

October 2003

State of Oklahoma

Public Employees Retirement System

Actuarial Valuation Report as of July 1, 2003

MERCER

Human Resource Consulting

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Report Highlights

This report has been prepared by Mercer Human Resource Consulting for the Oklahoma Public Employees Retirement System to:

- Present the results of the valuation as of July 1, 2003;
- Review experience under the System for the year ended June 30, 2003;
- Provide reporting and disclosure information for auditors' reports, governmental agencies and other interested parties.

The main financial highlights are:

- The funded status of the System, as measured by the funded ratio, decreased from 79.8% to 76.8% over the past year. The unfunded accrued liability increased by \$279.9 million.

Funded Status (\$000,000)	Actuarial Valuation as of	
	July 1, 2003	July 1, 2002
Accrued liability	\$6,974.6	\$6,639.7
Actuarial value of assets	5,354.8	5,299.8
Unfunded accrued liability	\$1,619.8	\$1,339.9
Funded ratio	76.8%	79.8%

- The key items responsible for changes in the funded status are described below.
 - Liability gains occurred resulting in an accrued liability \$30.5 million less than expected (0.4% of expected liability). The components of this loss are summarized in the Effects of Changes section in this report.
 - The market value of assets increased by approximately 5.4% during the year. The actuarial value of assets is determined using a method to smooth gains and losses to result in more stable costs. As a result, the return on the actuarial value was approximately 3.1%. Compared to the expected return of 7.5%, there was a loss of \$231.6 million.
- The required employer contribution (from an actuarial perspective) increased as a percent of covered payroll.

Contribution Summary (\$000,000)	Actuarial Valuation as of	
	July 1, 2003	July 1, 2002
Total required contribution	\$307.5	\$284.9
Expected employee contributions	50.5	52.0
Required employer contribution	\$257.0	\$232.9
As a % of covered payroll	18.2%	16.1%

The statutory contribution rate for employers is 10% of salary for the fiscal years beginning July 1, 2002 and July 1, 2003. The rate for county and local employers may vary.

Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in actuarial assumptions, methods or System provisions between the two valuations are described in the section titled "Effects of Changes."

	Actuarial Valuation as of		Change Between Years	
	July 1, 2003	July 1, 2002	Amount	Percent
Summary of Costs				
Required employer contribution for current year	\$ 257,038,902	\$ 232,891,719	\$ 24,147,183	10.4%
Actual employer contributions received in prior year	\$ 137,549,234	\$ 139,614,903	\$ (2,065,669)	(1.5%)
GASB No. 25 Funded Status				
Actuarial accrued liability	\$ 6,974,583,356	\$ 6,639,720,469	\$ 334,862,887	5.0%
Actuarial value of assets	5,354,795,771	5,299,781,370	55,014,401	1.0%
Unfunded actuarial accrued liability	\$ 1,619,787,585	\$ 1,339,939,099	\$ 279,848,486	20.9%
Market Value of Assets and Additional Liabilities				
Market value of assets	\$ 4,619,063,143	\$ 4,485,546,116	\$ 133,517,027	3.0%
Actuarial present value of accumulated System benefits (FAS No. 35)	4,855,671,777	4,567,396,314	288,275,463	6.3%
Present value of projected System benefits	8,169,828,148	7,881,307,366	288,520,782	3.7%
Summary of Data				
Number of participants in valuation				
Active members	43,350	44,292	(942)	(2.1%)
Terminated vested members	5,288	5,392	(104)	(1.9%)
Retired members	19,023	18,529	494	2.7%
Joint annuitants/surviving spouses	1,973	1,837	136	7.4%
Disabled members	1,151	1,086	65	6.0%
Total	70,785	71,136	(351)	(0.5%)
Active Participant Statistics				
Total annual compensation	\$ 1,411,719,256	\$ 1,450,317,127	\$ (38,597,871)	(2.7%)
Average compensation	\$ 32,566	\$ 32,745	\$ (179)	(0.5%)
Average age	45.6	45.2	0.4	0.9%
Average service	10.7	10.4	0.3	2.9%

Effects of Changes

There have been no changes of actuarial methods, actuarial assumptions or System provisions (including the 2003 legislation) since the prior valuation that materially affect the valuation.

Actuarial Experience During the Fiscal Year

The System experienced a liability gain of \$30,515,000 and an asset loss of \$231,618,000 during the year ended June 30, 2003. The significant items are developed as follows:

Liability Sources	Impact on Actuarial Liability	Percent of Expected Liability
Salary increases	\$ 146,828,000	2.10%
Deaths	5,674,000	0.08%
Terminations	(50,575,000)	(0.72%)
Retirements	7,755,000	0.11%
Disability	(2,071,000)	(0.03%)
New entrants and rehires	(33,920,000)	(0.48%)
Miscellaneous/data	(43,176,000)	(0.62%)
Actuarial gain/(loss)	\$ 30,515,000	0.44%

Asset Sources	Impact on Actuarial Value of Assets
Expected investment return	\$ 393,477,000
Investment return on actuarial value of assets	161,859,000
Actuarial gain/(loss)	\$ (231,618,000)
Net actuarial gain/(loss)	\$ (201,103,000)

Certification

We have prepared an actuarial valuation of the Oklahoma Public Employees Retirement System (OPERS) as of July 1, 2003, for the fiscal year ending June 30, 2004. The results of the valuation are set forth in this report, which reflects the legislation effective on July 1, 2003.

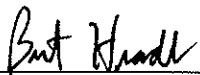
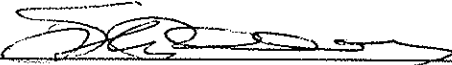
The valuation is based on employee and financial data which were provided by OPERS and the independent auditor, respectively, and which are summarized in this report.

All costs, liabilities and other factors under the System were determined in accordance with generally accepted actuarial principles and procedures, in accordance with the provisions of current State Statutes and regulations issued thereunder, using an actuarial cost method which we believe is appropriate. In our opinion, the actuarial assumptions are reasonable and represent our best estimate of the anticipated experience under the System. This report fully and fairly discloses the actuarial position of the System on an ongoing basis.

In the course of this valuation, we have examined the relative magnitude of medical benefits provided under Section 401(h) of the Internal Revenue Code. We have determined that these medical benefits are subordinate to the retirement benefits, as required.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

 _____ Brent A. Hradek, FSA, EA	_____ Date 10/17/2003
 _____ Stephen T. McElhaney, FSA, EA Mercer Human Resource Consulting 4400 Bank One Center 1717 Main Street Dallas, Texas 75201-7357 214 220 3500	_____ Date 10/17/2003

Report Details

The remainder of the report includes information supporting the results presented in the previous sections.

- **Funding results** shows the liabilities for System benefits and the derivation of the various contribution amounts.
- **Accounting results** shows the information required for the System's accounting and disclosure.
- **System assets** presents information about the System's assets as reported by the System administrator or trustee. The System assets represent the portion of total System liabilities that has been funded.
- **Participant data** presents and describes the participant data used in the valuation.
- **Actuarial basis** describes the System provisions, as well as the methods and assumptions used to value the System. The valuation is based on the premise that the System is ongoing.
- **Addendum** provides actuarial results based on assumptions prescribed in 11 O.S. 2001, Section 50-105.4, Section H.

Funding Results

Comparative Summary of Principal Valuation Results

Summary of Data	Actuarial Valuation as of		Percent Change
	July 1, 2003	July 1, 2002	
1. Active members			
a. Number			
i) Active members	42,434	43,426	(2.3%)
ii) Members without applications	916	866	5.8%
iii) Total	43,350	44,292	(2.1%)
b. Annual compensation	\$ 1,411,719,256	\$ 1,450,317,127	(2.7%)
c. Average annual compensation	\$ 32,566	\$ 32,745	(0.5%)
d. Average age	45.6	45.2	0.9%
e. Average service	10.7	10.4	2.9%
2. Accumulated member contributions			
a. Active members	\$ 322,373,359	\$ 301,163,376	7.0%
b. Unclaimed contribution accounts	\$ 13,678,079	\$ 11,777,256	16.1%
c. Members without applications	\$ 1,604,118	\$ 1,669,119	(3.9%)
d. Total	\$ 337,655,556	\$ 314,609,751	7.3%
3. Vested terminated members			
a. Number	4,147	4,147	0.0%
b. Annual deferred benefits	\$ 30,981,037	\$ 30,159,498	2.7%
c. Average annual deferred benefit	\$ 7,471	\$ 7,273	2.7%
d. Annual supplemental medical insurance premiums	\$ 5,225,220	\$ 5,225,220	0.0%
4. Assumed deferred vested-number	1,141	1,245	(8.4%)
5. Retired members			
a. Number	19,023	18,529	2.7%
b. Annual retirement benefits	\$ 242,247,571	\$ 231,146,858	4.8%
c. Average annual retirement benefit	\$ 12,734	\$ 12,475	2.1%
d. Annual supplemental medical insurance premiums	\$ 16,872,660	\$ 16,682,400	1.1%
6. Joint annuitants/surviving spouses			
a. Number	1,973	1,837	7.4%
b. Annual retirement benefits	\$ 15,283,021	\$ 13,835,510	10.5%
c. Average annual retirement benefit	\$ 7,746	\$ 7,532	2.8%
7. Disabled members			
a. Number	1,151	1,086	6.0%
b. Annual retirement benefits	\$ 9,036,311	\$ 8,412,860	7.4%
c. Average annual retirement benefit	\$ 7,851	\$ 7,747	1.3%
d. Annual supplemental medical insurance premiums	\$ 952,560	\$ 917,280	3.8%
8. Total members included in valuation	70,785	71,136	(0.5%)

Funding Results

Comparative Summary of Principal Valuation Results *(continued)*

Summary of Assets, Liabilities and Funded Status	Actuarial Valuation as of		Percent Change
	July 1, 2003	July 1, 2002	
1. System assets on valuation date			
a. Actuarial value	\$ 5,354,795,771	\$ 5,299,781,370	1.0%
b. Market value	\$ 4,619,063,143	\$ 4,485,546,116	3.0%
2. Actuarial accrued liability ¹	\$ 6,974,583,356	\$ 6,639,720,469	5.0%
a. Funded ratio - actuarial value ¹	76.8%	79.8%	(3.8%)
b. Funded ratio - market value	66.2%	67.6%	(2.1%)
3. Unfunded actuarial accrued liability (based on actuarial value of assets)	\$ 1,619,787,585	\$ 1,339,939,099	20.9%
4. Present value of accumulated benefits (FASB No. 35)	\$ 4,855,671,777	\$ 4,567,396,314	6.3%
a. Funded ratio - actuarial value	110.3%	116.0%	(4.9%)
b. Funded ratio - market value	95.1%	98.2%	(3.2%)

¹ GASB No. 25 Basis.

Funding Results

Comparative Summary of Principal Valuation Results *(continued)*

	Actuarial Valuation as of				Percent Change in Amount
	July 1, 2003		July 1, 2002		
	Amount	% of Covered Comp.	Amount	% of Covered Comp.	
Summary of Contribution Requirements					
1. Annual covered compensation for members included in valuation	\$ 1,411,719,256	N/A	\$ 1,450,317,127	N/A	(2.7%)
2. Total normal cost mid-year	\$ 158,466,716	11.2%	\$ 163,733,551	11.3%	(3.2%)
3. Unfunded actuarial accrued liability	\$ 1,619,787,585	114.7%	\$ 1,339,939,099	92.4%	20.9%
4. Amortization of unfunded actuarial accrued liability over 40 years from July 1, 1987 mid-year	\$ 142,337,075	10.1%	\$ 116,013,575	8.0%	22.7%
5. Budgeted expenses provided by the System	\$ 6,723,945	0.5%	\$ 5,113,760	0.4%	31.5%
6. Total required contribution (2. + 4. + 5.)	\$ 307,527,736	21.8%	\$ 284,860,886	19.6%	8.0%
7. Estimated member contribution	\$ 50,488,834	3.6%	\$ 51,969,167	3.6%	(2.8%)
8. Required state contribution to amortize unfunded actuarial accrued liability over 40 years from July 1, 1987 at mid-year (6.-7.)	\$ 257,038,902	18.2%	\$ 232,891,719	16.1%	10.4%
9. Previous year's actual contribution					
a. Member	\$ 50,101,133	3.5% ²	\$ 50,857,928	3.9% ²	(1.5%)
b. Employer	\$ 137,549,234	9.5% ²	\$ 139,614,903	10.6% ²	(1.5%)
c. Total	\$ 187,650,367	12.9% ²	\$ 190,472,831	14.5% ²	(1.5%)

² Percent of previous years' annual compensation for active members (\$1,450,317,127 at July 1, 2002 and \$1,317,043,030 at July 1, 2001).

Funding Results

Unfunded Actuarial Accrued Liability

The actuarial accrued liability is the present value of projected System benefits allocated to past service by the actuarial funding method being used.

	<u>July 1, 2003</u>	<u>July 1, 2002</u>
1. Actuarial present value of benefits		
a. Active members ³	\$ 4,711,312,044	\$ 4,755,258,098
b. Terminated vested members ⁴	310,948,613	262,679,323
c. Retirees, disableds and joint annuitants/surviving spouses	3,147,567,491	2,863,369,945
d. Total (a. + b. +c.)	\$ 8,169,828,148	\$ 7,881,307,366
2. Actuarial present value of future normal costs	\$ 1,195,244,792	\$ 1,241,586,897
3. Total actuarial accrued liability (1 - 2)	\$ 6,974,583,356	\$ 6,639,720,469
4. Actuarial value of assets	\$ 5,354,795,771	\$ 5,299,781,370
5. Unfunded actuarial accrued liability <i>(3. - 4., not less than \$0)</i>	\$ 1,619,787,585	\$ 1,339,939,099

³ Includes \$23,903,979 for 916 members who have not completed applications as of July 1, 2003 and \$22,249,264 for 866 members who have not completed applications as of July 1, 2002.

⁴ Includes \$13,678,079 for unclaimed contributions, \$82,184,501 for 1,141 assumed deferred vested employees, and \$1,170,496 for the limited additional retirement benefits as of July 1, 2003. Includes \$11,777,256 for unclaimed contributions, \$48,292,562 for 1,245 assumed deferred vested employees, and \$1,217,513 for the limited additional retirement benefits as of July 1, 2002.

Funding Results

Actuarial Gain/(Loss)

The actuarial gain/(loss) is comprised of both the liability gain/(loss) and the actuarial asset gain/(loss).

Each of these represents the difference between the expected and actual values as of July 1, 2003.

1. Expected actuarial accrued liability		
a. Actuarial accrued liability at July 1, 2002	\$	6,639,720,469
b. Normal cost at July 1, 2002		157,815,471
c. Interest on a. + b. to end of year		509,815,196
d. Benefit payments for fiscal year ending June 30, 2003, with interest to end of year		(302,253,053)
e. Expected actuarial accrued liability as of July 1, 2003 (a. + b. + c. + d.)	\$	7,005,098,083
2. Actuarial accrued liability at July 1, 2003	\$	6,974,583,356
3. Actuarial liability gain/(loss) (1.e. - 2)	\$	30,514,727
4. Expected actuarial value of assets		
a. Actuarial value of assets at July 1, 2002	\$	5,299,781,370
b. Interest on a. to end of year		397,483,603
c. Contributions made for fiscal year ending June 30, 2003		187,650,367
d. Interest on c. to end of year		7,036,889
e. Benefit payments and administrative expenses for fiscal year ending June 30, 2003, with interest to end of year		(305,538,571)
f. Expected actuarial value of assets at July 1, 2002 (a. + b. + c. + d. + e.)	\$	5,586,413,658
5. Actuarial value of assets as of July 1, 2003	\$	5,354,795,771
6. Actuarial asset gain/(loss) (5. - 4f.)	\$	(231,617,887)
7. Net actuarial gain/(loss) (3. + 6.)	\$	(201,103,160)

COLA Reserve

1. Reserve as of July 1, 2002	\$	0
2. Interest at 7.5%		0
3. Reserve increment		57,673,705
4. Expected reserve as of July 1, 2003		57,673,705
5. Ad hoc cost of living increase during 2002/2003		0
6. Actual reserve on July 1, 2003 (4. less 5., not less than \$0)	\$	57,673,705

Funding Results

Normal Cost

The components of normal cost under the System's funding method are:

Component	July 1, 2003	July 1, 2002
Retirement benefits	\$ 107,524,975	\$ 111,384,296
Withdrawal benefits	16,181,096	17,016,602
Disability benefits	5,275,500	5,486,801
Death benefits	5,433,860	5,631,676
Refunds	6,529,960	6,443,865
Supplemental medical insurance premiums	9,540,095	9,676,122
Normal cost for people who have not submitted an application	2,253,517	2,176,109
Total normal cost at beginning of year	\$ 152,739,003	\$ 157,815,471
Total normal cost at mid year	\$ 158,466,716	\$ 163,733,551
Normal cost rate at mid year	11.23%	11.29%
Annual covered payroll	\$ 1,411,719,256	\$ 1,450,317,127

Funding Results

Contributions

Contributions to the Retirement System are made by the members and their employers.

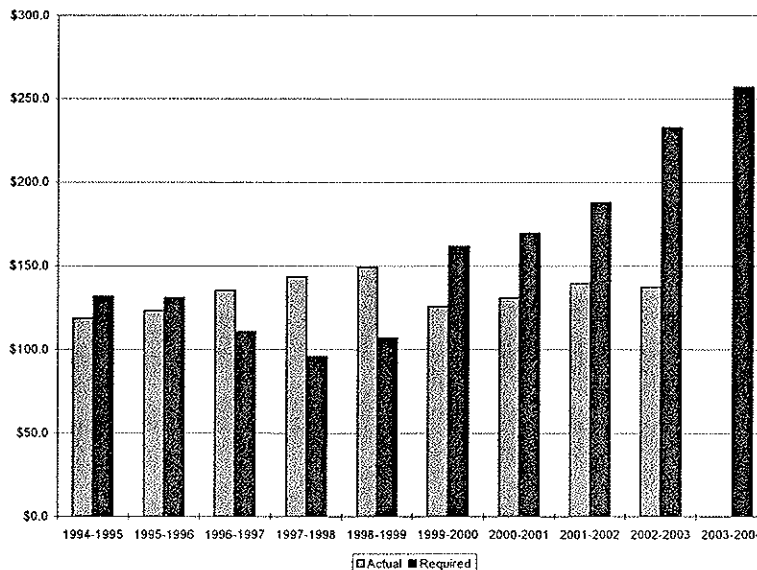
Effective July 1, 1998, State employees pay 3.0% of covered compensation up to \$25,000 per year and 3.5% of covered compensation over \$25,000. Local government employees contribute from 3.5% to 8.5% of covered compensation, depending on the rate chosen by their employers. Elected officials and employees of the Department of Corrections have different required contributions (see the Summary of System Provisions section of this report).

Following is a graph representing the total required employer contribution compared to the amount actually received in the year. The funding policy contribution equals the System's normal cost, budgeted expenses and an amortization of the unfunded accrued liability. For July 1, 1998 and prior years, the unfunded accrued liability was amortized over 25 years from July 1, 1987. For the July 1, 1999 valuation, the amortization period was changed to 40 years from July 1, 1987 (24 years remaining as of July 1, 2003).

As of July 1, 1999, the State's employer contribution was reduced to 10.0% of covered compensation. As of July 1, 2006, the State's contribution rate is scheduled to increase to 11% of covered compensation and will increase an additional 1% of covered compensation each July 1 until it reaches 16% on July 1, 2011. It is scheduled to remain at 16% thereafter. For county and local employees, the total employer and employee contribution rate is 13.5% of covered compensation. This contribution rate is scheduled to increase 1% of covered compensation each year beginning July 1, 2006 until it reaches 19.5% on July 1, 2011.

The employer contribution is not sufficient to fund the contribution developed under Governmental Accounting Standards Number 25 which includes the recognition of future ad-hoc COLAs at 66.7% of the assumed inflation rate.

**Employer Contributions Received
versus Contributions Required
Under GASB 25
(\$000,000)**



Funding Results

Ten-Year Projected Cash Flow

(Retirement Benefit Payments)⁵

The chart below shows estimated benefits expected to be paid over the next ten years, based on the assumptions used in this valuation. The "Actives" column shows benefits expected to be paid to members currently active on July 1, 2003. The "Retirees" column shows benefits expected to be paid to all other members. This includes those who, as of July 1, 2003, are receiving benefit payments or who terminated employment and are entitled to a deferred vested benefit.

Fiscal Year Ending	Actives	Retirees ⁶	Total
6/30/2004	\$ 27,551,415	\$ 289,273,063	\$ 316,824,478
6/30/2005	48,663,260	289,806,983	338,470,243
6/30/2006	71,080,608	290,137,200	361,217,808
6/30/2007	94,689,997	290,221,297	384,911,294
6/30/2008	120,874,220	290,068,800	410,943,020
6/30/2009	149,823,418	289,876,030	439,699,448
6/30/2010	180,704,887	289,407,899	470,112,786
6/30/2011	213,496,393	288,469,885	501,966,278
6/30/2012	248,029,949	287,033,947	535,063,896
6/30/2013	283,809,890	285,170,520	568,980,410

Expected Three-Year Cash Flow on Supplemental Medical Insurance Premiums

Fiscal Year Ending	Actives	Retirees	Total
6/30/2004	\$ 1,763,342	\$ 17,767,100	\$ 19,530,442
6/30/2005	3,347,900	17,346,614	20,694,514
6/30/2006	4,973,607	16,929,348	21,902,955

⁵ Includes medical insurance premium to retirees.

⁶ Includes disabled members, surviving spouses, and terminated vested members.

Funding Results

Liability Detail

Actuarial Accrued Liability	July 1, 2003	July 1, 2002
1. Actives		
a. Retirement benefits	\$ 3,062,449,201	\$ 3,061,206,384
b. Withdrawal benefits	141,080,549	143,062,885
c. Disability benefits	101,389,335	101,806,977
d. Death benefits	101,120,100	101,160,851
e. Refunds	(34,829,839)	(34,221,433)
f. Supplemental medical insurance premiums	138,507,607	135,355,555
g. Liability for people who have not submitted an application	6,350,299	5,299,982
h. Total	\$ 3,516,067,252	\$ 3,513,671,201
2. Inactives		
a. Terminated vested members	\$ 265,007,480	\$ 219,530,144
b. Unclaimed contributions	13,678,079	11,777,256
c. Retired members	2,694,938,714	2,495,230,733
d. Disabled members	102,012,505	91,025,313
e. Joint annuitants/surviving spouses	149,505,798	135,355,939
f. Supplemental medical insurance premiums	174,529,327	171,912,370
g. Refund of excess contributions for terminated vested members	1,170,496	1,217,513
h. COLA reserve	57,673,705	0
i. Total	\$ 3,458,516,104	\$ 3,126,049,268
3. Actuarial Accrued Liability	\$ 6,974,583,356	\$ 6,639,720,469
Normal Cost		
1. Retirement benefits	\$ 107,524,975	\$ 111,384,296
2. Withdrawal benefits	16,181,096	17,016,602
3. Disability benefits	5,275,500	5,486,801
4. Death benefits	5,433,860	5,631,676
5. Refunds	6,529,960	6,443,865
6. Supplemental medical insurance premiums	9,540,095	9,676,122
7. People who have not submitted an application	2,253,517	2,176,109
8. Total	\$ 152,739,003	\$ 157,815,471

Accounting Results

FASB No. 35 Information

Actuarial Present Value of Accumulated System Benefits

The actuarial present value of vested and nonvested accumulated System benefits is computed on an ongoing System basis in order to provide required information under Financial Accounting Standards Board Statement No. 35. In this calculation, a determination is made of all benefits earned by current participants as of the valuation date; the actuarial present value is then computed using demographic assumptions and an assumed interest rate. Assumptions regarding future salary and accrual of future benefit service are not necessary for this purpose. *Assumption of 2% future ad hoc cost-of-living increases is not reflected in this liability. Only System liabilities accrued (and in statute) as of the valuation date are included.*

Accumulated System Benefits	July 1, 2003	July 1, 2002
Vested benefits		
▪ Active members ⁷	\$ 1,474,995,952	\$ 1,437,304,530
▪ Terminated vested members ⁸	238,763,020	198,397,585
▪ Retirees and joint annuitants/surviving spouses	2,522,114,276	2,338,283,560
▪ Supplemental medical insurance premiums	279,002,377	274,669,731
Total vested benefits	\$ 4,514,875,625	\$ 4,248,655,406
Nonvested benefits	340,796,152	318,740,908
Total accumulated System benefits	\$ 4,855,671,777	\$ 4,567,396,314
Assumed rate of interest	7.50%	7.50%
Market value of assets available for benefits	\$ 4,619,063,143	\$ 4,485,546,116
Funded ratio	95.1%	98.2%
Change in accumulated System benefits due to:		
▪ Assumption changes	\$ 0	\$ 93,199,774
▪ System provision changes	\$ 0	\$ 118,676,123

Number of Members	July 1, 2003	July 1, 2002
Vested members		
▪ Active members	21,863	21,944
▪ Terminated vested members	5,288	5,392
▪ Retirees and joint annuitants/surviving spouses	22,147	21,452
Total vested members	49,298	48,788
Nonvested members	21,487	22,348
Total members	70,785	71,136

⁷ Includes \$2,306,807 for 916 members who have not completed applications as of July 1, 2003 and \$1,769,471 for 866 members who had not completed applications as of July 1, 2002.

⁸ Includes \$13,678,079 for unclaimed contributions and \$1,170,496 for the limited additional retirement benefit as of July 1, 2003. Includes \$11,777,256 for unclaimed contributions and \$1,217,513 for the limited additional retirement benefit as of July 1, 2002.

Accounting Results

FASB No. 35 Information *(continued)*

Statement of Changes in Accumulated System Benefits

A statement of changes in the actuarial present value of accumulated System benefits follows. This statement shows the effect of certain events on the actuarial present value shown on the previous page.

Actuarial Present Value of Accumulated System Benefits as of July 1, 2002	\$ 4,567,396,314
Increase/(decrease) during year attributable to:	
▪ Normal cost and (gains)/losses	\$ 247,973,793
▪ Increase for interest due to decrease in discount period	331,629,914
▪ Benefits paid	(291,328,244)
Net increase/(decrease)	\$ 288,275,463
Actuarial present value of accumulated System benefits as of July 1, 2003	\$ 4,855,671,777

The benefits valued include all benefits (retirement, preretirement death, vested termination and return of contributions) payable from the System for member service prior to the valuation date. Benefits are assumed to accrue/(accumulate) in accordance with the System provisions.

Accounting Results

GASB No. 25 Information

Supplementary Schedules

Financial Reporting for Defined Benefit and Note Disclosures for Defined Contribution Plans (GASB Statement No. 25), became effective for periods beginning after June 15, 1996, and requires funded status to be measured based upon the actuarial funding method adopted by the Board of Retirement. The Board adopted the Entry Age Normal Cost Method.

Schedule of Funding Progress

The GASB Statement No. 25 liabilities and assets resulting from the last six actuarial valuations are as follows:

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)
7/1/1998	3,732,849,134	4,116,569,826	383,720,692	90.7%	1,154,342,141	33.2%
7/1/1999	4,261,624,240	5,179,784,869	918,160,629	82.3%	1,219,031,066	75.3%
7/1/2000	4,785,555,333	5,694,725,385	909,170,052	84.0%	1,281,505,876	70.9%
7/1/2001	5,110,226,650	6,190,228,108	1,080,001,458	82.6%	1,317,043,030	82.0%
7/1/2002	5,299,781,370	6,639,720,469	1,339,939,099	79.8%	1,450,317,127	92.4%
7/1/2003	5,354,795,771	6,974,583,356	1,619,787,585	76.8%	1,411,719,256	114.7%

Schedule of Employer Contributions

The GASB Statement No. 25 required and actual contributions are as follows:

Year Ended June 30	Annual Required Contribution	Percentage Contributed
1998	95,973,977	149.7%
1999	107,171,639	139.2%
2000	161,793,250	77.8%
2001	169,642,126	77.3%
2002	187,991,746	74.3%
2003	232,891,719	59.1%

System Assets

Summary of Assets

Asset Category	Market Value as of June 30, 2003	Market Value as of June 30, 2002
1. Cash and short-term investments		
a. Cash and short-term investments	\$ 381,712,396	\$ 150,629,380
2. Receivables		
a. Interest and dividends	17,501,741	22,687,459
b. Member contributions	780,414	801,046
c. Employer contributions	1,836,326	1,943,945
d. Due from brokers for securities sold	417,203,354	130,072,628
e. Total	\$ 437,321,835	\$ 155,505,078
3. Investments at fair value		
a. Government bonds	1,075,350,357	1,210,356,852
b. Corporate bonds	641,960,470	639,960,003
c. Domestic stocks	2,057,782,665	1,943,672,841
d. Foreign stocks	578,573,549	538,230,707
e. Total	\$ 4,353,667,041	\$ 4,332,220,403
4. Other assets		
a. Other assets	180,298	185,923
5. Assets used in System operations		
a. Property and equipment	353,735	391,920
6. Total assets	\$ 5,173,235,305	\$ 4,638,932,704
7. Liabilities		
a. Due to brokers and investment managers	(554,172,162)	(153,386,588)
b. Accounts payable and accrued expenses	0	0
c. Benefits payable	0	0
d. Total liabilities	\$ (554,172,162)	\$ (153,386,588)
8. Net assets available for pension benefits	\$ 4,619,063,143	\$ 4,485,546,116

System Assets

Reconciliation of Assets

Transactions	Fiscal Year Ended June 30, 2003	Fiscal Year Ended June 30, 2002
Additions		
1. Contributions		
a. Contributions from System members	\$ 50,101,133	\$ 50,857,928 ⁹
b. Contributions from employers	137,549,234	139,614,903
c. Total	\$ 187,650,367	\$ 190,472,831
2. Net investment income		
a. Interest	\$ 96,570,709	\$ 116,711,068
b. Dividends	14,031,903	11,676,601
c. Realized and unrealized appreciation	134,115,921	(374,464,731)
d. Security lending activities	939,605	1,709,138
e. Other	193,350	98,307
f. Total	\$ 245,851,488	\$ (244,269,617)
g. Investment expense	(5,489,820)	(6,562,232)
h. Net investment income	\$ 240,361,668	\$ (250,831,849)
3. Total additions	\$ 428,012,035	\$ (60,359,018)
Deductions		
4. Retirement, death and survivor benefits	\$ (282,519,128)	\$ (257,938,411)
5. Refund of contributions	(8,809,116)	(8,256,213) ⁹
6. Administrative expenses	(3,166,764)	(3,196,980)
7. Total deductions	\$ (294,495,008)	\$ (269,391,604)
8. Change in assets not available for benefits	0	0
9. Net increase	\$ 133,517,027	\$ (329,750,622)
10. Net assets held in trust for pension benefits		
a. Beginning of year	\$ 4,485,546,116	\$ 4,815,296,738
b. End of year	\$ 4,619,063,143	\$ 4,485,546,116
Reconciliation of Actuarial Value and Market Value		
Actuarial asset value	\$ 5,354,795,771	\$ 5,299,781,370
Deferred gain/(loss)	(735,732,628)	(814,235,254)
Market value	\$ 4,619,063,143	\$ 4,485,546,116

⁹ Reclassified consistent with financial statements.

System Assets

Actuarial Value of Assets

Schedule of Asset Gains/(Losses)

Year	Original Amount	Recognized in Prior Years	Recognized This Year	Recognized in Future Years
1998/1999	\$ 132,941,494	\$ 106,353,196	\$ 26,588,298	\$ 0
1999/2000	159,231,381	95,538,828	31,846,276	31,846,277
2000/2001	(666,007,650)	(266,403,060)	(133,201,530)	(266,403,060)
2001/2002	(631,139,394)	(126,227,879)	(126,227,879)	(378,683,636)
2002/2003	(153,115,261)	0	(30,623,052)	(122,492,209)
Total	\$ (1,158,089,430)	\$ (190,738,915)	\$ (231,617,887)	\$ (735,732,628)

Development of Actuarial Value of Assets

1. Actuarial value as of July 1, 2002	\$ 5,299,781,370
2. Contributions	
a. Member	50,101,133
b. Employer	137,549,234
c. Total (a. + b.)	\$ 187,650,367
3. Decreases during year	
a. Benefit payments	(282,519,128)
b. Return of member contributions	(8,809,116)
c. Noninvestment expenses	(3,166,764)
d. Total (a. + b. + c.)	\$ (294,495,008)
4. Expected return at 7.5% on:	
a. Item 1	397,483,603
b. Item 2 (one-half year)	7,036,889
c. Item 3 (one-half year)	(11,043,563)
d. Total (a. + b. + c.)	\$ 393,476,929
5. Expected actuarial value of assets June 30, 2003 (1. + 2. + 3. + 4.)	\$ 5,586,413,658
6. Unrecognized asset gain/(loss) as of June 30, 2002	(814,235,254)
7. Expected actuarial value June 30, 2003, plus previous year's unrecognized asset gain/(loss) (5. + 6.)	\$ 4,772,178,404
8. Market value June 30, 2003	4,619,063,143
9. 2002/2003 asset gain/(loss) (8. - 7.)	\$ (153,115,261)
10. Asset gain/(loss) to be recognized as of June 30, 2003	(231,617,887)
11. Initial actuarial value July 1, 2003 (5. + 10.)	\$ 5,354,795,771
12. Constraining values:	
a. 80% of market value (8. x .8)	\$ 3,695,250,514
b. 120% of market value (8. x 1.2)	\$ 5,542,875,772
13. Actuarial value as of July 1, 2003 (11.), but no less than (12a.), nor greater than (12b.)	\$ 5,354,795,771

System Assets

Average Annual Rates of Investment Return

Fiscal Year Ending June 30	Actuarial Value		Market Value	
	Annual	Average Return Since Fiscal Year	Annual	Average Return Since Fiscal Year
1994	8.9%	10.4%	0.1%	7.8%
1995	10.0%	10.6%	16.6%	8.7%
1996	11.7%	10.7%	15.0%	7.8%
1997	13.2%	10.5%	18.6%	6.8%
1998	14.4%	10.1%	18.3%	4.9%
1999	15.0%	9.2%	9.2%	2.4%
2000	13.8%	7.8%	9.9%	0.8%
2001	9.4%	5.9%	(6.0%)	(2.1%)
2002	5.3%	4.2%	(5.3%)	(0.1%)
2003	3.1%	3.1%	5.4%	5.4%

Participant Data

Member Data Reconciliation

	Active Members	With Deferred Benefits	Receiving Benefits			Total Members
			Retired Members	Disabled Members	Joint Annuitants and Surviving Spouses	
As of July 1, 2002	44,292	5,392	18,529	1,086	1,837	71,136
Age retirements	(1,042)	(172)	1,214	0	0	0
Disability retirements	(68)	(37)	0	105	0	0
Deaths without payments continuing	(52)	(12)	(591)	(34)	(76)	(765)
Deaths with payments continuing	(39)	(21)	(143)	(8)	211	0
Nonvested terminations	(3,357)	0	0	0	0	(3,357)
Vested terminations	(616)	616	0	0	0	0
Refund of contributions	0	(383)	0	0	0	(383)
Transfers	0	0	0	0	0	0
Data corrections	0	26 ¹⁰	18 ¹¹	2 ¹²	1 ¹³	47
Rehires	585	(121)	(4)	0	0	460
Net	(4,589)	(104)	494	65	136	(3,998)
New entrants during the year	3,085	0	0	0	0	3,085
No applications	562	0	0	0	0	562
Net change	(942)	(104)	494	65	136	(351)
As of July 1, 2003	43,350	5,288	19,023	1,151	1,973	70,785

¹⁰ 25 people were shown as unclaimed contributions in the last valuation and are now shown on the vested tape; 1 person was listed as a term vested this year and was reported as a death last year.

¹¹ 19 people were shown as unclaimed contributions in the last valuation and are now valued as retired; 1 person was listed as a retiree last year and this year was reported as a term non-vested participant.

¹² Three people were shown as unclaimed contributions in the last valuation and are now valued as disabled members; one person was listed as a disabled last year and this year reported as unclaimed contribution.

¹³ One person was shown as an unclaimed contribution in the last valuation and is now reported as a beneficiary. Four people were reported as beneficiaries in the last valuation and were not shown on the retired tape this year. Four people were shown as deaths without payments continuing in the last valuation and are now reported as beneficiaries.

Participant Data

Count of Paid Active Members

Age	Years of Service									Total
	0 - 4	5 - 9	10 -14	15 -19	20 - 24	25 - 29	30 - 34	35 - 39	40+	
Under 20	52									52
20 - 24	1,221	24								1,245
25 - 29	2,405	498	5							2,908
30 - 34	2,158	1,354	333	14						3,859
35 - 39	1,823	1,273	1,043	418	62					4,619
40 - 44	1,926	1,238	1,097	1,105	916	58				6,340
45 - 49	1,785	1,211	1,149	986	1,243	608	97	1		7,080
50 - 54	1,442	1,157	1,147	964	1,032	740	376	49		6,907
55 - 59	1,091	940	964	866	772	368	328	157	18	5,504
60 - 64	524	551	531	495	365	179	106	60	33	2,844
65 - 69	149	163	199	122	86	40	22	8	15	804
70 - 74	39	45	57	22	28	8	10	3	4	216
75+	12	8	5	9	11	6	1	2	2	56
Total	14,627	8,462	6,530	5,001	4,515	2,007	940	280	72	42,434
										<u>916¹⁴</u>
										43,350

Average Compensation ¹⁵

Age	Years of Service									Total
	0 - 4	5 - 9	10 -14	15 -19	20 - 24	25 - 29	30 - 34	35 - 39	40+	
Under 20	16,075									16,075
20 - 24	21,195	25,636								21,281
25 - 29	26,677	29,288	26,249							27,123
30 - 34	27,186	32,396	33,550	31,379						29,579
35 - 39	27,570	32,285	35,695	37,152	35,646					31,680
40 - 44	27,470	31,677	36,011	39,553	38,146	37,650				33,511
45 - 49	28,446	32,724	34,763	38,187	40,056	39,892	40,608	35,970		34,748
50 - 54	28,300	32,082	35,022	37,455	39,077	41,224	42,556	39,899		35,181
55 - 59	28,179	30,767	34,503	36,374	38,165	39,986	44,879	44,434	46,497	34,727
60 - 64	27,231	30,031	34,271	35,964	36,927	38,730	44,771	45,171	49,062	33,862
65 - 69	27,221	29,618	33,058	33,681	32,668	36,291	38,346	36,775	45,339	31,903
70 - 74	21,810	27,792	35,065	28,999	36,502	28,644	44,920	44,393	66,382	31,653
75+	25,148	44,953	28,931	31,225	42,648	51,597	48,412	29,206	13,172	35,696
Total	26,972	31,675	34,967	37,545	38,651	40,150	43,348	43,440	47,610	32,759¹⁵

¹⁴ Members without applications

¹⁵ Average compensation for members without applications is \$23,180. The average for all members including the members without applications is \$32,566.

Participant Data

Members in Pay Status - Annual Benefits

Attained Age	Retirees		Joint Annuitants & Surviving Spouses		Disabled Members		Current Payment Total	
	No.	Benefit	No.	Benefit	No.	Benefit	No.	Benefit
Under 51	63	1,248,718	61	477,873	149	1,160,169	273	\$ 2,886,760
51	33	766,500	10	88,737	28	262,038	71	1,117,275
52	72	1,653,782	9	40,479	42	355,186	123	2,049,447
53	86	2,006,007	15	142,356	46	386,279	147	2,534,642
54	148	3,252,909	16	187,229	51	505,501	215	3,945,639
55	183	3,800,840	27	279,841	56	465,216	266	4,545,897
56	278	4,995,734	18	178,263	56	509,836	352	5,683,833
57	311	5,225,497	27	250,786	61	495,500	399	5,971,783
58	297	5,132,894	33	257,316	46	362,277	376	5,752,487
59	373	6,452,776	40	290,683	57	367,744	470	7,111,203
60	474	8,050,211	40	390,865	66	516,980	580	8,958,056
61	440	7,397,415	47	315,590	65	549,112	552	8,262,117
62	550	8,642,071	43	399,828	51	347,778	644	9,389,677
63	742	10,659,786	46	364,791	60	461,362	848	11,485,939
64	751	10,417,711	53	448,232	42	302,125	846	11,168,068
65	742	9,859,533	64	504,699	46	322,937	852	10,687,169
66	789	10,601,593	58	496,829	38	307,784	885	11,406,206
67	807	10,070,861	53	521,452	30	181,194	890	10,773,507
68	859	10,486,680	74	587,003	27	175,127	960	11,248,810
69	870	10,702,684	80	532,214	29	231,706	979	11,466,604
70	748	9,205,450	72	604,175	29	216,247	849	10,025,872
71	793	9,463,065	64	493,221	18	133,469	875	10,089,755
72	746	8,621,849	61	527,141	16	117,324	823	9,266,314
73	712	8,266,504	79	594,082	21	141,464	812	9,002,050
74	698	8,141,712	71	572,083	14	116,540	783	8,830,335
75	647	6,969,472	77	560,776	6	38,876	730	7,569,124
76	604	7,045,824	84	719,679	0	0	688	7,765,503
77	618	6,856,119	75	549,782	0	0	693	7,405,901
78	554	5,864,338	73	614,578	0	0	627	6,478,916
79	514	5,456,042	68	547,860	0	0	582	6,003,902
80	516	5,699,724	51	387,759	1	6,540	568	6,094,023
81	410	4,540,646	49	344,634	0	0	459	4,885,280
82	468	4,913,371	53	351,859	0	0	521	5,265,230
83	341	3,511,963	49	286,013	0	0	390	3,797,976
84	288	2,791,538	42	249,261	0	0	330	3,040,799
85	273	2,478,959	28	155,710	0	0	301	2,634,669
86	227	2,126,993	23	120,745	0	0	250	2,247,738
87	200	1,773,410	25	174,202	0	0	225	1,947,612
88	137	1,180,273	27	198,951	0	0	164	1,379,224
89	151	1,339,597	19	114,479	0	0	170	1,454,076
90	140	1,203,653	19	78,489	0	0	159	1,282,142
Over 90	370	3,372,867	50	282,476	0	0	420	3,655,343
Total	19,023	\$ 242,247,571	1,973	\$ 15,283,021	1,151	\$ 9,036,311	22,147	\$ 266,566,903

Participant Data

Terminated Vested Members - Deferred Annual Benefits

Attained Age	Members With Deferred Benefits	
	No.	Benefit
Under 41	604	\$ 5,144,639
41	147	1,227,108
42	156	1,422,095
43	182	1,490,698
44	217	1,875,663
45	201	1,744,364
46	253	2,448,380
47	270	2,459,748
48	258	2,474,770
49	290	2,979,811
50	280	2,950,399
51	269	2,717,941
52	274	2,787,702
53	289	2,730,156
54	281	2,429,300
55	279	2,268,947
56	231	2,071,991
57	204	1,476,471
58	132	1,066,406
59	146	1,135,296
60	127	808,021
61	103	632,181
62	67	541,000
63	8	54,416
64	7	68,271
65	3	8,868
66	0	0
67	4	88,105
68	1	3,256
69	0	0
70	2	12,560
Over 70	3	47,888
Total	5,288	\$ 47,166,451

Participant Data

Member Statistics

Inactive Members as of July 1, 2003	No.	Amount of Annual Benefit ¹⁶
Members Receiving Benefits		
▪ Retired	19,023	\$ 242,247,571
▪ Joint annuitants and surviving spouses	1,973	15,283,021
▪ Disabled	1,151	9,036,311
Total	22,147	\$ 266,566,903

Members with Deferred Benefits	No.	Amount of Annual Benefit ¹⁶
▪ Vested terminated	4,147	\$ 30,981,037
▪ Assumed deferred vested members ¹⁷	1,141	16,185,414
Total	5,288	\$ 47,166,451

Statistics for	No.	Age	Average Service	Earnings
Active Members as of July 1, 2002				
▪ Continuing	38,618	46.3	11.7	\$ 34,122
▪ New	5,674	37.7	1.7	\$ 23,368
Total	44,292	45.2	10.4	\$ 32,745
Active members as of July 1, 2003				
▪ Continuing	38,813	46.5	11.7	\$ 33,663
▪ New	4,537	38.2	1.9	\$ 23,180
Total	43,350	45.6	10.7	\$ 32,566

¹⁶ Does not include monthly medical insurance premium.

¹⁷ Estimated benefits.

Participant Data

Data Tape Reconciliation

	Active	Retired	Vested Terminations	Total
Records submitted on data tape	42,528	35,874	4,147	82,549
Passed without alteration	42,434	22,147	4,147	68,728
Earnings based on salary due to missing year-to-date earnings	0	0	0	0
New members with hire dates not reflecting breaks in service	0	0	0	0
Data tapes records included	42,434	22,147	4,147	68,728
Other member included	916 ¹⁸	0	1,141 ²¹	2,057
Total valued	43,350	22,147	5,288	70,785
Number deleted	94 ¹⁹	13,727 ²⁰	0	13,821
Number added	916	0	1,141	2,057

¹⁸ Members who have not completed applications.

¹⁹ One not yet eligible to participate. One member was on the vested tape; they were assumed to be a vested termination. 92 members were on the retired tape; they were assumed to be receiving payments.

²⁰ 13,727 people were marked as deaths without a beneficiary receiving a payment.

²¹ Assumed deferred vesteds.

Actuarial Basis

Actuarial Cost Method

Cost Method Used for Funding

Entry Age Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the Individual Entry Age method of funding.

Sometimes called "funding method," this is a particular technique used by actuaries for establishing the amount of the annual actuarial cost of pension System benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the System is comprised of (1) the normal cost and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Entry Age Actuarial Cost Method, the **Normal Cost** is computed as the level percentage of pay which, if paid from the earliest time each member would have been eligible to join the System if it then existed (thus, entry age) until his retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the System.

The **Actuarial Accrued Liability** under this method at any point in time is the theoretical amount of the fund that would have accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The **Unfunded Actuarial Accrued Liability** is the excess of the actuarial accrued liability over the actuarial value of System assets actually on hand on the valuation date.

Under this method experience gains or losses, i.e. decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

Present Value of Accrued System Benefits (FASB #35)

The present value of accrued System benefits represents the actuarial present value of benefits which are accrued based on service and salary information as of the valuation date.

Actuarial Basis

Asset Valuation Method

The actuarial value of assets is based on a five-year moving average of expected and market values determined as follows:

- at the beginning of each fiscal year, a preliminary expected actuarial asset value is calculated as the sum of the previous year's actuarial value increased with a year's interest at the System valuation rate plus net cash flow adjusted for interest (at the same rate) to the end of the previous fiscal year;
- the expected actuarial asset value is set equal to the preliminary expected actuarial value plus the unrecognized investment gains and losses as of the beginning of the previous fiscal year;
- the difference between the expected actuarial asset value and the market value is the investment gain or loss for the previous fiscal year;
- the (final) actuarial asset value is the preliminary value plus 20% of the investment gains and losses for each of the five previous fiscal years, but in no case more than 120% of the market value or less than 80% of the market value.

Actuarial Basis

Valuation Procedures

No actuarial accrued liability in excess of the unclaimed contributions is held for nonvested, inactive members who have a break in service, or for nonvested members who have quit or been terminated, even if a break in service has not occurred as of the valuation date.

The wages used in the projection of benefits and liabilities are considered earnings for the year ending June 30, 2003 increased by the salary scale to develop expected earnings for the current valuation year. Earnings are annualized for members with less than twelve months of reported earnings.

The calculations for the required State contribution are determined as of mid-year. This is a reasonable estimate since contributions are made on a monthly basis throughout the year.

In computing accrued benefits, average earnings are determined using actual pay history provided for valuation purposes.

Benefits above the projected 415 limit for active participants are assumed to be immaterial for the valuation.

The compensation limitation under IRC Section 401(a)(17) is considered in this valuation. On a projected basis, the impact of this limitation is insignificant.

Liability is included for members who appear to be deferred vested, but who are not on the vested data tapes provided. An estimated benefit was calculated based on pay and service from prior valuations. A corrected benefit and status will be provided by the System administrator when the actual benefit and status have been finalized.

Included in the valuation are "Members Without Applications." These members are contributing to the System but have not yet filled out an enrollment application. For these members, amounts are added to the active liability and normal cost based on the average liability and normal cost for a new member. They are also assigned the average compensation for new members. Additional compensation equal to the average for new members is added to total earnings so that these members would be reflected in the normal cost contribution.

The retirement benefit liability for retired members that elected payment Option A or payment Option B is increased by 2.0% to account for the liability for the pop-up provision of the payment option.

A liability is included for contribution amounts due to be refunded to terminated vested members who made voluntary contributions to increase the maximum compensation limit prior to July 1, 1998. The System administrator supplied the included amounts.

An amount has been included in the accrued liability to account for cost of living adjustments to the benefits of retired participants that have not been granted by the valuation date. Any ad hoc increase granted will decrease the reserve amount by the cost of the increase. When the cost of an ad hoc increase is greater than the amount of the reserve, the reserve is set to zero and the period for calculating ungranted increases is set to the valuation date.

Actuarial Basis

Summary of Actuarial Assumptions

Economic Assumptions			
<i>Investment return</i>	7.5% net of investment expenses per annum, compounded annually		
<i>Earnings progression</i>	Sample rates below (midpoint of range shown):		
	Attained Age	Inflation	Merit % Increase
	20-24	3.0	6.0 9.0
	25-29	3.0	5.0 8.0
	30-34	3.0	3.7 6.7
	35-39	3.0	3.1 6.1
	40-44	3.0	2.8 5.8
	45-49	3.0	2.4 5.4
	50-54	3.0	2.1 5.1
	55-59	3.0	2.1 5.1
	60-64	3.0	2.1 5.1
	65+	3.0	2.1 5.1
<i>COLA assumption</i>			
<i> Monthly benefits</i>	2% per year (two-thirds of the inflation assumption)		
<i> Medical supplement</i>	No increases assumed		
<i>Projection of 401(a)(17) compensation limit</i>	Projected with inflation at 3%		

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Demographic Assumptions

Retirement age

Elected and non-elected members

Annual Rates of Retirement
Per 100 Eligible Members

<u>Attained Age</u>	<u>Those Eligible for Unreduced Retirement</u>	<u>Those Not Eligible for Unreduced Retirement</u>
50	10	N/A
51	10	N/A
52	10	N/A
53	10	N/A
54	10	N/A
55	10	7
56	10	6
57	11	7
58	12	7
59	13	7
60	14	9
61	20	20
62	40	N/A
63	22	N/A
64	25	N/A
65	40	N/A
66	25	N/A
67	23	N/A
68	22	N/A
69	21	N/A
70	100	N/A

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Demographic Assumptions *(continued)*

Retirement age (continued)

*Department of Corrections
members*

Annual Rates of Retirement
Per 100 Eligible Members

<u>Service</u>	<u>Rate</u>	<u>Attained Age</u>	<u>Less Than 20 Years of Service</u>
20-21	25	50	N/A
21-30	15	51	N/A
30+	100	52	N/A
		53	N/A
		54	N/A
		55	7
		56	6
		57	7
		58	7
		59	7
		60	9
		61	20
		62	40
		63	22
		64	25
		65	40
		66	25
		67	23
		68	22
		69	21
		70	100

Mortality rates

*Active participants and nondisabled
pensioners*

1983 Group Annuity Mortality Table

Disabled pensioners

1983 Group Annuity Mortality Table set forward 10 years
for disabled experience

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Demographic Assumptions *(continued)*

Disability rates

Graduated rates

Disabled rates per 100 members

<u>Attained Age</u>	<u>Male</u>	<u>Female</u>
20	.00	.01
30	.02	.03
40	.08	.10
50	.26	.25
60	.68	.50

Withdrawal rates

Ages	Current 0-2 Years	Current 2-3 Years	Current 3-4 Years	Current 4-5 Years	Current Over 5 Years
25	0.2355	0.1891	0.1709	0.1369	0.1072
30	0.2210	0.1704	0.1554	0.1268	0.0881
35	0.2044	0.1535	0.1365	0.1214	0.0742
40	0.1809	0.1398	0.1207	0.1094	0.0587
45	0.1667	0.1248	0.1131	0.0945	0.0468
50	0.1400	0.1085	0.1029	0.0834	0.0398
55	0.1314	0.0934	0.0869	0.0704	0.0303

Marital status

Percentage married

Males: 85%; Females: 85%

Age difference

Males are assumed to be four years older than spouses

*Line of duty deaths for Department of
Corrections members*

None assumed

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Other Assumptions

Assumed age of commencement for deferred benefits

Age 62 for non-elected members, age 60 for elected members.

Actuarial value of assets

An expected actuarial value is determined equal to the prior year's actuarial value of assets plus cash flow (excluding realized and unrealized gains and losses) for the year ended on the valuation date and assuming 7.5% interest return. Twenty percent (20%) of any (gain)/loss as measured by the difference between the expected actuarial value and the market value at the valuation date is added to the expected actuarial value plus prior unrecognized gains or losses. The (gain)/loss is amortized over five years. The result is constrained to a value of 80% to 120% of the market value at the valuation date.

Provision for expenses

Administrative expenses, as budgeted by the Oklahoma Public Employees Retirement System.

Actuarial Basis

Summary of System Provisions

Following is a summary of the major System provisions used to determine the System’s financial position. It should not be used in determining System benefits.

<i>Effective date and fiscal year</i>	The System became effective January 1, 1964. The fiscal year is July 1 to June 30.
<i>Administration</i>	The System is administered by a 13 member Oklahoma Public Employees Retirement System Board of Trustees. The Board acts as the fiduciary for investment and administration of the System.
<i>Employees included</i>	<p>All permanent employees of the State of Oklahoma, legislated agencies, and any other employer such as county, county hospital, city, or trust in which a municipality is the primary beneficiary, are eligible to join if:</p> <ul style="list-style-type: none"> – the employee is not eligible for or participating in another retirement system authorized under Oklahoma law, is covered by Social Security and not participating in the U.S. Civil Service Retirement System, – the employee is scheduled for 1,000 hours per year and salary is not less than the hourly rate of the monthly minimum wage for State employees (for employees of local government employers, not less than the hourly rate of the monthly minimum wage for such employees).

Membership is mandatory for new eligible employees on the first of the month following employment.

<i>Employer and employee contributions</i>	See the following chart for the schedule of employee contributions for all State employees except elected officials and Department of Corrections employees. Elected officials contribute 4.5%, 6%, 7.5%, 8.5%, 9%, or 10% depending upon the computation factor used in determining their benefit. The benefits and contribution amounts for elected officials will be based on the maximum compensation levels set forth in the chart below. Contributions for Department of Corrections employees are summarized at the end of this section. Local government employees contribute from 3.5% to 8.5% of pay, depending on the rate chosen by their employers.
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Contributions are based on compensation defined by the Board.

Actuarial Basis

Summary of System Provisions *(continued)*

Employer and employee contributions (continued)

Year	State Employee Contributions for Pay Under \$25,000			Applicable Salary Cap
	Employer Contribution	Employee Contribution	Total Contribution	
1994-1995	11.5%	2.0%	13.5%	\$50,000
1995-1996	11.5%	2.0%	13.5%	\$60,000
1996-1997	12.0%	2.5%	14.5%	\$70,000
1997-1998	12.5%	3.0%	15.5%	\$80,000
1998-1999	12.5%	3.0%	16.0%	No Cap
1999-2006	10.0%	3.0%	13.0%	No Cap
2006-2007	11.0%	3.0%	14.0%	No Cap
2007-2008	12.0%	3.0%	15.0%	No Cap
2008-2009	13.0%	3.0%	16.0%	No Cap
2009-2010	14.0%	3.0%	17.0%	No Cap
2010-2011	15.0%	3.0%	18.0%	No Cap
2011-2012	16.0%	3.0%	19.0%	No Cap

Year	State Employee Contributions for Pay Between \$25,000 and Cap			Applicable Salary Cap
	Employer Contribution	Employee Contribution	Total Contribution	
1994-1995	11.5%	3.5%	15.0%	\$50,000
1995-1996	11.5%	3.5%	15.0%	\$60,000
1996-1997	12.0%	3.5%	15.5%	\$70,000
1997-1998	12.5%	3.5%	16.0%	\$80,000
1998-1999	12.5%	3.5%	16.0%	No Cap
1999-2006	10.0%	3.5%	13.5%	No Cap
2006-2007	11.0%	3.5%	14.5%	No Cap
2007-2008	12.0%	3.5%	15.5%	No Cap
2008-2009	13.0%	3.5%	16.5%	No Cap
2009-2010	14.0%	3.5%	17.5%	No Cap
2010-2011	15.0%	3.5%	18.5%	No Cap
2011-2012	16.0%	3.5%	19.5%	No Cap

Actuarial Basis

Summary of System Provisions *(continued)*

Service considered

Prior service

All service of the employee prior to the employer's entry date is credited prior service providing the participating employer joined on or before January 1, 1975. Prior service for employees of employers who join after January 1, 1975, may be purchased by the employee. Prior service is allowed for certain active wartime military service (maximum 5 years credit) for members employed prior to July 1, 2000 and for employment with public schools or Board of Regents for Higher Education prior to July, 1943. Service need not be continuous employment to be credited.

Participating service

After the employer's entry date, a member's participating service is credited for all periods of employment for which required contributions are made. Service is prorated according to hours worked per month on and after July 1, 1979. Certain active wartime military service is credited, provided the contribution accumulation is not withdrawn. Active and retired members are credited with additional participating service based on their accumulated contributions prior to June 30, 1977 (if not withdrawn prior to retirement), according to the following:

Member Accumulation			Additional Years
\$ 1	to	\$ 500	1
501	to	1,000	2
1,001	to	1,500	3
1,501	to	2,000	4
2,001	or	more	5

A member who has withdrawn his contributions and later returns to membership may repay the amount withdrawn plus interest as determined by the Board to reinstate participating service which was canceled by his withdrawal.

A member may receive credit for those years of service as an elected official if the member is not receiving credit for that service in any other public retirement system. The member must pay an amount equal to the actuarial cost to fund the difference between the member's projected benefits with and without the additional service credit.

Actuarial Basis

Summary of System Provisions *(continued)*

<i>Service considered (continued)</i> <i>Participating service</i>	<p>The total participating service of a member who retires or terminates employment and elects a vested benefit shall include up to one hundred thirty (130) days of unused sick leave accumulated subsequent to August 1, 1959, during the member's employment with any participating employer. Such credit shall be added in terms of whole months. If unused sick leave entitles the member to an additional year of service, the additional cost is borne by the employer.</p> <p>A member may receive credit for those years of credited service accumulated by the member while a member of the Oklahoma Firefighters Pension and Retirement System, the Oklahoma Police Pension and Retirement System, the Uniform Retirement System for Justices and Judges, the Oklahoma Law Enforcement Retirement System, or the Teachers' Retirement System of Oklahoma, if the member is not receiving or eligible to receive retirement credit or benefits from this service in any other public retirement system. The member may receive credit for this service by paying the amount actuarially determined to cover the cost of the previous service.</p>
<i>Credited Service</i>	<p>Credited service equals prior service plus participating service. This service is added together and the result is rounded up to the next year if the number of remaining months is equal to or greater than six.</p>
<i>Compensation considered</i>	<p>The member's basic salary and wages as defined by the Board of Trustees includes amounts for deferred tax sheltered annuities. Overtime and moving expenses are excluded. Any compensation in excess of the maximum applicable amount is excluded.</p>
<i>Final average compensation</i>	<p>The average of the three highest years of compensation earned within the last ten (10) years of participating service, subject to any applicable salary caps and on which contributions have been made.</p> <p>For all members hired prior to July 1, 1995, the minimum final average compensation is \$13,800. For members hired on or after July 1, 1995, no minimum is applied until the member has fifteen (15) years of service. For members with between fifteen (15) and twenty (20) years of service, the minimum final average compensation is \$6,900. For members with more than twenty (20) years of service, the minimum is \$13,800.</p>

Actuarial Basis

Summary of System Provisions *(continued)*

Normal retirement date Normal retirement is the earliest of: first day of the month coinciding with or next following the 62nd birthday; or, the first day of the month coinciding with or following the date at which the sum of a member's age and number of years of credited service total eighty (80) if the member was hired prior to July 1, 1992; or following the date at which the sum of member's age and number of years of credited service total ninety (90) if the member was hired after July 1, 1992. Members employed after January 1, 1983 must complete at least six years of full-time equivalent employment with a participating employer before receiving any retirement benefits. The normal retirement date for elected officials is the first of the month coinciding with or following the official's 60th birth date or the first day of the month coinciding with or following the date at which the sum of the member's age and years of credited service total eighty (80).

Normal retirement benefit The benefit on or after normal retirement, payable monthly for life to non-elected members, is as follows:

2% of final average compensation up to applicable maximum compensation multiplied by all service.

The benefit payable monthly for life to elected officials is the greater of 1) the preceding benefit, or 2) the benefit calculated using highest annual compensation as an elected official up to the maximum applicable limit times credited service multiplied by the following applicable percentage:

<u>% of Highest Annual Compensation</u>	<u>Alternate Formula if Vested on July 1, 1980</u>	<u>% of Compensation Contributed</u>
1.9%	\$12.50	4.5%
2.5	20.00	6.0
3.0	25.00	7.5
3.4	27.50	8.5
3.6	30.00	9.0
4.0	40.00	10.0

Elected officials who become members after July 1, 1990 must participate in the System as an elected official for at least six years to qualify for the elected official benefit formula.

Actuarial Basis

Summary of System Provisions *(continued)*

Early retirement benefit A member with at least ten (10) years of participating service may retire as early as age 55. The benefit is determined by the normal retirement formula based on credited service and Final Average Compensation (highest annual compensation for elected officials) at termination. The percentage payable at early retirement age is:

Elected Officials		Other Members	
Age	Percentage	Age	Percentage
60	100%	62	100.0%
59	94	61	93.3
58	88	60	86.7
57	82	59	80.0
56	76	58	73.3
55	70	57	66.7
		56	63.3
		55	60.0

Disability benefit A member with at least eight (8) years of credited service is eligible for a disability benefit provided the member qualifies for disability benefits as certified by the Social Security Administration or the Railroad Retirement Board within one year of the date last physically on the job. The benefit is determined by the normal retirement formula based on service and salary history at date of disability. The benefit is payable immediately without actuarial reduction.

Option A is the only available form of payment.

Vested benefit A member who terminates after eight years of credited service (six years for elected officials) is eligible for a vested benefit determined by the normal retirement formula, based on service and compensation to date of termination.

The benefit is payable at age 62 (or age 60 if an elected official), provided the member's contribution accumulation is not withdrawn and the member has at least six years of full time equivalent employment. A member with 10 or more years of service also has the option of reduced benefits at early retirement age.

Actuarial Basis

Summary of System Provisions *(continued)*

<i>Vested benefit (continued)</i>	<p>Members terminating with less than eight years (or six years if an elected official) of credited service may elect to receive a refund of their contribution accumulation.</p> <p>A limited additional retirement benefit of \$200 per month is payable up to the total of excess contributions paid by the member for those vested members as of July 1, 1998. This is not applicable for active members who received a transfer of excess contributions or retired members as of July 1, 1998.</p>
<i>Preretirement death benefit</i>	<p>The spouse of a deceased active member who had met normal, early or vested retirement provisions may elect a spouse's benefit. The spouse's benefit is the benefit that would have been paid if the member had retired and elected the joint and 100% survivor option (Option B). If named as the designated beneficiary, the spouse may elect a refund of the member's contribution accumulation in lieu of the Option B monthly benefit.</p> <p>In addition to the provisions above, the eligible spouse of a deceased elected official with at least six (6) years of elected service and married at least three years immediately preceding death may elect to receive 50% of the benefit the member would be eligible to receive. The starting date of benefits is the date the deceased member would have been eligible for early or normal retirement. Benefits cease upon death or remarriage of the surviving spouse.</p> <p>Any other designated beneficiary of a member other than an eligible spouse will receive a refund of the member's contribution accumulation.</p>
<i>Postretirement death benefit</i>	<p>Upon the death of a retired member, a \$5,000 lump-sum death benefit will be paid to the member's beneficiary, or estate if there is no beneficiary.</p>

Actuarial Basis

Summary of System Provisions *(continued)*

<i>Optional forms of retirement benefits</i>	<p>The normal form of benefit for a single member other than an elected official is a single life monthly annuity with a guaranteed refund of the contribution accumulation. The normal form for a married member is a 50% joint and survivor annuity benefit. Optional forms of payment with actuarial reduction are available to all members retiring under the normal retirement, early retirement or vested retirement provisions. These options providing post-retirement death benefits are: Option A--Joint and 50% survivor annuity with a return to the unreduced amount if the joint annuitant dies.</p> <p>Option B--Joint and 100% survivor annuity with a return to the unreduced amount if the joint annuitant dies.</p> <p>Option C--Life annuity with a minimum of 120 monthly payments.</p> <p>For married members, spousal consent is required for any option other than Option A.</p>
<i>Postretirement medical insurance premium</i>	<p>The System will contribute the lesser of \$105 per month or the Medicare Supplement Premium to the Oklahoma State and Education Employee's Group Health Insurance Program (or other eligible employer health plans) for members receiving retirement benefits.</p>
<i>Expenses</i>	<p>The expenses of administering the retirement system are paid from the retirement trust fund.</p>
<i>Hazardous duty members (Department of Corrections, Oklahoma Military Department firefighters) benefits</i>	<p>Members covered by the Department of Corrections Hazardous Duty Provisions have the retirement eligibility requirements, contribution rates and benefit formula described below.</p> <p>The normal retirement is the earliest of: 20 years of service as a member covered by the Department of Corrections Hazardous Duty Provisions; or, the first day of the month coinciding with or next following the 62nd birthday; or, the first day of the month coinciding with or following the date at which the sum of a member's age and number of years of credited service total eighty (80) if the member was hired prior to July 1, 1992; or following the date at which the sum of a member's age and number of years of credited service total ninety (90) if the member was hired after July 1, 1992. Members employed after January 1, 1983 must complete at least six years of full-time equivalent employment with a participating employer before receiving any retirement benefits. The benefit formula is 2½% of final average compensation, multiplied by the number of years of service as an eligible officer for service, not exceeding 20 years. For service in excess of 20 years the benefit formula is 2% of final average compensation.</p>

Actuarial Basis

Summary of System Provisions (continued)

*Hazardous duty members
(Department of Corrections,
Oklahoma Military Department
firefighters) benefits (continued)*

Special Surviving Spouse and Child benefits for correctional officers or probation and parole officers killed or mortally wounded during the performance of duty after January 1, 2000 are equal to 2.5% of final average monthly compensation multiplied by the greater of the member's actual service or 20 years.

Contributions for members covered by the Department of Corrections Hazardous Duty Provisions are:

<u>Year</u>	<u>Up to \$25,000</u>	<u>Above \$25,000</u>	
1994/1995	6.5%	8.0%	
1995/1996	6.5%	8.0%	
1996/1997	7.0%	8.0%	
1997/1998	7.5%	8.0%	
	<u>First 20 Years of Service</u>	<u>Service Beyond 20 Years</u>	
		<u>Up to \$25,000</u>	<u>Above \$25,000</u>
1998/1999	8.0%	3.0%	0.0%
1999/2000	8.0%	3.0%	0.0%
2000 and on	8.0%	3.0%	3.5%

The benefit for Oklahoma Military Department firefighters who began employment July 1, 2002 and after is based on a 2½% computation factor. They are also eligible for full benefits after 20 years as a firefighter and their employee contribution rate is 8%. Oklahoma Military Department firefighters employed prior to July 1, 2002 were given a one time option to (a) have their benefit formula, retirement eligibility, and employee contribution rate remain unchanged, (b) apply the new provisions (including the new contribution rate) to service after January 1, 2003, or (c) apply the new benefit formula and retirement eligibility to all of the member's service, apply the 8% contribution rate for service after July 1, 2002, and make a contribution equal to the increase in the actuarial value of the member's retirement benefit.

Addendum

Certification

We have prepared an actuarial valuation of the State of Oklahoma Public Employees Retirement System (OPERS) as of July 1, 2003, for the fiscal year ending June 30, 2004. The results of the valuation are set forth in this report, which reflects legislation effective on July 1, 2003.

The valuation is based on employee and financial data which were provided by OPERS and the independent auditor, respectively, and which are summarized in this report.

The results in this Addendum have been prepared for the sole purpose of meeting the Retirement Board's requirement to submit this information to the Oklahoma State Pension Commission, based on the following prescribed assumptions (11 O.S. 2001, Section 50-105.4, Section H):


- Interest rate: 7.5%
- COLA assumption: 2.0%
- Mortality: RP 2000 Mortality Table for Employees, Healthy Retirees and Disabled Retirees with Mortality Projected forward from 2000 using Scale AA.
- Amortization period: 30 years, open period
- Sources of all contributions and revenues, including dedicated tax fee revenue and federal monies

All other assumptions, methodologies, and System provisions used are consistent with those used in the July 1, 2003 valuation.

The results shown in this Addendum are not consistent with those in the July 1, 2003 valuation. The July 1, 2003 valuation results were determined in accordance with generally accepted actuarial principles and procedures, and are in compliance with the Actuarial Standards Board Actuarial Standard of Practice No. 27-Selection of Economic Assumptions for Measuring Pension Obligations. The results shown in this Addendum are not based on the assumptions and methodologies adopted by the Retirement Board. For those results, see the July 1, 2003 actuarial valuation.

We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

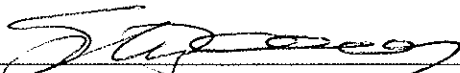
The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.



Brent Hradek, FSA, EA

10/17/2003

Date



Stephen T. McElhaney, FSA, EA

10/17/2003

Date

Mercer Human Resource Consulting
4400 Bank One Center
1717 Main Street
Dallas, Texas 75201-7357

214 220 3500

Addendum

Summary of Valuation Results Under Prescribed Assumptions

This supplemental report has been prepared by Mercer Human Resource Consulting to present the results of a valuation of the State of Oklahoma Public Employees Retirement System as of July 1, 2003, based on the prescribed assumptions under 11 O.S. 2001, Section 50-105.4, Section H of current statutes and regulations issued thereunder.

A summary of principal valuation results from the current valuation and the prior valuation follows.

	Actuarial Valuation as of		Change Between Years	
	July 1, 2003	July 1, 2002	Amount	Percent
Summary of Costs				
Required employer contribution for current year	\$ 268,764,631	\$ 247,807,896	\$ 20,956,735	8.5%
Actual employer contributions received in prior year	137,549,234	139,614,903	(2,065,669)	(1.5%)
Funded Status				
Actuarial accrued liability	\$ 7,150,738,150	\$ 6,811,518,438	\$ 339,219,712	5.0%
Actuarial value of assets	5,354,795,771	5,299,781,370	55,014,401	1.0%
Unfunded actuarial accrued liability	\$ 1,795,942,379	\$ 1,511,737,068	\$ 284,205,311	18.8%
Market Value of Assets and Additional Liabilities				
Market value of assets	\$ 4,619,063,143	\$ 4,485,546,116	\$ 133,517,027	3.0%
Present value of projected System benefits	8,413,157,842	8,121,397,729	291,760,113	3.6%

Addendum

Summary of Valuation Results Under Prescribed Assumptions (continued)

	Actuarial Valuation as of		July 1, 2002		Percent Change in Amount
	July 1, 2003		July 1, 2002		
	Amount	% of Covered Comp.	Amount	% of Covered Comp.	
Summary of Contribution Requirements					
1. Annual covered compensation for members included in valuation	\$1,411,719,256	N/A	\$1,450,317,127	N/A	(2.7%)
2. Total normal cost mid-year	165,769,441	11.7%	171,127,796	11.8%	(3.1%)
3. Unfunded actuarial accrued liability	1,795,942,379	127.2%	1,511,737,068	104.2%	18.8%
4. Amortization of unfunded actuarial accrued liability over 30 years	146,760,079	10.4%	123,535,507	8.5%	18.8%
5. Budgeted expenses provided by the System	6,723,945	0.5%	5,113,760	0.4%	31.5%
6. Total required contribution (2. + 4. + 5.)	\$ 319,253,465	22.6%	\$ 299,777,063	20.7%	6.5%
7. Estimated member contribution	50,488,834	3.6%	51,969,167	3.6%	(2.8%)
8. Required employer contributions (not less than \$0) (6. - 7.)	\$ 268,764,631	19.0%	\$ 247,807,896	17.1%	8.5%
9. Previous year's actual contribution					
a. Member	50,101,133	3.5% ²³	50,857,928	3.9% ²³	(1.5%)
b. Employer	137,549,234	9.5% ²³	139,614,903	10.6% ²³	(1.5%)
c. Total	187,650,367	12.9% ²³	190,472,831	14.5% ²³	(1.5%)

²³ Percent of previous years' annual compensation for active members (\$1,450,317,127 at July 1, 2002 and \$1,317,043,030 at July 1, 2001).

Addendum

Unfunded Actuarial Accrued Liability

The actuarial accrued liability is the present value of projected System benefits allocated to past service by the actuarial funding method being used.

	July 1, 2003	July 1, 2002
1. Actuarial present value of benefits		
a. Active members ²⁴	\$ 4,924,143,465	\$ 4,965,687,774
b. Terminated vested members ²⁵	320,007,397	269,886,660
c. Retirees, disableds and joint annuitants/surviving spouses	3,169,006,980	2,885,823,295
d. Total (a. + b. + c.)	\$ 8,413,157,842	\$ 8,121,397,729
2. Actuarial present value of future normal costs	1,262,419,692	1,309,879,291
3. Total actuarial accrued liability (1 - 2)	\$ 7,150,738,150	\$ 6,811,518,438
4. Actuarial value of assets	5,354,795,771	5,299,781,370
5. Unfunded actuarial accrued liability <i>(3. - 4., not less than \$0)</i>	\$ 1,795,942,379	\$ 1,511,737,068

²⁴ Includes \$25,409,368 for 916 members who have not completed applications as of July 1, 2003.

²⁵ Includes \$13,678,079 for unclaimed contributions, \$85,366,892 for 1,141 assumed deferred vested employees, and \$1,170,496 for the limited additional retirement benefits as of July 1, 2003.

Addendum

Normal Cost

The components of normal cost under the System's funding method are:

Component	July 1, 2003	July 1, 2002
Retirement benefits	\$ 114,564,361	\$ 118,555,912
Withdrawal benefits	17,095,359	17,956,564
Disability benefits	5,544,504	5,748,423
Death benefits	3,749,886	3,901,718
Refunds	6,475,511	6,390,539
Supplemental medical insurance premiums	9,955,246	10,086,738
Normal cost for people who have not submitted an application	2,392,907	2,302,560
Total normal cost at beginning of year	\$ 159,777,774	\$ 164,942,454
Total normal cost at mid year	\$ 165,769,441	\$ 171,127,796
Normal cost rate at mid year	11.74%	11.80%
Annual covered payroll	\$ 1,411,719,256	\$ 1,450,317,127

MERCER
Human Resource Consulting

4400 Bank One Center
1717 Main Street
Dallas, TX 75201-7357

214 220 3500