

***Oklahoma Police Pension  
and Retirement System  
Actuarial Valuation Report as of  
July 1, 2003***

**BUCK  
CONSULTANTS**

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## ***HIGHLIGHTS - PURPOSE***

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This report has been prepared by Buck Consultants, Inc. for the Oklahoma Police Pension and Retirement System to:

- Present the results of a valuation of the Oklahoma Police Pension and Retirement System as of July 1, 2003;
- Review experience under the System for the year ended June 30, 2003; and
- 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 decreased since the prior valuation as indicated by the table below.

<b>GASB No. 25 Funded Status (\$000,000)</b>	<b>July 1, 2003</b>	<b>July 1, 2002</b>
Accrued Liability	\$ 1,647.0	\$ 1,554.3
Actuarial Value of Assets	\$ 1,392.0	\$ 1,370.0
Unfunded Accrued Liability	\$ 254.9	\$ 184.3
Funded Ratio	84.5%	88.1%

- The funded ratio on a SFAS No. 35 basis, measuring the market value of System assets versus the present value of benefits accrued as of the valuation date, decreased from 102.3% to 99.4%.
- The required state contribution for the System increased from \$49.6 million to \$73.0 million.

<b>Contribution Summary (\$000,000)</b>	<b>July 1, 2003</b>	<b>July 1, 2002</b>
Total Required Contribution	\$ 110.1	\$ 84.5
Expected Employee Contributions	13.6	12.8
Expected Municipality Contributions	23.5	22.1
Required State Contribution	\$ 73.0	\$ 49.6
--As a Percentage of Payroll	42.8%	30.9%

## HIGHLIGHTS - SUMMARY OF 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
<b>Summary of Costs</b>				
Required State Contribution for Current Year	\$ 72,971,931	\$ 49,594,364	\$ 23,377,567	47.1%
Actual State Contribution Received in Prior Year <sup>(1)</sup>	\$ 20,400,000	\$ 19,811,000	\$ 589,000	3.0%

<b>GASB No. 25 Funded Status</b>				
Actuarial Accrued Liability	\$ 1,646,979,675	\$ 1,554,288,324	\$ 92,691,351	6.0%
Actuarial Value of Assets	\$ 1,392,043,000	\$ 1,370,024,000	\$ 22,019,000	1.6%
Unfunded Actuarial Accrued Liability	\$ 254,936,675	\$ 184,264,324	\$ 70,672,351	38.4%

<b>Market Value of Assets and Additional Liabilities</b>				
Market Value of Assets	\$ 1,182,326,000	\$ 1,156,636,000	\$ 25,690,000	2.2%
Actuarial Present Value of Accumulated System Benefits (SFAS No. 35)	\$ 1,189,283,904	\$ 1,130,458,980	\$ 58,824,924	5.2%
Present Value of Projected System Benefits	\$ 2,071,023,181	\$ 1,964,379,002	\$ 106,644,179	5.4%

<b>Summary of Data</b>				
Number of Members in Valuation				
Active Paid Members	3,880	3,836	44	1.1%
Members with Deferred Benefits	52	52	0	0.0%
Retired Members	1,715	1,649	66	4.0%
Beneficiaries	424	403	21	5.2%
Disabled Members	151	153	(2)	(1.3%)
Deferred Option Plan Members	324	361	(37)	(10.2%)
<b>Total</b>	<b>6,546</b>	<b>6,454</b>	<b>92</b>	<b>1.4%</b>

<b>Active Member Statistics</b>				
Total Annual Compensation <sup>(2)</sup>	\$ 170,507,025	\$ 160,419,776	\$ 10,087,249	6.3%
Average Compensation <sup>(2)</sup>	\$ 43,945	\$ 41,820	\$ 2,126	5.1%
Average Age	37.1	36.7	0.4	1.1%
Average Service	9.5	9.2	0.3	3.3%

<sup>(1)</sup> For the fiscal year beginning July 1, 2003, the system will not receive any state contribution. For the fiscal years beginning July 1, 2004 and ending with June 30, 2009, the system will receive 17% of such taxes. For the fiscal year beginning July 1, 2009 and each fiscal year thereafter, the system will receive 14% of such taxes.

<sup>(2)</sup> Compensation is projected one year based on the salary increase assumptions.

## ***HIGHLIGHTS - EFFECTS OF CHANGES***

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### **Changes in Plan Provisions**

Since the last valuation, a new provision was added to allow members to retroactively elect to enter the Deferred Option Plan as of a "back-drop-date". This provision change is described in more detail in section 4.3. The retirement rates assumption was changed as a result of this provision change which resulted in the following impact.

Effect on Principal Values	Before Provision Change	Effect of Changes		After Provision Change
		Amount	Percent	
Normal Cost	\$ 47,105,091	22,346	0.0%	47,127,437
Actuarial Accrued Liability	\$ 1,641,072,337	5,907,338	0.4%	1,646,979,675
Actuarial Value of Assets	\$ 1,392,043,000	0	0.0%	1,392,043,000
Required State Contribution to Amortize Unfunded Actuarial Accrued Liability over 20 years from July 1, 1988	\$ 71,540,433	1,431,498	2.0%	72,971,931

## ***HIGHLIGHTS - EFFECTS OF CHANGES (CONTINUED)***

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### **Changes in System Benefits**

The following Legislation affecting the Oklahoma Police Pension and Retirement System became effective July 1, 2003.

- |        |   |
|--------|---|
| SB 206 | Reapportions the insurance premium taxes collected by the state. For the fiscal year ending June 30, 2004 the fund will not receive any such taxes. For the fiscal years beginning July 1, 2004 and ending June 30, 2009, the fund shall receive 17% of these collected taxes. For the fiscal year beginning July 1, 2009 and each fiscal year thereafter, the fund will receive 14% of these collected taxes.        |
| SB 645 | For members who initially join the system after June 30, 2003, military service may be acquired for a maximum of five years upon payment of the actuarial cost of the service.  |
| SB 668 | Amended the Deferred Option Plan (DOP) to allow a member to retroactively elect to join the DOP as of a back-drop-date which is no earlier than the member's normal retirement date or five years before his termination date. The monthly retirement benefits and employee contributions that would have been payable had the member elected to join the DOP are credited to the member's DOP account with interest. |

Please see page 3 for the impact due to SB 668. There was no actuarial impact from SB 645. SB 206 has no impact on the actuarially determined contribution requirement as of July 1, 2003 but will affect future funding levels of the system. This impact will be reflected in future valuations.

Other bills passed by the Legislature pertaining to the Oklahoma Police Pension and Retirement System are SB 292, SB 643, SB 665, HB 1067 and HB 1647. These bills had no impact on the funded position of the system.

## ***HIGHLIGHTS – ACTUARIAL EXPERIENCE DURING THE PLAN YEAR***

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The System experienced the following gains/(losses) during the year ending June 30, 2003. These amounts are developed in Section 1.3 of this report:

	Millions
Liability Gain	\$ 17.4
Asset Loss	\$ (65.9)
Total Loss	\$ (48.5)

## ***HIGHLIGHTS - DEFERRED OPTION PLAN***

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The Oklahoma Police Deferred Option Plan (DOP) allows employees eligible for a normal retirement benefit to defer the receipt of retirement benefits while continuing employment. Participation in the Deferred Option Plan is limited to five years. During this time, the members' contributions stop, but the employer contributes half of the regular contribution on base salary to the Police Pension and Retirement System and the other half to the members' account in the Deferred Option Plan. In addition, the monthly retirement benefits are paid into the employees' account in the Deferred Option Plan. Since the last valuation, the DOP was modified to allow members to retroactively elect to enter DOP as of a back-drop-date upon termination.

The Deferred Option Plan accounts are credited with interest at a rate of 2% less than the total fund net earnings, with a guaranteed minimum interest rate equal to the valuation interest rate of 7.5%. The accrual rate credited for the fiscal year ended June 30, 2003, was 7.5%. The assets and liabilities reflected in these results as of July 1, 2003, include the account balances for the Deferred Option Plan, as in prior valuations.

Statistics regarding the number of Deferred Option Plan members and total account balances are shown in the table below:

<b>DOP Statistics</b>	<b>July 1, 2003</b>	<b>July 1, 2002</b>
Number of DOP Members	324	361
DOP Account Balances	\$ 29.4M	\$ 28.3M
Annual Retirement Benefits of DOP Members	\$ 9.8M	\$ 10.8M



## ***HIGHLIGHTS - CERTIFICATION***

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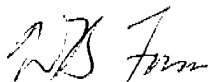
We have prepared an actuarial valuation of the Oklahoma Police Pension and Retirement System as of July 1, 2003, for the plan year ending June 30, 2004. The results of the valuation are set forth in this report, which reflects the provisions of the System as amended and effective on July 1, 2003.

The valuation is based on employee and financial data which were provided by the Oklahoma Police Pension and Retirement System 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.

There have been no changes in actuarial methods or assumptions. The changes in benefit provisions since the last valuation of the System as of July 1, 2002 are summarized on page 4 and the financial impact, if any, are incorporated in this report.

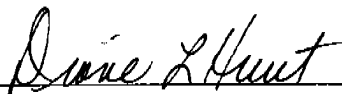
We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.



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William B. Forna, FSA, MAAA

September 15, 2003



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Diane L. Hunt, FSA, MAAA

September 15, 2003

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## ***SECTION 1: FUNDING RESULTS***

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**Section 1.1** Comparative Summary of Principal Valuation Results

**Section 1.2** Unfunded Actuarial Accrued Liability

**Section 1.3** Actuarial Gain/(Loss)

**Section 1.4** Normal Cost

**Section 1.5** Contributions

**Section 1.6** Ten-Year Projected Cash Flow

**Section 1.7** Liability Detail

## SECTION 1.1

### COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

A. Summary of Data	Actuarial Valuation as of		Percent Change
	July 1, 2003	July 1, 2002	
<b>1. Active Members</b>			
a. Number	3,880	3,836	1.1%
b. Annual Compensation	\$ 170,507,025	\$ 160,419,776	6.3%
c. Average Annual Compensation	\$ 43,945	\$ 41,820	5.1%
d. Average Age	37.1	36.7	1.1%
e. Average Service	9.5	9.2	3.3%
<b>2. Vested Terminated Members</b>			
a. Number	52	52	0.0%
b. Annual Deferred Benefits	\$ 608,217	\$ 603,298	0.8%
c. Average Annual Deferred Benefit	\$ 11,696	\$ 11,602	0.8%
<b>3. Retired Members</b>			
a. Number	1,715	1,649	4.0%
b. Annual Retirement Benefits	\$ 43,916,759	\$ 41,476,732	5.9%
c. Average Annual Retirement Benefit	\$ 25,607	\$ 25,153	1.8%
<b>4. Beneficiaries</b>			
a. Number	424	403	5.2%
b. Annual Retirement Benefits	\$ 9,808,015	\$ 8,935,756	9.8%
c. Average Annual Retirement Benefit	\$ 23,132	\$ 22,173	4.3%
<b>5. Disabled Members</b>			
a. Number	151	153	(1.3%)
b. Annual Retirement Benefits	\$ 2,361,156	\$ 2,386,672	(1.1%)
c. Average Annual Retirement Benefit	\$ 15,637	\$ 15,599	0.2%
<b>6. Deferred Option Plan Members</b>			
a. Number	324	361	(10.2%)
b. Annual Retirement Benefits	\$ 9,679,050	\$ 10,757,484	(10.0%)
c. Average Annual Retirement Benefit	\$ 29,874	\$ 29,799	0.2%
d. Annual Compensation	\$ 20,200,000	\$ 19,323,077	4.5%
e. Total Account Balances	\$ 29,371,000	\$ 28,344,000	3.6%
<b>7. Total Members Included in Valuation</b>	<b>6,546</b>	<b>6,454</b>	<b>1.4%</b>

## SECTION 1.1

### COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS (CONTINUED)

B. 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	\$ 1,392,043,000	\$ 1,370,024,000	1.6%
b. Market Value	\$ 1,182,326,000	\$ 1,156,636,000	2.2%
2. Actuarial Accrued Liability <sup>(1)</sup>	\$ 1,646,979,675	\$ 1,554,288,324	6.0%
a. Funded Ratio – Actuarial Value <sup>(1)</sup>	84.5%	88.1%	(4.1%)
b. Funded Ratio - Market Value	71.8%	74.4%	(3.5%)
3. Unfunded Actuarial Accrued Liability (based on Actuarial Value of Assets)	\$ 254,936,675	\$ 184,264,324	38.4%
4. Present Value of Accrued Benefits (SFAS No. 35)	\$ 1,189,283,904	\$ 1,130,458,980	5.2%
a. Funded Ratio - Actuarial Value	117.0%	121.2%	(3.4%)
b. Funded Ratio – Market Value	99.4%	102.3%	(2.8%)
5. Present Value of Projected Benefits	\$ 2,071,023,181	\$ 1,964,379,002	5.4%

<sup>(1)</sup> GASB No. 25 Basis

## SECTION 1.1

### COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS (CONTINUED)

C. Summary of Contribution Requirements	Actuarial Valuation as of				Percent Change
	July 1, 2003		July 1, 2002		
	Amount	% of Active Covered Comp.	Amount	% of Active Covered Comp.	
1. Annual Covered Compensation for Members Included in Valuation					
a. Active Members	\$170,507,025	N/A	\$160,419,776	N/A	6.3%
b. Deferred Option Plan Members	20,200,000	N/A	19,323,077	N/A	4.5%
c. Total	\$190,707,025	N/A	\$179,742,853	N/A	6.1%
2. Total Normal Cost Mid-year	\$ 47,127,437	27.6%	\$ 44,595,933	27.8%	5.7%
3. Unfunded Actuarial Accrued Liability	\$254,936,675	N/A	\$184,264,324	N/A	38.4%
4. Amortization of Unfunded Actuarial Accrued Liability over 20 years From July 1, 1988 at mid-year <sup>(1)</sup>	\$ 60,813,281	35.7%	\$ 37,887,158	23.6%	60.5%
5. Budgeted Expenses	\$ 2,150,688	1.3%	\$ 2,055,426	1.3%	4.6%
6. Total Required Contribution (2 + 4 + 5)	\$110,091,406	64.6%	\$ 84,538,517	52.7%	30.2%
7. Estimated Employee Contribution (8% x 1a)	\$ 13,640,562	8.0%	\$ 12,833,582	8.0%	6.3%
8. Estimated Municipality Contributions					
a. Active Members	\$ 22,165,913	13.0%	\$ 20,854,571	13.0%	6.3%
b. Deferred Option Plan Members	1,313,000	6.5% <sup>(2)</sup>	1,256,000	6.5% <sup>(2)</sup>	4.5%
c. Total	\$ 23,478,913	12.3% <sup>(3)</sup>	\$ 22,110,571	12.3% <sup>(3)</sup>	6.2%
9. Required State Contribution to amortize Unfunded Actuarial Accrued Liability over 20 years from July 1, 1988 at mid-year. (6 - 7 - 8c)	\$ 72,971,931	42.8%	\$ 49,594,364	30.9%	47.1%
10. Previous year's actual State Contribution <sup>(5)</sup>	\$ 20,400,000	12.7% <sup>(4)</sup>	\$ 19,811,000	12.8% <sup>(4)</sup>	3.0%
11. Approximate period over which previous year's State Contribution will amortize Current Unfunded Actuarial Accrued Liability from July 1, 1988.	Not sufficient to amortize UAAL <sup>(5)</sup>	N/A	Not sufficient to amortize UAAL	N/A	N/A

<sup>(1)</sup> Funding Policy adopted by Board.

<sup>(3)</sup> Percent of total compensation.

<sup>(5)</sup> Historically, 14% of collected statewide insurance premium taxes have been allocated to the Oklahoma Police Pension and Retirement System. For the fiscal year beginning July 1, 2004, the system will not receive any such taxes. For the fiscal years beginning July 1, 2004 and ending with June 30, 2009, the system will receive 17% of such taxes. For the fiscal year beginning July 1, 2009 and each fiscal year thereafter, the system will receive 14% of such taxes.

<sup>(2)</sup> Percentage of Deferred Option Plan Members' compensation.

<sup>(4)</sup> Percent of previous years' annual compensation for active members.

## SECTION 1.2

### 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.

	Total System	
	July 1, 2003	July 1, 2002
1. Actuarial Present Value of Benefits		
a. Active Members	\$ 1,105,053,902	\$ 1,027,841,078
b. Members with Deferred Benefits	6,254,902	6,203,422
c. Members Receiving Benefits who are not eligible for Automatic COLA	545,486,086	505,998,291
d. Members Receiving Benefits who are eligible for Automatic COLA	217,950,405	223,263,908
e. Deferred Option Plan Members	184,276,104	201,072,303
f. COLA Reserve	12,001,782	0
g. Total	\$ 2,071,023,181	\$ 1,964,379,002
2. Actuarial Present Value of Future Normal Costs	\$ 424,043,506	\$ 410,090,678
3. Total Actuarial Accrued Liability (1g - 2)	\$ 1,646,979,675	\$ 1,554,288,324
4. Actuarial Value of Assets	\$ 1,392,043,000	\$ 1,370,024,000
5. Unfunded Actuarial Accrued Liability (3 - 4, not less than \$0)	\$ 254,936,675	\$ 184,264,324

## SECTION 1.3

### 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.

	Regular	Deferred Option	Total
1. Expected Actuarial Accrued Liability			
a. Actuarial Accrued Liability at July 1, 2002	\$ 1,525,944,324	\$ 28,344,000	\$ 1,554,288,324
b. Normal Cost or DOP contributions at July 1, 2002	42,984,032	1,313,000	44,297,032
c. Benefit Payments for Plan Year Ending June 30, 2003	66,985,000	2,410,000	69,395,000
d. Interest on a + b - c to End of Year (or actual interest)	115,157,689	2,124,000	117,281,689
e. Expected Actuarial Accrued Liability Before Changes ( $a + b - c + d$ )	\$ 1,629,102,827	\$ 29,371,000	\$ 1,658,473,827
f. Changes in actuarial Accrued Liability at July 1, 2003 due to changes in Actuarial Assumptions	0	0	0
g. Change in Actuarial Accrued Liability at July 1, 2003 due to changes in System Provisions	5,907,338	0	5,907,338
h. Expected Actuarial Accrued Liability at July 1, 2003 ( $e + f + g$ )	\$ 1,635,010,165	\$ 29,371,000	\$ 1,664,381,165
2. Actuarial Accrued Liability at July 1, 2003	\$ 1,617,608,675	\$ 29,371,000	\$ 1,646,979,675
3. Actuarial Liability Gain/(Loss) ( $1h - 2$ )	\$ 17,401,490	\$ 0	\$ 17,401,490
4. Expected Actuarial Value of Assets			
a. Actuarial Value of Assets at July 1, 2002	\$ 1,341,680,000	\$ 28,344,000	\$ 1,370,024,000
b. Contributions Made for Plan Year Ending June 30, 2003	55,704,000	1,313,000	57,017,000
c. Benefit Payments and Expenses for Plan Year Ending June 30, 2003	(68,915,000)	2,410,000	71,325,000
d. Interest on a + b - c to End of Year (or actual interest)	100,130,588	2,124,000	102,254,588
e. Expected Actuarial Value of Assets at July 1, 2003 ( $a + b - c + d$ )	\$ 1,428,599,588	\$ 29,371,000	\$ 1,457,970,588
5. Actuarial Value of Assets as of July 1, 2003	\$ 1,362,672,000	\$ 29,371,000	\$ 1,392,043,000
6. Actuarial Asset Gain/(Loss) ( $5 - 4e$ )	\$ (65,927,588)	\$ 0	\$ (65,927,588)
7. Actuarial Gain/(Loss) ( $3 + 6$ )	\$ (48,526,098)	\$ 0	\$ (48,526,098)

### ***SECTION 1.3***

#### **ACTUARIAL GAIN/(LOSS) (CONTINUED)**

<b>COLA Reserve</b>	
1. Reserve as of July 1, 2002	\$ 0
2. Interest at 7.5%	0
3. Liability for Inactive Members Not Eligible for COLA (See Section 1.7, Item 2.(h))	600,089,092
4. Reserve Increment (2% x 3.)	12,001,782
5. Expected Reserve as of July 1, 2003	12,001,782
6. Ad Hoc cost of living increase	0
7. Actual Reserve (5. Less 6., not less than \$0) as of July 1, 2003	12,001,782



## **SECTION 1.4**

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### **NORMAL COST**

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

<b>Component</b>	<b>July 1, 2003</b>	<b>July 1, 2002</b>
Retirement Benefits	\$ 40,166,976	\$ 38,006,748
Withdrawal Benefits	3,400,518	3,203,613
Disability Benefits	612,000	574,511
Death Benefits	1,244,542	1,199,160
<b>Total Normal Cost at Beginning of Year</b>	<b>\$ 45,424,036</b>	<b>\$ 42,984,032</b>
<b>Total Normal Cost at Mid-year</b>	<b>\$ 47,127,437</b>	<b>\$ 44,595,933</b>
Annual Covered Payroll	\$ 170,507,025	\$ 160,419,776
Normal Cost Rate At Mid-year	27.64%	27.86%

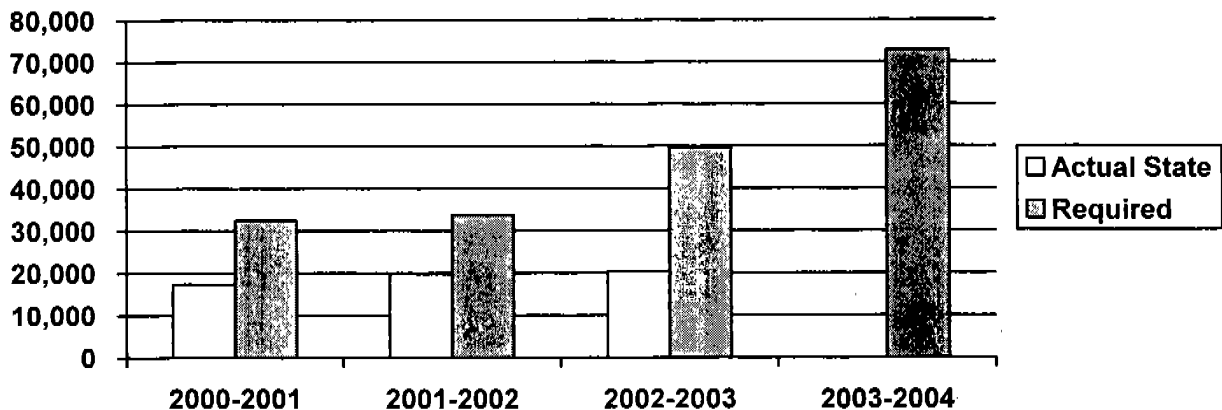
## SECTION 1.5

### CONTRIBUTIONS

Contributions to the Retirement System are made by the Members, municipalities, and the State of Oklahoma. Member contributions equal 8% of base salary. Municipalities contribute 13% of base salary per year for plan years after June 30, 1996.

The Deferred Option Plan Members do not make employee contributions to the plan. However, municipalities continue contributing for them, with 50% of the contribution going into the Retirement System fund and 50% going into the Deferred Option account.

**State Contributions Received versus  
Contributions Required by Funding Policy  
(000's)**



## SECTION 1.6

### TEN-YEAR PROJECTED CASH FLOW (RETIREMENT BENEFIT PAYMENTS)

Plan Year Ending	Actives	Retirees <sup>(1)</sup>	Total
6/30/2004	\$ 4,562,919	\$ 65,970,835	\$ 70,533,754
6/30/2005	\$ 9,629,114	\$ 66,074,607	\$ 75,703,721
6/30/2006	\$ 14,040,412	\$ 66,135,677	\$ 80,176,089
6/30/2007	\$ 18,295,188	\$ 66,198,283	\$ 84,493,471
6/30/2008	\$ 22,523,259	\$ 66,126,701	\$ 88,649,960
6/30/2009	\$ 26,903,735	\$ 66,086,323	\$ 92,990,058
6/30/2010	\$ 31,506,273	\$ 65,929,733	\$ 97,436,006
6/30/2011	\$ 36,889,117	\$ 65,722,996	\$ 102,612,113
6/30/2012	\$ 42,511,912	\$ 65,458,207	\$ 107,970,119
6/30/2013	\$ 48,145,517	\$ 65,144,229	\$ 113,289,746

<sup>(1)</sup> Includes Deferred Option Plan Members, Disabled Members, Beneficiaries and Terminated Vested Members.

## SECTION 1.7

### LIABILITY DETAIL

Total	Without 2% COLA	With 2% Auto COLA
Present Value of Benefits	\$ 1,465,276,200	\$ 2,071,023,181
Accrued Liability	\$ 1,348,769,424	\$ 1,646,979,675
Normal Cost Mid-Year	\$ 37,467,218	\$ 47,127,437

<b>Active</b>		
a. Retirement	\$ 524,358,732	\$ 668,953,394
b. Disability	606,438	747,256
c. Withdrawal	8,932,035	11,169,537
d. Death	2,611,967	5,919,454
e. Refunds	(5,779,245)	(5,779,245)
f. Total	\$ 530,729,927	\$ 681,010,396
<b>Inactive</b>		
1. Members Eligible for Automatic COLA		
a. Retired Members	\$ 131,854,010	\$ 131,854,010
b. Disabled Members	20,642,560	20,642,560
c. Terminated Vested Members	0	0
d. Deferred Option Plan Members	0	0
e. Beneficiaries	65,453,835	65,453,835
f. Total	\$ 217,950,405	\$ 217,950,405
2. Members Not Eligible for Automatic COLA		
a. Retired Members	\$ 403,659,453	\$ 497,776,851
b. Disabled Members	9,595,385	12,020,052
c. Terminated Vested Members	4,962,956	6,254,902
d. Deferred Option Plan Members - Annuities	123,015,692	154,905,104
e. Deferred Option Plan Members - Account Balances	29,371,000	29,371,000
f. Beneficiaries	29,484,606	35,689,183
g. Reserve for COLA's in Future <sup>(1)</sup>	N/A	12,001,782
h. Total	\$ 600,089,092	\$ 748,018,874
3. Total Inactive (1f + 2h)	\$ 818,039,497	\$ 965,969,279
Accrued Liability (Active + Inactive)	\$ 1,348,769,424	\$ 1,646,979,675

<sup>(1)</sup> Ad Hoc cost of living adjustments (COLAs) are prefunded to the 2% per year level in this valuation. These COLAs are granted periodically, but generally not each year. Therefore, in years in which a COLA is not granted, this reserve is increased to fund future COLA's.

## ***SECTION 2: ACCOUNTING RESULTS***

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**Section 2.1**    SFAS No. 35 Information

**Section 2.2**    GASB No. 25 Information

## SECTION 2.1

### SFAS No. 35 INFORMATION

#### A. Actuarial Present Value of Accumulated System Benefits

The actuarial present value of vested and nonvested accumulated system benefits was 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 Members 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.

Accumulated System Benefits	July 1, 2003	July 1, 2002
Vested Benefits		
a. Active Members	\$ 301,390,517	\$ 266,247,109
b. Deferred Option Plan Members	152,386,692	165,364,328
c. Members with Deferred Benefits	4,962,956	4,917,568
d. Members Receiving Benefits	660,689,849	633,294,235
e. Total Vested Benefits	\$ 1,119,430,014	\$ 1,069,823,240
Nonvested Benefits	69,853,890	60,635,740
<b>Total Accumulated System Benefits <sup>(1)</sup></b>	<b>\$ 1,189,283,904</b>	<b>\$ 1,130,458,980</b>
Assumed Rate of Interest	7.5%	7.5%
Market Value of Assets Available for Benefits	\$ 1,182,326,000	\$ 1,156,636,000
Funded Ratio	99.4%	102.3%
Change in Accumulated System Benefits due to:		
a. Assumption Changes	\$ 0	\$ 0
b. System Provision Changes	\$ 5,907,338	\$ 24,077,636

Number of Members	July 1, 2003	July 1, 2002
Vested Members		
a. Active Members	1,774	1,755
b. Deferred Option Plan Members	324	361
c. Members with Deferred Benefits	52	52
d. Members Receiving Benefits	2,290	2,205
e. Total Vested Members	4,440	4,373
Nonvested Members	2,106	2,081
<b>Total Members</b>	<b>6,546</b>	<b>6,454</b>

<sup>(1)</sup> 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.

## **SECTION 2.1**

### **SFAS No. 35 INFORMATION (CONTINUED)**

#### **B. 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.

<b>Actuarial Present Value of Accumulated System Benefits as of July 1, 2002</b>	<b>\$ 1,130,458,980</b>
<b>Increase/(Decrease) During Year Attributable to:</b>	
a. Normal Cost	\$ 41,365,949
b. Increase for Interest Due to Decrease in Discount Period	85,329,857
c. Benefits Paid	(68,187,000)
d. System Amendment	5,907,338
e. Assumption Changes	0
f. (Gains)/Losses	(5,591,220)
<b>Net Increase/(Decrease)</b>	<b>\$ 58,824,924</b>
<b>Actuarial Present Value of Accumulated System Benefits as of July 1, 2003</b>	<b>\$ 1,189,283,904</b>

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

## SECTION 2.2

### GASB NO. 25 INFORMATION

#### Supplementary Schedules

The GASB has issued a new statement; Financial Reporting for Defined Benefit and Note Disclosures for Defined Contribution Plans (GASB Statement No. 25). This standard became effective for periods beginning after June 15, 1996, and requires funding status to be measured based upon the actuarial funding method adopted by the Board, i.e., for the Oklahoma Police Retirement System, the Entry Age Normal Cost Method. The target value of assets is equal to the Actuarial Accrued Liability (AAL). The actual value of assets is the Actuarial Value developed later in this report. The new GASB standard supersedes GASB Statement No. 5 in its entirety.

#### A. Schedules of Funding Progress

The GASB Statement No. 25 liabilities and assets resulting from the last nine 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)
07/01/1995	\$ 664,495,000	\$ 797,637,263	\$ 133,142,263	83.3%	\$ 112,995,471	117.8%
07/01/1996	\$ 738,547,000	\$ 830,586,623	\$ 92,039,623	88.9%	\$ 114,421,087	80.4%
07/01/1997	\$ 827,787,000	\$ 876,603,889	\$ 48,816,889	94.4%	\$ 122,715,886	39.8%
07/01/1998	\$ 966,907,000	\$ 1,092,443,208	\$ 125,536,208	88.5%	\$ 128,521,087	97.7%
07/01/1999	\$ 1,094,400,000	\$ 1,160,023,416	\$ 65,623,416	94.3%	\$ 139,242,527	47.1%
07/01/2000	\$ 1,222,123,000	\$ 1,354,500,875	\$ 132,377,875	90.2%	\$ 148,543,158	89.1%
07/01/2001	\$ 1,319,041,000	\$ 1,443,404,052	\$ 124,363,052	91.4%	\$ 153,350,395	81.1%
07/01/2002	\$ 1,370,024,000	\$ 1,554,288,324	\$ 184,264,324	88.1%	\$ 160,419,776	114.9%
07/01/2003	\$ 1,392,043,000	\$ 1,646,979,675	\$ 254,936,675	84.5%	\$ 170,507,025	149.5%



## **SECTION 2.2**

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### **GASB No. 25 INFORMATION**

#### **B. Schedule of Employer Contributions**

The GASB Statement No. 25 required and actual contributions for the last nine fiscal years are as follows:

<b>Year Ended June 30</b>	<b>Annual Required Contribution</b>	<b>Percentage Contributed</b>
1995	\$ 31,960,065	90.8%
1996	\$ 30,943,994	101.0%
1997	\$ 26,459,627	124.7%
1998	\$ 22,425,929	158.0%
1999	\$ 39,826,511	90.9%
2000	\$ 34,682,993	108.7%
2001	\$ 53,043,666	75.5%
2002	\$ 54,918,091	76.9%
2003	\$ 71,704,935	61.6%

### ***SECTION 3: SYSTEM ASSETS***

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This section presents information regarding System assets as reported by the auditor. The System assets represent the portion of total System liabilities, which has been funded as of the valuation date.

**Section 3.1**    Summary of Assets

**Section 3.2**    Reconciliation of Assets

**Section 3.3**    Actuarial Value of Assets

**Section 3.4**    Average Annual Rates of Investment Return

## SECTION 3.1

### SUMMARY OF ASSETS

Asset Category	Market Value as of June 30, 2003	Market Value as of June 30, 2002
<b>1. Cash and Short-term Investments</b>		
a. Cash	\$ 19,000	\$ (261,000)
b. Short-term Investments	44,847,000	62,324,000
c. Total	\$ 44,866,000	\$ 62,063,000
<b>2. Receivables</b>		
a. Interest and Dividends	\$ 3,841,000	\$ 4,724,000
b. Member, Employer, and State Contributions	7,546,000	2,392,000
c. Investments Sold	0	0
d. Other Receivables	0	0
e. Total	\$ 11,387,000	\$ 7,116,000
<b>3. Investments at fair value</b>		
a. Government Bonds	\$ 45,190,000	\$ 96,054,000
b. International Government Bonds	43,523,000	26,992,000
c. Corporate Bonds <sup>(1)</sup>	242,228,000	223,621,000
d. Common Stock	433,962,000	395,766,000
e. International Stock	145,640,000	166,542,000
f. Other	225,194,000	198,050,000
g. Securities Lending Short-term Pool	109,128,000	59,920,000
h. Total	\$ 1,244,865,000	\$ 1,166,945,000
<b>4. Assets used in system operations</b>		
a. Furniture, Fixtures and Equipment	\$ 0	\$ 0
<b>5. Total Assets</b>	\$ 1,301,118,000	\$ 1,236,124,000
<b>6. Liabilities</b>		
a. Payable for Investments Purchased	\$ 8,935,000	\$ 18,567,000
b. Accounts Payable and Accrued Expenses	729,000	1,001,000
c. Securities Lending Collateral Payable	109,128,000	59,920,000
d. Total Liabilities	\$ 118,792,000	\$ 79,488,000
<b>7. Net Assets for Pension Benefits</b>	\$ 1,182,326,000	\$ 1,156,636,000

<sup>(1)</sup> Includes Domestic and International Bonds

## SECTION 3.2

### RECONCILIATION OF ASSETS

Transactions	June 30, 2003	June 30, 2002
<b>Additions</b>		
<b>1. Contributions</b>		
a. Contributions from Employers	\$ 23,738,000	\$ 22,411,000
b. Contributions from System Members	12,879,000	12,367,000
c. Insurance Premium Tax	20,400,000	19,811,000
d. Total	\$ 57,017,000	\$ 54,589,000
<b>2. Net Investment Income</b>		
a. Interest	\$ 13,821,000	\$ 17,554,000
b. Dividends	6,762,000	7,004,000
c. Realized Gain and Unrealized Appreciation	28,840,000	(86,883,000)
d. Income from Securities Lending	265,000	270,000
e. Other	(2,707,000)	887,000
f. Total	\$ 46,981,000	\$ (61,168,000)
g. Investment Expense	(6,983,000)	(7,689,000)
h. Net Investment Income	\$ 39,998,000	\$ (68,857,000)
<b>3. Total Additions</b>	\$ 97,015,000	\$ (14,268,000)
<b>Deductions</b>		
<b>4. Retirement Benefits</b>	\$ (68,187,000)	\$ (64,947,000)
<b>5. Deferred Option Benefits</b>	\$ 0	\$ 0
<b>6. Refund of Contributions</b>	\$ (1,208,000)	\$ (1,230,000)
<b>7. Administrative Expenses</b>	\$ (1,930,000)	\$ (1,680,000)
<b>8. Total Deductions</b>	\$ (71,325,000)	\$ (67,857,000)
<b>9. Net Increase</b>	\$ 25,690,000	\$ (82,125,000)
<b>10. Net Assets Held in Trust for Pension Benefits</b>		
a. Beginning of Year	\$ 1,156,636,000	\$ 1,238,761,000
b. End of Year	\$ 1,182,326,000	\$ 1,156,636,000
<b>Reconciliation of Actuarial Asset Value and Market Value</b>		
Actuarial Asset Value	\$ 1,392,043,000	\$ 1,370,024,000
Deferred Gain/(Loss)	\$ (209,717,000)	\$ (213,388,000)
Market Value	\$ 1,182,326,000	\$ 1,156,636,000

## SECTION 3.2

### RECONCILIATION OF ASSETS <sup>(1)</sup> (CONTINUED)

Transactions	Non-Deferred Option Plan Assets	Deferred Option Plan Assets	Total
<b>Additions</b>			
<b>1. Contributions</b>			
a. Contributions from Employers	\$ 22,425,000	\$ 1,313,000	\$ 23,738,000
b. Contributions from System Members	12,879,000	0	12,879,000
c. Insurance Premium Tax	20,400,000	0	20,400,000
d. Total	\$ 55,704,000	\$ 1,313,000	\$ 57,017,000
<b>2. Net Investment Income</b>			
a. Interest	\$ 11,697,000	\$ 2,124,000	\$ 13,821,000
b. Dividends	6,762,000	0	6,762,000
c. Realized Gain and Unrealized Appreciation	28,840,000	0	28,840,000
d. Income from Security Lending	265,000	0	265,000
e. Other	(2,707,000)	0	(2,707,000)
f. Total	\$ 44,857,000	\$ 2,124,000	\$ 46,981,000
g. Investment Expense	(6,983,000)	0	(6,983,000)
h. Net Investment Income	\$ 37,874,000	\$ 2,124,000	\$ 39,998,000
<b>3. Total Additions</b>	\$ 93,578,000	\$ 3,437,000	\$ 97,015,000
<b>Deductions</b>			
<b>4. Retirement Benefits</b>	\$ (55,239,000)	\$ (12,948,000)	\$ (68,187,000)
<b>5. Deferred Option Benefits Credited to Account</b>	(10,538,000)	10,538,000	0
<b>6. Refund of Contributions</b>	(1,208,000)	0	(1,208,000)
<b>7. Administrative Expenses</b>	(1,930,000)	0	(1,930,000)
<b>8. Total Deductions</b>	\$ (68,915,000)	\$ (2,410,000)	\$ (71,325,000)
<b>9. Net Increase</b>	\$ 24,663,000	\$ 1,027,000	\$ 25,690,000
<b>10. Net Assets Held in Trust for Pension Benefits</b>			
a. Beginning of Year	\$1,128,292,000	\$ 28,344,000	\$1,156,636,000
b. End of Year	\$1,152,955,000	\$ 29,371,000	\$1,182,326,000

<sup>(1)</sup> This allocation of assets is maintained for accounting purposes only. It is our understanding that all assets of the System are available to pay all benefits provided under the System.

## SECTION 3.3

### ACTUARIAL VALUE OF ASSETS

Schedule of Assets Gains/(Losses)				
Year	Original Amount	Recognized in Prior Years	Recognized This Year	Recognized in Future Years
1998/1999	36,234,277	28,987,420	7,246,857	0
1999/2000	25,028,597	15,017,157	5,005,719	5,005,721
2000/2001	(161,346,342)	(64,538,536)	(32,269,268)	(64,538,538)
2001/2002	(167,298,717)	(33,459,743)	(33,459,743)	(100,379,231)
2002/2003	(62,256,106)	0	(12,451,221)	(49,804,885)
<b>Total</b>	<b>\$ (329,638,291)</b>	<b>\$ (53,993,702)</b>	<b>\$ (65,927,656)</b>	<b>\$ (209,716,933)</b>

Development of Actuarial Value of Assets	
1. Actuarial Value as of July 1, 2002 (Excluding DOP)	\$ 1,341,680,000
2. Contributions	
a. Member	\$ 12,879,000
b. Employer (Excluding DOP)	22,425,000
c. Insurance tax	20,400,000
d. Total	\$ 55,704,000
3. Decreases During the Year	
a. Benefit Payments (Excluding payments from DOP, including payments to DOP)	\$ 65,777,000
b. Return of Member Contributions	1,208,000
c. Noninvestment Expenses	1,930,000
d. Total	\$ 68,915,000
4. Expected Return at 7.5% on:	
a. Item 1	\$ 100,626,000
b. Item 2 (one-half year)	2,088,900
c. Item 3 (one-half year)	2,584,313
d. Total	\$ 100,130,587
5. Expected Actuarial Value of Assets (Excluding DOP) June 30, 2003 (1 + 2 + 3 + 4)	\$ 1,428,599,587
6. Unrecognized Asset Gain as of June 30, 2002	\$ (213,388,481)
7. DOP Assets	\$ 29,371,000
8. Expected Actuarial Value June 30, 2003 plus previous year's Unrecognized Asset Gain (5 + 6 + 7)	\$ 1,244,582,106
9. Market Value as of June 30, 2003	\$ 1,182,326,000
10. 2002/2003 Asset Gain/(Loss) (9 - 8)	\$ (62,256,106)
11. Asset Gain to be Recognized as of June 30, 2003	\$ (65,927,656)
12. Initial Actuarial Value July 1, 2003 (5 + 7 + 11) (Rounded to \$1,000's)	\$ 1,392,043,000
13. Constraining Values:	
a. 80% of Market Value (9 x 0.8)	\$ 945,861,000
b. 120% of Market Value (9 x 1.2)	\$ 1,418,791,000
14. Actuarial Value July 1, 2003 (12), but no less than (13a), nor greater than (13b)	\$ 1,392,043,000

## SECTION 3.4

### AVERAGE ANNUAL RATES OF INVESTMENT RETURN

Year Ending June 30	Actuarial Value		Market Value	
	Annual	Cumulative	Annual	Cumulative
1990	8.6%	8.6%	9.2%	9.2%
1991	7.9%	8.2%	8.1%	8.6%
1992	8.7%	8.4%	13.8%	10.3%
1993	10.3%	8.9%	15.1 %	11.5%
1994	9.3%	9.0%	0.0%	9.1%
1995	11.0%	9.3%	17.7%	10.5%
1996	11.9%	9.7%	13.5%	10.9%
1997	12.8%	10.1%	17.3%	11.7%
1998	13.5%	10.4%	16.9%	12.3%
1999	14.3%	10.8%	9.7%	12.0%
2000	12.8%	11.0%	8.7%	11.7%
2001	8.8%	10.8%	(5.3%)	10.2%
2002	4.9%	10.3%	(5.6%)	8.9%
2003	2.7%	9.8%	3.5%	8.5%

Annual Returns before 1998 exclude DOP assets.

## ***SECTION 4: BASIS OF VALUATION***

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This section presents and describes the basis of the valuation. The census of Members, actuarial basis and benefit provisions of the System are the foundation of the valuation, since these are the present facts on which the projection of benefit payments will depend. The valuation is based on the premise that the System will continue in existence.

### **Section 4.1 System Members**

### **Section 4.2 Actuarial Basis**

### **Section 4.3 Summary of System Provisions**



## SECTION 4.1

### SYSTEM MEMBERS

#### A. Member Data Reconciliation

	Active Members		Inactive Members				Total
	Regular	Deferred Option Plan	Deferred Vested Members	Retired Members	Disabled Members	Bene-ficiaries	
As of July 1, 2002	3,836	361	52	1,649	153	403	6,454
Deferred Option Plan Retirees	(51)	51	0	0	0	0	0
Age Retirements	(15)	(87)	(5)	107	0	0	0
Disability Retirements	(5)	0	0	0	5	0	0
Deaths Without Beneficiaries	0	0	0	(12)	(1)	(13)	(26)
Deaths With Beneficiaries	(1)	(1)	0	(30)	(6)	38	0
Nonvested Terminations	(164)	0	0	0	0	0	(164)
Vested Terminations	(4)	0	4	0	0	0	0
Rehires	18	0	(2)	0	0	0	16
Expiration of Benefits	0	0	0	0	0	(5)	(5)
Vested Terminations Electing a Cash-Out	(11)	0	0	0	0	0	(11)
Data Corrections	0	0	3	1	0	1	5
Transfers Out	0	0	0	0	0	0	0
Transfers In	0	0	0	0	0	0	0
Net Change	(233)	(37)	0	66	(2)	21	(185)
New Entrants During the Year	277	0	0	0	0	0	277
As of July 1, 2003	3,880	324	52	1,715	151	424	6,546

## SECTION 4.1

### SYSTEM MEMBERS (CONTINUED)

#### B. Count of 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										
20-24	130									130
25-29	486	104								590
30-34	400	385	91							876
35-39	157	221	336	118	1					833
40-44	61	106	208	283	90					748
45-49	23	60	66	105	145	39	3			441
50-54	5	21	46	54	38	49	12			225
55-59		2	15	3	6	3	3			32
60-64		2		1		1				4
65-69			1							1
70-74										0
75+										0
Total	1,262	901	763	564	280	92	18	0	0	3,880

#### C. Average Compensation

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
Under 20										
20-24	28,493									28,493
25-29	33,407	38,953								34,384
30-34	32,712	41,096	49,566							38,148
35-39	30,704	41,117	52,136	56,888	38,089					45,830
40-44	33,303	39,895	49,196	56,479	61,956					50,873
45-49	30,328	37,072	47,690	50,331	60,678	64,334	80,645			51,935
50-54	29,866	40,409	44,300	49,587	57,998	69,371	65,378			53,783
55-59		24,349	47,434	39,242	60,809	71,889	58,114			51,025
60-64		29,811		65,351		40,687				41,415
65-69			66,943							66,943
70-74										0
75+										0
Total	32,269	40,366	50,098	54,684	60,647	67,006	66,712	0	0	43,945

## SECTION 4.1

### SYSTEM MEMBERS (CONTINUED)

#### D. Members in Pay Status - Annual Benefits

Attained Age	Retired Members		Beneficiaries		Disabled Members		Current Payment Total	
	No.	Benefit	No.	Benefit	No.	Benefit	No.	Benefit
Under 51	159	\$ 1,179,166	29	\$ 557,145	45	\$ 418,136	233	\$ 4,587,787
51	52	1,179,166	8	176,217	5	42,708	65	1,398,091
52	55	1,318,849	2	51,896	2	31,961	59	1,402,706
53	60	1,478,098	5	97,721	7	74,688	72	1,650,507
54	85	2,117,859	11	251,442	4	71,083	100	2,440,384
55	106	2,789,269	3	66,364	8	111,683	117	2,967,316
56	97	2,506,179	10	235,273	3	60,607	110	2,802,059
57	99	2,751,983	11	251,607	0	0	110	3,003,590
58	52	2,244,051	12	273,942	5	82,831	99	2,600,824
59	52	2,085,807	6	146,671	5	65,176	90	2,297,654
60	52	1,909,231	4	84,088	2	19,481	82	2,012,800
61	52	1,888,737	7	125,289	3	32,475	81	2,046,501
62	52	1,720,870	8	184,489	4	73,721	79	1,979,080
63	52	1,837,540	9	196,406	5	104,163	85	2,138,109
64	61	1,639,768	10	242,470	3	58,994	74	1,941,232
65	53	1,370,241	12	343,682	4	71,158	69	1,785,081
66	43	1,118,310	5	139,069	3	62,226	51	1,319,605
67	44	1,100,504	11	258,104	4	100,286	59	1,458,894
68	46	1,194,379	14	354,415	3	51,183	63	1,599,977
69	40	1,065,902	10	300,766	2	41,456	52	1,408,124
70	22	546,689	11	325,775	2	33,350	35	905,814
71	34	915,566	12	314,850	2	46,520	48	1,276,936
72	31	896,298	6	109,097	3	58,571	40	1,063,966
73	17	468,291	14	408,618	4	89,468	35	966,377
74	24	601,803	17	454,823	2	49,903	43	1,106,529
75	25	733,844	11	287,384	3	81,605	39	1,102,833
76	20	518,451	11	254,873	4	109,574	35	882,898
77	15	423,444	12	310,672	3	78,907	30	813,023
78	11	292,354	9	201,276	2	48,461	22	542,091
79	12	323,202	15	360,618	0	0	27	683,820
80	13	316,023	15	276,781	0	0	28	592,804
81	9	201,733	6	142,085	2	35,474	17	379,292
82	9	214,825	11	263,488	1	21,346	21	499,659
83	10	224,032	5	120,261	1	16,013	16	360,306
84	2	24,571	5	106,744	2	41,520	9	172,835
85	4	81,487	11	210,975	0	0	15	292,462
86	6	142,627	6	90,543	0	0	12	233,170
87	0	0	6	124,499	0	0	6	124,499
88	0	0	9	190,657	1	11,548	10	202,205
89	1	30,429	4	79,570	2	28,992	7	138,991
90	1	9,782	10	221,665	1	14,112	12	245,559
Over 90	1	22,059	31	615,705	1	21,776	33	659,540
<b>Total</b>	<b>1,715</b>	<b>\$ 43,916,759</b>	<b>424</b>	<b>\$ 9,808,015</b>	<b>151</b>	<b>\$ 2,361,156</b>	<b>2,290</b>	<b>\$ 56,085,930</b>

## SECTION 4.1

### SYSTEM MEMBERS (CONTINUED)

#### E. Terminated Vested and Deferred Option Plan Members - Annual Benefits

Attained Age	Terminated Vested Members		Deferred Option Plan Members	
	No.	Benefit	No.	Benefit
Under 40	7	\$ 89,016	0	\$ 0
40	4	60,526	0	0
41	4	50,229	0	0
42	2	18,848	2	48,716
43	5	51,726	12	297,432
44	1	7,134	14	372,538
45	4	52,931	13	308,868
46	4	62,530	25	689,056
47	6	66,664	30	790,775
48	3	29,884	18	502,282
49	4	35,059	20	586,467
50	4	29,699	26	777,794
51	0	0	29	884,358
52	1	10,506	20	546,334
53	0	0	16	573,478
54	0	0	18	548,114
55	0	0	31	1,133,663
56	0	0	15	497,918
57	0	0	12	403,446
58	0	0	6	187,988
59	0	0	7	201,094
60	0	0	4	114,344
61	0	0	3	89,954
62	0	0	1	30,417
63	0	0	0	0
64	0	0	0	0
65 and over	0	0	2	94,014
Total	52	\$ 608,217	324	\$ 9,679,050

## SECTION 4.1

### SYSTEM MEMBERS (CONTINUED)

#### F. Member Statistics

Inactive Members as of July 1, 2003	Number	Amount of Annual Benefit
<b>Members Receiving Benefits</b>		
a. Retired	1,715	\$ 43,916,759
b. Beneficiaries	424	9,808,015
c. Disabled	151	2,361,156
<b>Total</b>	<b>2,290</b>	<b>\$ 56,085,930</b>
<b>Members with Deferred Benefits</b>		
a. Terminated Vested	52	\$ 608,217
b. Beneficiaries	N/A	N/A
c. Disabled	N/A	N/A
<b>Total</b>	<b>52</b>	<b>\$ 608,217</b>
<b>Deferred Option Plan Members</b>		
	<b>324</b>	<b>\$ 9,679,050</b>

Statistics for Active Members	Number	Average		
		Age	Service	Earnings
As of July 1, 2002				
a. Continuing	3,500	37.4	10.0	\$ 43,296
b. New	336	29.4	0.6	26,436
Total	3,836	36.7	9.2	\$ 41,820
As of July 1, 2003				
a. Continuing	3,585	37.7	10.2	\$ 45,250
b. New	295	29.4	0.9	28,084
Total	3,880	37.1	9.5	\$ 43,945

## **SECTION 4.1**

### **SYSTEM MEMBERS (CONTINUED)**

#### **G. Data Tape Reconciliation**

	<b>July 1, 2003</b>	<b>July 1, 2002</b>
<b>Tape Records Submitted</b>		
Records submitted	7,181	7,145
Not Eligible to Participate	0	0
Terminations/ No Benefits Payable	(635)	(692)
Denied Benefit	0	0
Data Corrections	0	0
Number Added	0	1
<b>Total Valued</b>	<b>6,546</b>	<b>6,454</b>

## **SECTION 4.2**

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### **ACTUARIAL BASIS**

#### **A. Entry Age Actuarial Cost Method**

The actuarial cost method is selected by the Board with the recommendation of the actuary. Liabilities and contributions shown in this report are computed using the Individual Entry Age method of funding. The System has used this cost method since at least 1990.

Sometimes called "funding method", this is a particular technique used by actuaries for establishing the amount and incidence of the annual actuarial cost of pension plan 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.

#### **B. Asset Valuation Method**

The asset valuation method is selected by the Board with the recommendation of the actuary. 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 plan 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 plan 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 plan year;

## **SECTION 4.2**

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### **ACTUARIAL BASIS (CONTINUED)**

#### **B. Asset Valuation Method (continued)**

- the difference between the expected actuarial asset value and the market value is the investment gain or loss for the previous plan year;
- the (final) actuarial asset value is the preliminary value plus 20% of the investment gains and losses for each of the five previous plan years, but in no case more than 120% of the market value or less than 80% of the market value.
- Deferred Option Plan assets are included in the actuarial value. However, they are included at market value and are not subject to the smoothing described above.

The System has used this method since at least 1998.

#### **C. Valuation Procedures**

No actuarial accrued liability 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 had not occurred as of the valuation date.

The wages used in the projection of benefits and liabilities are July 1, 2003 rates of pay based upon the prior year's earnings increased by the salary scale.

In computing accrued benefits, average earnings were determined using actual pay history.

No benefits are projected to be greater than the dollar limitation and compensation limitation required by the Internal Revenue Code Section 401 and 415 for governmental plans.

No additional liability is being carried for the guaranteed minimum interest rate for the Deferred Option Plan account balances. Stochastic studies of similar Systems have been used to quantify the cost of this benefit. Further review and analysis of this liability is recommended. Please note that this is a volatile benefit and the impact in any one-year may be large.

The calculations for the required state contribution are determined as of mid-year. This is a reasonable assumption since the employer contributions, employee contributions and State insurance premium tax allocations are made on a monthly basis throughout the year, and mid-year represents an average weighting of the contributions.



## **SECTION 4.2**

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### **ACTUARIAL BASIS (CONTINUED)**

#### **C. Valuation Procedures (continued)**

The contribution requirements are based on total annual compensation rather than total covered compensation of employees under assumed retirement age. This is a better reflection of the overall expectations for the System.

The Entry Age Normal Funding Method has been adjusted for those members granted prior service. The prior service is treated as occurring immediately before the membership date. Level pay is assumed during this period before actual membership. Entry Age costs are determined as if the member entered the System on the date the prior service is assumed to have begun. This treatment reflects the extra cost of prior service immediately in the accrued liability and preserves the relationship of normal cost to a year of service accrual.

## **SECTION 4.2**

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### **ACTUARIAL BASIS (CONTINUED)**

#### **D. Actuarial Assumptions**

The actuarial assumptions are selected by the Board with the recommendation of the actuary.

#### **Economic Assumptions**

1. Investment Return                      7.5%, net of investment expenses, per annum, compound annually. The System has used this assumption since at least 1984.
2. Earnings Progression                      Sample rates below:

Years of Service	Current Assumption		
	Inflation %	Merit %	Increase %
1	3.0	16.00	19.00
2	3.0	12.00	15.00
3	3.0	6.75	9.75
4	3.0	6.25	9.25
5	3.0	5.75	8.75
6	3.0	5.50	8.50
7	3.0	5.00	8.00
8	3.0	4.25	7.25
9	3.0	4.10	7.10
10	3.0	3.90	6.90
15	3.0	2.90	5.90
20	3.0	2.00	5.00

## **SECTION 4.2**

### **ACTUARIAL BASIS (CONTINUED)**

#### **D. Actuarial Assumptions (continued)**

##### **Demographic Assumptions**

##### **1. Retirement Rates**

Sample rates below:

<b>Attained Service</b>	<b>Annual Rates of Retirement Per 100 Eligible Members</b>	
	<b>Prior Assumption</b>	<b>Current Assumption</b>
20	30	39
21	30	21
22	20	17
23	20	17
24	25	19
25	25	22
26	30	80
27	35	80
28	40	80
29	45	80
30	100	100

##### **2. Mortality Rates**

- |   |  |
|---|--|
| (a) Active employees<br>(pre-retirement)                                | RP-2000 No Collar Healthy<br>Employees (Generational)          |
| (b) Active employees<br>(post-retirement) and<br>nondisabled pensioners | RP-2000 Blue Collar Healthy<br>Annuitant (Generational)        |
| (c) Disabled pensioners   | RP-2000 Blue Collar Healthy Annuitant<br>(Set forward 7 years) |

## **SECTION 4.2**

### **ACTUARIAL BASIS (CONTINUED)**

#### **D. Actuarial Assumptions (continued)**

##### **Demographic Assumptions (continued)**

#### **3. Disability Rates**

Graduated rates. See table below:

<b>Age Range</b>	<b>Rate</b>
	<b>Current Assumption</b>
20-24	.0002
25-29	.0004
30-34	.0006
35-39	.0011
40-44	.0020
45-49	.0020
50-54	.0020
55-59	.0010

#### **4. Withdrawal Rates**

Graduated rates by years of service.

<b>Service Range</b>	<b>Rate</b>
	<b>Current Assumption</b>
0-1	.100
2	.085
3	.070
4	.060
5-10	.040
11-15	.020
16-20	.005
Over 20	.000

#### **5. Marital Status**

(a) Percentage married:

Males: 85%; Females: 85%

(b) Age difference:

Males are assumed to be three (3) years older than females.

## **SECTION 4.2**

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### **ACTUARIAL BASIS (CONTINUED)**

#### **D. Actuarial Assumptions (continued)**

##### **Other Assumptions**

1. Assumed Age of Commencement  
for Deferred Benefits: Age 50.
2. Provision for Expenses: Administrative Expenses, as budgeted by the Oklahoma Police Pension and Retirement System.
3. Percentage of Disability: Based upon information provided by the Executive Director, we assume that employees becoming disabled have a 25%-49% impairment.
4. Cost-of-Living Allowance: Police officers eligible to receive increased benefits according to repealed Section 50-120 of Title 11 of the Oklahoma Statutes pursuant to a court order receive an adjustment of 1/3 to 1/2 of the increase or decrease of any adjustment to the base salary of a regular police officer, based on an increase in base salary of 3.6%, with a 2% minimum benefit increase assumed.  
  
Members, not eligible for this increase are assumed to receive a 2% annual ad hoc increase in benefits during each year of retirement. This assumption was adopted in 2000.
5. Deferred Option Plan: Deferred Option Plan members are assumed to remain in the Deferred Option Plan for the maximum of five years prior to electing a lump sum.

## **SECTION 4.3**

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### **SUMMARY OF SYSTEM PROVISIONS**

<b>Effective Date and Plan Year:</b>	The System became effective January 1, 1981 and has been amended each year since then. The plan year is July 1 to June 30.
<b>Administration:</b>	The system is administered by the Oklahoma Police Pension and Retirement Board consisting of thirteen Members. The Board shall be responsible for the policies and rules for the general administration of the System.
<b>Type of Plan:</b>	A defined benefit plan.
<b>Employers Included:</b>	An eligible employer may join the System on the first day of any month. An application of affiliation must be filed in the form of a resolution before the eligible municipality can become a participating municipality.
<b>Eligibility:</b>	All persons employed as officers or any person undergoing police training to become a permanent police officer with a police department of a participating municipality, with ages not less than twenty-one (21) nor more than forty-five (45) when accepted for membership.
<b>Service Considered:</b>	Credited service consists of the period during which the Member participated in the System or predecessor municipal plan as an active employee, plus any service prior to the establishment of the municipal plan which was credited under the predecessor municipal systems or credited service granted by the State Board.
<b>Salary Considered:</b>	<p>Base salary used in the determination of benefits does not include payment for accumulated sick and annual leave upon termination of employment or any uniform allowances.</p> <p>Final average salary means the average paid base salary for normally scheduled hours of an officer over the highest 30 consecutive months of the last 60 months of credited service.</p>

## **SECTION 4.3**

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### **SUMMARY OF SYSTEM PROVISIONS (CONTINUED)**

<b>State Contributions:</b>	Insurance premium tax allocation. Historically, the fund has received 14% of these collected taxes. For the fiscal year ending June 30, 2004 the fund will not receive any such taxes. For the fiscal years beginning July 1, 2004 and ending June 30, 2009, the fund shall receive 17% of these collected taxes. For the fiscal year beginning July 1, 2009 and each fiscal year thereafter, the fund will receive 14% of these collected taxes.
<b>Municipality Contributions:</b>	Contribution is thirteen (13%) percent as of July 1, 1996.
<b>Member Contributions:</b>	Eight (8%) percent of base salary. These contributions shall be "picked up" after December 31, 1988 pursuant to Section 414(h)(2) of the Internal Revenue Code.
<b>Normal Retirement Benefit:</b>	
Eligibility:	20 years of credited service.
Benefit:	2 1/2% of the final average salary multiplied by the years of credited service, with a maximum of 30 years of credited service considered.
Form of Benefit:	Lifetime benefit.
Cost-of-Living Adjustments:	Police officers eligible to receive increased benefits according to repealed Section 50-120 of Title 11 of the Oklahoma Statutes pursuant to a court order shall receive an adjustment of 1/3 to 1/2 of the increase or decrease of any adjustment to the base salary of a regular police officer.
<b>Termination:</b>	
Less Than 10 Years of Service:	A refund of contributions without interest.
More than 10 Years of Service:	If greater than 10 years of service, but not eligible for the normal retirement benefit, the benefit is payable at the later of the date the Member would have had 20 years of service or attained age 50 in an amount equal to 2 1/2% of the final average salary multiplied by the years of credited service. The Member may elect a refund of contributions instead of the retirement benefit.

## **SECTION 4.3**

### **SUMMARY OF SYSTEM PROVISIONS (CONTINUED)**

#### **Disability Benefit (Duty):**

##### Total Disability

Upon determination of total disability incurred as a result of the performance of duty, the normal disability benefit is 50% of final average salary.

##### Partial Disability

Upon determination of partial disability incurred as a result of the performance of duty, the normal disability is reduced according to the percentage of impairment, as outlined in the "American Medical Association's Guide to the Evaluation of Permanent Impairment." The following shows the percent of normal disability benefit payable as related to the percent of impairment.

<u>% Impairment</u>	<u>% of Benefit</u>
1% to 49%	50%
50% to 74%	75%
75% to 99%	100%

#### **Disability Benefit (Non-Duty):**

Upon determination of disability after 10 years of service due to causes other than duty, the benefit equals the accrued benefit of 2 1/2% of final average salary times years of credited service (maximum of 30 years) times:

- 100%, if permanent and total, or
- the following percentages, if partial disability.

1% to 24%	25%
25% to 49%	50%
50% to 74%	75%
75% to 99%	90%



## **SECTION 4.3**

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### **SUMMARY OF SYSTEM PROVISIONS (CONTINUED)**

#### **Death Benefits Payable to Beneficiaries:**

Prior to Retirement (Duty):

The greater of:

- 1) 2 1/2% of final average salary times years of credited service (maximum of 30 years), or
- 2) 50% of final average salary.

Prior to Retirement  
(Non-Duty):

After 10 years of service, a benefit equal to 2 1/2% of final average salary times years of credited service (maximum of 30 years).

After Retirement:

100% of the Member's retirement or deferred vested benefit, payable when the Member would have been eligible to receive it, payable to the beneficiary.

Death Benefit:

The beneficiary shall receive a death benefit amount of \$5,000.

If an active Member dies prior to retirement without leaving a beneficiary, a refund of the accumulated contributions made by the Member will be paid to the estate.

Beneficiary:

Surviving spouses must be married to the member for 30 months prior to the date of death (waived in the case of duty related death).

If the beneficiary is a child, the benefits are payable to age 18, or 22 if a full-time student.

## ***SECTION 4.3***

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### **SUMMARY OF SYSTEM PROVISIONS (CONTINUED)**

#### **Deferred Option Plan:**

A Member who has 20 or more years of service and continues employment may elect to participate in the Deferred Option Plan (DOP). Participation in the DOP shall not exceed five years. The employees' contributions cease upon entering the Plan, but the employer contributions are divided equally between the Retirement System and DOP. The monthly retirement benefits that the employee is eligible to receive are paid into the DOP account.

Since the prior valuation, the state statute has been amended to allow a member to retroactively elect to join the DOP as of a back-drop-date which is no earlier than the member's normal retirement date or five years before his termination date. The monthly retirement benefits and employee contributions that would have been payable had the member elected to join the DOP are credited to the member's DOP account with interest.

The retirement benefits are not recalculated for service and salary past the election date to join the DOP. However, the benefits may be increased by any applicable cost-of-living increases.

When the Member actually terminates employment, the DOP account balance may be paid in a lump sum or to an annuity provider. Monthly retirement benefits are then paid directly to the retired Member.

This Plan became effective during the July 1, 1990 to June 30, 1991 Plan Year. The DOP account is guaranteed a minimum of the valuation interest rate for investment return, or 2% less than the fund rate of return, if greater.



## ADDENDUM TO JULY 1, 2003 ACTUARIAL VALUATION

### CERTIFICATION

We have prepared an actuarial valuation of the Oklahoma Police Pension and Retirement System as of July 1, 2003, for the plan year ending June 30, 2004. The results of the valuation are set forth in this report, which reflects the provisions of the System as amended and effective on July 1, 2003.

The valuation is based on employee and financial data which were provided by the Oklahoma Police Pension and Retirement System 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 Oversight 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 Generational Mortality Table  
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 plan 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.



William B. Fornia, F.S.A., M.A.A.A.

September 15, 2003



Diane Hunt, F.S.A., M.A.A.A.

September 15, 2003

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## ***SUMMARY OF VALUATION RESULTS UNDER PRESCRIBED ASSUMPTIONS***

This supplemental report has been prepared by Buck Consultants, Inc. for the Oklahoma Police Pension Retirement Board to present the results of a valuation of the Oklahoma Police Pension and 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 State Statutes and regulations issued thereunder.

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

<b>Actuarial Valuation as of July 1, 2003</b>	
<b>Summary of Costs</b>	
Required State Contribution for Current Year under Prescribed Assumptions	\$ 34,267,380
Actual State Contribution Received in Prior Year	\$ 20,400,000
<b>Funded Status</b>	
Actuarial Accrued Liability	\$ 1,659,219,952
Actuarial Value of Assets	\$ 1,392,043,000
Unfunded Actuarial Accrued Liability	\$ 267,176,952
<b>Market Value of Assets and Additional Liabilities</b>	
Market Value of Assets	\$ 1,182,326,000
Present Value of Projected System Benefits	\$ 2,085,692,068

## ***SUMMARY OF VALUATION RESULTS UNDER PRESCRIBED ASSUMPTIONS***

Summary of Contribution Requirements	Actuarial Valuation as of	
	July 1, 2003	
	Amount	% of Active Covered Comp.
1. Annual Covered Compensation for Members Included in Valuation		
a. Active Members	\$ 170,507,025	N/A
b. Deferred Option Plan Members	20,200,000	N/A
c. Total	\$ 190,707,025	N/A
2. Total Normal Cost Mid-year	\$ 47,403,111	27.8%
3. Unfunded Actuarial Accrued Liability	\$ 267,176,952	N/A
4. Amortization of Unfunded Actuarial Accrued Liability over 30 years From July 1, 2003 at mid-year	\$ 21,833,056	12.8%
5. Budgeted Expenses	\$ 2,150,688	1.3%
6. Total Required Contribution under Prescribed Assumptions (2 + 4 + 5)	\$ 71,386,855	41.9%
7. Estimated Employee Contribution (8% x 1a)	\$ 13,640,562	8.0%
8. Estimated Municipality Contributions		
a. Active Members	\$ 22,165,913	13.0%
b. Deferred Option Plan Members	1,313,000	6.5% <sup>(1)</sup>
c. Total	\$ 23,478,913	12.3% <sup>(2)</sup>
9. Required State Contribution to amortize Unfunded Actuarial Accrued Liability over 30 years from July 1, 2003 at mid-year (6 - 7 - 8c)	\$ 34,267,380	20.1%

(1) Percentage of Deferred Option Plan Members' compensation.

(2) Percent of total compensation.

## ***SUMMARY OF VALUATION RESULTS UNDER PRESCRIBED ASSUMPTIONS***

### **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.

	<b>Total System</b>
	<b>July 1, 2003</b>
1. Actuarial Present Value of Benefits	
a. Active Members	\$ 1,112,627,350
b. Members with Deferred Benefits	6,284,564
c. Members Receiving Benefits who are not eligible for Automatic COLA	548,970,679
d. Members Receiving Benefits who are eligible for Automatic COLA	220,721,859
e. Deferred Option Plan Members <sup>(1)</sup>	185,085,834
f. COLA Reserve	12,001,782
g. Total	\$ 2,085,692,068
2. Actuarial Present Value of Future Normal Costs	\$ 426,472,116
3. Total Actuarial Accrued Liability (1g - 2)	\$ 1,659,219,952
4. Actuarial Value of Assets	\$ 1,392,043,000
5. Unfunded Actuarial Accrued Liability (3 - 4, not less than \$0)	\$ 267,176,952

### **NORMAL COST**

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

<b>Component</b>	<b>July 1, 2003</b>
Retirement Benefits	\$ 40,455,113
Withdrawal Benefits	3,392,146
Disability Benefits	597,945
Death Benefits	1,244,542
<b>Total Normal Cost at Beginning of Year</b>	<b>\$ 45,689,746</b>
<b>Total Normal Cost at Mid-year</b>	<b>\$ 47,403,111</b>
Annual Covered Payroll	\$ 170,507,025
Normal Cost Rate At Mid-year	27.80%

## ***SUMMARY OF VALUATION RESULTS UNDER PRESCRIBED ASSUMPTIONS***

### **LIABILITY DETAIL**

<b>Total</b>	<b>July 1, 2003</b>
<b>Present Value of Benefits</b>	<b>\$ 2,085,692,068</b>
<b>Accrued Liability</b>	<b>\$ 1,659,219,952</b>
<b>Normal Cost Mid-Year</b>	<b>\$ 47,403,111</b>

<b>Active</b>	
a. Retirement	\$ 673,812,964
b. Disability	757,949
c. Withdrawal	11,444,112
d. Death	5,919,454
e. Refunds	(5,779,245)
f. Total	\$ 686,155,234
<b>Inactive</b>	
1. Members Eligible for Automatic COLA	
a. Retired Members	\$ 132,978,476
b. Disabled Members	20,892,698
c. Terminated Vested Members	0
d. Deferred Option Plan Members	0
e. Beneficiaries	66,850,685
f. Total	\$ 220,721,859
2. Members Not Eligible for Automatic COLA	
a. Retired Members	\$ 501,181,972
b. Disabled Members	11,768,926
c. Terminated Vested Members	6,284,564
d. Deferred Option Plan Members - Annuities	155,714,834
e. Deferred Option Plan Members - Account Balances	29,371,000
f. Beneficiaries	36,019,781
g. Reserve for COLA's in Future <sup>(1)</sup>	12,001,782
h. Total	\$ 752,342,859
3. Total Inactive (1f + 2h)	\$ 973,064,718
<b>Accrued Liability (Active + Inactive)</b>	<b>\$ 1,659,219,952</b>

<sup>(1)</sup> Ad Hoc cost of living adjustments (COLAs) are prefunded to the 2% per year level in this valuation. These COLAs are granted periodically, but generally not each year. Therefore, in years in which a COLA is not granted, this reserve is increased to fund future COLA's.



## **ACTUARIAL ASSUMPTIONS**

This section presents and describes the actuarial assumptions used for this supplemental valuation. The census of Members, market and actuarial value of assets, actuarial basis and provisions of the Plan are the same as described in Sections 3 and 4 of the valuation report. The valuation is based on the premise that the Plan will continue in existence.

### **Economic Assumptions**

1. Investment Return (Prescribed) 7.5%, net of investment expenses, per annum, compound annually. The System has used this assumption since at least 1984.
2. Earnings Progression Sample rates below:

Years of Service	Current Assumption		
	Inflation %	Merit %	Increase %
1	3.0	16.00	19.00
2	3.0	12.00	15.00
3	3.0	6.75	9.75
4	3.0	6.25	9.25
5	3.0	5.75	8.75
6	3.0	5.50	8.50
7	3.0	5.00	8.00
8	3.0	4.25	7.25
9	3.0	4.10	7.10
10	3.0	3.90	6.90
15	3.0	2.90	5.90
20	3.0	2.00	5.00

## **ACTUARIAL ASSUMPTIONS**

### **Demographic Assumptions**

#### **1. Retirement Rates**

Sample rates below:

<b>Attained Service</b>	<b>Annual Rates of Retirement Per 100 Eligible Members</b>
20	39
21	21
22	17
23	17
24	19
25	22
26	80
27	80
28	80
29	80
30	100

#### **2. Mortality Rates**

- (a) Active employees  
(pre-retirement)  
(Prescribed)

RP-2000 Generational Mortality Tables with generational  
projections - Employees

- (b) Active employees  
(post-retirement and  
nondisabled pensioners)  
(Prescribed)

RP-2000 Generational Mortality Tables with generational  
projections – Healthy Annuitants (except before age 50  
uses Employees mortality)

- (c) Disabled pensioners  
(Prescribed)

RP-2000 Generational Mortality Tables with generational  
projections – Disabled Retirees

## **ACTUARIAL ASSUMPTIONS**

### **Demographic Assumptions (continued)**

#### **3. Disability Rates**

Graduated rates. See table below:

<b>Age Range</b>	<b>Annual Rate</b>
20-24	.0002
25-29	.0004
30-34	.0006
35-39	.0011
40-44	.0020
45-49	.0020
50-54	.0020
55-59	.0010

#### **4. Withdrawal Rates**

Graduated rates by years of service.

<b>Service Range</b>	<b>Annual Rate</b>
0-1	.100
2	.085
3	.070
4	.060
5-10	.040
11-15	.020
16-20	.005
Over 20	.000

#### **5. Marital Status**

(a) Percentage married:

Males: 85%; Females: 85%

(b) Age difference:

Males are assumed to be three (3) years older than females.

## ACTUARIAL ASSUMPTIONS

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### Other Assumptions

1. Assumed Age of Commencement for Deferred Benefits: Age 50.
2. Provision for Expenses: Administrative Expenses, as budgeted by the Oklahoma Police Pension and Retirement System.
3. Percentage of Disability: Based upon information provided by the Executive Director, we assume that employees becoming disabled have a 25%-49% impairment.
4. Cost-of-Living Allowance: (Prescribed) 2% annually.
5. Deferred Option Plan: Deferred Option Plan members are assumed to remain in the Deferred Option Plan for the maximum of five years prior to electing a lump sum.