

**REPORT ON THE SIXTY-SECOND ANNUAL VALUATION
OF THE TEACHERS' AND STATE EMPLOYEES'
RETIREMENT SYSTEM OF NORTH CAROLINA
PREPARED AS OF DECEMBER 31, 2004**

October 17, 2005

Board of Trustees
Teachers' and State Employees'
Retirement System of North Carolina
325 North Salisbury Street
Raleigh, NC 27603

Members of the Board:

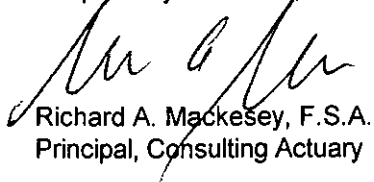
We submit herewith our report on the sixty-second annual valuation of the Teachers' and State Employees' Retirement System of North Carolina prepared as of December 31, 2004. The report has been prepared in accordance with North Carolina General Statute 135-6(o).

The System was amended effective July 1, 2005 to provide a 2.00% increase in the benefit to beneficiaries on the roll as of July 1, 2004 and to provide a prorated portion of a 2.00% increase for beneficiaries who retired after July 1, 2004 but before June 30, 2005. The cost of this amendment was covered by gains which developed during the 2003 valuation year and the increase in the contribution rate from 2.17% of payroll to 2.34% of payroll.

The Appropriations Act of 2005 sets contributions at 2.34% of payroll effective for the fiscal year ending June 30, 2006. The valuation has been prepared in accordance with the parameters of Statement Nos. 25 and 27 of the Governmental Accounting Standards Board. The annual required contribution (ARC) under GASB for the 2006-2007 fiscal year is 1.60% of payroll which will liquidate the unfunded accrued liability within a 9-year period. On this basis, there is a preliminary reserve from undistributed gains equivalent to 0.74% of payroll. However, the System is owed 0.57% of employer contributions, the unpaid portion of the amount escrowed during the 2000/2001 fiscal year. Assuming that the undistributed gains are used to apply towards all of the amount owed to the System, the remaining undistributed gains are equivalent to 0.17% of payroll.

The Table of Contents, which immediately follows, outlines the material contained in the report.

Respectfully submitted,


Richard A. Mackesey, F.S.A.
Principal, Consulting Actuary

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**REPORT ON THE SIXTY-SECOND ANNUAL VALUATION OF THE
TEACHERS' AND STATE EMPLOYEES' RETIREMENT SYSTEM OF NORTH CAROLINA
PREPARED AS OF DECEMBER 31, 2004**

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. This report, prepared as of December 31, 2004, presents the results of the sixty-second actuarial valuation of the system. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below. The current valuation reflects the benefit increases granted to beneficiaries as of July 1, 2005 and amendments to the system effective through July 1, 2005.

**TABLE I
SUMMARY OF PRINCIPAL RESULTS**

VALUATION DATE	12/31/04	12/31/03
Active members included in valuation		
Number	311,612	303,768
Annual compensation	\$ 10,366,136,571	\$ 10,082,153,001
Beneficiaries		
Number	128,577	123,077
Annual allowances	\$ 2,315,858,563	\$ 2,147,805,407
Assets		
Actuarial value	\$ 47,383,509,397	\$ 45,117,507,733
Market value	49,711,421,866	46,350,333,984
Unfunded accrued liability	\$ (3,555,655,121)	\$ (3,383,806,385)
CONTRIBUTIONS FOR FISCAL YEAR ENDING	June 30, 2007	June 30, 2006
<u>Appropriations Act</u>		
Employer contribution rate		
Normal	6.74%	6.73%
Accrued liability	(4.40)	(4.56)
Total	2.34%	2.17%
Liquidation period	12 years	11 years
<u>GASB 25/27</u>		
Annual required contribution (ARC) of employer		
Normal	6.74%	6.73%
Accrued liability	(5.14)	(5.03)
Total	1.60%	1.70%
Liquidation period	9 years	9 years
Preliminary undistributed gains	0.74%	0.47%
Estimated adjustment for required Employer contributions not made	(0.57%)	(0.63%)
Reserve from undistributed gains	0.17%	N/A

2. The valuation balance sheet showing the results of the valuation is given in Section III.
3. Comments on the valuation results are given in Section IV, comments on the experience and actuarial gains during the valuation year are given in Section V and the rates of contribution payable by employers are given in Section VI.
4. Schedule B of this report outlines the full set of actuarial assumptions and methods employed. There have been no changes since the previous valuation. Schedule A of this report presents the development of the actuarial value of assets.
5. Schedule C gives a summary of the benefit and contribution provisions of the system.

SECTION II - MEMBERSHIP DATA

Data regarding the membership of the system for use as a basis for the valuation were furnished by the system's office. The following tables summarize the membership of the system as of December 31, 2004 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

TABLE II

**THE NUMBER AND ANNUAL COMPENSATION OF ACTIVE MEMBERS
INCLUDED IN THE VALUATION AS OF DECEMBER 31, 2004**

GROUP	NUMBER	ANNUAL COMPENSATION
Teachers	142,795	\$ 5,003,727,468
Employees	166,141	5,246,815,919
Law Enforcement Officers	<u>2,676</u>	<u>115,593,184</u>
Total	311,612	\$10,366,136,571

There are, in addition, 49,973 inactive members and 2,607 members who were excluded from the table because of insufficient data. The results of the valuation were adjusted to take these members into account.

TABLE III

**THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF BENEFICIARIES
AND SURVIVORS ON THE ROLL AS OF DECEMBER 31, 2004**

GROUP	NUMBER	ANNUAL RETIREMENT ALLOWANCES
<u>Beneficiaries Receiving Service Retirement Allowances</u>		
Teachers	54,196	\$ 1,243,962,432
Employees	55,697	799,213,407
Law Enforcement Officers	<u>1,780</u>	<u>47,128,607</u>
Total	111,673	\$ 2,090,304,446
<u>Beneficiaries Receiving Disability Retirement Allowances</u>		
Teachers	3,157	\$ 62,898,671
Employees	2,959	41,663,152
Law Enforcement Officers	<u>155</u>	<u>3,501,103</u>
Total	6,271	\$ 108,062,926
<u>Benefits to Survivors of Deceased Beneficiaries</u>		
Teachers	3,269	\$ 46,862,138
Employees	7,101	66,107,137
Law Enforcement Officers	<u>263</u>	<u>4,521,916</u>
Total	10,633	\$ 117,491,191
Grand Total	<u>128,577</u>	<u>\$ 2,315,858,563</u>

SECTION III - VALUATION BALANCE SHEET

The following valuation balance sheet shows the assets and liabilities of the retirement system as of the current valuation date of December 31, 2004 and, for comparison purposes, as of the immediately previous valuation date of December 31, 2003. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date. The development of the actuarial value of assets is presented in Schedule A.

TABLE IV

VALUATION BALANCE SHEET
SHOWING THE ASSETS AND LIABILITIES OF THE
TEACHERS' AND STATE EMPLOYEES'
RETIREMENT SYSTEM OF NORTH CAROLINA

ASSETS	DECEMBER 31, 2004	DECEMBER 31, 2003
Current actuarial value of assets:		
Annuity Savings Fund	\$ 7,469,590,963	\$ 7,129,851,440
Pension Accumulation Fund	<u>39,913,918,434</u>	<u>37,987,656,293</u>
Total current assets	\$ 47,383,509,397	\$ 45,117,507,733
Future member contributions to Annuity Savings Fund	\$ 6,044,472,900	\$ 5,898,080,946
Prospective contributions to Pension Accumulation Fund:		
Normal contributions	\$ 6,689,216,676	\$ 6,517,379,445
Unfunded accrued liability contributions	(3,555,655,121)	(3,383,806,385)
Undistributed gain contributions	<u>510,208,590</u>	<u>314,081,162</u>
Total prospective contributions	\$ 3,643,770,145	\$ 3,447,654,222
Total Assets	<u>\$ 57,071,752,442</u>	<u>\$ 54,463,242,901</u>
LIABILITIES		
Annuity Savings Fund:		
Past member contributions	\$ 7,469,590,963	\$ 7,129,851,440
Future member contributions	<u>6,044,472,900</u>	<u>5,898,080,946</u>
Total contributions to Annuity Savings Fund	\$ 13,514,063,863	\$ 13,027,932,386
Pension Accumulation Fund:		
Benefits currently in payment	\$ 20,788,257,882	\$ 19,273,002,725
Benefits to be paid to current active members	21,830,816,339	21,504,021,222
Reserve for increases in retirement allowances effective July 1, 2005 (July 1, 2004 for December 31, 2003 figure)	428,405,768	344,205,406
Reserve from undistributed gains	<u>510,208,590</u>	<u>314,081,162</u>
Total benefits payable from Pension Accumulation Fund	\$ 43,557,688,579	\$ 41,435,310,515
Total Liabilities	<u>\$ 57,071,752,442</u>	<u>\$ 54,463,242,901</u>

SECTION IV - COMMENTS ON VALUATION

The valuation balance sheet gives the following information with respect to the funds of the system as of December 31, 2004.

Annuity Savings Fund

The Annuity Savings Fund is the fund to which are credited contributions made by members together with interest thereon. When a member retires, the amount of his accumulated contributions is transferred from the Annuity Savings Fund to the Pension Accumulation Fund. The assets credited to the Annuity Savings Fund on December 31, 2004, which represent the accumulated contributions of members to that date, amounted to \$7,469,590,963. The balance sheet also shows that the future contributions by members have a present value of \$6,044,472,900. The present value of both past and future contributions of members is therefore equal to \$13,514,063,863. The liabilities of this fund are also shown to be equal to \$13,514,063,863.

Pension Accumulation Fund

The Pension Accumulation Fund is the fund to which the contributions made by employers are credited and from which are paid all benefits on account of beneficiaries and their survivors.

The current market related actuarial value of assets creditable to the Pension Accumulation Fund on December 31, 2004 amounted to \$39,913,918,434. The liabilities on account of active members amounted to \$21,830,816,339. In addition, the balance sheet indicates liabilities of \$20,788,257,882 on account of all benefits payable to beneficiaries and survivors as of December 31, 2004. The balance sheet also shows a reserve of \$428,405,768 to provide for the increases in retirement allowances effective July 1, 2005, and a reserve from undistributed gains of \$510,208,590. The total liabilities of the Pension Accumulation Fund, therefore, amounted to \$43,557,688,579. The difference between these liabilities and the current assets credited to this fund is \$3,643,770,145 which represents the present value of future contributions to be made by the employers. Of this amount, \$6,689,216,676 represents the present value of prospective normal contributions by the employers, \$(3,555,655,121) represents the present value of prospective accrued liability contributions by employers and the balance of \$510,208,590 represents the present value of prospective contributions on account of undistributed actuarial gains.

The retirement act provides that the contributions of employers shall consist of a normal contribution and an accrued liability contribution. G.S. 135-8(d)(2) of the retirement act provides that the normal contribution rate is to be determined as the uniform percentage of the earnable compensation of the average new entrant throughout his entire period of active service and is to be determined after each valuation. The valuation indicates that the uniform normal percentage contribution rate should be set at 6.74% of compensation.

The present valuation indicates that if the employer contribution rate is set at 2.34% of payroll in accordance with the Appropriations Act of 2005, the accrued liability rate would be equal to (4.40%) of payroll effective July 1, 2006. The required employer contribution is 1.60% which will liquidate the unfunded accrued liability within a 9-year period.

SECTION V - COMMENTS ON EXPERIENCE AND GAINS

The unfunded accrued liability has decreased to \$(3,556) million from \$(3,384) million since the prior valuation. The significant items which affected the unfunded accrued liability were: amendment effective July 1, 2005 which increased the unfunded accrued liability by \$428 million and the 2004 adjustment towards market value of assets which decreased the unfunded accrued liability by \$582 million.

The valuation results indicates that there is a preliminary reserve from undistributed gains equivalent to 0.74% of payroll. However, the System is owed 0.57% of employer contributions, the unpaid portion of the amount escrowed during the 2000/2001 fiscal year. Assuming that the undistributed gains are used to apply towards all of the amount owed to the System, the remaining undistributed gains are equivalent to 0.17% of payroll. Each 1.0% increase in retirement allowances as of July 1, 2006 to beneficiaries on the retirement roll on July 1, 2005 and a prorated portion of each 1.0% increase as of July 1, 2006 for beneficiaries who retired after July 1, 2005 but before June 30, 2006 is equivalent to 0.34% of payroll. The cost of each 0.01% increase in the defined benefit formula with a corresponding increase in retirement allowances to all current benefit recipients is 0.42% of payroll.

SECTION VI - RATES OF PAYMENT TO PENSION ACCUMULATION FUND

The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by employers to the Pension Accumulation Fund and the Death Benefit Fund under the provisions of the retirement act. The following table shows the rates of contribution payable by employers as determined from the Appropriations Act and the present valuation for the 2006/2007 fiscal year.

TABLE V

**RATES OF CONTRIBUTION PAYABLE BY EMPLOYERS
FOR THE 2006/2007 FISCAL YEAR
BASED ON THE APPROPRIATIONS ACT
AND THE VALUATION AS OF DECEMBER 31, 2004**

CONTRIBUTION	RATE
Normal	6.74%
Actuarial Accrued Liability	<u>(4.40)</u>
Total	2.34%

SECTION VII - ACCOUNTING INFORMATION

1. Statement Nos. 25 and 27 of the Governmental Accounting Standards Board (GASB) set forth certain items of information to be disclosed in the financial statements of the System and the employer. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED PARTICIPANTS
AS OF DECEMBER 31, 2004**

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	128,577
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	52,580
Active Participants	<u>311,612</u>
Total	492,769

2. Another such item is the schedule of funding progress as shown below.

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
12/31/99*	\$36,119,250,376	\$32,787,108,267	\$(3,332,142,109)	110.2%	\$ 8,437,649,280	(39.49)%
12/31/00*	39,773,747,165	35,248,769,986	(4,524,977,179)	112.8	9,001,353,605	(50.27)
12/31/01	42,104,086,026	37,713,663,200	(4,390,422,826)	111.6	9,494,602,568	(46.24)
12/31/02	43,226,837,217	39,863,983,389	(3,362,853,828)	108.4	9,734,447,779	(34.55)
12/31/03	45,117,507,733	41,733,701,348	(3,383,806,385)	108.1	10,082,153,001	(33.56)
12/31/04	47,383,509,397	43,827,854,276	(3,555,655,121)	108.1	10,366,136,571	(34.30)

* These numbers have been revised since the previous valuation to reflect the requirements enacted by the legislature.

3. Following is the calculation of the annual pension cost and net pension obligation for the fiscal year ending June 30, 2005.

Annual Pension Cost and Net Pension Obligation for Fiscal Year Ending 6/30/2005

(a)	Employer annual required contribution	\$ 237,170,000
(b)	Interest on net pension obligation	4,618,000
(c)	Adjustment to annual required contribution	<u>(9,539,000)</u>
(d)	Annual pension cost: (a) + (b) + (c)	\$ 232,249,000
(e)	Employer contributions made for fiscal year ending 6/30/2005	<u>237,170,000</u>
(f)	Increase (decrease) in net pension obligation: (d) – (e)	\$ (4,921,000)
(g)	Net pension obligation beginning of fiscal year	<u>63,691,000</u>
(h)	Net pension obligation end of fiscal year: (f) + (g)	\$ 58,770,000

TREND INFORMATION

<u>Year Ending</u>	<u>Annual Pension Cost (APC)</u>	<u>Percentage of APC Contributed</u>	<u>Net Pension Obligation</u>
June 30, 2003	\$ (8,598,000)	0.0%	\$102,675,000
June 30, 2004	14,151,000	375.5	63,691,000
June 30, 2005	232,249,000	102.1	58,770,000

4. The annual required contribution (ARC) of the employer as a percentage of payroll, determined in accordance with the parameters of GASB 25/27, is shown below. The accrued liability rate is based on amortization of the unfunded actuarial accrued liability of \$(3,555,655,121) over a 9-year period from the valuation date.

2006/2007 FISCAL YEAR
ANNUAL REQUIRED CONTRIBUTION (ARC)
BASED ON THE VALUATION AS OF DECEMBER 31, 2004

<u>ANNUAL REQUIRED CONTRIBUTION (ARC)</u>	<u>RATE</u>
Normal	6.74%
Accrued liability	<u>(5.14)</u>
Total	1.60%

5. Additional information as of December 31, 2004 follows.

Valuation date	12/31/04
Actuarial cost method	Entry age
Amortization method	Level dollar open
Remaining amortization period	9 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.25%
Projected salary increases*	5.45-12.08%
*Includes inflation at	3.75%
Cost-of-living adjustments	N/A

SCHEDULE ADEVELOPMENT OF ACTUARIAL VALUE OF ASSETS
FOR THE YEAR ENDING DECEMBER 31, 2004

1.	Actuarial Value of Assets as of December 31, 2003	\$ 45,117,507,733
2.	2004 Net Cash Flow	
	a. Contributions	839,079,259
	b. Disbursements	<u>2,370,558,886</u>
	c. Net Cash Flow: (a) - (b)	(1,531,479,627)
3.	Expected Investment Return: [(1) x .0725] + [(2)c x .03625]	3,215,503,174
4.	Expected Actuarial Value of Assets as of December 31, 2004: (1) + (2)c + (3)	46,801,531,280
5.	Market Value of Assets as of December 31, 2004	49,711,421,866
6.	Excess of Market Value over Expected Actuarial Value of Assets: (5) - (4)	2,909,890,586
7.	20% Adjustment towards Market Value: (6) x .20	581,978,117
8.	Actuarial Value of Assets as of December 31, 2004: (4) + (7)	47,383,509,397
9.	Rate of investment return on actuarial value	8.56%
10.	Rate of investment return on market value	10.73%

SCHEDULE B**STATEMENT OF ACTUARIAL ASSUMPTIONS AND METHODS**

Assumptions are based on the experience investigation prepared as of December 31, 1999 and adopted by the Board of Trustees on December 14, 2000.

INTEREST RATE: 7.25% per annum, compounded annually.

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed rates of separation from active service are as follows:

GENERAL EMPLOYEES

Annual Rates of

Age	Withdrawal* and Vesting		Death		Disability		Service Retirement**	
	Male	Female	Male	Female	Male	Female	Male	Female
25	.0800	.0800	.0005	.0003	.0001	.0001		
30	.0800	.0789	.0006	.0003	.0004	.0004		
35	.0637	.0653	.0009	.0005	.0010	.0010		
40	.0435	.0451	.0012	.0007	.0029	.0018		
45	.0350	.0363	.0022	.0010	.0049	.0033		
50	.0450	.0350	.0039	.0017	.0084	.0050	.3000	.3000
55	.0450	.0350	.0061	.0025	.0144	.0088	.3000	.3500
60			.0092	.0042	.0240	.0138	.2000	.2000
65			.0156	.0071			.5000	.5000
69			.0248	.0109			.2500	.2500

TEACHERS

Annual Rates of

Age	Withdrawal* and Vesting		Death		Disability		Service Retirement**	
	Male	Female	Male	Female	Male	Female	Male	Female
25	.0500	.0600	.0004	.0002	.0001	.0002		
30	.0500	.0600	.0005	.0003	.0001	.0003		
35	.0500	.0415	.0007	.0004	.0003	.0006		
40	.0316	.0275	.0009	.0006	.0007	.0010		
45	.0222	.0220	.0014	.0008	.0014	.0018		
50	.0350	.0300	.0025	.0014	.0023	.0032	.2500	.3000
55	.0350	.0300	.0043	.0021	.0047	.0055	.3000	.4000
60			.0066	.0034	.0077	.0102	.2000	.2000
65			.0101	.0058			.4000	.4000
69			.0156	.0087			.2000	.2000

* Higher rates of withdrawal are used during the first 3 years of membership in the system.

** An additional 20% of general employees and an additional 30% of teachers are assumed to retire in the year when first eligible for unreduced service retirement. Special rates are used for early service retirement.

LAW ENFORCEMENT OFFICERS

Annual Rates of

Age	Withdrawal and Vesting	Death		Disability		Service Retirement*
		Ordinary	Accidental	Ordinary	Accidental	
25	.0769	.00040	.00004	.0032	.0001	
30	.0547	.00051	.00006	.0040	.0003	
35	.0336	.00071	.00008	.0052	.0008	
40	.0223	.00102	.00011	.0068	.0011	
45	.0151	.00174	.00019	.0100	.0010	
50	.0200	.00316	.00035	.0168	.0008	.1500
55		.00509	.00057			.2000
60		.00755	.00084			.1500
65		.01248	.00139			.7500
69		.02001	.00222			.1500

* An additional 40% are assumed to retire in the year when first eligible for unreduced service retirement. Special rates are used for early service retirement.

SALARY INCREASES: Representative values of the assumed annual rates of salary increases are as follows:

Age	Annual Rate of Salary Increase	
	Teachers and General Employees	Law Enforcement Officers
25	10.64%	8.62%
30	11.90	7.79
35	9.01	6.96
40	7.28	6.50
45	6.54	6.29
50	6.21	6.21
55	6.01	6.00
60	5.70	5.95
64	5.48	5.91
65	5.47	5.91
69	5.45	5.88

DEATH AFTER RETIREMENT: According to the 1983 Group Annuity Mortality Tables set forward one year. For male teachers the table is set back one year. Special mortality tables are used for the period after disability retirement.

ADMINISTRATIVE EXPENSES: 0.10% of payroll.

MARRIAGE ASSUMPTION: 100% married with the husband four years older than his wife.

VALUATION METHOD: Entry age normal cost method. Entry age is established on an individual basis.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule A. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected actuarial value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected actuarial value.

SCHEDULE C**SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS**

A summary of the main benefit provisions of the Retirement System and of the sources of revenue from which benefits are paid is presented in the following digest. Items in parentheses in the text are the provisions applicable to law enforcement officers.

"Average final compensation" as used in the summary means the average annual compensation during the four consecutive years of membership service which afford the highest such average. "Membership service" means service represented by regular contributions. "Prior service" means service prior to July 1, 1941 for which credit is allowed. "Creditable service" means the sum of prior service plus membership service. Creditable service may also include certain special purchased service.

BENEFITS**Service Retirement Allowance****Condition for Allowance**

A service retirement allowance is payable to any member who retires from service after he has attained age 60 and completed 5 years of membership service (age 55 and 5 years of creditable service) or completed 30 years of creditable service.

Amount of Allowance

On service retirement on or after age 65 (55), or after age 60 and completion of 25 years of creditable service, or after completion of 30 years of creditable service, a member receives a retirement allowance equal to 1.82% of his average final compensation multiplied by the number of years of his creditable service.

If a member who is not a law enforcement officer has not attained age 65 or has not completed 25 or more years of creditable service at the time of his retirement, his allowance is reduced 1/4 of 1% for each month by which his age at retirement is less than age 65.

In no event will a member whose creditable service commenced on or before June 30, 1963 receive a smaller retirement allowance than he would have received under the benefit provisions of the system in effect on that date.

Early Service Retirement Allowance

Condition for Allowance

An early service retirement allowance is payable to any member who retires from service after he has attained age 50 and completed 20 (15) years of creditable service but prior to becoming eligible for a service retirement allowance.

Amount of Allowance

The member's early service retirement allowance is equal to 1.82% of his average final compensation multiplied by the number of years of his creditable service at his date of retirement reduced by the lesser of:

(i) $5/12$ ($1/3$) of 1% for each month by which his age is less than 60 (55), plus $1/4$ of 1% for each month by which his age is less than 65.

(ii) 5% times the difference between 30 years and his creditable service at retirement.

Deferred Service Retirement Allowance

Any member who separates from service prior to becoming eligible for a service retirement allowance or an early service retirement allowance after completing 5 or more years of membership service and who leaves his total accumulated contributions in the system may receive a deferred retirement allowance, beginning at age 60 (55), computed in the same way as a service retirement allowance, or, if the member has 20 or more years of service, at age 50 computed in the same way as an early service retirement allowance, on the basis of his creditable service and compensation to the date of separation.

Return of Contributions

Upon the withdrawal of a member without a retirement allowance and upon his request, his contributions are returned to him, together with accumulated regular interest thereon if he has at least 5 years of membership service.

Upon the death of a member before retirement, his contributions, together with the full accumulated regular interest thereon, are paid to his estate or to person(s) designated by the member unless the designated beneficiary, if eligible, elects the survivor's alternate benefit described below.

Survivor's Alternate Benefit

Upon the death of a member in service who has attained age 60(55) and has completed 5 years of membership (creditable) service or completed 20 years of creditable service, his designated beneficiary may elect to receive a benefit equal to that which would have been payable under the provisions of Option 2 had the member retired on the first day of the month following his death and elected such option, in lieu of the member's accumulated contributions, provided the member had not instructed the Board of Trustees in writing that he did not wish the alternate benefit to apply.

Death After Retirement

Upon the death of a beneficiary who did not retire under an effective election of Option 2 or Option 3, an amount equal to the excess if any, of his accumulated contributions at retirement over the retirement allowance payments received is paid to a designated person or to the beneficiary's estate.

Upon the death of the survivor of a beneficiary who retired under an effective election of Option 2 or Option 3, an amount equal to the excess, if any, of the beneficiary's accumulated contributions at retirement over the total retirement allowance payments received is paid to such other person designated by the beneficiary or to the beneficiary's estate.

Optional Arrangements
at Retirement

In lieu of the full retirement allowance, any member may elect to receive a reduced retirement allowance equal in value to the full allowance, with the provision that:

Option 1 - A member retiring prior to July 1, 1993, may elect that at his death within 10 years from his retirement date, an amount equal to his accumulated contributions at retirement, less 1/120 for each month he has received a retirement allowance, is paid to his estate, or to a person(s) designated by the member, or

Option 2 - At the death of the member his allowance shall be continued throughout the life of such other person as the member shall have designated at the time of his retirement, or

Option 3 - At the death of the member one-half of his allowance shall be continued throughout the life of such other person as the member shall have designated at the time of his retirement.

Option 4 - A member may elect to receive a retirement allowance in such amount that, together with his Social Security benefit, he will receive approximately the same income per annum before and after the earliest age at which he becomes eligible to receive the Social Security benefit.

Option 5 - A member retiring prior to July 1, 1993 may elect to receive a reduced retirement allowance under the provisions of Option 2 or Option 3 in conjunction with the provisions of Option 1.

Option 6 - A member may elect either Option 2 or Option 3 with the added provision that in the event the designated beneficiary predeceases the member, the retirement allowance payable to the member after the designated beneficiary's death shall be equal to the retirement allowance which would have been payable had the member not elected the option.

Post-Retirement Increases
in Allowances

Future increases in allowances may be granted if the Consumer Price Index rises, provided the liabilities on account of such increases do not increase the total employer rate of contribution.

CONTRIBUTIONS

REGULAR CONTRIBUTIONS

By Members

Each member contributes 6% of his compensation.

By Employers

Employers make annual contributions consisting of a normal contribution and an accrued liability contribution. The normal contribution covers the liability on account of current service and is determined by the actuary after each valuation.

The accrued liability contribution covers the liability on account of service rendered before the establishment of the retirement system and the liability on account of increases in benefits for service rendered prior to the effective date of any amendment.

SCHEDULE D**TABLE 1**

**THE NUMBER AND ANNUAL COMPENSATION OF
ACTIVE MEMBERS DISTRIBUTED BY AGE
AS OF DECEMBER 31, 2004**

Age	Men		Women	
	Number	Amount	Number	Amount
18	4	\$ 40,808	5	\$ 51,905
19	26	161,390	29	281,415
20	92	1,068,297	97	1,025,578
21	198	2,759,870	208	2,403,178
22	403	6,155,603	840	10,349,829
23	783	12,621,837	2,511	37,818,106
24	1,266	24,510,162	3,669	73,008,162
25	1,609	34,121,608	4,184	91,509,247
26	1,591	37,108,753	4,438	104,358,413
27	1,786	44,540,887	4,392	108,757,061
28	1,824	47,946,371	4,538	117,060,796
29	1,847	51,451,440	4,323	115,363,185
30	2,058	58,863,203	4,664	129,319,921
31	2,122	63,313,611	4,494	126,129,956
32	2,208	68,496,246	4,657	132,282,610
33	2,400	76,606,017	4,910	142,613,882
34	2,615	85,514,955	5,654	162,650,948
35	2,558	87,592,042	5,491	160,916,744
36	2,403	83,403,519	5,288	155,085,987
37	2,379	82,907,779	5,116	148,630,213
38	2,284	80,746,192	5,118	149,976,993
39	2,416	84,733,050	5,048	147,182,331
40	2,504	88,862,647	5,424	159,780,630
41	2,588	92,320,246	5,668	168,239,010
42	2,713	100,018,877	5,728	172,682,874
43	2,663	97,546,402	6,122	186,465,498
44	2,685	100,179,247	6,307	196,634,778
45	2,693	102,249,770	6,309	201,502,732
46	2,797	106,917,416	6,376	203,765,816
47	2,848	109,901,928	6,872	230,637,557
48	2,997	117,937,447	7,180	247,999,033
49	2,917	116,544,174	7,043	252,244,004
50	3,014	123,762,914	7,134	261,148,975
51	3,081	128,601,234	7,410	277,732,060
52	3,051	130,836,271	7,208	276,449,117
53	2,979	130,612,625	6,703	258,658,895
54	2,818	121,223,813	6,235	240,799,119
55	2,625	113,979,174	5,759	216,774,916
56	2,617	113,820,459	5,383	201,485,577
57	2,536	109,492,520	5,087	187,854,098
58	2,508	111,517,304	5,224	192,852,027
59	1,717	73,222,912	3,563	129,910,041
60	1,687	72,328,368	3,088	111,756,562

TABLE 1
THE NUMBER AND ANNUAL COMPENSATION OF
ACTIVE MEMBERS DISTRIBUTED BY AGE
AS OF DECEMBER 31, 2004

CONTINUED

Age	Number	Men		Women	
		Number	Amount	Number	Amount
61	1,433		\$ 62,108,683	2,486	\$ 88,844,748
62	1,256		55,164,321	2,102	71,888,955
63	786		35,862,750	1,243	43,293,314
64	594		26,659,546	955	32,695,259
65	477		23,006,451	673	22,861,195
66	321		14,611,053	444	14,422,801
67	257		11,291,677	303	9,451,126
68	194		8,406,121	235	7,243,643
69	164		6,277,269	174	5,164,012
70	134		5,634,428	157	4,716,321
71	107		4,220,661	92	2,944,971
72	71		2,672,358	81	2,243,063
73	65		2,739,157	49	1,257,894
74	51		2,533,640	49	1,580,704
75	36		1,296,240	36	867,188
76	26		918,647	20	549,695
77	24		949,248	15	389,806
78	12		517,816	11	311,992
79	7		131,899	8	197,186
80	7		175,161	8	126,107
81	4		65,531	3	60,686
82	11		324,604		
83	2		59,107	2	33,116
84	3		35,239	1	10,099
85	2		59,724	1	49,327
86	3		240,756	2	104,546
87	2		36,648	2	57,718
88				2	18,377
89				2	64,820
	96,959		\$ 3,562,538,123	214,653	\$ 6,803,598,448

TABLE 2
THE NUMBER AND ANNUAL COMPENSATION OF
ACTIVE MEMBERS DISTRIBUTED BY SERVICE
AS OF DECEMBER 31, 2004

Years of Service	Number	Men		Women	
		Number	Amount	Number	Amount
0	4,720		\$ 35,225,331	10,323	\$ 76,591,357
1	10,655		234,786,136	22,564	433,147,100
2	7,883		240,615,469	17,283	466,325,765
3	6,098		194,827,935	14,268	393,741,173
4	6,112		203,131,641	14,459	410,740,003
5	5,485		186,895,521	13,348	380,844,661
6	4,880		170,069,142	11,812	348,644,190
7	4,362		158,781,092	10,322	318,281,066
8	3,895		144,004,913	9,582	305,394,292
9	3,421		131,042,990	7,295	239,788,592
10	3,292		126,717,043	6,848	231,897,431
11	3,391		134,200,494	6,150	215,405,138
12	2,610		108,392,788	5,632	201,813,435
13	2,545		104,771,153	4,897	180,704,893
14	2,057		87,843,127	4,198	158,110,488
15	2,351		98,948,081	4,937	187,123,757
16	2,250		95,049,726	5,252	197,326,978
17	2,062		93,088,229	4,635	181,900,866
18	1,787		84,330,916	3,718	151,929,970
19	1,668		80,410,033	3,665	150,587,181
20	1,780		85,795,935	3,749	155,867,960
21	1,672		81,406,104	3,277	141,571,280
22	1,323		66,835,548	2,449	108,956,575
23	1,177		59,054,184	2,474	111,903,711
24	1,130		57,810,976	2,824	123,692,592
25	1,227		65,383,490	3,210	141,575,172
26	1,305		70,822,522	3,294	153,704,846
27	1,266		70,580,087	3,034	145,584,111
28	1,174		66,636,634	2,632	132,519,924
29	898		53,814,631	2,291	120,455,418
30	623		38,809,668	1,536	85,380,467
31	490		30,929,394	1,005	55,133,556
32	353		23,388,909	552	31,169,844
33	267		19,563,500	361	20,707,529
34	196		14,324,947	250	14,570,822
35	164		12,946,384	171	9,963,083
36	106		8,166,917	101	6,013,440
37	93		7,598,361	80	4,571,750
38	60		4,839,651	57	3,286,646
39	41		3,477,507	38	2,054,744
40	22		1,778,104	21	1,255,020
41	23		1,852,568	12	662,383
42	13		1,130,293	12	716,569
43	11		1,002,363	9	515,678
44	7		545,683	9	513,797
45	4		258,563	2	112,777

TABLE 2
THE NUMBER AND ANNUAL COMPENSATION OF
ACTIVE MEMBERS DISTRIBUTED BY SERVICE
AS OF DECEMBER 31, 2004

CONTINUED

Years of Service	Number	Men		Women	
			Amount	Number	Amount
46	2	\$	127,754	1	\$ 32,404
47	2		150,181	2	105,822
48	1		93,260	4	378,799
49	2		140,876	1	57,613
50				2	81,792
51	1		35,616		
52	1		34,492	3	120,251
53					
54	1		71,261		
55				1	32,772
56				1	30,965
Total	96,959	\$	3,562,538,123	214,653	\$ 6,803,598,448

TABLE 3

**THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES AND
SURVIVORS BY AGE AS OF DECEMBER 31, 2004**

**SERVICE RETIREMENTS AND
DEPENDENTS OF DECEASED BENEFICIARIES**

Age	Men		Women	
	Number	Amount	Number	Amount
18	1	\$ 7,151	1	\$ 3,028
19	1	16,552	1	3,507
20	2	27,305	1	21,100
21	2	16,089	3	20,283
22	2	13,481	5	53,794
23	1	4,017	3	33,544
24	1	10,675	6	39,418
25	1	11,449	2	33,714
26	1	18,897	6	65,563
27	5	54,875	5	56,750
28	8	139,493	6	55,724
29	1	21,765	6	70,032
30	7	75,637	3	46,769
31	3	31,121	6	46,968
32	2	16,288	6	64,800
33	6	54,194	12	139,811
34	9	89,693	10	76,812
35	6	42,848	12	152,293
36	10	122,660	11	92,064
37	7	47,323	12	121,849
38	11	57,959	11	84,589
39	14	153,163	24	236,062
40	10	84,108	18	187,507
41	14	138,154	15	142,297
42	16	123,453	27	229,324
43	18	165,157	19	144,473
44	25	241,791	26	281,995
45	13	123,678	22	172,249
46	24	171,901	28	243,378
47	19	214,059	31	230,516
48	42	658,156	33	473,786
49	60	1,350,117	85	1,391,164
50	126	2,668,578	142	2,561,608
51	212	4,643,706	355	7,059,548
52	336	8,296,157	683	16,474,752
53	473	12,711,114	1,006	26,602,539
54	613	16,941,488	1,305	35,351,213
55	782	22,438,886	1,525	40,752,975

TABLE 3

THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES AND
SURVIVORS BY AGE AS OF DECEMBER 31, 2004

SERVICE RETIREMENTS AND
DEPENDENTS OF DECEASED BENEFICIARIES

CONTINUED

Age	Men		Women	
	Number	Amount	Number	Amount
56	943	\$ 28,171,610	1,803	\$ 48,144,277
57	1,144	34,473,637	1,994	52,315,713
58	1,469	43,952,540	2,307	59,984,067
59	1,062	32,026,911	1,668	42,313,528
60	1,105	33,679,984	1,894	45,118,921
61	1,248	34,658,044	2,620	56,623,127
62	1,499	38,968,602	3,089	60,826,818
63	1,515	33,364,436	3,031	50,868,699
64	1,542	33,443,004	3,038	49,815,768
65	1,560	32,938,179	3,031	47,907,013
66	1,744	35,476,607	3,072	47,111,909
67	1,669	33,380,119	3,163	46,366,233
68	1,563	32,007,461	2,957	43,476,594
69	1,580	32,834,844	2,968	42,668,762
70	1,498	30,008,664	2,923	41,690,215
71	1,441	29,857,346	2,553	34,844,816
72	1,376	27,888,603	2,579	35,375,997
73	1,375	27,952,232	2,515	33,452,141
74	1,343	27,755,584	2,478	33,515,750
75	1,288	26,453,363	2,328	31,166,778
76	1,171	23,320,935	2,297	28,847,797
77	1,061	20,817,975	2,229	27,632,363
78	999	18,828,759	2,070	25,670,340
79	911	17,445,722	1,971	23,093,846
80	855	15,680,502	1,859	20,732,466
81	708	12,351,193	1,677	18,407,104
82	669	11,540,556	1,515	16,785,702
83	573	11,115,852	1,539	16,492,443
84	596	9,836,131	1,383	15,287,252
85	431	6,880,100	1,269	12,997,074
86	380	5,963,525	1,042	10,600,838
87	277	4,205,549	954	9,952,013
88	241	3,475,673	819	8,580,506
89	180	2,557,415	731	7,505,764
90	158	2,290,058	615	7,159,654
91	121	1,876,144	556	6,069,013

TABLE 3

**THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES AND
SURVIVORS BY AGE AS OF DECEMBER 31, 2004**

**SERVICE RETIREMENTS AND
DEPENDENTS OF DECEASED BENEFICIARIES**

CONTINUED

Age	Men		Women	
	Number	Amount	Number	Amount
92	87	\$ 1,180,422	435	\$ 4,869,691
93	52	633,179	328	3,881,005
94	49	621,305	265	3,063,548
95	36	495,175	204	2,511,304
96	33	320,087	175	2,144,997
97	12	186,489	116	1,372,635
98	11	115,059	86	1,002,470
99	7	97,840	70	824,566
100	4	82,345	40	509,568
101	3	28,506	35	406,486
102	2	103,139	29	311,576
103			10	120,484
104	1	3,789	9	65,863
105			8	52,484
106				
107			3	34,485
108			1	1,261
109	1	2,753	1	3,963
110	1	7,311		
111	1	11,410		
112			1	16,464
113			1	11,557
114	1	2,328		
Total	40,480	\$ 893,372,134	81,826	\$ 1,314,423,506
Maximum	10,695	\$ 226,606,378	36,388	\$ 562,814,036
Cash Refund	2,873	54,634,346	10,614	134,049,402
100% J&S	6,863	146,110,898	2,446	28,063,199
50% J&S	3,457	84,017,030	2,072	31,724,746
Soc Sec Level	7,257	181,693,349	15,225	342,025,793
Odd Surv	29	985,872	16	300,933
100% J&S Popup	4,483	101,219,481	2,765	46,083,680
50% J&S Popup	3,018	80,672,251	3,472	69,303,055
Beneficiaries	1,805	17,432,529	8,828	100,058,662

TABLE 4

**THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES AND
SURVIVORS BY AGE AS OF DECEMBER 31, 2004**

Age	Men		Women	
	Number	Amount	Number	Amount
40	1	\$ 7,339		
41	1	18,261	1	\$ 13,501
42	1	13,362	1	10,815
43	5	81,476	3	38,098
44	3	41,699	12	166,531
45	4	60,506	8	96,113
46	8	137,271	18	250,485
47	24	429,086	16	328,618
48	25	493,262	29	450,291
49	38	790,467	55	1,095,294
50	42	845,673	67	1,487,733
51	47	948,435	69	1,464,187
52	49	1,010,559	106	2,527,502
53	56	1,425,139	128	3,198,641
54	57	1,277,885	138	3,290,239
55	78	1,693,936	138	3,435,966
56	72	1,550,933	152	3,666,907
57	103	2,267,342	147	3,386,233
58	115	2,675,958	177	3,700,626
59	83	1,755,164	130	2,686,415
60	77	1,484,459	147	2,783,467
61	63	1,220,959	154	2,827,004
62	78	1,681,303	162	3,121,057
63	82	1,525,537	145	2,489,180
64	75	1,382,124	132	1,975,019
65	93	1,664,317	118	1,701,457
66	60	995,961	127	1,792,001
67	56	929,329	136	1,984,725
68	55	1,022,745	83	1,147,310
69	68	1,057,381	102	1,331,923
70	58	943,014	91	1,319,266
71	55	798,048	88	1,120,233
72	52	865,347	78	921,344
73	43	621,769	76	895,748
74	37	560,013	66	819,522

TABLE 4

**THE DISTRIBUTION OF THE NUMBER AND ANNUAL
RETIREMENT ALLOWANCES OF BENEFICIARIES AND
SURVIVORS BY AGE AS OF DECEMBER 31, 2004**

DISABILITY RETIREMENTS

CONTINUED

Age	Men		Women	
	Number	Amount	Number	Amount
75	47	\$ 683,986	76	\$ 901,402
76	43	571,055	81	961,933
77	44	551,623	73	819,198
78	42	562,163	80	840,078
79	47	623,783	77	837,818
80	45	627,048	68	553,864
81	36	429,293	65	749,491
82	47	649,235	69	665,009
83	30	375,516	47	501,283
84	21	290,165	54	565,359
85	18	311,165	47	482,990
86	21	213,507	27	247,494
87	18	226,831	35	467,732
88	7	60,611	29	308,694
89	9	81,385	25	270,883
90	4	65,427	17	160,342
91	5	43,002	15	136,288
92	2	41,860	12	112,868
93	4	22,297	8	113,350
94	2	27,268		
95	1	18,704	3	29,341
96			1	17,352
97			1	6,067
98			1	8,519
99			2	18,932
103			1	11,202
Total	2,257	\$ 40,751,983	4,014	\$ 67,310,940
Maximum	1,205	\$ 25,084,336	2,762	\$ 51,309,476
Cash Refund	339	5,131,353	845	10,140,682
100% J&S	187	2,213,394	89	958,500
50% J&S	261	3,727,718	113	1,386,663
Soc Sec Level	12	299,740	24	648,340
Odd Surv			2	29,575
100% J&S Popup	70	942,329	43	568,866
50% J&S Popup	183	3,353,113	136	2,268,838