

ADDENDUM TO JULY 1, 2009 ACTUARIAL VALUATION

CERTIFICATION

We have prepared a supplemental actuarial valuation of the Oklahoma Firefighters Pension and Retirement System as of July 1, 2009, for the plan year ending June 30, 2009 as required by State statutes. 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, 2009.

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.

The results in this Addendum have been prepared for the sole purpose of meeting the Retirement Board's requirement to submit this information to the Oklahoma State Pension Commission, based on the following prescribed assumptions (11 O.S. 2001, Section 49-100.9, Section H):

Interest rate: 7.50%

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, 2009 valuation. The Retirement Board chose these other assumptions and we believe these other assumptions are reasonable.

The results shown in this Addendum are not consistent with those in the July 1, 2009 valuation. The July 1, 2009 valuation results were determined in accordance with generally accepted actuarial principles and procedures, and are in compliance with the Actuarial Standards of Practice. 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, 2009 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.

(Signed) RICHARD A. MACKESEY

October 13, 2009

RICHARD A. MACKESEY, FSA, EA, MAAA

(Signed) DAVID KENT

October 13, 2009

DAVID KENT, FSA, EA, MAAA

This supplemental report has been prepared by Buck Consultants, LLC 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, 2009, based on the prescribed assumptions under 11 O.S. 2001, Section 49-100.9, Section H of current State Statutes and regulations issued thereunder.

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

		Actuarial Valuation as of July 1, 2009
Summary of Costs		
Required State Contribution for Current Year under Prescribed Assumptions ⁽¹⁾		\$ 140,959,585
Actual State Contribution Received in Prior Year		\$ 53,989,458
Funded Status		
Actuarial Accrued Liability		\$ 3,012,572,206
Actuarial Value of Assets		\$ 1,667,981,545
Unfunded Actuarial Accrued Liability		\$ 1,344,590,661
Market Value of Assets and Additional Liabilities		
Market Value of Assets		\$ 1,389,984,621
Present Value of Projected System Benefits		\$ 3,659,897,810

⁽¹⁾ 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.

Summary of Contribution Requirements	Actuarial Valuation as of	
	July 1, 2009	
	Amount	% of Covered Comp.
1. Annual Compensation		
a. Members included in Valuation (Covered Compensation)	\$ 246,816,498	N/A
b. Deferred Option Plan Members	\$ 6,188,940	N/A
c. Total Compensation	\$ 253,005,438	N/A
2. Total Normal Cost Mid-year	\$ 82,366,130	33.4%
3. Unfunded Actuarial Accrued Liability	\$ 1,344,590,661	N/A
4. Amortization of Unfunded Actuarial Accrued Liability over 30 years from July 1, 2009 at mid-year	\$ 109,804,909	44.5%
5. Budgeted Expenses	\$ 1,503,162	0.6%
6. Total Required Contribution under Prescribed Assumptions (2 + 4 + 5)	\$ 193,674,201	78.5%
7. Estimated Member Contribution	\$ 19,745,320	8.0%
8. Estimated Employer Contribution		
a. Active Members – Paid	\$ 32,086,145	13.0%
b. Deferred Option Plan Members – Paid	\$ 402,281	6.5% ⁽¹⁾
c. Active Members – Volunteer	\$ 479,620	N/A
d. Deferred Option Plan Members – Volunteer	\$ 1,230	N/A
e. Total	\$ 32,969,296	13.0% ⁽²⁾
9. Required State Contribution to amortize Unfunded Actuarial Accrued Liability over 30 years from July 1, 2009. (6 – 7 – 8e)	\$ 140,959,585	57.1%

⁽¹⁾ Percentage of Deferred Option Plan Compensation.

⁽²⁾ Percentage of Total Compensation.

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, 2009
1. Actuarial Present Value of Benefits	
a. Active Members	\$ 1,772,577,116
b. Members with Deferred Benefits	28,411,755
c. Members Receiving Benefits who are eligible for Automatic COLA	280,354,108
d. Members Receiving Benefits who are not eligible for Automatic COLA	1,210,742,799
e. Deferred Option Plan Members ⁽¹⁾	342,612,731
f. COLA Reserve	25,199,301
g. Total	\$ 3,659,897,810
2. Actuarial Present Value of Future Normal Costs	\$ 647,325,604
3. Total Actuarial Accrued Liability (1g - 2)	\$ 3,012,572,206
4. Actuarial Value of Assets	\$ 1,667,981,545
5. Unfunded Actuarial Accrued Liability (3 - 4, not less than \$0)	\$ 1,344,590,661

⁽¹⁾ Effective July 1, 1997, Deferred Option Account balances are included as liability and assets. The total Account Balance on July 1, 2009, is \$293,390,473 and the balance on July 1, 2008, is \$273,872,784.

LIABILITY DETAIL

Total	
Present Value of Benefits	\$ 3,659,897,810
Present Value of Future Normal Cost	\$ 647,325,604
Accrued Liability	\$ 3,012,572,206
Normal Cost Mid-year	\$ 82,366,130

Active	
a. Retirement	\$ 1,091,331,813
b. Withdrawal	7,889,018
c. Disability	9,097,009
d. Death	16,933,672
e. Total	\$ 1,125,251,512
Inactive	
1. Members Eligible for Automatic COLA	
a. Disabled Members	\$ 65,296,106
b. Beneficiaries	91,719,088
c. Retired Members	123,338,914
d. Total	\$ 280,354,108
2. Members Not Eligible for Automatic COLA	
a. Terminated Vested Members	\$ 28,411,755
b. Disabled Members	446,077,324
c. Beneficiaries	109,630,275
d. Retired Members	655,035,200
e. Deferred Option Plan Members – Annuity	49,222,258
f. Deferred Option Plan Members – Account Balances	293,390,473
g. Total	\$ 1,581,767,285
3. Total Inactive (1d + 2g)	\$ 1,862,121,393
4. COLA Reserve	\$ 25,199,301
Accrued Liability (Active + Inactive + COLA Reserve)	\$ 3,012,572,206

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 Section 4.1 of the valuation report. The valuation is based on the premise that the Plan will continue in existence.

Paid Firefighters

Economic Assumptions

1. Investment Return 7.50%, net of investment expenses, per annum, (Prescribed) compound annually

2. Earnings Progression Sample rates below:

Years of Service	Inflation %	Merit %	Increase %
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.

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) (Prescribed)

RP-2000 Generational Mortality Table - Employees

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

RP-2000 Generational Mortality Table – Healthy Annuitants (except before age 50 uses Employees Mortality)

- (c) Disabled pensioners (Prescribed)

RP-2000 Generational Disabled Mortality Table

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.

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.

Paid 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. 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 Assumption (Prescribed) 2% annually.

5. Deferred Option Plan The retirement rates reflect both regular retirement and entry into the DROP. A 2.50% load is added to the liability of anticipated member joining DROP retroactively.

Volunteer Firefighters

Economic Assumptions

- 1. Investment Return 7.50%, net of investment expenses, per annum, (Prescribed) 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

Volunteer Firefighters (continued)

Demographic Assumptions (continued)

2. Mortality Rates

- (a) Active employees (pre-retirement) (Prescribed) RP-2000 Generational Mortality Table - Employees
- (b) Active employees (post-retirement and nondisabled pensioners) (Prescribed) RP-2000 Generational Mortality Table – Healthy Annuitants (except before age 50 uses Employees Mortality)
- (c) Disabled pensioners (Prescribed) RP-2000 Generational Disabled Mortality Table

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.

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.

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