312	125,770		127,799
<b>Total</b>	46	8	16	21	17	13	20		141
<b>Avg. Pay</b>	126,456	129,252	128,812	128,667	130,110	131,306	126,392		128,090

<b>Table A-2: Comparative Summary of Active Data</b>		
	<b>Prior Year</b>	<b>Current Year</b>
Average Age	55.01 years	54.93 years
Average Service	15.36 years	14.95 years
Average Pay	\$ 127,933	\$128,090
Percent Female	18.8%	19.1%

Note: Tables A-1 and A-2 are based upon filled positions and includes DROP and retired in place members.



**Table A-3: 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	1	\$ 93,319	\$ 93,319
50 – 54	1	90,938	90,938
55 – 59	12	1,003,146	83,596
60 – 64	26	2,306,224	88,701
65 – 69	40	3,906,831	97,671
70 – 74	21	2,053,945	97,807
75 – 79	16	1,538,905	96,182
80 & Over	<u>17</u>	<u>1,598,975</u>	<u>94,057</u>
Total	134	\$ 12,592,283	\$ 93,972

**NUMBER OF DISABLED RETIREES AND THEIR BENEFITS BY AGE**

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	0	\$ 0	\$ 0
50 – 54	0	0	0
55 – 59	0	0	0
60 – 64	0	0	0
65 – 69	0	0	0
70 – 74	0	0	0
75 – 79	1	92,914	92,914
80 & Over	<u>0</u>	<u>0</u>	<u>0</u>
Total	1	\$ 92,914	\$ 92,914

**NUMBER OF BENEFICIARIES AND THEIR BENEFITS BY AGE**

Age	Number of Members	Total Annual Benefits	Average Annual Benefits
Under 50	6	\$ 64,066	\$ 10,678
50 – 54	4	90,747	22,687
55 – 59	4	114,348	28,587
60 – 64	6	183,363	30,561
65 – 69	4	123,872	30,968
70 – 74	5	135,092	27,018
75 – 79	7	226,679	32,383
80 & Over	<u>23</u>	<u>737,543</u>	<u>32,067</u>
Total	59	\$ 1,675,710	\$ 28,402





## 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 salary are assumed to increase at an annual rate of 3.25%

### Active Member Decrement Rates

- a. Table below provides a summary of the assumed rates of mortality while actively employed, and disability. No withdrawal from active membership is assumed.

Annual Rates of Decrements				
Age	Pre-Retirement Mortality		Disability	
	Male	Female	Male	Female
25	0.06%	0.03%	0.04%	0.05%
30	0.07%	0.04%	0.06%	0.07%
35	0.07%	0.04%	0.08%	0.07%
40	0.10%	0.05%	0.15%	0.12%
45	0.18%	0.08%	0.25%	0.25%
50	0.30%	0.13%	0.40%	0.40%
55	0.46%	0.21%	0.65%	0.65%
60	0.65%	0.33%	1.00%	1.00%
65	0.99%	0.54%	1.25%	1.25%



## Appendix B: Actuarial Assumptions and Methods

- b. Normal Retirement Rates differ based upon the member being eligible to Retire in Place (RIP) prior to reaching age 72. 100% of participants are assumed to retire upon reaching the mandatory retirement age of 72. Upon meeting the retirement eligibility requirement, participants are assumed to retire at the following rates:

ASSUMED RATES OF RETIREMENT							
Solicitors and Public Defenders				Judges			
Age	Service	RIP Eligible	Not RIP Eligible	Age	Service	RIP Eligible	Not RIP Eligible
70 to 72	15 to 19	12%	12%	70 to 72	15 to 19	12%	12%
65 to 69	20 to 23	40%	40%	65 to 69	20 to 24	40%	40%
Any	24	20%	40%	Any	25	15%	25%
Any	25	15%	25%	Any	26	10%	15%
Any	26	10%	12%	Any	27	10%	15%
Any	27	10%	12%	Any	28	10%	15%
Any	28	10%	12%	Any	29	10%	15%
Any	29	5%	12%	Any	30	5%	15%
Any	30	5%	12%	Any	31	5%	15%
Any	31*	12%*	35%	Any	32*	12%*	35%
Any	32+	12%	12%	Any	33+	12%	15%

\* Additionally, the remaining 88% of eligible members are assumed to retire in Place.

### Post-Retirement Mortality

Assumed rate of mortality for healthy retirees and beneficiaries is the 1983 Group Annuity Mortality Table rates. A separate table of mortality rates is used for disabled retirees. The following are sample rates for retirees and beneficiaries:

Post-Retirement Mortality Assumption				
Age	Healthy		Disabled	
	Male	Female	Male	Female
60	0.92%	0.42%	4.88%	2.88%
65	1.56%	0.71%	5.95%	3.66%
70	2.75%	1.24%	7.63%	4.88%
75	4.46%	2.40%	10.22%	6.77%
80	7.41%	4.29%	14.17%	9.71%
85	11.48%	6.99%	20.09%	14.16%

### Marriage Assumption

95% 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

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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 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.

### Future Cost-of-living Increases

Benefits are assumed to increase 3.25% annually.

### 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 3.25%. This rate 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, 1979

### **Eligibility Requirements**

All solicitors, public defenders, judges of circuit or family courts or the Court of Appeals, and the justices of the Supreme Court in the State of South Carolina are required to participate upon taking office.

### **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.

### **Service Requirement**

Eligibility - Attainment of age 70 with 15 years of creditable service, or age 65 with 20 years of creditable service, or 25 years for judges and 24 years for solicitors and public defenders regardless of age. In addition, age 65 with 4 years in JSRS plus 25 years in another system. The mandatory retirement age is 72.

Benefit - 71.3% of the current active salary of the position from which the member retired plus an additional 2.67% of compensation for each year of service beyond 25 years for judges and 24 years for solicitors and public defenders but not to exceed 90% of active salary of respective position.

### **Disability Retirement**

Eligibility - Disability prior to normal retirement age with at least 5 years of creditable service.

Benefit - The disability benefit is computed in the same manner as the service retirement benefit.

### **Death Benefits**

#### **Single Member**

An annuity equal to the amount that would have been payable had the member retired the day of death, calculated under the optional form of payment and payable to the designated beneficiary, plus the Incidental Death Benefit.

#### **Married Member**

An annuity equal to one-third of the amount that would have been payable had the member retired the day of death, payable to the surviving spouse until her death, plus the Incidental Death Benefit.



### **Incidental Death Benefit**

A lump-sum payment equal to one year's salary payable to the beneficiary upon the death of an active member with at least one year of creditable service. The service requirement will be waived for deaths resulting from actual performance of duties. Post-retirement (non-contributing) benefit is based upon creditable years of service as follows: \$1,000 for members with at least 10 years but less than 20 years, \$2,000 for members with at least 20 years but less than 30 years, and \$3,000 for members with 30 or more years.

### **Employee Contributions**

The member contribution rate is 10%. Accumulated member contributions are credited with interest at the rate of 4% per year.

### **Vested Benefit Upon Termination**

Eligibility - 100% vesting upon completion of 10 years of creditable service for judges and 8 years for solicitors.

Benefit - Service retirement benefit computed as if the member has 24 years of creditable service, prorated by actual years of creditable service at date of separation. The benefit will commence at age 65. For members who began service before July 1, 2004, the benefit commences at age 55.

### **Termination Benefit**

Eligibility - Elect return of accumulated employee contributions.

Benefit - Return of employee contributions plus interest.

### **Normal Form of Retirement Income**

Single Member - Monthly life annuity with guaranteed return of employee contributions plus interest.

Married Member - A joint and 33 1/3% joint and survivor annuity to spouse unless a contingent non-spousal beneficiary is named.

### **Optional Forms of Retirement Income**

Beneficiary other than spouse - Calculate the maximum payment to the member, then apply JSRS calculated option factor by using the SCRS Option C factor for current age of member and beneficiary. Beneficiary(ies) receives 1/3 of the benefit payable to the retired member. The JSRS option factor is calculated as follows:

$$\text{JSRS Option Factor} = (3 \times \text{SCRS Opt. C Factor}) / (1 + 2 \times \text{SCRS Opt. C. Factor})$$

### **Future Cost of Living Adjustment**

For a retired member and his/her spouse, the adjustment reflects the increase in the current salary of the position from which the member retired.

For a contingent beneficiary other than the spouse, the adjustment is an increase of 4% in each year that the rate of increase in the CPI equal or exceeds 3%.

## Appendix C: Summary of Plan Provisions

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### **Retire in Place**

Members who have accrued 90% percent of salary (32 years for Judges and 31 year for Solicitors and Public Defenders) may elect to “retire in place”. Those eligible members electing to retire in place will begin to receive their accrued retirement benefits while remaining employed, not accrue additional benefits, and continue to contribute 10% of their compensation from active employment. For the purpose of incidental death benefits, these members are treated as active employees.

A member who has not yet reached the age of 60 years, but who is eligible to retire in place will have his or her retirement benefit paid into a deferred retirement option program (DROP). Upon reaching the age of 60 years (or retirement if earlier), the balance of the member's deferred retirement benefit is distributed to the member and the member begins receiving their retirement benefit directly.

### **Changes from Prior Valuation**

None