## OKLAHOMA FIREFIGHTERS PENSION AND RETIREMENT SYSTEM

ACTUARIAL VALUATION REPORT AS OF JULY 1, 2011

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This report has been prepared by Buck Consultants for the Oklahoma Firefighters Retirement Board to:

- Present the results of a valuation of the Oklahoma Firefighters Pension and Retirement System as of July 1, 2011;
- Review experience under the Plan for the year ended June 30, 2011; 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 Plan, on a GASB No. 25 basis, has increased since the prior valuation as indicated by the table below:

GASB No. 25 Funded Status (\$000,000)		<b>1, 2011</b>	July 1, 2010		
Accrued Liability	\$	2,760.3	\$	3,149.4	
Actuarial Value of Assets	\$	1,757.8	\$	1,681.5	
Unfunded Accrued Liability	\$	1,002.5	\$	1,467.9	
Funded Ratio		63.7%		53.4%	

- The funded ratio on a ASC 960 basis, measuring the market value of Plan assets versus the present value of benefits accrued as of the valuation date, increased from 58.9% to 67.0%.
- The total required contribution for the System decreased by 25.0% and the required State contribution decreased by 32.5%.

Contribution Summary (\$000,000)	July 1, 2011	July 1, 2010		
Total Required Contribution	\$ 161.8	\$ 215.6		
Expected Employee Contributions	(19.5)	(19.9)		
Expected Municipality Contributions	(32.6)	(33.2)		
Required State Contribution	\$ 109.7	\$ 162.5		
As a Percentage of Active Payroll	45.0%	65.4%		

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

	Actuarial Valuation as of	
	July 1, 2011 July 1, 2	
Summary of Costs		-
Total Contribution Requirement (1)	\$ 161,852,334	\$ 215,551,043
Total Contributions Received in Prior Year <sup>(2)</sup>	\$ 110,691,346	\$ 105,224,838

GASB No. 25 Funded Status	•	
Actuarial Accrued Liability	\$ 2,760,356,036	\$ 3,149,411,893
Actuarial Value of Assets	\$ 1,757,838,480	\$ 1,681,531,081
Unfunded Actuarial Accrued Liability	\$ 1,002,517,556	\$ 1,467,880,812

Market Value of Assets and Additional Liabilities		
Market Value of Assets	\$ 1,744,097,678	\$ 1,479,895,818
Actuarial Present Value of Accumulated Plan Benefits		
(ASC 960)	\$ 2,603,104,792	\$ 2,513,212,311
Present Value of Projected Plan Benefits	\$ 3,259,262,862	\$ 3,788,266,761

Summary of Data		
Number of Members in Valuation		
Active Paid Members	4,049	3,999
Active Volunteer Members	8,409	8,176
Members with Deferred Benefits	1,283	1,153
Retired Members	5,775	5,821
Beneficiaries	1,932	1,917
Disabled Members	1,757	1,718
Deferred Option Plan Members	119	120
Total	23,324	22,904

Active Member Statistics	÷		
Total Annual Compensation (Paid Members) <sup>(3)</sup>	\$	243,684,122	\$ 248,520,483
Average Compensation (Paid Members) <sup>(3)</sup>	\$	60,184	\$ 62,146
Average Age		38.4	38.3
Average Service		9.2	9.2

<sup>(1)</sup> Excluding Deferred Option Plan Contributions.

For the fiscal year beginning July 1, 2006 and each fiscal year thereafter, the System is scheduled to receive 34% of collected state-wide insurance premium taxes.

<sup>(3)</sup> Compensation is projected one year based on the salary increase assumptions

#### **Legislative Changes**

The Oklahoma Pension Legislation Actuarial Analysis Act was modified to change the definition of a non-fiscal retirement bill and by removing a certain provision that allows a cost-of-living adjustment (COLA) to be considered non-fiscal, thereby requiring that COLAs be concurrently funded by the Legislature at the time they are enacted.

#### **Changes in Actuarial Assumptions**

Due to the requirement that the Oklahoma Legislature must concurrently fund any cost-of-living adjustment, the valuation incorporates no assumption for future ad-hoc cost-of-living adjustments.

There were no other changes to assumptions or methods since the prior valuation. See Section 4.2 for more detail.

#### **Changes in Actuarial Funding Methods**

There were no changes in actuarial funding methods.

#### **Changes in System Benefits**

There were no changes in plan provisions or system benefits with an actuarial impact as of July 1, 2011.

## **Actuarial Experience During the Plan Year**

The actuarial gain/(loss) is shown in the table below:

	Total (000s)		
Liability Gain	\$	67,155	
Asset Gain	\$	(4,782)	
Net Actuarial Gain/(Loss)	\$	62,373	

The Oklahoma Firefighters Deferred Option Plan (DROP) allows members 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 Firefighters Pension and Retirement System and the other half to the members' accounts in the Deferred Option Plan equal to the retirement benefit accrued under the Plan. After the period of active participation, members must separate from active service as a firefighter and retire. After retirement, however, members may remain as inactive members in this plan and defer receipt of the account balance until payments are required under the minimum distribution rules. The DROP was modified effective July 1, 2003 to allow eligible members to retroactively elect to enter DROP as of a back-drop-date upon termination. The monthly retirement benefits and member contributions that would have been payable had the member elected to enter DROP are credited to the employee's account in the DROP.

The Deferred Option Plan accounts are credited with interest at a rate of 2.0% less than the total fund growth, with a guaranteed minimum interest rate equal to the valuation interest rate of 7.5%. The actual rate credited for the fiscal year ended June 30, 2011 was 19.45%.

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

DROP Statistics	July 1, 2011	July 1, 2010	
Number of Members			
Active	119	120	
Inactive	1,611	1,522	
Total	1,730	1,642	
Account Balances	\$ 376,705,525	\$ 315,107,044	
Annual Retirement Benefits of Active Members	\$ 3,527,808	\$ 3,177,504	

We have prepared an actuarial valuation of the Oklahoma Firefighters Pension and Retirement System as of July 1, 2011, for the plan year ending June 30, 2012. 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, 2011.

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

Any changes in actuarial assumptions, methods and benefit provisions since the last valuation of the System as of July 1, 2010 are summarized on page 3 and the financial impact, if any, are incorporated in this report.

#### **Actuarial Certification**

The Retirement Board selected the assumptions used for the results in this report. I believe that these assumptions are reasonable and comply with the requirements of GASB 25. I prepared this report's exhibits in accordance with the requirements of these standards.

I am an Enrolled Actuary, Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all applicable Actuarial Standards of Practice, and I am available to answer questions about it.

(signed) DAVID KENT	
	October 11, 2011
DAVID KENT, FSA, EA, MAAA	

- Section 1.1 Calculation of Contribution Requirement
- Section 1.2 Liability Detail
- Section 1.3 Unfunded Actuarial Accrued Liability
- **Section 1.4** Actuarial Gain/(Loss)
- **Section 1.5** Contributions
- Section 1.6 Ten-Year Projected Cash Flow

## CALCULATION OF CONTRIBUTION REQUIREMENT

		Actuarial Valuation as of						
	C. Summary of Contribution		July 1, 2011			July 1, 2010		
C.	Requirements		Amount	% of Covered Comp.		Amount	% of Covered Comp.	
1.	Annual Compensation							
	a. Members included in							
	Valuation (Covered							
	Compensation)	\$	243,684,122		\$	248,520,483		
	b. Deferred Option Plan							
	Members		6,623,413			6,270,151		
	c. Total Compensation		250,307,535			254,790,634		
2.	Total Normal Cost Mid-year	\$	69,065,987	28.3%	\$	83,041,064	33.4%	
3.	Unfunded Actuarial Accrued							
	Liability	\$1	,002,517,556		\$ 1	,467,880,812		
4.	Amortization of Unfunded							
	Actuarial Accrued Liability over							
	30 years from July 1, 2003 Mid-							
	year (1)	\$	91,070,585	37.4%	\$	131,006,817	52.7%	
5.	Budgeted Expenses	\$	1,715,762	0.7%	\$	1,503,162	0.6%	
6.	Total Required Contribution							
	(2+4+5)	\$	161,852,334	66.4%	\$	215,551,043	86.7%	
7.	Estimated Member Contribution	\$	19,494,730	8.0%	\$	19,881,639	8.0%	
8.	Estimated Employer Contribution							
	a. Active Members - Paid	\$	31,678,936	13.0%	\$	32,307,663	13.0%	
	b. Deferred Option Plan							
	Members - Paid		430,522	$6.5\%^{(2)}$		407,560	$6.5\%^{(2)}$	
	c. Active Members - Volunteer		504,540			490,560		
	d. Deferred Option Plan							
	Members – Volunteer		930			1,050		
	e. Total	\$	32,614,928	13.0%(3)	\$	33,206,833	13.0%(3)	
9.	Required State Contribution to							
	amortize Unfunded Actuarial							
	Accrued Liability over 30 years							
	from July 1, 2003 at Mid-year.							
	(6 - 7 - 8e)	\$	109,742,676	45.0%	\$	162,462,571	65.4%	
10.	Previous year's actual State							
L_	Contribution (4)	\$	59,876,295	24.6%	\$	54,159,341	21.8%	
11.	Approximate period over which							
	previous year's State							
	Contribution will amortize							
	Unfunded Actuarial Accrued							
	Liability (UAAL) from		ot sufficient to			ot sufficient to		
	July 1, 2003	an	ortize UAAL		an	nortize UAAL		

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

<sup>(2)</sup> Percentage of Deferred Option Plan Compensation.

<sup>(3)</sup> Percent of Total Compensation.

<sup>(4)</sup> The System is scheduled to receive 34% of collected state-wide insurance premium taxes.

## CALCULATION OF CONTRIBUTION REQUIREMENT (CONTINUED)

D. Allocation of Contribution Requirements		July 1, 2011				
		Paid	Volunteer	Total		
1.	Total Normal Cost Mid-year	\$ 66,323,191	\$ 2,742,796	\$ 69,065,987		
2.	Unfunded Actuarial Accrued Liability (1)	939,137,613	63,379,943	1,002,517,556		
3.	Amortization of Unfunded Actuarial Accrued Liability over 30 years from July 1, 2003 Mid-year (2)	85,313,031	5,757,554	91,070,585		
4.	Budgeted Expenses <sup>(3)</sup>	1,607,290	108,472	1,715,762		
5.	Total Required Contribution (1 + 3 + 4)	153,243,512	8,608,822	161,852,334		
6.	Estimated Member Contribution	19,494,730	0	19,494,730		
7.	Estimated Employer Contribution					
	a. Active Members	31,678,936	504,540	32,183,476		
	b. Deferred Option Plan Members	430,522	930	431,452		
	c. Total	32,109,458	505,470	32,614,928		
8.	Required State Contribution to amortize Unfunded Actuarial Accrued Liability over 30 years from July 1, 2003 at Mid-year (5 – 6 - 7c)	101,639,324	8,103,352	109,742,676		

<sup>(1)</sup> See Section 1.3 for allocation.

<sup>(2)</sup> Funding Policy Adopted by Board.

<sup>(3)</sup> Allocation based on total Actuarial Accrued Liability.

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## LIABILITY DETAIL

Total	
Present Value of Benefits	\$ 3,259,262,862
Present Value of Future Normal Cost	\$ 498,906,826
Accrued Liability	\$ 2,760,356,036
Normal Cost Mid-year	\$ 69,065,987

Active	
a. Retirement	\$ 899,727,797
b. Withdrawal	6,415,089
c. Disability	8,036,912
d. Death	12,212,571
e. Total	\$ 926,392,369
Inactive	
1. Members Eligible for Automatic COLA	
a. Disabled Members	\$ 65,837,193
b. Beneficiaries	104,986,669
c. Retired Members	115,639,266
d. Total	\$ 286,463,128
2. Members Not Eligible for Automatic COLA	
a. Terminated Vested Members	26,062,242
b. Disabled Members	417,090,291
c. Beneficiaries	108,528,616
d. Retired Members	574,679,488
e. Deferred Option Plan Members - Annuity	44,434,377
f. Deferred Option Plan Members - Account Balances	376,705,525
g. Total	\$ 1,547,500,539
3. Total Inactive $(1d + 2g)$	\$ 1,833,963,667
Accrued Liability (Active + Inactive)	\$ 2,760,356,036

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#### UNFUNDED ACTUARIAL ACCRUED LIABILITY

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

	Total Plan		
	July 1, 2011	July 1, 2010	
1. Actuarial Present Value of Benefits			
a. Active Members	\$ 1,425,299,195	\$ 1,791,041,740	
b. Members with Deferred Benefits	26,062,242	28,497,397	
c. Members Receiving Benefits who are eligible for Automatic COLA	286,463,128	304,417,668	
d. Members Receiving Benefits who are not eligible for Automatic COLA	1,100,298,395	1,299,011,878	
e. Deferred Option Plan Members (1)	421,139,902	365,298,078	
f. COLA Reserve	0	0	
g. Total	3,259,262,862	3,788,266,761	
2. Actuarial Present Value of Future Normal Costs	\$ 498,906,826	\$ 638,854,868	
3. Total Actuarial Accrued Liability (1g - 2)	\$ 2,760,356,036	\$ 3,149,411,893	
4. Actuarial Value of Assets	\$ 1,757,838,480	\$ 1,681,531,081	
5. Unfunded Actuarial Accrued Liability (3 - 4, not less than \$0)	\$ 1,002,517,556	\$ 1,467,880,812	

#### Allocation of Current Year Between Paid and Volunteer:

	Total Plan				
	Paid	Volunteer	Total		
1. Actuarial Present Value of Benefits					
a. Active Members	\$ 1,360,921,795	\$ 64,377,400	\$ 1,425,299,195		
b. Members with Deferred Benefits	5,099,856	20,962,386	26,062,242		
c. Members Receiving Benefits who are eligible for Automatic COLA	286,463,128	0	286,463,128		
d. Members Receiving Benefits who are not eligible for Automatic COLA	996,875,942	103,422,453	1,100,298,395		
e. Deferred Option Plan Members (1)	420,370,823	769,079	421,139,902		
f. COLA Reserve	0	0	0		
g. Total	3,069,731,544	189,531,318	3,259,262,862		
2. Actuarial Present Value of Future Normal					
Costs	\$ 483,887,374	\$ 15,019,452	\$ 498,906,826		
3. Total Actuarial Accrued Liability (1g - 2)	2,585,844,170	174,511,866	2,760,356,036		
4. Actuarial Value of Assets (2)	1,646,706,557	111,131,923	1,757,838,480		
5. Unfunded Actuarial Accrued Liability (3 - 4, not less than \$0)	939,137,613	63,379,943	1,002,517,556		

Effective July 1, 1997, Deferred Option Account balances are included as liability and assets. The total Account Balance on July 1, 2011, is \$376,705,525 and the balance used on July 1, 2010, is \$315,107,044.

(2) Allocated based on total actuarial accrued liability (item 3).

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## 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, 2011.

Expected Actuarial Accrued Liability     a. Actuarial Accrued Liability at July 1, 2010     b. Normal Cost at July 1, 2010     c. Reserve for DROP Interest Rate Guarantee	\$	2,834,304,849 70,123,461	\$	215 105 044		
b. Normal Cost at July 1, 2010 c. Reserve for DROP Interest Rate Guarantee	\$		\$	215 105 044		
b. Normal Cost at July 1, 2010 c. Reserve for DROP Interest Rate Guarantee				315,107,044	\$	3,149,411,893
c. Reserve for DROP Interest Rate Guarantee				0		70,123,461
		, ,				, ,
and DROP Contribution at Mid-Year		6,065,457		4,270,054		10,335,511
d. Benefit Payments for Plan Year Ending						
June 30, 2011		144,263,429		8,208,393		152,471,822
e. Interest on $a + b + c - d$ to End of Year		212,743,388		23,488,011		236,231,399
f. Cost of Assumption Change		(486, 119, 709)		0		(486, 119, 709)
g. COLA Reserve		0		0		0
h. Expected Actuarial Accrued Liability at						
July 1, 2011 $(a + b + c - d + e + f + g)$	\$	2,492,854,017	\$	334,656,716	\$	2,827,510,733
2. Actuarial Accrued Liability at July 1, 2011	\$	2,383,650,511	\$	376,705,525	\$	2,760,356,036
3. Actuarial Liability Gain/(Loss) (1h – 2)	\$	109,203,506	\$	(42,048,809)	\$	67,154,697
4. Expected Actuarial Value of Assets						
a. Actuarial Value of Assets at						
· · · · · · · · · · · · · · · · · · ·	\$	1,366,424,037	\$	315,107,044	\$	1,681,531,081
b. Contributions Made for Plan Year Ending						
June 30, 2011		106,421,292		4,270,054		110,691,346
c. Benefit Payments and Expenses for Plan		1.15.000.016		0.200.202		151 115 (20
Year Ending June 30, 2011		145,909,246		8,208,393		154,117,639
d. Interest on a + b - c to End of Year		101,027,775		23,488,011		124,515,786
e. Expected Actuarial Value of Assets at	Φ	1 427 062 959	Φ	224 (5( 71(	d.	1 762 620 574
	\$	1,427,963,858	\$	334,656,716	\$	1,762,620,574
5. Actuarial Value of Assets as of July 1, 2011 a. Actuarial Value of Assets as of						
July 1, 2011 prior to DROP transfer	Ф	1,424,081,060	Ф	333,757,420	¢	1,757,838,480
-	Ф		\$		Ф	1,737,636,460
b. DROP transfer c. Actuarial Value of Assets as of		(42,948,105)		42,948,105		0
	\$	1,381,132,955	\$	376,705,525	\$	1,757,838,480
6. a. Actuarial Asset Gain/(Loss) Before DROP	Ф	1,361,132,933	Ф	370,703,323	Ф	1,737,636,460
` /	\$	(3,882,798)	\$	(899,296)	\$	(4,782,094)
b. Actuarial Asset Gain/(Loss) After DROP	Ψ	(3,002,770)	Ψ	(0)),2)0)	Ψ	(1,702,001)
	\$	(46,830,903)	\$	42,048,809	\$	(4,782,094)
7.Summary		, , ,		, ,		( ) , , , ,
a. Actuarial Asset Gain/(Loss) (6a)	\$	(3,882,798)	\$	(899,296)	\$	(4,782,094)
b. DROP Guarantee Gain/(Loss) (5b)	T	(42,948,105)	+	42,948,105	+	0
c. Actuarial Liability Gain/(Loss) (3)		109,203,506		(42,048,809)		67,154,697
• ` ` ` ` ` ` ` ` `	\$	62,372,603	\$	0	\$	62,372,603



SECTION 1.5 Page 12

#### **CONTRIBUTIONS**

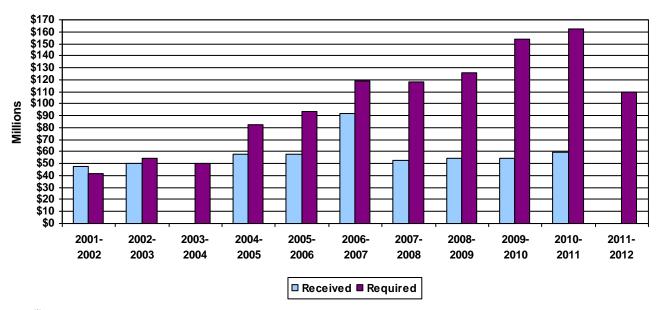
Contributions to the Retirement System are made by the Members, municipalities, fire districts, and the State of Oklahoma.

Paid firefighters contribute 8% of gross salary. Municipalities and fire districts contribute 13.0% of gross salary. For the fiscal year ending June 30, 2011, the fund received a contribution of \$59,876,295 from the State. The Retirement System is scheduled to receive 34% of collected statewide insurance premium taxes.

Volunteer firefighters do not contribute to the fund. Municipalities and fire districts that are not exempt contribute \$60 per year per active volunteer.

The Deferred Option Plan Members do not make employee contributions to the Fund. However, municipalities continue contributing for them, with 50% of the contribution going to the Retirement System fund and 50% going into the Deferred Option account. Contributions for members who retroactively elect to enter the Deferred Option Plan as of a back-drop-date are also deposited into the Deferred Option account.

#### State Contributions Received versus Contributions Required by 30-Year Funding Policy<sup>(1)</sup>



<sup>30-</sup>year amortization period was reset for plan year ending June 30, 2004 (SB 286) to start at July 1, 2003. Prior to that time, the amortization period was 30 years from July 1, 1988.

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

Plan Year Ending	Actives	Retirees (1)	Total
6/30/2012	\$ 6,435,927	\$ 131,297,212	\$ 137,733,139
6/30/2013	16,817,029	131,051,275	147,868,304
6/30/2014	26,587,842	130,571,169	157,159,011
6/30/2015	36,285,914	129,981,101	166,267,015
6/30/2016	45,928,490	129,193,506	175,121,996
6/30/2017	55,333,719	128,191,303	183,525,022
6/30/2018	64,388,632	126,960,325	191,348,957
6/30/2019	73,017,543	125,577,251	198,594,794
6/30/2020	81,922,336	123,934,613	205,856,949
6/30/2021	90,804,589	122,102,803	212,907,392

Includes Deferred Option Plan Members, Disabled Members, Beneficiaries and Terminated Vested Members.

- **Section 2.1** ASC 960 Information
- Section 2.2 GASB No. 25 Information

#### **ASC 960 INFORMATION**

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

The actuarial present value of vested and nonvested accumulated Plan Benefits was computed on an ongoing plan basis in order to provide required information under Accounting Standard Codification 960. In this calculation, a determination is made of all benefits earned by current Members as of the calculation 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 Plan Benefits	July 1, 2011	July 1, 2010
Vested Benefits		
a. Active Members	\$ 682,065,177	\$ 665,261,868
b. Deferred Option Plan Members	421,139,902	355,131,608
c. Members with Deferred Benefits	26,062,242	23,069,552
d. Members Receiving Benefits	1,386,761,523	1,373,242,566
e. Total Vested Benefits	\$ 2,516,028,844	2,416,705,594
Nonvested Benefits	87,075,948	96,506,717
<b>Total Accumulated Plan Benefits</b>	\$ 2,603,104,792	\$ 2,513,212,311
Assumed Rate of Interest	7.5%	7.5%
Market Value of Assets Available for		
Benefits	\$ 1,744,097,678	\$ 1,479,895,818
Funded Ratio	67.00%	58.88%

	July 1, 2011	July 1, 2010
Vested Members		
a. Active Members	5,048	4,873
b. Deferred Option Plan Members	119	120
c. Members with Deferred Benefits	1,283	1,153
d. Members Receiving Benefits	9,464	9,456
e. Total Vested Members	15,914	15,602
Nonvested Members	7,410	7,302
<b>Total Members</b>	23,324	22,904

#### **ASC 960 INFORMATION (CONTINUED)**

#### B. Statement of Changes in Accumulated Plan Benefits

A statement of changes in the actuarial present value of accumulated Plan 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 Plan Benefits as of			
July 1, 2010	\$ 2,513,212,311		
Increase/(Decrease) During Year Attributable to:			
a. Normal Cost <sup>(1)</sup>	\$ 70,367,847		
b. Increase for Interest Due to Decrease in Discount Period	188,154,184		
c. Benefits Paid	(152,471,822)		
d. Plan Amendment	0		
e. Funding Method Changes	0		
f. Assumption Changes	0		
g. (Gains)/Losses	(16,157,728)		
Net Increase/(Decrease)	\$ 89,892,481		
Actuarial Present Value of Accumulated Plan Benefits as of			
July 1, 2011	\$ 2,603,104,792		

<sup>&</sup>lt;sup>(1)</sup> Includes 3.28% of July 1, 2010, DROP account balance (\$315,107,044) as a reserve for the expected cost of the interest rate guarantee on the DROP.

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

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#### GASB No. 25 INFORMATION

#### **Supplementary Schedules**

The GASB has issued a 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 Firefighters Pension and 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.

#### A. 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)
07/01/2006	\$1,546,486,429	\$ 2,666,305,915	\$ 1,119,819,486	58.0%	\$ 204,206,759	548.4%
07/01/2007	\$1,717,070,814	\$ 2,785,218,488	\$ 1,068,147,674	61.6%	\$ 216,710,606	492.9%
07/01/2008	\$1,817,177,365	\$ 2,941,207,332	\$ 1,124,029,967	61.8%	\$ 235,371,501	477.6%
07/01/2009	\$1,667,981,545	\$ 3,075,087,927	\$ 1,407,106,382	54.2%	\$ 246,816,498	570.1%
07/01/2010	\$1,681,531,081	\$ 3,149,411,893	\$ 1,467,880,812	53.4%	\$ 248,520,483	590.6%
07/01/2011	\$1,757,838,480	\$ 2,760,356,036	\$ 1,002,517,556	63.7%	\$ 243,684,122	411.4%

SECTION 2.2 Page 18

## GASB No. 25 Information (CONTINUED)

**Supplementary Schedules (continued)** 

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

The GASB Statement No. 25 required contribution and actual percentage for the last six fiscal years are as follows:

Year Ended June 30	Annual Required Contribution	Percentage Contributed
2006	\$ 118,296,060	69.6%
2007	146,828,788	80.0%
2008	147,273,273	56.4%
2009	157,823,945	52.7%
2010	187,157,125	43.9%
2011	195,669,404	44.9%

This section presents information regarding plan assets as reported by the system administrator or trustee. The plan assets represent the portion of total plan 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

## SUMMARY OF ASSETS (1)

Asset Category	Market Value as of June 30, 2011	Market Value as of June 30, 2010			
	Amount	Amount			
1. Cash and Short-term Investments	\$ 43,898,020	\$ 22,129,386			
2. Receivables	\$ 18,662,204	\$ 15,696,950			
3. Investments at fair value					
a. Government Bonds	\$ 0	\$ 135,668,591			
b. Foreign Government Bonds	44,087,338	39,729,038			
c. U.S. Treasury	25,565,795	1,913,653			
d. International Securities	49,586,555	4,922,030			
e. Corporate Bonds	16,842,408	107,336,324			
f. International Corporate Bonds	0	1,565,748			
g. Common Stock	1,009,866,008	692,446,087			
h. Foreign Stock	188,895,201	140,442,246			
i. Mortgage-backed Securities	6,147,534	8,167,254			
j. Municipal Bonds	2,928,561	1,537,769			
k. Limited Partnerships	340,978,192	310,140,887			
Securities Lending	192,135,212	174,723,589			
m. Total	\$ 1,877,032,804	\$ 1,618,593,216			
4. Assets used in plan operations	\$ 37,953	\$ 47,725			
5. Total Assets	\$ 1,939,630,981	\$ 1,656,467,277			
6. Liabilities	\$ (195,533,303)	\$ (176,571,459)			
7. Net Assets for Pension Benefits	\$ 1,744,097,678	\$ 1,479,895,818			

Deferred option plan assets are included in the valuation assets. The value of these assets on July 1, 2010, is \$315,107,044 and the value on July 1, 2011, is \$376,705,525.



SECTION 3.2 Page 21

## **RECONCILIATION OF ASSETS**

Transactions		June 30, 2011		June 30, 2010
Additions	<u>-</u>			
1. Contributions				
a. Contributions from Employers	\$	31,910,497	\$	32,063,103
b. Contributions from Plan Members		18,904,554		19,002,394
c. Insurance Premium Tax		59,876,295		54,159,341
d. Legislative Appropriation		0		0
e. Total	\$	110,691,346	\$	105,224,838
2. Net Investment Income	\$	307,628,153	\$	131,133,694
3. Total Additions	\$	418,319,499	\$	236,358,532
Deductions			-	
4. Benefit Payments	\$	(152,471,822)	\$	(144,815,793)
5. Administrative Expenses		(1,645,817)		(1,631,542)
6. Adjustment		0		0
7. Total Deductions	\$	(154,117,639)	\$	(146,447,335)
8. Net Increase	\$	264,201,860	\$	89,911,197
9. Net Assets Held in Trust for Pension Benefits (1)				
a. Beginning of Year	\$	1,479,895,818	\$	1,389,984,621
b. End of Year	\$	1,744,097,678	\$	1,479,895,818
10. DROP Assets (included above)				
a. Beginning of Year	\$	315,107,044	\$	288,381,753
b. End of Year	\$	376,705,525	\$	315,107,044

 $<sup>^{(1)}</sup>$  Includes Deferred Option Plan Assets.

SECTION 3.3 Page 22

## **ACTUARIAL VALUE OF ASSETS**

	Schedule of Assets Gains/(Losses)											
Year	Original Amount	Recognized in Prior Years	Recognized This Year	Recognized in Future Years								
2006/2007	\$ 120,982,858	\$ 96,786,288	\$ 24,196,570	\$ 0								
2007/2008	(200,717,174)	(120,430,305)	(40,143,435)	(40,143,434)								
2008/2009	(453,781,818)	(181,512,728)	(90,756,364)	(181,512,726)								
2009/2010	158,405,157	31,681,031	31,681,031	95,043,095								
2010/2011	141,090,329	0	28,218,066	112,872,263								
Total	\$ (234,020,648)	\$(173,475,714)	\$ (46,804,132)	\$ (13,740,802)								

Dev	relopment of Actuarial Value of Assets	
1.	Actuarial Value as of July 1, 2010 (Excluding DROP) (pre-corridor)	\$ 1,366,424,037
2.	Contributions	
	a. Employer (Excluding DROP)	\$ 27,640,443
	b. Member	18,904,554
	c. Insurance Tax	59,876,295
	d. Legislative Appropriation	0
	e. Total	\$ 106,421,292
3.	Decreases During the Year	
	a. Benefit Payments (Excluding benefit payments from DROP, including transfer payments to DROP)	\$ 144,263,429
	b. Noninvestment Expenses	1,645,817
	c. Total	\$ 145,909,246
4.	Expected Return at 7.50% on:	ψ 1 <del>+</del> 3,909,2 <del>+</del> 0
7.	a. Item 1	102,481,803
	b. Item 2	3,990,798
	c. Item 3	5,471,597
	d. Total $(a + b - c)$	\$ 101,001,004
5.	Expected Actuarial Value of Assets (Excluding DROP)	, , , , , , , , , , , , , , , , , , , ,
	June 30, 2011 (1 +2 - 3 +4)	\$ 1,427,937,087
6.	Unrecognized Asset Gain/(Loss) as of June 30, 2010	\$ (201,635,263)
7.	DROP Assets	\$ 376,705,525
8.	Expected Actuarial Value June 30, 2011 plus previous year's	
	Unrecognized Asset Gain/(Loss) $(5 + 6 + 7)$	\$ 1,603,007,349
9.	Market Value June 30, 2011	\$ 1,744,097,678
	2010/2011 Asset Gain/(Loss) (9 - 8)	\$ 141,090,329
11.	Asset Gain/(Loss) to be Recognized as of June 30, 2011	\$ (46,804,132)
12.		\$ 1,757,838,480
13.	<u>e</u>	
	a. 80% of Market Value (9 x 0.8)	\$ 1,395,278,142
	b. 120% of Market Value (9 x 1.2)	2,092,917,214
14.	Actuarial Value July 1, 2011 (Including DROP)	
	(12), but no less than (13a), nor greater than (13b)	\$ 1,757,838,480



SECTION 3.4 Page 23

## AVERAGE ANNUAL RATES OF INVESTMENT RETURN

Year Ending June	Actuar	rial Value	Market Value			
30	Annual	Cumulative	Annual	Cumulative		
1991	7.46%	7.46%	7.77%	7.77%		
1992	8.35%	7.90%	13.74%	10.71%		
1993	9.42%	8.41%	13.70%	11.70%		
1994	8.34%	8.39%	1.75%	9.13%		
1995	9.56%	8.62%	15.06%	10.29%		
1996	11.30%	9.06%	15.22%	11.09%		
1997	25.01%	11.21%	18.24%	12.09%		
1998	11.34%	11.23%	18.77%	12.90%		
1999	10.32%	11.13%	6.59%	12.18%		
2000	10.98%	11.11%	11.08%	12.07%		
2001	7.14%	10.74%	(7.88%)	10.09%		
2002	1.94%	9.98%	(7.20%)	8.54%		
2003	3.56%	9.47%	3.73%	8.16%		
2004	2.75%	8.98%	13.32%	8.52%		
2005	1.75%	8.48%	9.29%	8.57%		
2006	5.39%	8.29%	10.23%	8.67%		
2007	10.42%	8.41%	15.93%	9.09%		
2008	7.85%	8.38%	(3.80%)	8.33%		
2009	(5.87%)	7.58%	(18.07%)	6.75%		
2010	3.32%	7.36%	9.58%	6.89%		
2011	7.21%	7.35%	21.10%	7.52%		

Annual Returns include Deferred Option Plan Assets.

This section presents and describes the basis of the valuation. The census of Members, actuarial basis and provisions of the Plan 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 Plan will continue in existence.

Section 4.1 Plan Members

Section 4.2 Actuarial Basis

**Section 4.3** Summary of Plan Provisions

## PLAN MEMBERS

#### A. Active Member Statistics

Statistics for Active	N. 1		Average		
Members	Number	Age	Service		Earnings
As of July 1, 2010				<u>.</u>	
Paid					
a. Continuing	3,873	40.0	13.2	\$	63,086
b. New	126	28.4	0.6		33,244
c. Total	3,999	39.7	12.8	\$	62,146
Volunteer					
a. Continuing	7,119	38.7	8.4		N/A
b. New	1,057	30.3	0.9		N/A
c. Total	8,176	37.6	7.4		N/A
Total	12,175	38.3	9.2		N/A
As of July 1, 2011				<del>-</del>	
Paid					
a. Continuing	3,846	40.4	13.6	\$	61,910
b. New	203	28.4	0.3		27,476
c. Total	4,049	39.8	12.9	\$	60,184
Volunteer					
a. Continuing	7,316	38.9	8.4		N/A
b. New	1,093	29.8	0.7		N/A
c. Total	8,409	37.7	7.4		N/A
Total	12,458	38.4	9.2		N/A

## PLAN MEMBERS (CONTINUED)

#### **B.** Count of Paid Active Members

		Years of Service										
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total		
Under 20	0	0	0	0	0	0	0	0	0	0		
20-24	128	4	0	0	0	0	0	0	0	132		
25-29	354	125	7	0	0	0	0	0	0	486		
30-34	226	260	131	9	0	0	0	0	0	626		
35-39	123	209	276	143	5	0	0	0	0	756		
40-44	49	96	152	277	110	2	0	0	0	686		
45-49	19	23	87	166	233	149	3	0	0	680		
50-54	3	12	29	82	154	153	55	0	0	488		
55-59	1	0	8	14	31	55	49	10	0	168		
60-64	0	0	0	2	5	8	5	2	1	23		
65-69	0	0	1	2	0	0	0	0	1	4		
70-74	0	0	0	0	0	0	0	0	0	0		
75+	0	0	0	0	0	0	0	0	0	0		
Total	903	729	691	695	538	367	112	12	2	4,049		

## C. Average Compensation of Paid Active Members

					Years o	of Service	<u>,                                    </u>			
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
Under 20	0	0	0	0	0	0	0	0	0	0
20-24	33,683	44,114	0	0	0	0	0	0	0	33,999
25-29	41,463	48,988	50,306	0	0	0	0	0	0	43,526
30-34	43,147	50,834	58,702	63,567	0	0	0	0	0	49,888
35-39	40,969	52,238	64,301	69,518	72,172	0	0	0	0	58,209
40-44	46,457	50,905	62,352	71,174	73,834	82,748	0	0	0	65,077
45-49	42,321	52,831	60,587	70,566	74,920	81,659	106,507	0	0	71,981
50-54	48,295	60,372	57,583	66,987	72,039	78,529	79,867	0	0	72,815
55-59	73,070	0	26,347	67,875	69,849	69,925	77,842	90,394	0	71,211
60-64	0	0	0	43,367	60,167	62,145	90,440	68,459	46,008	66,080
65-69	0	0	9,576	62,203	0	0	0	0	65,105	49,772
70-74	0	0	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0	0	0
Total	41,061	51,112	61,401	69,923	73,418	78,176	80,167	86,738	55,557	60,184

## PLAN MEMBERS (CONTINUED)

#### **D.** Count of Volunteer Active Members

		Years of Service										
Age	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total		
Under 20	0	0	0	0	0	0	0	0	0	0		
20-24	894	65	0	0	0	0	0	0	0	959		
25-29	750	400	28	0	0	0	0	0	0	1,178		
30-34	751	449	164	14	0	0	0	0	0	1,378		
35-39	541	388	230	138	6	0	0	0	0	1,303		
40-44	417	376	246	184	58	0	0	0	0	1,281		
45-49	243	313	234	207	93	16	3	0	0	1,109		
50-54	35	126	204	207	85	29	6	0	0	692		
55-59	11	10	91	137	67	20	13	1	0	350		
60-64	3	3	4	47	42	8	6	4	1	118		
65-69	1	2	0	11	4	5	0	0	1	24		
70-74	0	0	1	8	0	0	2	0	0	11		
75+	0	0	0	5	1	0	0	0	0	6		
Total	3,646	2,132	1,202	958	356	78	30	5	2	8,409		

## PLAN MEMBERS (CONTINUED)

#### **E.** Inactive Member Statistics

Paid										
Inactive Members as of July 1, 2011	Number	Amount of Annual Benefit								
Members Receiving Benefits	-	-								
a. Retired	1,924	\$ 53,875,488								
b. Beneficiaries	766	21,097,512								
c. Disabled	1,425	41,807,712								
d. Deferred Option	88	3,468,552								
Total	4,203	\$ 120,249,264								
Members with Deferred Benefits										
a. Terminated Vested	56	\$ 600,084								
Total	56	\$ 600,084								

Volunteer		
Inactive Members as of July 1, 2011	Number	Amount of Annual Benefit
Members Receiving Benefits		
a. Retired	3,851	\$ 6,829,380
b. Beneficiaries	1,166	2,003,796
c. Disabled	332	469,656
d. Deferred Option	31	59,256
Total	5,380	\$ 9,362,088
Members with Deferred Benefits		
a. Terminated Vested	1,227	\$ 2,053,272
Total	1,227	\$ 2,053,272

## PLAN MEMBERS (CONTINUED)

## F. Members in Pay Status - Annual Benefits

	Paid													
Attained	Retir	ed Members	В	Beneficiaries		Disabled Iembers	Current Payment Total							
Age	No. Benefit		No.	Benefit	No.	Benefit	No.	Benefit						
Under 50	65	\$1,744,812	39	\$992,364	124	\$2,749,932	228	\$5,487,108						
50-54	223	6,016,788	25	695,364	156	4,367,484	404	11,079,636						
55-59	321	9,296,184	59	1,511,688	274	8,417,952	654	19,225,824						
60-64	356	10,141,992	72	1,910,568	290	8,782,800	718	20,835,360						
65-69	314	8,189,436	103	2,480,640	271	7,826,856	688	18,496,932						
70-74	276	7,444,908	113	3,010,104	175	5,080,332	564	15,535,344						
75-79	177	5,137,836	121	3,563,808	74	2,312,844	372	11,014,488						
80-84	120	3,665,304	108	3,216,696	42	1,543,440	270	8,425,440						
85-89	58	1,809,600	76	2,312,220	15	575,952	149	4,697,772						
90 and over	14	428,628	50 1,404,060		4	150,120	68	1,982,808						
Total	1,924	53,875,488	766	21,097,512	1,425	41,807,712	4,115	\$116,780,712						

Volunteer								
Attained Age	Retired Members		Beneficiaries		Disabled Members		Current Payment Total	
	No.	Benefit	No.	Benefit	No.	Benefit	No.	Benefit
Under 50	234	\$ 428,484	70	\$ 85,392	35	\$ 44,004	339	\$ 557,880
50-54	508	853,212	39	58,632	39	51,876	586	963,720
55-59	630	1,085,868	68	104,844	52	72,864	750	1,263,576
60-64	641	1,120,776	102	172,272	53	72,492	796	1,365,540
65-69	637	1,144,596	119	203,268	67	96,264	823	1,444,128
70-74	476	851,724	154	274,200	39	58,896	669	1,184,820
75-79	310	571,320	161	292,008	33	49,752	504	913,080
80-84	258	483,144	175	313,884	5	8,100	438	805,128
85-89	106	195,000	145	258,852	7	12,072	258	465,924
90 and over	51	95,256	133	240,444	2	3,336	186	339,036
Total	3,851	\$ 6,829,380	1,166	\$ 2,003,796	332	\$ 469,656	5,349	\$ 9,302,832

## PLAN MEMBERS (CONTINUED)

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

Paid							
A44-1 J A	Terminate	ed Vested Members	Deferred Option Plan Members				
Attained Age	No.	Benefit	No.	Benefit			
Under 40	10	\$ 101,220	0	\$ 0			
40-44	17	167,508	3	137,844			
45-49	13	146,052	16	715,848			
50-54	9	85,344	36	1,383,840			
55-59	5	62,028	22	834,156			
60-64	2	37,932	10	372,012			
65-69	0	0	1	24,852			
70 and over	0	0	0	0			
Total	56	\$ 600,084	88	\$ 3,468,552			

Volunteer							
Attained Age	Terminate	d Vested Members	Deferred Option Plan Members				
	No.	Benefit	No.	Benefit			
Under 40	101	\$ 115,056	0	\$ 0			
40-44	164	213,480	0	0			
45-49	257	361,236	7	13,152			
50-54	198	315,228	13	24,300			
55-59	205	368,148	6	11,352			
60-64	107	219,684	5	10,452			
65-69	68	155,340	0	0			
70 and over	127	305,100	0	0			
Total	1,227	\$ 2,053,272	31	\$ 59,256			

## PLAN MEMBERS

## H. Member Data Reconciliation

	Paid Members						
	Active Members		Inactive Members				
	Regular	Deferred Option Plan	Deferred Vested Members	Retired Members	Disabled Members	Bene- ficiaries	Total
As of July 1, 2010	3,999	85	46	1,929	1,382	757	8,198
Deferred Option Plan Retirees	(18)	18	-	1	-	-	-
Service Retirements	(60)	(11)	(2)	73	-	-	-
Disability Retirements	(30)	(4)	-	-	34	-	-
Deaths Without Beneficiaries	-	-	(1)	(12)	(4)	(39)	(56)
Deaths With Beneficiaries	(1)	-	-	(34)	(8)	43	-
Nonvested Terminations	(30)	-	-	1	-	-	(30)
Vested Terminations	(7)	-	7	-	-	-	-
Rehires	1	-	(1)	-	-	-	-
Cashouts of Member Contributions	-	-	-	-	-	-	-
Expiration of Benefits	-	-	-	-	-	-	-
Data Corrections	(3)	-	7	(32)	21	5	(2)
Transfers to Volunteer	(4)	-	-	1	-	-	(4)
Transfers from Volunteer	61	-	-	1	-	-	61
Net Change	(91)	3	10	(5)	43	9	(31)
New Entrants During the Year	141	-	-	-	-	-	141
Net Change	50	3	10	(5)	43	9	110
As of July 1, 2011	4,049	88	56	1,924	1,425	766	8,308

## PLAN MEMBERS (CONTINUED)

## H. Member Data Reconciliation (continued)

	Volunteer Members						
	Active Members		Inactive Members				
	Regular	Deferred Option Plan	Deferred Vested Members	Retired Members	Disabled Members	Bene- ficiaries	Total
As of July 1, 2010	8,176	35	1,107	3,892	336	1,160	14,706
Deferred Option Plan Retirees	(2)	2	-	-	-	-	-
Service Retirements	(125)	(6)	(26)	157	-	-	-
Disability Retirements	(8)	-	(1)	-	9	-	-
Deaths Without Beneficiaries	-	-	(6)	(26)	(3)	(72)	(107)
Deaths With Beneficiaries	(9)	-	-	(49)	(10)	68	-
Nonvested Terminations	(597)	-	-	-	-	-	(597)
Vested Terminations	(58)	-	58	-	-	-	-
Rehires	17	-	(16)	(1)	-	-	-
Cashouts of Member Contributions	-	-	-	-	-	-	-
Expiration of Benefits	-	-	-	-	-	-	-
Data Corrections	-	-	111	(122)	-	10	(1)
Transfers to Paid	(61)	-	-	-	_	-	(61)
Transfers from Paid	4	-	-	-	-	-	4
Net Change	(839)	(4)	120	(41)	(4)	6	(762)
New Entrants During the Year	1,072	-	-	-	-	-	1,072
Net Change	233	(4)	120	(41)	(4)	6	310
As of July 1, 2011	8,409	31	1,227	3,851	332	1,166	15,016

#### **ACTUARIAL BASIS**

#### A. 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 and incidence of the annual actuarial cost of Plan Benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the plan 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 plan 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 plan.

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 plan 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.

#### **Actuarial Present Value**

The current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future. The actuarial present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

#### Present Value of Accrued Plan Benefit (ASC 960)

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



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

#### B. 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 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 Plan 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;
- 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 were included in the actuarial value of assets. Deferred Option Plan assets are not subject to this smoothing methodology; they are included at market value.

#### 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 were considered earnings for the year ending June 30, 2011, increased by the salary scale to develop expected earnings for the current valuation year. Earnings were annualized for Members with less than twelve months of reported earnings.

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



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

#### C. Valuation Procedures (continued)

The impact from the dollar limitation required by the Internal Revenue Code Section 415 for governmental plans was not considered in this valuation and was determined not to be significant on a projected basis.

The compensation limitation under IRC Section 401(a)(17) was not considered in this valuation. On a projected basis, the impact of this limitation is insignificant.

The census data provided by the Retirement System was screened for completeness and validity, and discrepancies were resolved. No significant assumptions for incomplete data were necessary.

The estimated employee, employer and state contributions have been determined based on total compensation.

When the data is edited, members reported as non-vested terminations are verified to have less than ten years of service at date of termination. Members with more than ten years of service are included in the valuation (with estimated benefits if necessary).

The Deferred Option Plan members are valued in a manner similar to retired Members. The main difference is the continuation of 50% of the employer contributions to the Firefighters Pension and Retirement System based on the compensation rate of the Deferred Option Plan members. Thirty-two percent (32%) of active and future Deferred Option Plan members are assumed to become disabled at benefit commencement.

The normal cost is adjusted to reflect the expected cost of the guaranteed minimum interest rate on the Deferred Option Plan account balances. The adjustment is 3.28% of the DROP account balances as of the valuation date. This load was determined through a simplified stochastic modeling process in a study conducted for the Plan during 2000.

The contribution requirements are based on total annual compensation rather than total covered compensation. This is a better reflection of the overall expectations for the Plan.

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.



# **ACTUARIAL BASIS (CONTINUED)**

# **D.** Actuarial Assumptions

### **Paid Firefighters**

# **Economic Assumptions**

1. Investment Return 7.50%, net of investment expenses, per annum,

compound annually.

2. Earnings Progression Sample rates below:

Years of	Inflation	Merit	Increase
Service	%	<b>%</b>	<b>%</b>
0	3.00	7.00	10.00
1	3.00	6.00	9.00
2	3.00	5.40	8.40
3	3.00	5.20	8.20
4	3.00	5.00	8.00
5	3.00	4.80	7.80
10	3.00	3.55	6.55
15	3.00	1.65	4.65
20	3.00	1.20	4.20
25+	3.00	1.00	4.00

3. Reserve for Guaranteed Interest Rate for DROP Account Balances

3.28% of DROP account balances as of the valuation date is loaded to normal cost.

# **ACTUARIAL BASIS (CONTINUED)**

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

#### **Paid Firefighters (continued)**

### **Demographic Assumptions**

1. Retirement Rates

Sample rates below:

Attained Service	Annual Rates of Retirement Per 100 Eligible Members
20	20
21	18
22	15
23	14
24	14
25	17
26-34	25
35+	100

#### 2. Mortality Rates

(a) Active employees (pre-retirement)

1994 Group Annuity Mortality Table.

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

Males - 1994 Group Annuity Mortality Table for males set forward one year.

Females - 1994 Group Annuity Mortality Table for females set back two years.

The tables used above reflect an assumption about mortality improvement after the valuation date.

(c) Disabled pensioners

Males - 1994 Group Annuity Mortality Table for males set forward five years.

Females - 1994 Group Annuity Mortality Table for females set forward two years.

# **ACTUARIAL BASIS (CONTINUED)**

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

**Paid Firefighters (continued)** 

# **Demographic Assumptions (continued)**

3. Disability Rates -

Graduated rates. See table below:

Age Range	Rate
20-24	.0005
25-29	.0010
30-34	.0030
35-39	.0040
40-44	.0045
45-49	.0105
50-54	.0280
55-59	.0490
60-64	.0900

33% of disabilities are assumed to be Non-Duty related and 67% are assumed to be Duty related.

# **ACTUARIAL BASIS (CONTINUED)**

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

#### **Paid Firefighters (continued)**

# **Demographic Assumptions (continued)**

4. Disability from DROP 32% of DROP Members are assumed to become disabled

during active DROP membership.

5. Withdrawal Rates Graduated rates. See table below:

Attained Service	Rate
0	.0350
1	.0350
2	.0300
3	.0250
4	.0200
5-9	.0100
10-14	.0080
15+	.0040

6. Marital Status

(a) Percentage married Males: 85%; Females: 85%

(b) Age difference Males are assumed to be three years older than females.

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

#### D. Actuarial Assumptions (continued)

#### **Paid Firefighters (continued)**

#### **Other Assumptions**

 Assumed Age of Commencement for Deferred Benefits
 Later of Age 50 and 20 Years of Service.

2. 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 7.50% 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. 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. Deferred Option Plan assets are included in the actuarial value of assets. Deferred Option Plan assets are included at market value and are not subject to smoothing.

3. Provision for Expenses

Administrative Expenses, as budgeted by the Oklahoma Firefighters Pension and Retirement System.

4. Cost-of-Living Allowance Assumption for Retirees with 20 years of service as of May 26, 1983 Half of the dollar amount of a 3% assumed increase in base pay.

5. Cost-of-Living Increase Assumption

Members are assumed to receive no annual increase in benefits during retirement, except for those in Item 4 above.

# **ACTUARIAL BASIS (CONTINUED)**

entry into the DROP. A 2.50% load is added to the liability of anticipated member joining DROP

retroactively.

#### D. Actuarial Assumptions (continued)

# **Volunteer Firefighters**

#### **Economic Assumptions**

1. Investment Return 7.50%, net of investment expenses, per annum,

compound annually.

2. Benefit level increases No increases.

### **Demographic Assumptions**

1. Retirement Rates Sample rates below:

Attained Service	Annual Rates of Retirement Per 100 Eligible Members
20	43
21	24
22	18
23	14
24	16
25	18
26-34	20
35+	100

# **ACTUARIAL BASIS (CONTINUED)**

#### 2. Mortality Rates

(a) Active employees (pre-retirement)

1994 Group Annuity Mortality Table.

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

Males - 1994 Group Annuity Mortality Table for males

set forward one year.

Females - 1994 Group Annuity Mortality Table for

females set back two years.

The tables used above reflect an assumption about

mortality improvement after the valuation date.

(c) Disabled pensioners Males - 1994 Group Annuity Mortality Table for males

set forward five years.

Females - 1994 Group Annuity Mortality Table for

females set forward two years.

# **ACTUARIAL BASIS (CONTINUED)**

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

**Volunteer Firefighters (continued)** 

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

3. Disability Rates -

Graduated rates. See table below:

Age Range	Rate
20-24	.0005
25-29	.0005
30-34	.0010
35-39	.0010
40-44	.0020
45-49	.0020
50-54	.0080
55-59	.0140
60-64	.0165

67% of disabilities are assumed to be Non-Duty related and 33% are assumed to be Duty related.

# **ACTUARIAL BASIS (CONTINUED)**

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

**Volunteer Firefighters (continued)** 

# **Demographic Assumptions (continued)**

4. Withdrawal Rates Graduated rates. See table below:

Attained Service	Rate
0	.1800
1	.1600
2	.1400
3	.1300
4	.1100
5-9	.0075
10-14	.0500
15+	.0300

5. Marital Status

(a) Percentage married Males: 85%; Females: 85%

(b) Age difference Males are assumed to be three years older than

females.

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

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

#### **Volunteer Firefighters (continued)**

### **Other Assumptions**

1. Assumed Age of Commencement for Deferred Benefits Later of Age 50 and 20 Years of Service.

2. 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 7.50% 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 unrecognized (gain)/loss. 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. Deferred Option Plan assets are included in the actuarial value of assets. Deferred Option Plan assets are included at market value and are not subject to smoothing.

3. Provision for Expenses

Administrative Expenses, as budgeted by the Oklahoma Firefighters Pension and Retirement System.

4. Cost-of-Living Increase Assumption

Members are assumed to receive no annual increase in benefits during retirement.

5. Deferred Option Plan

The retirement rates reflect both regular retirement and entry into the DROP.

#### SUMMARY OF PLAN PROVISIONS

**Effective Date and Plan Year:** The plan became effective May 14, 1908 and is regularly

amended during legislative session. The plan year is

July 1 to June 30.

**Administration:** The plan is administered the Oklahoma Firefighters

Pension and Retirement System Board consisting of 13 members. The Board acts as the fiduciary for investment

and administration of the Plan.

Members Included: All paid and volunteer firefighters of participating

municipalities and fire protection districts.

Member Contributions: Paid firefighters contribute 8% of gross salary. No

employee contributions are required of volunteer

firefighters.

**Employer Contributions:** Participating municipalities and fire protection districts

contribute 13% of gross salary for each paid firefighter and \$60.00 per year for each volunteer firefighter. Municipalities with revenues under \$25,000 make no

contribution for volunteers.

State Contributions: Insurance Premium Tax allocation. The fund is scheduled

to receive 34% of these collected taxes.

Service Considered: The period of membership in the Pension System or a

predecessor municipal system. Service for members of a fire protection district does not accrue before

July 1, 1982.

Military service is credited for one term (unless the member is required by law to re-enlist) if the city continues to make contributions on the member's behalf as though he were in actual service, provided that he returns to actual service within the fire department within ninety (90) days of honorable discharge. War veterans shall receive up to five years of credit for active military

service.

### SUMMARY OF PLAN PROVISIONS (CONTINUED)

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 up to five years of credited service accumulated by the member while a member of the Oklahoma Police Pension and Retirement System, the Oklahoma Law Enforcement Retirement System, the Teachers' Retirement System of Oklahoma, or the Oklahoma Public Employees Retirement System, if the member is not receiving or eligible to receive retirement credit or benefits from said service in any other public retirement system. The cost of buy-back service is determined as the actuarial present value of the benefits attributable to this service, effective January 1, 1991.

**Considered Compensation:** 

The member's gross salary excluding overtime, payment for accumulated sick or annual leave upon termination, any uniform allowances or reimbursement of out-orpocket expenses, but excluding any salary reductions pursuant to Section 457 or Section 414(b) of the Internal Revenue Code. Only salary on which the required contributions have been made may be considered.

**Final Average Compensation:** 

The monthly average of the highest thirty (30) consecutive months of the last sixty (60) months of participating service.

**Normal Retirement Date:** 

The first day following the day the member completes twenty (20) years of service, regardless of age.

**Normal Retirement Benefit:** 

Paid firefighters A monthly benefit equal to 50% of final average

compensation.

Volunteer firefighters \$150.60 per month, effective July 1, 2008.

### SUMMARY OF PLAN PROVISIONS (CONTINUED)

**Late Retirement Benefit:** Benefits continue to accrue for service up to thirty (30)

years at the following rates:

Paid firefighters 2.5% of final average compensation per year of service.

Volunteer firefighters \$7.53 per month per year of service, effective

July 1, 2008.

**Early Retirement Benefit:** None.

**Disability or Death Benefit:** All firefighters are eligible for immediate disability or

death benefits. Disabilities due to heart disease, injury to the respiratory system, or cancer are considered in the line of duty. If there is no eligible surviving spouse, the death benefit is divided between the children under age 18 or age 22 if children are enrolled as full-time students.

Paid firefighters 2.5% of final average monthly compensation per year of

service, with a minimum service credit of 20 years and maximum of 30 years. For disabilities not in the line of duty, final average monthly compensation is based on 60

months instead of 30 months.

Volunteer firefighters \$7.53 per month per year of service, with a maximum of

30 years. For disabilities or deaths in the line of duty,

there is a minimum service credit of 20 years.

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

**Vested Severance Benefit:** 

A member who terminates after ten years of credited service is eligible for a vested severance benefit determined by the normal retirement formula, based on service and salary history to date of termination.

The benefit is payable at age 50 or when the member would have completed twenty years of service, whichever is later, provided the member's contribution accumulation is not withdrawn.

Members terminating with less than ten years of credited service receive a refund of their contribution accumulation without interest.

**Lump Sum Death Benefit:** 

Upon the death of an active or retired member on or after July 1, 1999, a \$5,000 lump sum death benefit will be paid to the member's beneficiary, or estate if no beneficiary. The \$5,000 death benefit does not apply to members electing the vested benefit.

Form of Payments:

The normal form of benefit is a Joint and 100% Survivor Annuity if the firefighter was married 30 months prior to death.

**Post-Retirement Adjustments:** 

Firefighters with 20 years of service as of May 26, 1983, are entitled to post-retirement adjustments equal to one-half the increase or decrease for top step firefighters. Pensions will not be adjusted below the level at which the firefighter retired.

**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 (DROP). Participation in the DROP 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 DROP. The monthly retirement benefits that the employee is eligible to receive are paid into the DROP account.

### SUMMARY OF PLAN PROVISIONS (CONTINUED)

A member is also allowed to retroactively elect to join the DROP 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 DROP are credited to the member's DROP account with interest.

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

When the Member actually terminates employment, the DROP 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.

The DROP account is guaranteed a minimum of the valuation interest rate for investment return, or 2% less than the fund rate of return, if greater.

