

October 2004

State of Oklahoma

Public Employees Retirement System

Actuarial Valuation Report as of July 1, 2004

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, 2004;
- Review experience under the System for the year ended June 30, 2004;
- 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 76.8% to 76.1% over the past year. The unfunded accrued liability increased by \$82.8 million.

Funded Status (\$000,000)	Actuarial Valuation as of	
	July 1, 2004	July 1, 2003
Accrued liability	\$7,114.8	\$6,974.6
Actuarial value of assets	5,412.1	5,354.8
Unfunded accrued liability	\$1,702.6	\$1,619.8
Funded ratio	76.1%	76.8%

- The key items responsible for changes in the funded status are described below.
 - There were changes in System provisions. The Effects of Changes section of this report describes these changes and shows the effect of the changes on the System.
 - Liability gains occurred resulting in an accrued liability \$232.4 million less than expected (3.2% of expected liability). The components of this gain are summarized in the Effects of Changes section in this report.
 - The market value of assets increased by approximately 14.0% 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 3.5%. Compared to the expected return of 7.5%, there was a loss of \$210.3 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, 2004	July 1, 2003
Total required contribution	\$315.8	\$307.5
Expected employee contributions	49.8	50.5
Required employer contribution	\$266.0	\$257.0
As a % of covered payroll	19.2%	18.2%

The statutory contribution rate for employers is 10% of salary for the fiscal years beginning July 1, 2003 and July 1, 2004. 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, 2004	July 1, 2003	Amount	Percent
Summary of Costs				
Required employer contribution for current year	\$ 266,044,444	\$ 257,038,902	\$ 9,005,542	3.5%
Actual employer contributions received in prior year	\$ 133,522,780	\$ 137,549,234	\$ (4,026,454)	(2.9%)
GASB No. 25 Funded Status				
Actuarial accrued liability	\$ 7,114,778,205	\$ 6,974,583,356	\$ 140,194,849	2.0%
Actuarial value of assets	5,412,166,797	5,354,795,771	57,371,026	1.1%
Unfunded actuarial accrued liability	\$ 1,702,611,408	\$ 1,619,787,585	\$ 82,823,823	5.1%
Market Value of Assets and Additional Liabilities				
Market value of assets	\$ 5,126,418,028	\$ 4,619,063,143	\$ 507,354,885	11.0%
Actuarial present value of accumulated System benefits (FAS No. 35)	5,111,634,479	4,855,671,777	255,962,702	5.3%
Present value of projected System benefits	8,274,968,938	8,169,828,148	105,140,790	1.3%
Summary of Data				
Number of participants in valuation				
Active members	43,000	43,350	(350)	(0.8%)
Terminated vested members	5,482	5,288	194	3.7%
Retired members	19,666	19,023	643	3.4%
Joint annuitants/surviving spouses	2,119	1,973	146	7.4%
Disabled members	1,205	1,151	54	4.7%
Total	71,472	70,785	687	1.0%
Active Participant Statistics				
Total annual compensation ¹	\$ 1,383,965,233	\$ 1,411,719,256	\$ (27,754,023)	(2.0%)
Average compensation ¹	\$ 32,185	\$ 32,566	\$ (380)	(1.2%)
Average age	45.7	45.6	0.1	0.2%
Average service	10.6	10.7	(0.1)	(0.9%)

¹Compensation is projected one year based on the salary increase assumption.

Effects of Changes

Changes in System Provisions

- Senate Bill 1203 provides that Department of Corrections (DOC) line-of-duty death coverage has been extended to anyone employed by the DOC. Also, the DOC line-of-duty death benefit has been enhanced to include \$400 for minor children.
- Senate Bill 1134 provides a cost-of-living adjustment (COLA) between 2.5% and 4.5% that was granted on June 30, 2004, to retirees and beneficiaries in pay status who will continue to receive monthly benefits after that date.

The total effect of these changes, net of the liability for cost-of-living adjustments already included in last year’s valuation, was to increase the accrued liability by \$4.4 million. This amount includes \$3.5 million in accrued liability for COLAs in excess of the amount included in last year’s valuation and \$0.9 million for the line-of-duty death benefit enhancements.

Actuarial Experience During the Fiscal Year

The System experienced a liability gain of \$232,352,000 and an asset loss of \$210,262,000 during the year ended June 30, 2004. The significant items are developed as follows:

Liability Sources	Impact on Actuarial Liability	Percent of Expected Liability
Salary increases	\$ 171,334,000	2.33%
Deaths	7,082,000	0.10%
Terminations	(27,461,000)	(0.37%)
Retirements	(24,456,000)	(0.33%)
Disability	(2,531,000)	(0.03%)
New entrants and rehires	(18,745,000)	(0.26%)
Miscellaneous/data	127,129,000	1.73%
Actuarial gain/(loss)	\$ 232,352,000	3.17%

Asset Sources	Impact on Actuarial Value of Assets
Expected investment return	\$ 396,767,000
Investment return on actuarial value of assets	186,505,000
Actuarial gain/(loss)	\$ (210,262,000)
Net actuarial gain/(loss)	\$ 22,090,000

Certification

We have prepared an actuarial valuation of the Oklahoma Public Employees Retirement System (OPERS) as of July 1, 2004, for the fiscal year ending June 30, 2005. The results of the valuation are set forth in this report, which reflects the legislation effective on July 1, 2004.


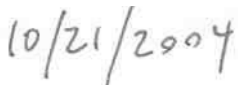


The valuation is based on employee and financial data which were provided by OPERS and the independent auditor, respectively, and which are summarized in this report.

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 (which are set by the Board) are a reasonable 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
	
Stephen T. McElhaney, FSA, EA	Date
Mercer Human Resource Consulting 4400 Bank One Center 1717 Main Street Dallas, Texas 75201-7357 214 220 3500	

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

	Actuarial Valuation as of		Percent Change
	July 1, 2004	July 1, 2003	
Summary of Data			
1. Active members			
a. Number			
i) Active members	42,253	42,434	(0.4%)
ii) Members without applications	747	916	(18.5%)
iii) Total	43,000	43,350	(0.8%)
b. Annual compensation	\$ 1,383,965,233	\$ 1,411,719,256	(2.0%)
c. Average annual compensation	\$ 32,185	\$ 32,566	(1.2%)
d. Average age	45.7	45.6	0.2%
e. Average service	10.6	10.7	(0.9%)
2. Accumulated member contributions			
a. Active members	\$ 340,524,234	\$ 322,373,359	5.6%
b. Unclaimed contribution accounts	\$ 14,587,367	\$ 13,678,079	6.6%
c. Members without applications	\$ 2,107,652	\$ 1,604,118	31.4%
d. Total	\$ 357,219,253	\$ 337,655,556	5.8%
3. Vested terminated members			
a. Number	4,182	4,147	0.8%
b. Annual deferred benefits	\$ 32,004,615	\$ 30,981,037	3.3%
c. Average annual deferred benefit	\$ 7,653	\$ 7,471	2.4%
d. Annual supplemental medical insurance premiums	\$ 5,269,320	\$ 5,225,220	0.8%
4. Assumed deferred vested-number	1,300	1,141	13.9%
5. Retired members			
a. Number	19,666	19,023	3.4%
b. Annual retirement benefits	\$ 263,910,392	\$ 242,247,571	8.9%
c. Average annual retirement benefit	\$ 13,420	\$ 12,734	5.4%
d. Annual supplemental medical insurance premiums	\$ 17,162,460	\$ 16,872,660	1.7%
6. Joint annuitants/surviving spouses			
a. Number	2,119	1,973	7.4%
b. Annual retirement benefits	\$ 17,357,194	\$ 15,283,021	13.6%
c. Average annual retirement benefit	\$ 8,191	\$ 7,746	5.7%
7. Disabled members			
a. Number	1,205	1,151	4.7%
b. Annual retirement benefits	\$ 9,966,044	\$ 9,036,311	10.3%
c. Average annual retirement benefit	\$ 8,271	\$ 7,851	5.4%
d. Annual supplemental medical insurance premiums	\$ 979,020	\$ 952,560	2.8%
8. Total members included in valuation	71,472	70,785	1.0%

Funding Results

Comparative Summary of Principal Valuation Results *(continued)*

	Actuarial Valuation as of		Percent Change
	July 1, 2004	July 1, 2003	
Summary of Assets, Liabilities and Funded Status			
1. System assets on valuation date			
a. Actuarial value	\$ 5,412,166,797	\$ 5,354,795,771	1.1%
b. Market value	\$ 5,126,418,028	\$ 4,619,063,143	11.0%
2. Actuarial accrued liability ²	\$ 7,114,778,205	\$ 6,974,583,356	2.0%
a. Funded ratio - actuarial value ²	76.1%	76.8%	(0.9%)
b. Funded ratio - market value	72.1%	66.2%	8.9%
3. Unfunded actuarial accrued liability (based on actuarial value of assets)	\$ 1,702,611,408	\$ 1,619,787,585	5.1%
4. Present value of accumulated benefits (FASB No. 35)	\$ 5,111,634,479	\$ 4,855,671,777	5.3%
a. Funded ratio - actuarial value	105.9%	110.3%	(4.0%)
b. Funded ratio - market value	100.3%	95.1%	5.5%

² GASB No. 25 Basis.

Funding Results

Comparative Summary of Principal Valuation Results (*continued*)

	Actuarial Valuation as of		July 1, 2003		Percent Change in Amount
	July 1, 2004	% of Covered Comp.	Amount	% of Covered Comp.	
	Amount		Amount		
Summary of Contribution Requirements					
1. Annual covered compensation for members included in valuation	\$ 1,383,965,233	N/A	\$ 1,411,719,256	N/A	(2.0%)
2. Total normal cost mid-year	\$ 155,820,179	11.3%	\$ 158,466,716	11.2%	(1.7%)
3. Unfunded actuarial accrued liability	\$ 1,702,611,408	123.0%	\$ 1,619,787,585	114.7%	5.1%
4. Amortization of unfunded actuarial accrued liability over 40 years from July 1, 1987 mid-year	\$ 152,055,633	11.0%	\$ 142,337,075	10.1%	6.8%
5. Budgeted expenses provided by the System	\$ 7,947,782	0.6%	\$ 6,723,945	0.5%	18.2%
6. Total required contribution (2. + 4. + 5.)	\$ 315,823,594	22.8%	\$ 307,527,736	21.8%	2.7%
7. Estimated member contribution	\$ 49,779,150	3.6%	\$ 50,488,834	3.6%	(1.4%)
8. Required state contribution to amortize unfunded actuarial accrued liability over 40 years from July 1, 1987 at mid-year (6.-7.)	\$ 266,044,444	19.2%	\$ 257,038,902	18.2%	3.5%
9. Previous year's actual contribution					
a. Member	\$ 48,469,861	3.4% ³	\$ 50,101,133	3.5% ³	(3.3%)
b. Employer	\$ 133,522,780	9.5% ³	\$ 137,549,234	9.5% ³	(2.9%)
c. Total	\$ 181,992,641	12.9% ³	\$ 187,650,367	12.9% ³	(3.0%)

³ Percent of previous years' annual compensation for active members (\$1,411,719,256 at July 1, 2003 and \$1,450,317,127 at July 1, 2002).

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, 2004</u>	<u>July 1, 2003</u>
1. Actuarial present value of benefits		
a. Active members ⁴	\$ 4,638,661,503	\$ 4,711,312,044
b. Terminated vested members ⁵	346,302,909	310,948,613
c. Retirees, disableds and joint annuitants/surviving spouses	3,290,004,526	3,147,567,491
d. Total (a. + b. +c.)	\$ 8,274,968,938	\$ 8,169,828,148
2. Actuarial present value of future normal costs	\$ 1,160,190,733	\$ 1,195,244,792
3. Total actuarial accrued liability (1 - 2)	\$ 7,114,778,205	\$ 6,974,583,356
4. Actuarial value of assets	\$ 5,412,166,797	\$ 5,354,795,771
5. Unfunded actuarial accrued liability (3. - 4., not less than \$0)	\$ 1,702,611,408	\$ 1,619,787,585

⁴ Includes \$17,294,606 for 747 members who have not completed applications as of July 1, 2004 and \$23,903,979 for 916 members who have not completed applications as of July 1, 2003.

⁵ Includes \$14,587,367 for unclaimed contributions, \$104,991,663 for 1,300 assumed deferred vested employees, and \$1,146,393 for the limited additional retirement benefits as of July 1, 2004. 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.

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, 2004.

1. Expected actuarial accrued liability		
a. Actuarial accrued liability at July 1, 2003	\$	6,974,583,356
b. Normal cost at July 1, 2003		152,739,003
c. Interest on a. + b. to end of year		534,549,177
d. Benefit payments for fiscal year ending June 30, 2004, with interest to end of year		(319,169,851)
e. Expected actuarial accrued liability before changes (a. + b. + c. + d.)	\$	7,342,701,685
f. Change in actuarial accrued liability at July 1, 2004, due to change in plan provisions		4,428,527
g. Expected actuarial accrued liability at July 1, 2004 (e. + f.)	\$	7,347,130,212
2. Actuarial accrued liability at July 1, 2004	\$	7,114,778,205
3. Actuarial liability gain/(loss) (1.g. - 2)	\$	232,352,007
4. Expected actuarial value of assets		
a. Actuarial value of assets at July 1, 2003	\$	5,354,795,771
b. Interest on a. to end of year		401,609,683
c. Contributions made for fiscal year ending June 30, 2004		181,992,641
d. Interest on c. to end of year		6,824,724
e. Benefit payments and administrative expenses for fiscal year ending June 30, 2004, with interest to end of year		(322,794,257)
f. Expected actuarial value of assets at July 1, 2004 (a. + b. + c. + d. + e.)	\$	5,622,428,562
5. Actuarial value of assets as of July 1, 2004	\$	5,412,166,797
6. Actuarial asset gain/(loss) (5. - 4f.)	\$	(210,261,765)
7. Net actuarial gain/(loss) (3. + 6.)	\$	22,090,242

COLA Reserve

1. Reserve as of July 1, 2003	\$	57,673,705
2. Interest at 7.5%		4,325,528
3. Reserve increment		62,050,721
4. Expected reserve as of July 1, 2004		124,049,954
5. Ad hoc cost of living increase during 2003/2004		127,549,954
6. Actual reserve on July 1, 2004 (4. less 5., not less than \$0)	\$	0

Funding Results

Normal Cost

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

Component	July 1, 2004	July 1, 2003
Retirement benefits	\$ 105,778,625	\$ 107,524,975
Withdrawal benefits	15,896,237	16,181,096
Disability benefits	5,189,058	5,275,500
Death benefits	5,404,534	5,433,860
Refunds	6,383,833	6,529,960
Supplemental medical insurance premiums	9,602,691	9,540,095
Normal cost for people who have not submitted an application	1,933,146	2,253,517
Total normal cost at beginning of year	\$ 150,188,124	\$ 152,739,003
Total normal cost at mid year	\$ 155,820,179	\$ 158,466,716
Normal cost rate at mid year	11.26%	11.23%
Annual covered payroll	\$ 1,383,965,233	\$ 1,411,719,256
Portion of normal cost for hazardous duty employees		
Normal cost at mid year	\$ 19,513,401	
Annual covered payroll	157,357,723	
Normal cost rate at mid year	12.40%	
Portion of normal cost for elected officials		
Normal cost at midyear	\$ 8,245,964	
Annual covered payroll	32,205,389	
Normal cost rate at midyear	25.60%	

Funding Results

Contributions

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

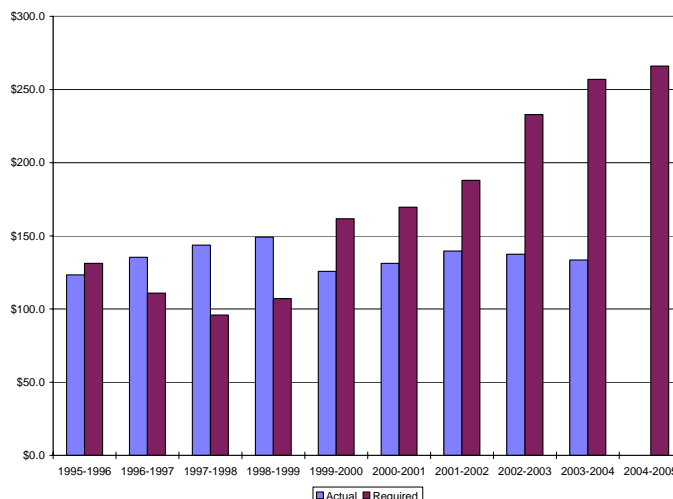
Effective July 1, 1998, State employees pay 3.0% of covered compensation up to \$25,000 per year and 3.5% of covered compensation over \$25,000. Local government employees contribute from 3.5% to 8.5% of covered compensation, depending on the rate chosen by their employers. Elected officials and employees 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 (23 years remaining as of July 1, 2004).

As of July 1, 1999, the State’s employer contribution was reduced to 10.0% of covered compensation. As of July 1, 2005, the State’s contribution rate is scheduled to increase to 11.5% of covered compensation and will increase an additional 1% of covered compensation each July 1 until it reaches 16.5% on July 1, 2010. It is scheduled to remain at 16.5% 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 to 15.0% on July 1, 2005 and to increase 1% of covered compensation each year beginning July 1, 2006 until it reaches 20.0% on July 1, 2010.

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 two-thirds 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)⁶

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, 2004. The "Retirees" column shows benefits expected to be paid to all other members. This includes those who, as of July 1, 2004, are receiving benefit payments or who terminated employment and are entitled to a deferred vested benefit.

Fiscal Year Ending	Actives	Retirees ⁷	Total
6/30/2005	\$ 29,686,584	\$ 316,193,863	\$ 345,880,447
6/30/2006	51,697,901	316,319,769	368,017,670
6/30/2007	74,205,405	316,187,840	390,393,245
6/30/2008	98,673,541	315,802,772	414,476,313
6/30/2009	125,863,120	315,355,132	441,218,252
6/30/2010	155,172,066	314,578,987	469,751,053
6/30/2011	186,311,059	313,292,042	499,603,101
6/30/2012	218,762,766	311,669,193	530,431,959
6/30/2013	252,525,083	309,666,603	562,191,686
6/30/2014	288,033,750	307,241,852	595,275,602

Expected Three-Year Cash Flow on Supplemental Medical Insurance Premiums

Fiscal Year Ending	Actives	Retirees	Total
6/30/2005	\$ 1,894,106	\$ 18,108,042	\$ 20,002,148
6/30/2006	3,527,994	17,692,228	21,220,222
6/30/2007	5,153,135	17,269,336	22,422,471

⁶ Includes medical insurance premium to retirees.

⁷ Includes disabled members, surviving spouses, and terminated vested members.

Funding Results

Liability Detail

Actuarial Accrued Liability	July 1, 2004	July 1, 2003
1. Actives		
a. Retirement benefits	\$ 3,037,679,524	\$ 3,062,449,201
b. Withdrawal benefits	132,909,289	141,080,549
c. Disability benefits	99,269,276	101,389,335
d. Death benefits	100,306,224	101,120,100
e. Refunds	(33,056,513)	(34,829,839)
f. Supplemental medical insurance premiums	138,811,656	138,507,607
g. Liability for people who have not submitted an application	2,551,314	6,350,299
h. Total	\$ 3,478,470,770	\$ 3,516,067,252
2. Inactives		
a. Terminated vested members	\$ 297,734,900	\$ 265,007,480
b. Unclaimed contributions	14,587,367	13,678,079
c. Retired members	2,868,962,532	2,694,938,714
d. Disabled members	106,329,253	102,012,505
e. Joint annuitants/surviving spouses	168,652,156	149,505,798
f. Supplemental medical insurance premiums	178,894,834	174,529,327
g. Refund of excess contributions for terminated vested members	1,146,393	1,170,496
h. COLA reserve	0	57,673,705
i. Total	\$ 3,636,307,435	\$ 3,458,516,104
3. Actuarial Accrued Liability	\$ 7,114,778,205	\$ 6,974,583,356
Normal Cost		
1. Retirement benefits	\$ 105,778,625	\$ 107,524,975
2. Withdrawal benefits	15,896,237	16,181,096
3. Disability benefits	5,189,058	5,275,500
4. Death benefits	5,404,534	5,433,860
5. Refunds	6,383,833	6,529,960
6. Supplemental medical insurance premiums	9,602,691	9,540,095
7. People who have not submitted an application	1,933,146	2,253,517
8. Total	\$ 150,188,124	\$ 152,739,003

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, 2004	July 1, 2003
Vested benefits		
▪ Active members ⁸	\$ 1,521,811,949	\$ 1,474,995,952
▪ Terminated vested members ⁹	267,539,078	238,763,020
▪ Retirees and joint annuitants/surviving spouses	2,698,711,721	2,522,114,276
▪ Supplemental medical insurance premiums	284,384,536	279,002,377
Total vested benefits	\$ 4,772,447,284	\$ 4,514,875,625
Nonvested benefits	339,187,195	340,796,152
Total accumulated System benefits	\$ 5,111,634,479	\$ 4,855,671,777
Assumed rate of interest	7.50%	7.50%
Market value of assets available for benefits	\$ 5,126,418,028	\$ 4,619,063,143
Funded ratio	100.3%	95.1%
Change in accumulated System benefits due to:		
▪ Assumption changes	\$ 0	\$ 0
▪ System provision changes	\$ 3,872,519	\$ 0
Number of Members	July 1, 2004	July 1, 2003
Vested members		
▪ Active members	21,863	21,863
▪ Terminated vested members	5,482	5,288
▪ Retirees and joint annuitants/surviving spouses	22,990	22,147
Total vested members	50,335	49,298
Nonvested members	21,137	21,487
Total members	71,472	70,785

⁸ Includes \$784,451 for 747 members who had not completed applications as of July 1, 2004 and \$2,306,807 for 916 members who have not completed applications as of July 1, 2003.

⁹ Includes \$14,587,367 for unclaimed contributions and \$1,146,393 for the limited additional retirement benefit as of July 1, 2004. Includes \$13,678,079 for unclaimed contributions and \$1,170,496 for the limited additional retirement benefit as of July 1, 2003.

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, 2003	\$ 4,855,671,777
Increase/(decrease) during year attributable to:	
▪ Normal cost and (gains)/losses	\$ 207,084,650
▪ Increase for interest due to decrease in discount period	352,639,124
▪ Benefits paid	(307,633,591)
▪ Plan provision change	3,872,519
Net increase/(decrease)	\$ 255,962,702
Actuarial present value of accumulated System benefits as of July 1, 2004	\$ 5,111,634,479

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)
7/1/1999	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%
7/1/2004	5,412,166,797	7,114,778,205	1,702,611,408	76.1%	1,383,965,233	123.0%

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
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%
2004	257,038,902	51.9%

System Assets

Summary of Assets

Asset Category	Market Value as of June 30, 2004	Market Value as of June 30, 2003
1. Cash and short-term investments		
a. Cash and short-term investments	\$ 287,229,469	\$ 381,712,396
2. Receivables		
a. Interest and dividends	19,484,131	17,501,741
b. Member contributions	1,112,144	780,414
c. Employer contributions	2,844,645	1,836,326
d. Due from brokers for securities sold	217,041,306	417,203,354
e. Total	\$ 240,482,226	\$ 437,321,835
3. Investments at fair value		
a. Government bonds	1,446,162,605	1,075,350,357
b. Corporate bonds	556,088,898	641,960,470
c. Domestic stocks	2,594,844,949	2,057,782,665
d. Foreign stocks	478,939,730	578,573,549
e. Total	\$ 5,076,036,182	\$ 4,353,667,041
4. Other assets		
a. Other assets	315,071	180,298
5. Assets used in System operations		
a. Property and equipment	328,826	353,735
6. Total assets	\$ 5,604,391,774	\$ 5,173,235,305
7. Liabilities		
a. Due to brokers and investment managers	(477,973,746)	(554,172,162)
b. Accounts payable and accrued expenses	0	0
c. Benefits payable	0	0
d. Total liabilities	\$ (477,973,746)	\$ (554,172,162)
8. Net assets available for pension benefits	\$ 5,126,418,028	\$ 4,619,063,143

System Assets

Reconciliation of Assets

Transactions	Fiscal Year Ended June 30, 2004	Fiscal Year Ended June 30, 2003
Additions		
1. Contributions		
a. Contributions from System members	\$ 48,469,861	\$ 50,101,133
b. Contributions from employers	133,522,780	137,549,234
c. Total	\$ 181,992,641	\$ 187,650,367
2. Net investment income		
a. Interest	\$ 85,953,682	\$ 96,570,709
b. Dividends	19,229,959	14,031,903
c. Realized and unrealized appreciation	536,405,501	134,115,921
d. Security lending activities	1,142,635	939,605
e. Other	60,697	193,350
f. Total	\$ 642,792,474	\$ 245,851,488
g. Investment expense	(6,303,235)	(5,489,820)
h. Net investment income	\$ 636,489,239	\$ 240,361,668
3. Total additions	\$ 818,481,880	\$ 428,012,035
Deductions		
4. Retirement, death and survivor benefits	\$ (297,799,619)	\$ (282,519,128)
5. Refund of contributions	(9,833,972)	(8,809,116)
6. Administrative expenses	(3,493,404)	(3,166,764)
7. Total deductions	\$ (311,126,995)	\$ (294,495,008)
8. Change in assets not available for benefits	0	0
9. Net increase	\$ 507,354,885	\$ 133,517,027
10. Net assets held in trust for pension benefits		
a. Beginning of year	\$ 4,619,063,143	\$ 4,485,546,116
b. End of year	\$ 5,126,418,028	\$ 4,619,063,143
Reconciliation of Actuarial Value and Market Value		
Actuarial asset value	\$ 5,412,166,797	\$ 5,354,795,771
Deferred gain/(loss)	(285,748,769)	(735,732,628)
Market value	\$ 5,126,418,028	\$ 4,619,063,143

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
1999/2000	\$ 159,231,381	\$ 127,385,104	\$ 31,846,277	\$ 0
2000/2001	(666,007,650)	(399,604,590)	(133,201,530)	(133,201,530)
2001/2002	(631,139,394)	(252,455,758)	(126,227,879)	(252,455,757)
2002/2003	(153,115,261)	(30,623,052)	(30,623,052)	(91,869,157)
2003/2004	239,722,094	0	47,944,419	191,777,675
Total	\$ (1,051,308,830)	\$ (555,298,296)	\$ (210,261,765)	\$ (285,748,769)

Development of Actuarial Value of Assets

1. Actuarial value as of July 1, 2003	\$ 5,354,795,771
2. Contributions	
a. Member	48,469,861
b. Employer	133,522,780
c. Total (a. + b.)	\$ 181,992,641
3. Decreases during year	
a. Benefit payments	(297,799,619)
b. Return of member contributions	(9,833,972)
c. Noninvestment expenses	(3,493,404)
d. Total (a. + b. + c.)	\$ (311,126,995)
4. Expected return at 7.5% on:	
a. Item 1	401,609,683
b. Item 2 (one-half year)	6,824,724
c. Item 3 (one-half year)	(11,667,262)
d. Total (a. + b. + c.)	\$ 396,767,145
5. Expected actuarial value of assets June 30, 2004 (1. + 2. + 3. + 4.)	\$ 5,622,428,562
6. Unrecognized asset gain/(loss) as of June 30, 2003	(735,732,628)
7. Expected actuarial value June 30, 2004, plus previous year's unrecognized asset gain/(loss) (5. + 6.)	\$ 4,886,695,934
8. Market value June 30, 2004	5,126,418,028
9. 2003/2004 asset gain/(loss) (8. - 7.)	\$ 239,722,094
10. Asset gain/(loss) to be recognized as of June 30, 2004	(210,261,765)
11. Initial actuarial value July 1, 2004 (5. + 10.)	\$ 5,412,166,797
12. Constraining values:	
a. 80% of market value (8. x .8)	\$ 4,101,134,422
b. 120% of market value (8. x 1.2)	\$ 6,151,701,634
13. Actuarial value as of July 1, 2004 <i>(11.), but no less than (12a.), nor greater than (12b.)</i>	\$ 5,412,166,797

System Assets

Average Annual Rates of Investment Return

The annual return on market value shown below is the return on the actual value of System assets during the year. The actuarial value of assets amortizes the difference between each year's actual return on assets and the 7.5% assumption used for the valuation. The annual return on actuarial value reflects this amortization.

The Average Return Since Fiscal Year columns show the average annual return after that fiscal year. For instance, the average return of market value shown for the year 2000 is 3.3%. This is the average annual return for the five years beginning with the fiscal year ended June 30, 2000 and ending with the fiscal year ended June 30, 2004. Over time, the average return on actuarial value and the average return on market value should converge.

Fiscal Year Ending June 30	Actuarial Value		Market Value	
	Annual	Average Return Since Fiscal Year	Annual	Average Return Since Fiscal Year
1995	10.0%	9.9%	16.6%	9.2%
1996	11.7%	9.8%	15.0%	8.4%
1997	13.2%	9.6%	18.6%	7.6%
1998	14.4%	9.1%	18.3%	6.1%
1999	15.0%	8.3%	9.2%	4.2%
2000	13.8%	6.9%	9.9%	3.3%
2001	9.4%	5.3%	(6.0%)	1.7%
2002	5.3%	4.0%	(5.3%)	4.4%
2003	3.1%	3.3%	5.4%	9.6%
2004	3.5%	3.5%	14.0%	14.0%

Participant Data

Member Data Reconciliation

	<u>Receiving Benefits</u>					
	Active Members	With Deferred Benefits	Retired Members	Disabled Members	Joint Annuitants and Surviving Spouses	Total Members
As of July 1, 2003	43,350	5,288	19,023	1,151	1,973	70,785
Age retirements	(1,158)	(213)	1,371			0
Disability retirements	(62)	(40)	(6)	108		0
Deaths without payments continuing	(64)	(8)	(577)	(40)	(85)	(774)
Deaths with payments continuing	(32)	(17)	(164)	(16)	229	0
Nonvested terminations	(3,162)					(3,162)
Vested terminations	(690)	690				0
Refund of contributions		(131)				(131)
Transfers						0
Data corrections	3 ¹⁰	29 ¹¹	24 ¹²	2 ¹³	2 ¹⁴	60
Rehires	671	(116)	(5)			550
Net	(4,494)	194	643	54	146	(3,457)
New entrants during the year	3,832	0	0	0	0	3,832
No applications	312	0	0	0	0	312
Net change	(350)	194	643	54	146	687
As of July 1, 2004	43,000	5,482	19,666	1,205	2,119	71,472

¹⁰ 1 person was listed as an active this year and was reported as a death last year, 2 people were listed as no applications this year and were reported as retirees last year.

¹¹ 29 people were shown as unclaimed contributions in the last valuation and are now shown on the vested tape.

¹² 24 people were shown as unclaimed contributions in the last valuation and are now valued as retired; 1 person was listed as a term non-vested participant last year and this year was reported as a retiree; 1 person was not reported last year, 2 people were listed as no applications this year and were reported as retirees last year.

¹³ 2 people were shown as unclaimed contributions in the last valuation and are now valued as disabled members.

¹⁴ 6 people were shown as an unclaimed contributions in the last valuation and are now reported as beneficiaries. 4 people were reported as beneficiaries in the last valuation and were not shown on the retired tape this year.

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	63									63
20 - 24	1,332	23								1,355
25 - 29	2,385	532	4							2,921
30 - 34	2,115	1,368	269	17						3,769
35 - 39	1,803	1,321	837	445	33					4,439
40 - 44	1,946	1,277	947	1,182	784	83				6,219
45 - 49	1,782	1,254	965	1,105	1,091	655	112			6,964
50 - 54	1,401	1,216	977	1,066	935	798	423	41		6,857
55 - 59	1,068	999	843	993	729	380	396	159	16	5,583
60 - 64	539	632	497	529	346	195	125	70	38	2,971
65 - 69	134	182	167	147	76	42	23	10	14	795
70 - 74	45	48	54	33	29	9	8	4	7	237
75+	18	18	7	14	11	5	3	2	2	80
Total	14,631	8,870	5,567	5,531	4,034	2,167	1,090	286	77	42,253
										<u>747¹⁵</u>
										43,000

Average Compensation ¹⁶

Age	Years of Service									Total
	0 - 4	5 - 9	10 -14	15 -19	20 - 24	25 - 29	30 - 34	35 - 39	40+	
Under 20	17,608									17,608
20 - 24	21,400	22,948								21,426
25 - 29	25,620	29,342	31,688							26,306
30 - 34	26,198	31,737	32,315	35,777						28,688
35 - 39	27,012	32,097	35,591	36,334	36,841					31,150
40 - 44	26,968	31,055	35,348	38,930	37,493	36,913				32,816
45 - 49	27,492	31,744	34,566	37,805	39,618	39,211	37,631			34,039
50 - 54	28,502	31,947	34,298	36,606	39,058	41,405	41,665	38,908		35,014
55 - 59	28,460	31,053	34,042	36,335	38,426	40,415	43,250	43,084	61,738	34,843
60 - 64	27,186	30,830	33,599	35,708	38,546	36,120	42,719	42,205	48,098	33,736
65 - 69	29,140	30,616	33,314	33,561	35,640	36,408	36,879	36,527	47,930	32,825
70 - 74	25,611	27,568	30,229	36,014	38,261	29,549	47,420	52,952	54,066	32,244
75+	24,604	32,039	44,937	28,266	42,445	40,097	65,144	45,692	13,264	33,883
Total	26,436	31,369	34,463	37,078	38,668	39,771	41,953	42,197	50,539	32,325¹⁶

¹⁵ Members without applications

¹⁶ Average compensation for members without applications is \$23,737. The average for all members including the members without applications is \$32,185.

Participant Data

Members in Pay Status - Annual Benefits

Age	Retirees		Joint Annuitants & Surviving Spouses		Disabled Members		Current Payment Total	
	No.	Benefit	No.	Benefit	No.	Benefit	No.	Benefit
Under 51	78	1,611,094	69	629,614	138	1,133,168	285	3,373,876
51	35	808,961	11	109,920	35	314,097	81	1,232,978
52	59	1,353,226	14	148,567	27	262,371	100	1,764,164
53	103	2,429,683	11	57,253	46	413,214	160	2,900,150
54	115	2,687,958	19	172,993	53	477,815	187	3,338,766
55	207	4,329,462	21	273,988	59	627,086	287	5,230,536
56	291	5,598,831	32	332,408	61	536,890	384	6,468,129
57	348	6,395,161	23	232,993	61	580,557	432	7,208,711
58	361	6,388,943	30	277,546	68	569,769	459	7,236,258
59	342	6,215,106	35	291,095	53	430,539	430	6,936,740
60	447	7,881,874	44	362,090	62	404,399	553	8,648,363
61	553	9,536,941	48	449,033	73	593,652	674	10,579,626
62	567	9,231,828	55	433,461	69	591,969	691	10,257,258
63	791	11,877,092	49	459,827	49	357,054	889	12,693,973
64	793	11,804,840	54	434,476	57	452,250	904	12,691,566
65	786	11,248,805	61	558,271	41	307,656	888	12,114,732
66	828	11,194,773	68	591,779	43	322,191	939	12,108,743
67	813	11,353,052	68	563,750	35	299,303	916	12,216,105
68	820	10,543,776	56	561,136	27	168,417	903	11,273,329
69	864	10,926,681	80	662,093	26	172,474	970	11,761,248
70	876	11,127,243	85	609,131	26	212,704	987	11,949,078
71	736	9,432,913	77	657,888	29	225,094	842	10,315,895
72	784	9,713,187	73	572,376	17	131,291	874	10,416,854
73	739	8,883,328	68	624,613	13	100,161	820	9,608,102
74	697	8,474,361	81	634,318	19	133,716	797	9,242,395
75	679	8,229,273	72	590,754	12	104,269	763	8,924,296
76	620	6,900,697	85	654,638	5	37,169	710	7,592,504
77	586	7,174,115	86	739,191			672	7,913,306
78	587	6,806,960	83	628,192			670	7,435,152
79	525	5,862,725	77	711,998			602	6,574,723
80	493	5,386,877	66	542,239			559	5,929,116
81	484	5,456,929	55	461,460	1	6,769	540	5,925,158
82	388	4,504,263	46	347,239			434	4,851,502
83	428	4,601,984	54	354,824			482	4,956,808
84	311	3,389,121	47	290,509			358	3,679,630
85	261	2,650,224	43	281,566			304	2,931,790
86	245	2,284,502	27	143,306			272	2,427,808
87	204	1,964,641	21	115,319			225	2,079,960
88	177	1,652,557	25	180,105			202	1,832,662
89	114	1,042,568	23	182,895			137	1,225,463
90	130	1,222,691	21	128,472			151	1,351,163
Over 90	401	3,731,145	56	303,868			457	4,035,013
Total	19,666	\$ 263,910,392	2,119	\$ 17,357,194	1,205	\$ 9,966,044	22,990	\$ 291,233,630

Participant Data

Terminated Vested Members - Deferred Annual Benefits

Age	Members With Deferred Benefits	
	No.	Benefit
Under 41	552	\$ 5,144,859
41	169	1,755,946
42	173	1,717,580
43	174	1,840,787
44	201	1,806,071
45	231	2,104,361
46	220	2,217,375
47	262	2,593,041
48	287	2,740,957
49	273	2,786,269
50	312	3,379,943
51	296	3,272,202
52	283	2,938,378
53	288	3,084,488
54	310	3,017,742
55	274	2,472,015
56	256	2,189,537
57	233	2,268,049
58	199	1,476,080
59	131	1,107,960
60	135	974,604
61	113	883,985
62	71	416,801
63	9	126,882
64	10	154,740
65	5	46,298
66	3	8,868
67	1	55,890
68	2	8,064
69	3	78,879
70	0	0
Over 70	6	82,251
Total	5,482	\$ 52,750,902

Participant Data

Member Statistics

Inactive Members as of July 1, 2004	No.	Amount of Annual Benefit ¹⁷	
Members Receiving Benefits			
▪ Retired	19,666	\$	263,910,392
▪ Joint annuitants and surviving spouses	2,119		17,357,194
▪ Disabled	1,205		9,966,044
Total	22,990	\$	291,233,630

Members with Deferred Benefits			
▪ Vested terminated	4,182	\$	32,004,615
▪ Assumed deferred vested members ¹⁸	1,300		20,746,287
Total	5,482	\$	52,750,902

Statistics for	No.	Age	Average		
			Service		Earnings
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
Active members as of July 1, 2004					
▪ Continuing	37,973	46.8	11.9	\$	33,304
▪ New	5,027	37.4	1.0	\$	23,737
Total	43,000	45.7	10.6	\$	32,185

¹⁷ Does not include monthly medical insurance premium.

¹⁸ Estimated benefits.

Participant Data

Data Tape Reconciliation

	Active	Retired	Vested Terminations	Total
Records submitted on data tape	42,338	37,431	4,211	83,980
Passed without alteration	42,253	22,990	4,182	69,425
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	42,253	22,990	4,182	69,425
Other members included	747 ¹⁹	0	1,300 ²²	2,047
Total valued	43,000	22,990	5,482	71,472
Number deleted	85 ²⁰	14,441 ²¹	29 ²³	14,555
Number added	747	0	1,300	2,047

¹⁹ Members who have not completed applications.

²⁰ 6 members were on the vested tape; they were assumed to be a vested termination. 75 members were on the retired tape; they were assumed to be receiving payments. 4 members were on the unclaimed tape, and 2 of these were assumed deferred vesteds.

²¹ 14,441 people were marked as deaths without a beneficiary receiving a payment.

²² Assumed deferred vesteds.

²³ 29 members were on the retired tape; they were assumed to be receiving payments.

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, 2004 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

Investment return 7.5% net of investment expenses per annum, compounded annually

Earnings progression Sample rates below (midpoint of range shown):

Nearest 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

Ad hoc benefit increase assumption

Monthly benefits 2% per year (two-thirds of the inflation assumption)

Medical supplement No increases assumed

Projection of 401(a)(17) compensation limit 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>Nearest 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
officers*

		Annual Rates of Retirement Per 100 Eligible Members	
		Nearest	Less Than 20 Years of
<u>Service</u>	<u>Rate</u>	<u>Age</u>	<u>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

Department of Corrections

For Department of Corrections officers, we assumed the mortality rate is 10% higher than the above table while the participant is active. This 10% is assumed to be in-line-of-duty.

Actuarial Basis

Summary of Actuarial Assumptions (continued)

Demographic Assumptions (continued)

Disability rates

Graduated rates

Disabled rates per 100 members

<u>Nearest 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

Children

Special death benefits are provided upon the in-line-of-duty death of Department of Corrections employees who have young children. We have assumed the average age of the youngest child of such employees is nine and that 50% of such children will attend an institution of higher education to age 22.

Form of Payment

Participants are assumed to elect a life-only form of payment and are assumed to not elect a return of contributions if they are vested.

Actuarial Basis

Summary of Actuarial Assumptions (continued)

Other Assumptions

Assumed age of commencement for deferred benefits

Currently active members assumed to terminate in the future prior to retirement eligibility are assumed to commence benefits at age 62 (non-elected members) or age 60 (elected members). Currently inactive members with deferred benefits are assumed to commence benefits on a date provided by OPERS.

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)*

<i>Employer and employee contributions (continued)</i>	State Employee Contributions for Pay Under \$25,000			
	Fiscal Year	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	11.5%	3.0%	14.5%	No Cap
2007-2008	12.5%	3.0%	15.5%	No Cap
2008-2009	13.5%	3.0%	16.5%	No Cap
2009-2010	14.5%	3.0%	17.5%	No Cap
2010-2011	15.5%	3.0%	18.5%	No Cap
2011-2012	16.5%	3.0%	19.5%	No Cap

	State Employee Contributions for Pay Between \$25,000 and Cap			
	Fiscal Year	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	11.5%	3.5%	15.0%	No Cap
2007-2008	12.5%	3.5%	16.0%	No Cap
2008-2009	13.5%	3.5%	17.0%	No Cap
2009-2010	14.5%	3.5%	18.0%	No Cap
2010-2011	15.5%	3.5%	19.0%	No Cap
2011-2012	16.5%	3.5%	20.0%	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)*

<p><i>Service considered (continued)</i> <i>Participating service</i></p>	<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>
<p><i>Credited Service</i></p>	<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>
<p><i>Compensation considered</i></p>	<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>
<p><i>Final average compensation</i></p>	<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)*

<i>Normal retirement date</i>	<p>Normal retirement is the earliest of: first day of the month coinciding with or next following the 62nd birthday; <u>or</u>, 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).</p>														
<i>Normal retirement benefit</i>	<p>The benefit on or after normal retirement, payable monthly for life to non-elected members, is as follows:</p> <p style="text-align: center;">2% of final average compensation up to applicable maximum compensation multiplied by all service.</p> <p>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 (based on the applicable contribution rate):</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">% of Compensation <u>Contributed</u></th> <th style="text-align: center;">% of Highest Annual <u>Compensation</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">4.5%</td> <td style="text-align: center;">1.9%</td> </tr> <tr> <td style="text-align: center;">6.0</td> <td style="text-align: center;">2.5</td> </tr> <tr> <td style="text-align: center;">7.5</td> <td style="text-align: center;">3.0</td> </tr> <tr> <td style="text-align: center;">8.5</td> <td style="text-align: center;">3.4</td> </tr> <tr> <td style="text-align: center;">9.0</td> <td style="text-align: center;">3.6</td> </tr> <tr> <td style="text-align: center;">10.0</td> <td style="text-align: center;">4.0</td> </tr> </tbody> </table> <p>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.</p>	% of Compensation <u>Contributed</u>	% of Highest Annual <u>Compensation</u>	4.5%	1.9%	6.0	2.5	7.5	3.0	8.5	3.4	9.0	3.6	10.0	4.0
% of Compensation <u>Contributed</u>	% of Highest Annual <u>Compensation</u>														
4.5%	1.9%														
6.0	2.5														
7.5	3.0														
8.5	3.4														
9.0	3.6														
10.0	4.0														

Actuarial Basis

Summary of System Provisions *(continued)*

<i>Early retirement benefit</i>	<p>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:</p>			
	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
<i>Disability benefit</i>	<p>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 after 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.</p> <p>Option A is the only available form of payment.</p>			
<i>Vested benefit</i>	<p>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.</p> <p>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.</p>			

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 any member employed by the Department of Corrections (DOC) killed or mortally wounded during the performance of duty are equal to 2.5% of final average monthly compensation multiplied by the greater of the member’s actual service or 20 years. Members eligible for these benefits with at least five years of experience in their positions remain eligible to retire after 20 years even if they transfer to positions within DOC that are not eligible to retire after 20 years.

In addition, an amount of \$400 per month will be paid as long as a child of the deceased member is under the age of 18 (or 22 if enrolled full-time at an institution of higher education).

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%	
	First 20 Years of <u>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, 2004, for the fiscal year ending June 30, 2005. The results of the valuation are set forth in this report, which reflects legislation effective on July 1, 2004.

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, 2004 valuation.

The results shown in this Addendum are not consistent with those in the July 1, 2004 valuation. The July 1, 2004 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, 2004 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 A. Hradek, FSA, EA

Date

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Date

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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, 2004	July 1, 2003	Amount	Percent
Summary of Costs				
Required employer contribution for current year	\$ 273,089,154	\$ 268,764,631	\$ 4,324,523	1.6%
Actual employer contributions received in prior year	133,522,780	137,549,234	(4,026,454)	(2.9%)
Funded Status				
Actuarial accrued liability	\$ 7,278,338,079	\$ 7,150,738,150	\$ 127,599,929	1.8%
Actuarial value of assets	5,412,166,797	5,354,795,771	57,371,026	1.1%
Unfunded actuarial accrued liability	\$ 1,866,171,282	\$ 1,795,942,379	\$ 70,228,903	3.9%
Market Value of Assets and Additional Liabilities				
Market value of assets	\$ 5,126,418,028	\$ 4,619,063,143	\$ 507,354,885	11.0%
Present value of projected System benefits	8,499,288,630	8,413,157,842	86,130,788	1.0%

Addendum

Summary of Valuation Results Under Prescribed Assumptions (*continued*)

	Actuarial Valuation as of		July 1, 2003		Percent Change in Amount
	July 1, 2004		July 1, 2003		
	Amount	% of Covered Comp.	Amount	% of Covered Comp.	
Summary of Contribution Requirements					
1. Annual covered compensation for members included in valuation	\$ 1,383,965,233	N/A	\$ 1,411,719,256	N/A	(2.0%)
2. Total normal cost mid-year	162,421,506	11.7%	165,769,441	11.7%	(2.0%)
3. Unfunded actuarial accrued liability	1,866,171,282	134.8%	1,795,942,379	127.2%	3.9%
4. Amortization of unfunded actuarial accrued liability over 30 years	152,499,016	11.0%	146,760,079	10.4%	3.9%
5. Budgeted expenses provided by the System	7,947,782	0.6%	6,723,945	0.5%	18.2%
6. Total required contribution (2. + 4. + 5.)	\$ 322,868,304	23.3%	\$ 319,253,465	22.6%	1.1%
7. Estimated member contribution	49,779,150	3.6%	50,488,834	3.6%	(1.4%)
8. Required employer contributions (not less than \$0) (6. - 7.)	\$ 273,089,154	19.7%	\$ 268,764,631	19.0%	1.6%
9. Previous year's actual contribution					
a. Member	48,469,861	3.4% ²⁴	50,101,133	3.5% ²⁴	(3.3%)
b. Employer	133,522,780	9.5% ²⁴	137,549,234	9.5% ²⁴	(2.9%)
c. Total	181,992,641	12.9% ²⁴	187,650,367	12.9% ²⁴	(3.0%)

²⁴ Percent of previous years' annual compensation for active members (\$1,411,719,256 at July 1, 2003 and \$1,450,317,127 at July 1, 2002).

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.

	<u>July 1, 2004</u>	<u>July 1, 2003</u>
1. Actuarial present value of benefits		
a. Active members ²⁵	\$ 4,832,288,202	\$ 4,924,143,465
b. Terminated vested members ²⁶	357,790,543	320,007,397
c. Retirees, disableds and joint annuitants/surviving spouses	3,309,209,885	3,169,006,980
d. Total (a. + b. + c.)	\$ 8,499,288,630	\$ 8,413,157,842
2. Actuarial present value of future normal costs	1,220,950,551	1,262,419,692
3. Total actuarial accrued liability (1 - 2)	\$ 7,278,338,079	\$ 7,150,738,150
4. Actuarial value of assets	5,412,166,797	5,354,795,771
5. Unfunded actuarial accrued liability <i>(3. - 4., not less than \$0)</i>	\$ 1,866,171,282	\$ 1,795,942,379

²⁵ Includes \$18,340,675 for 747 members who have not completed applications as of July 1, 2004.

²⁶ Includes \$14,587,367 for unclaimed contributions, \$109,769,070 for 1,300 assumed deferred vested employees, and \$1,146,393 for the limited additional retirement benefits as of July 1, 2004.

Addendum

Normal Cost

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

Component	July 1, 2004	July 1, 2003
Retirement benefits	\$ 112,976,612	\$ 114,564,361
Withdrawal benefits	16,821,091	17,095,359
Disability benefits	4,683,539	5,544,504
Death benefits	3,715,214	3,749,886
Refunds	6,327,826	6,475,511
Supplemental medical insurance premiums	9,985,844	9,955,246
Normal cost for people who have not submitted an application	2,040,723	2,392,907
Total normal cost at beginning of year	\$ 156,550,849	\$ 159,777,774
Total normal cost at mid year	\$ 162,421,506	\$ 165,769,441
Normal cost rate at mid year	11.74%	11.74%
Annual covered payroll	\$ 1,383,965,233	\$ 1,411,719,256

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