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Public Employees
Retirement Association
of New Mexico

Volunteer Firefighters Retirement Fund of New Mexico
Annual Actuarial Valuation
as of June 30, 2011

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October 27, 2011

The Retirement Board
Public Employees Retirement Association
Santa Fe, New Mexico

Members of the Board:

We have conducted the annual actuarial valuation of the Volunteer Firefighters Retirement Fund as of June 30, 2011; the results of the valuation are contained in the following report. The annual valuation is used to determine the sufficiency of the statutory contribution rates and, if necessary, the amount required to fund the annual normal cost and fully amortize the unfunded actuarial accrued liability with annual payments over a 30-year period. The results of this valuation apply to the fiscal year beginning July 1, 2011 and ending June 30, 2012 (FY 2012). Information contained in our report for plan years ending prior to June 30, 2010 is based upon valuations performed by the Fund's prior actuary.

In performing the valuation, we relied on data supplied by the Public Employees Retirement Association (PERA) and performed limited tests on the data for consistency and reasonableness. In determining the Fund's liabilities, future events, such as investment returns, deaths, retirements, etc., are anticipated based upon the set of actuarial assumptions as approved by the Board. Based on a recent study of the economic assumptions used in the valuation, the investment rate of return was decreased from 8.00% to 7.75% for the June 30, 2011 valuation. New demographic assumptions and cost methods were adopted for the June 30, 2011 valuation based on an experience study for the period July 1, 2006 through June 30, 2010 as follows:

Assumption/Method Changes	
Demographic Assumptions	
Withdrawal - Less Than 5 Years of Service	Increase rates
Withdrawal - 5 or More Years of Service	Increase rates
Retirement	Change pattern of rates
Cost Methodologies	
Non-Vested Terminated Members with 5+ Years of Service and Last Reported Within Last 5 Years	Hold liability for these inactive participants
Actuarial Cost Method	Change to Entry Age Level Dollar method

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Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: fund experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

This is to certify that the undersigned are members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the Fund.

Respectfully submitted,

John J. Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

Jonathan T. Craven, ASA, EA, FCA, MAAA
Senior Actuary

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Section I: Board Summary

The table below summarizes the results of the June 30, 2011 actuarial valuation as compared with the prior year.

Table I-1: Comparative Summary of Principal Results

Valuation Date	June 30, 2011	June 30, 2010
Actuarial Accrued Liability (AAL)		
Active Members	$ 10,912,740	$ 7,372,257
Deferred Vested Members	5,459,211	5,729,045
Non-Vested Inactive Members*	2,358,636	N/A
Retired Members and Survivors	8,378,261	7,364,618
Total	$ 27,108,848	$ 20,465,920
Actuarial Value of Assets	$ 47,004,974	$ 47,346,417
Funded Ratio	173.39 %	231.34 %
Unfunded Actuarial Accrued Liability (UAAL) *(AAL - Actuarial Value of Assets)*	$ (19,896,126)	$ (26,880,497)
Calculation of Required Contribution (Fiscal Year Ending)	June 30, 2012	June 30, 2011
Normal Cost		
Retirement	$ 635,898	$ 993,620
Termination	243,340	$ 54,863
Pre-Retirement Survivors	12,313	$ 18,052
Disability	-	-
Total Normal Cost	$ 891,551	$ 1,066,535
Less Expected Member Contribution	-	-
Employer Normal Cost	$ 891,551	$ 1,066,535
UAAL Amortization Amount (30 Years)	(1,662,581)	(2,297,590)
Total Employer Contribution	$ -	$ -

* Members with at least 5 years of service and a last reported date within the last 5 years are valued similarly to deferred vested members in order to recognize potential liability these members hold.

Summary of Key Findings

The funding policy for the Fund determines the employer contribution required to fund the annual normal cost plus an amount to fully amortize the unfunded actuarial accrued liability (UAAL) over 30 years. The Fund has maintained a significant surplus of assets over liabilities and the annual contribution for the Fund in the fiscal year ending June 30, 2012 (FY 2012) remains $0 in accordance with the funding objectives.

The Fund's normal cost contribution decreased from $1,066,535 to $891,551. The surplus of the Fund's actuarial value of assets over the actuarial accrued liability results in a negative UAAL amount which has increased from $(26,880,497) to $(19,896,126). The funded ratio of the Fund was expected to decrease from 231.3% to 224.7% but due to a net actuarial experience loss, the ratio declined to 209.3%; due to assumption and cost method changes, there was a further decline to 173.4%. We note the following key findings:

- The Fund experienced an actuarial loss on Fund assets of $4,096,038 as a result of investment return on the actuarial value of assets being less than the assumed rate. This represents an 18.6% decrease to the funded ratio. Table III-3 provides the calculation of the investment loss for this year.

- The Fund experienced a net actuarial loss of $63,643 on Fund liabilities due to non-investment related experience. This represents a 0.3% decrease to the funded ratio.

- The Fund received $750,000 more in contributions than expected which results in a 3.5% increase to the funded ratio.

- As a result of an economic study and an experience study performed in the last year, there were assumption and cost method changes made for the current valuation. These changes resulted in a increase to the UAAL of $4,645,933 and a decrease to the funded ratio of 35.9%.

Section II of the report provides summarized information on the membership data used in the valuation. Section III covers the Fund's assets and Section IV covers the Fund's liabilities. The results of the valuation are provided in Section V and the accounting information is in Section VI. The appendices provide additional information on: A) the Fund members; B) the actuarial assumptions and methods; and C) the summary of the benefit provisions of the Fund. It is important to note that all information contained in this report for periods prior to June 30, 2010 were produced by a prior actuarial consulting firm.

Section II: Membership Data

Data regarding the membership of the Fund for use in the valuation were furnished by PERA. The following table summarizes the membership data as of June 30, 2011 and is compared with that reported for the prior year.

Table II-1: Summary of Membership Data as of June 30, 2011

Group	June 30, 2011	June 30, 2010
Total Active Members	**5,867**	**5,422**
Deferred Vested Members	**473**	**529**
Non-Vested Inactive Members	**310**	**N/A**
Retirees		
Service	583	521
Disabled	0	0
Beneficiaries	26	23
Total Retirees	**609**	**544**
Total	**7,259**	**6,495**

Table II-2: Deferred Members, Retired Members and Beneficiaries as of June 30, 2011

Group	Number	Total Annual Benefits	Average Annual Benefits	Average Age
Deferred Vested	**473**	**$ 579,600**	**$ 1,225**	**55.44**
Retirees				
Service	583	800,400	1,373	66.40
Disability	0	0	N/A	N/A
Survivors	26	21,545	829	68.30
Retiree Totals	**609**	**$ 821,945**	**$ 1,350**	**66.48**
Total	**1,082**	**$1,401,545**	**$ 1,295**	**61.65**

Section III: Fund Assets

The following tables provide information on the Fund's market value of assets and cash flow.

Table III-1: Market Value Reconciliation

	June 30, 2011	June 30, 2010
Beginning of Year Market Value	$ 38,938,999	$ 34,036,300
Audit Adjustment	-	(500,000)
Revised Beginning of Year Market Value	$ 38,938,999	$ 33,536,300
Revenues:		
Member Contributions	-	-
Employer Contributions	750,000	750,000
Purchases of Service	-	-
Investment Income		
Adjustments of investments to market value	6,156,497	3,245,426
Interest, dividends, etc.	929,837	967,895
Realized gains (losses)	1,645,867	607,492
Security lending	(86,423)	572,204
Other Income	181,187	169
Total Revenues	$ 9,576,965	$ 6,143,186
Expenditures:		
Benefit Payments	781,845	665,211
Refunds of Member Contributions	-	-
Administrative and Investment Expenses	93,028	75,276
Total Expenditures	$ 874,873	$ 740,487
End of Year Market Value	$ 47,641,091	$ 38,938,999

The market value rate of return for the plan year is 22.44%. The Fund's cash flow is a negative 0.29% as a percentage of average market value.

The actuarial value of assets represents a "smoothed" value developed with the purpose of dampening the impact of market volatility on the assets used in determining valuation results. The actuarial value of assets has been calculated by spreading the recognition of unexpected investment income over four years. The amount of unexpected investment income in each year is the difference between expected actuarial value investment income and actual market value investment income. Table III-2 provides the calculation of the amount of the current year excess investment income to be phased-in as well as the amount of deferred investment income from the prior years calculated in the development of the actuarial value of assets.

Table III-2: Development of Actuarial Value of Assets as of June 30, 2011

1. Actuarial Value Beginning of Year		$	47,346,417
2. Market Value End of Year			47,641,091
3. Market Value Beginning of Year			38,938,999
4. Cash Flow			
a. Contributions		$	750,000
b. Service Purchases			-
c. Benefit Payments and Refunds			(781,845)
d. Net		$	(31,845)
5. Investment Income			
a. Market Total (2 - 3 - 4d)		$	8,733,937
b. Assumed Rate			8.00 %
c. Amount for Immediate Recognition			3,786,440
d. Amount for Phased-In Recognition			4,947,497
6. Phased-In Recognition of Investment Income			
a. Current Year: 0.25 * 5d		$	1,236,874
b. First Prior Year (2010)	$ 1,459,138 x 25%		364,785
c. Second Prior Year (2009)	(15,216,319) x 25%		(3,804,080)
d. Third Prior Year (2008)	(7,574,469) x 25%		(1,893,617)
e. Total Recognized Investment Gain		$	(4,096,038)
7. Audit Adjustment		$	-
8. Actuarial Value End of Year (1 + 4d + 5c + 6e + 7)		**$**	**47,004,974**
9. Difference Between Market & Actuarial Values		$	636,117
10. Rate of Return on Actuarial Value			**(0.65)%**
11. Acturial Value of Assets as a % of Market Value of Assets			**98.7 %**

The actuarial valuation assumes the rate of investment return on the assets of the Fund is 7.75% annually beginning with the June 30, 2011 valuation; the assumed rate of return was 8.00% for the prior valuation. This assumption is based upon the reasonable long-term expected return on the assets. In each year, the Fund will experience actuarial gains and losses due to the actual investment return of the assets. Table III-3 provides the calculation of the gain or loss due to the investment experience on the actuarial value of assets for the year ended June 30, 2011.

Table III-3: Actuarial Investment Gain (Loss) for the Year Ended June 30, 2011

1. Beginning of Year Actuarial Value of Assets (AVA)	$ 47,346,417
2. Employee and Employer Contributions	750,000
3. Benefit Payments	(781,845)
4. Interest [1 x 8.00% + (2 + 3) x 8.00% x 0.5]	3,786,440
5. Expected End of Year AVA (1 + 2 + 3 + 4)	51,101,012
6. Actual End of Year AVA	47,004,974
7. Actuarial Investment Gain (Loss) (6- 5)	**$ (4,096,038)**

The total actuarial present value of benefits is the value as of the valuation date of all future benefits expected to be paid to current members of the Fund. An actuarial cost method allocates each individual's present value of benefits to past and future years of service. The actuarial accrued liability includes the portion of the active member present value of benefits allocated to past service as well as the entire present value of benefits for retirees, beneficiaries and inactive members. The portion of the actuarial present value allocated to the future service of active members is called the present value of future normal costs. Table IV-1 presents the calculation and allocation of the actuarial present value of benefits.

Table IV-1: Allocation of the Actuarial Present Value of Benefits as of June 30, 2011

	Actuarial Accrued Liability	Present Value of Future Normal Cost	Total Actuarial Present Value
Active Members			
Service Retirement	$ 8,541,632	$ 2,727,264	$11,268,896
Termination Benefits	2,213,470	1,162,083	3,375,553
Disability Retirement	157,638	56,856	214,494
Survivor Benefits	-	-	-
Total for Active Members	$10,912,740	$ 3,946,203	$14,858,943
Inactive Vested Members and Inactive-Holding Liability	$ 7,817,847		$ 7,817,847
Retirees and Beneficiaries			
Service Retirements	$ 8,183,698		$ 8,183,698
Disability Retirements	-		-
Beneficiaries	194,563		194,563
Total for Retirees and Beneficiaries	$ 8,378,261		$ 8,378,261
Total	**$27,108,848**	**$ 3,946,203**	**$31,055,051**

Under the valuation funding method, an unfunded actuarial accrued liability (UAAL) exists to the extent that the actuarial accrued liability exceeds the actuarial value of assets as presented in Section III. The calculation of the UAAL and Funded Ratio as of the valuation date is shown in Table IV-2.

Table IV-2: Calculation of the Unfunded Actuarial Accrued Liability and Funded Ratio

	June 30, 2011	June 30, 2010
1. Actuarial Accrued Liability	27,108,848	20,465,920
2. Actuarial Value of Assets	47,004,974	47,346,417
3. Unfunded Actuarial Accrued Liability (1 - 2)	(19,896,126)	(26,880,497)
Funded Ratio (2 / 1)	173.4%	231.3%

The funded ratio is the ratio of the actuarial value of assets (Table III-2) to the actuarial accrued liability (Table IV-1) as of the valuation date. As of June 30, 2011, the funded ratio of the Fund is 173.4% as compared to a ratio of 231.3% as of June 30, 2010. The ratio is a commonly used measure of the funding progress and can be useful in reviewing the historical trend of a Fund's funding progress. Such a review should also consider the impact to this measure over the historical period due to changes to Fund benefits, changes to the actuarial assumptions and methods, and the significant impact that investment experience can have on the ratio over short-term periods. We caution that no single "point in time" measure can provide a universal basis for comparing one Fund's funded status to another.

The calculation of the Fund's actuarial assets and liabilities require the use of several assumptions concerning the future experience of the Fund and its members. In each annual valuation, the latest year of actual experience is compared to that expected by the prior valuation. The differences are actuarial gains and losses which decrease or increase the UAAL. Table IV-3 provides the reconciliation of the UAAL.

Table IV-3: Reconciliation of the UAAL

	UAAL	Funded Ratio
1. Beginning of Year	**$ (26,880,497)**	**231.3 %**
2. Normal Cost	1,066,535	
3. Expected Contributions	-	
4. Interest [1 x 8.00% + (2 + 3) x 8.00% x 0.5]	(2,107,778)	
5. Expected End of Year (1 + 2 + 3 + 4)	$ (27,921,740)	224.7 %
6. Actuarial Experience (Gain) / Loss		
Additional Contributions (with interest)	$ (780,000)	3.5 %
Investment Experience	4,096,038	(18.6)%
Liability Experience	63,643	(0.3)%
Total Actuarial Experience (Gain) / Loss	$ 3,379,681	
7. End of Year Prior to Assumption/Method Changes (5 + 6)	$ (24,542,059)	209.3 %
8. Assumption/Method Changes	4,645,933	(35.9)%
9. Actual End of Year (7 + 8)	**$ (19,896,126)**	**173.4 %**

Section IV of this report presented the Fund's actuarial accrued liability as the portion of the present value of benefits allocated to past years of service. The portion of the active members' present value of benefits allocated to future years of service is funded through annual normal cost contributions from the employer. The normal cost amount was developed as of the valuation date and presented in Table V-1.

The required contribution to satisfy the funding policy is the dollar amount necessary to fund the annual normal cost of the Fund and fully amortize the UAAL over 30 years. The amortization amount calculated is expected to remain constant over the remaining amortization period. As this Fund is in a significant surplus funded position, the annual amortized amount of the surplus more than offsets the Fund's annual normal cost amount. The calculation of the contribution requirement is provided in Table V-1.

Table V-1: Calculation of Required Employer Contribution for Fiscal Year Ending June 30, 2012

1. Present Value of Future Benefits	$	31,055,051
2. Present Value of Future Normal Costs		3,946,203
3. Actuarial Accrued Liability (1 - 2)	$	27,108,848
4. Actuarial Value of Assets		47,004,974
5. Unfunded Actuarial Accrued Liability (UAAL) (3 - 4)	$	(19,896,126)
6. UAAL Amortization Payment (30 years)		(1,662,581)
7. Total Normal Cost		891,551
8. Less: Expected Employee Contribution		-
9. Employer Normal Cost		891,551
Calculated Required Contribution (6 + 9)	**$**	-

The tables provided in this section present disclosure information necessary to comply with GASB requirements and are relevant for the annual financial reporting of the Fund.

Table VI-1: GASB Statement No. 25 Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Plan Assets (a)	Actuarial Accrued Liability (AAL)* (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)
6/30/2011	$ 47,004,974	$ 27,108,848	$ -	173.4 %
6/30/2010	47,346,417	20,465,920	-	231.3 %
6/30/2009	48,192,255	19,869,273	-	242.5 %
6/30/2008	48,437,876	16,945,857	-	285.8 %
6/30/2007	44,960,981	16,536,060	-	271.9 %
6/30/2006	40,679,359	23,742,890	-	171.3 %
6/30/2005	35,651,070	25,151,577	-	141.7 %
6/30/2004	33,000,250	17,778,145	-	185.6 %
6/30/2003	31,221,546	17,058,252	-	183.0 %
6/30/2002	29,784,088	16,127,594	-	184.7 %

* Entry age, level dollar beginning with the 6/30/2011 valuation; unit credit for prior valuations.

Table VI-2: Schedule of Employer Contributions

Fiscal Year Ended June 30	Actuarial Valuation Date	Annual Required Contribution (ARC)
2012	6/30/2011	$0
2011	6/30/2010	0
2010	6/30/2009	0
2009	6/30/2008	0
2008	6/30/2007	0
2007	6/30/2006	0 - 446,000
2006	6/30/2005	406,000 - 1,370,000
2005	6/30/2004	0 - 565,000
2004	6/30/2003	0 - 680,000
2003	6/30/2002	0 - 653,000
2002	6/30/2001	51,000 - 953,000

Table VI-3: Solvency Test

Valuation Date	Aggregate Accrued Liabilities For (1) Active Member Contributions	(2) Retirees, Survivors and Inactive Members	(3) Active Members (Employer Financed Portion)	Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Actuarial Value of Assets (1)	(2)	(3)
6/30/2011	$ -	$ 16,196,108	$ 10,912,740	$ 47,004,974	N/A	100.00%	100.00%
6/30/2010	-	13,093,663	7,372,257	47,346,417	N/A	100.00	100.00
6/30/2009	-	6,343,000	12,686,000	40,844,000	N/A	100.00	100.00
6/30/2008	-	5,807,000	11,139,000	48,437,876	N/A	100.00	100.00
6/30/2007	-	4,936,000	11,599,000	44,961,000	N/A	100.00	100.00

Table VI-4: Schedule of Retirants Added to and Removed from Rolls

Valuation Date	Added to Rolls		Removed from Rolls		Rolls End of Year		% Increase in Annual Allowances	Average Annual Allowances
	Number Added	Annual Allowances	Number Removed	Annual Allowances	Number	Annual Allowances		
6/30/2011	72	$100,800	7	$8,400	609	$ 821,945	12.67%	$ 1,350
6/30/2010	76	116,001	2	3,600	544	729,545	18.21%	1,341
6/30/2009	43	62,400	8	9,600	470	617,144	9.36%	1,313
6/30/2008	50	**	3	**	435	564,344	14.72%	1,297
6/30/2007	47	**	2	**	388	491,944	14.42%	1,268

Table VI-5: Summary of Actuarial Methods and Assumptions

Valuation Date	June 30, 2011
Actuarial cost method	Entry Age, Level Dollar
Amortization method	Level Dollar, Open
Remaining amortization period	30 years
Asset valuation method	4-year Smoothed Market
Actuarial assumptions:	
Investment rate of return (includes 3.50% inflation)	7.75%

Table A-1: Schedule of Active Participant Data as of June 30, 2011

Nearest Age	Completed Years of Service							
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total
Under 30	1,184	98	7	0	0	0	0	**1,289**
30 to 34	414	96	42	2	0	0	0	**554**
35 to 39	334	67	37	13	3	0	0	**454**
40 to 44	876	107	44	19	4	5	0	**1,055**
45 to 49	326	104	53	30	17	8	1	**539**
50 to 54	294	99	75	59	27	22	12	**588**
55 to 59	261	100	45	23	24	12	4	**469**
60	52	14	6	6	6	4	1	**89**
61	54	13	8	9	3	2	0	**89**
62	43	14	5	5	0	0	0	**67**
63	56	22	4	4	1	1	0	**88**
64	51	24	3	2	2	1	0	**83**
65	39	11	3	1	0	1	0	**55**
66	34	18	0	0	1	0	0	**53**
67	43	4	2	1	0	0	0	**50**
68	34	9	3	1	2	1	0	**50**
69	31	17	0	1	1	0	0	**50**
70	20	11	0	0	1	0	0	**32**
71	20	14	1	1	0	1	0	**37**
72	14	3	0	1	0	0	0	**18**
73	21	7	1	1	0	0	0	**30**
74	8	3	0	0	1	0	0	**12**
75	15	6	0	2	0	0	0	**23**
76	17	1	0	0	1	0	0	**19**
77	6	3	0	0	0	0	0	**9**
78	10	3	0	1	0	0	0	**14**
79	9	3	0	0	1	0	0	**13**
80 & Over	27	9	1	1	0	0	0	**38**
Total	**4,293**	**880**	**340**	**183**	**95**	**58**	**18**	**5,867**

Average Age: 43.48
Average Service: 3.93

Table A-2: Number of Annual Retirement Allowances of Benefit Recipients as of June 30, 2011

Type of Pension	Number	Total Annual Benefits	Average Annual Pension
Normal Retirement Pensions			
Two Life 66 2/3% Survivor Pension			
Retired Member Recipient	583	800,400	1,373
Survivor Recipient	26	21,545	829
Total Normal Retirement Pensions	**609**	**$ 821,945**	**$ 1,350**
Total Pensions Being Paid	**609**	**$ 821,945**	**$ 1,350**

Table A-3: Distribution of Participants Receiving Benefits as of June 30, 2011

Attained Age	Retired Member		Survivor		Totals	
	Number	Annual Pensions	Number	Annual Pensions	Number	Annual Pensions
Under 40	0	$ -	0	$ -	0	$ -
40 to 44	0	-	1	800	1	800
45 to 49	0	-	0	-	0	-
50 to 54	0	-	0	-	0	-
55 to 59	91	133,200	0	-	91	133,200
60 to 64	163	235,200	6	4,784	169	239,984
65 to 69	156	206,400	8	6,376	164	212,776
70 to 74	102	129,600	6	4,792	108	134,392
75 to 79	53	70,800	4	3,992	57	74,792
80 to 84	14	19,200	1	800	15	20,000
85 to 89	4	6,000	0	-	4	6,000
90 to 94	0	-	0	-	0	-
95 to 99	0	-	0	-	0	-
100 & Over	0	-	0	-	0	-
Total	**583**	**$ 800,400**	**26**	**$ 21,545**	**609**	**$ 821,945**

Table A-4: Distribution of Retirees & Beneficiaries by Years of Service at Retirement

	Years of Credited Service at Retirement							
	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30+	Total
Average Monthly Benefit*	$100	$106	$100	$98	$130	$172	$100	$110
Average Final Average Salary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Number of Retirees/Beneficiaries*	6	33	159	103	46	35	10	392

* Does not include 217 retirees/beneficiaries with missing years of service at retirement.

Table A-5: Distribution of Recent Retiree Ages at Retirement

	2006-07 Retirees	2007-08 Retirees	2008-09 Retirees	2009-10 Retirees	2010-11 Retirees	All Current Retirees & Beneficiaries
Number	46	41	40	76	63	609
Average Monthly Benefit at Retirement	$115	$139	$128	$126	$119	$114
Average Attained Age at Retirement	58.60	59.16	60.20	64.92	62.66	59.31

Table A-6: Status Reconciliation

	Active Members	Vested Terminated Members	Non-Vested Inactive Members*	Pension Recipients			Total
				Service Retired	Disability Retired	All Beneficiaries	
June 30, 2010	**5,422**	**529**	**0**	**521**	**0**	**23**	**6,495**
Increase (Decrease) From:							
Service Retirement	(47)	(16)		63			
Disability Retirement							
Deaths	(1)	(1)		(6)			(8)
Survivors						3	3
Other Pension Terminations							
Vested Terminations	(9)	9					
Non-Vested Terminations	(697)		12				(685)
New Entrants/Rehires	1,199	(47)					1,152
Data Corrections/Changes		(1)	298	5			302
June 30, 2011	**5,867**	**473**	**310**	**583**	**0**	**26**	**7,259**

* Members with at least 5 years of service and a last reported date within the last 5 years are valued similarly to deferred vested members in order to recognize potential liability these members hold.

Appendix B: Summary of Actuarial Assumptions and Methods

Actuarial Cost Methods Used for the Valuation

An actuarial cost method is a procedure for allocating the actuarial present value of benefits and expenses to time periods. The method used for this valuation is known as the entry age normal level dollar cost method and has the following characteristics:

i) The total present value of projected benefits of each individual is allocated on a level basis over service from entry age to retirement age. The portion of this present value allocated to the valuation year is the normal cost.

ii) The actuarial liability is the accumulation of past normal costs on the valuation date.

Unfunded actuarial accrued liability, which is the difference between the actuarial accrued liability and the accrued assets, is amortized over a 30-year period. As of June 30, 2011, funding value of assets exceeded accrued liabilities. The excess was amortized over 30 years and applied as a credit to the computed normal cost.

The actuarial value of assets used for funding purposes are derived as follows: prior year actuarial value of assets are increased by contributions and expected investment income and reduced by refunds, benefit payments and expenses. To this amount 25% of the difference between expected and actual investment income for each of the previous four years is added.

Actuarial Assumptions Used for the Valuation

The rate of investment return was 7.75% per year, compounded annually, net of expenses.

The rates of separation from active membership were as follows:

Sample Ages	Years of Service	Percent of Active Members Separating Within Next Year
ALL	0	24.00%
	1	18.00
	2	15.00
	3	14.50
	4	14.00
25	5 & Over	10.50
30		10.00
35		9.75
40		9.50
45		9.25
50		9.00
55		8.75
60		8.50

Appendix B: Summary of Actuarial Assumptions and Methods

The rates of retirement from active membership were as follows:

Ages	Percent of Active Members Retiring Within Next Year
55	40.0%
56	30.0
57	25.0
58	25.0
59	25.0
60	30.0
61	30.0
62	30.0
63	30.0
64	40.0
65	100.0

Mortality Assumption. The 2000 Group Annuity Mortality Table (1971 GAM projected), set back 3 years for men and 7 years for women for healthy lives. Special disabled mortality rates are developed and assumed for disabled lives. No provision was made for future mortality improvement. Rates are shown for sample ages in the following schedule.

Mortality Rates				
	Pre- and Post retirement		Post-disablement	
Age	Male	Female	Male	Female
20	0.0378 %	0.0342%	5.1360%	2.6300%
25	0.0450	0.0390	5.2360	2.6300
30	0.0566	0.0468	4.4270	2.6300
35	0.0758	0.0598	2.9780	2.4200
40	0.1072	0.0809	2.0450	2.1800
45	0.1655	0.1156	1.9280	2.0800
50	0.3107	0.1871	2.1270	2.1900
55	0.5363	0.3499	2.4660	2.4900
60	0.8309	0.5899	3.0070	2.8800
65	1.3130	0.9013	3.8570	3.2300
70	2.2037	1.4413	5.1870	3.6200
75	3.7677	2.4514	7.2610	4.0200
80	5.8349	4.1064	10.4530	4.6500
85	9.4487	6.4629	15.2880	6.8600

Miscellaneous and Technical Assumptions

Marriage Assumption:	All members are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses. At retirement, 90% of members are assumed to be married for purposes of valuing death after retirement benefits.
Pay Increase Timing:	N/A.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and mortality decrements operate during the first 5 years of service. Only mortality operates during retirement eligibility.
Incidence of Contributions:	Contributions are assumed to be received in the middle of the year.
Normal Form of Benefit:	A 66-2/3% automatic joint and survivor payment is the assumed normal form of benefit for married members. Straight life is the assumed normal form of benefit for single members.
Benefit Service:	Service nearest the whole year is used to determine the amount of benefit payable.
Average Entry Age:	Age 39.55 was assumed in cases where insufficient data was provided. Active members were assumed to accrue 0.75 years of service credit in each future year.
Non-Vested Inactive Members:	Members with at least 5 years of service and a last reported date within the last 5 years are valued similarly to deferred vested members in order to recognize potential liability these members hold.

Appendix B: Summary of Actuarial Assumptions and Methods

Definitions of Technical Terms

Actuarial Accrued Liability. The difference between the actuarial present value of future benefit payments and the actuarial present value of future normal costs.

Actuarial Cost Method. A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future benefit payments" between future normal cost and actuarial accrued liability.

Actuarial Present Value. The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.

Amortization. Paying off an interest-discounted amount with periodic payments of interest and principal – as opposed to paying off with a lump sum payment.

Experience Gain (Loss). The difference between actual actuarial costs and anticipated actuarial costs – during the period between two valuation dates.

Normal Cost. The actuarial cost allocated to the current year by the actuarial cost method.

Unfunded Actuarial Accrued Liability. The difference between the actuarial accrued liability and the actuarial value of assets. Sometimes referred to as "unfunded accrued liability."

Appendix C: Summary of Fund Provisions

Membership
Includes any active volunteer non-salaried firefighter whose first year of service credit was earned on or after age 16.

Service Credit
A year of service credit may be granted upon required certification for each year the member

(1) attended 50% of all scheduled fire drills,
(2) attended 50% of all scheduled business meetings, and
(3) participated in at least 50% of all emergency response calls which the fire department held him responsible to attend.

Retirement Eligibility
A member may retire (1) with a full retirement annuity at age 55 with 25 or more years of service credit or (2) with a reduced retirement annuity at age 55 with 10 or more years of service credit.

Retirement Annuity
The full retirement annuity is $200 per month. The reduced retirement annuity is $100 per month.

Surviving Spouse Annuity
The surviving spouse of a deceased annuitant receives an annuity equal to 2/3 of the retirement annuity being paid at the time of the member's death. The annuity ceases upon the surviving spouse's marriage or death.

Surviving Dependent Child
If there is no surviving spouse, then a surviving dependent child will receive an annuity equal to 2/3 of the retirement annuity being paid at the time of the member's death. The annuity will cease upon the earlier of the dependent child's 18th birthday or death.

Vested Retirement Annuity
Any member with at least 10 years of service credit who ceases to be a volunteer non-salaried firefighter is eligible for a deferred retirement annuity commencing at age 55. The monthly amount is $200 if the member has at least 25 years of service credit and $100 if the member has between 10 and 25 years of service credit.

Public Payments
$750,000 annually from the State's fire protection fund.