Volunteer Firefighters' Compensation Act of the State of Montana

Actuarial Valuation as of June 30, 2011

Produced by Cheiron

September 2011

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September 15, 2011

Public Employees' Retirement Board
100 North Park, Suite 200
Helena, Montana 59620

Dear Members of the Board:

At your request, we have conducted the annual actuarial valuation of the Volunteer Firefighters' Compensation Act as of June 30, 2011. The results of the valuation are contained in this report. The purpose of the valuation is discussed in the Foreword.

This report contains information on System assets, as well as analyses which combine asset and liability performance and projections. The report also discloses employer contribution levels, and required disclosures under the Governmental Accounting Standards Board Statement No. 25.

Your attention is called to the Foreword in which we refer to the general approach employed in the preparation of this report. We also comment on the sources and reliability of both the data and the actuarial assumptions on which our findings are based. The results of this report are only applicable for Fiscal Year ending 2011 and rely on future System experience conforming to the underlying assumptions. To the extent that actual System experience deviates from the underlying assumptions, the results would vary accordingly.

We hereby certify that, to the best of our knowledge, this report and its contents, which are work products of Cheiron, Inc., are complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinions contained in this report. This report does not address any contractual or legal issues. We are not attorneys and our report does not provide any legal services or advice.

Cheiron's report was prepared exclusively for the Volunteer Firefighters' Compensation Act for a specific and limited purpose. It is not for use or benefit of any third party for any purpose.

Sincerely,
Cheiron

Stephen T. McElhaney, FSA
Principal Consulting Actuary

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FOREWORD

Cheiron has performed the actuarial valuation of the Volunteer Firefighters' Compensation Act as of June 30, 2011. The purpose of this report is to:

1) **Measure and disclose**, as of the valuation date, the financial condition of the System;

2) **Indicate trends** in the financial progress of the System;

3) **Determine the annual required contribution** for Fiscal Year 2011; and compare such annual required contribution to the actual contributions being received.

4) **Provide specific information** and documentation required by the Governmental Accounting Standards Board (GASB).

An actuarial valuation establishes and analyzes System assets and liabilities on a consistent basis, and traces the progress of both from one year to the next. It includes measurement of the System's investment performance as well as an analysis of actuarial liability gains and losses.

Section I presents a summary containing our findings and disclosing important trends experienced by the System in recent years.

Section II contains details on various asset measures, together with pertinent performance measurements.

Section III shows similar information on System liabilities, measured for actuarial, accounting, and government reporting purposes.

Section IV develops the annual required contribution determined using actuarial techniques.

Section V includes the required disclosures under GASB Statement number 25.

The appendices to this report contain a summary of the System's membership at the valuation date, a summary of the major provisions of the System, and the actuarial methods and assumptions used in the valuations.

In preparing our report, we relied without audit, on information (some oral and some written) supplied by the staff of the Public Employee Retirement Administration. This information includes, but is not limited to, plan provisions, employee data, and financial information.

The actuarial assumptions reflect our understanding of the likely future experience of the System and the assumptions as a whole represent our best estimate for the future experience of the System. The results of this report are dependent upon future experience conforming to these assumptions. To the extent that future experience deviates from the actuarial assumptions, the true cost of the System could vary from our results.

Finally, in preparing this report, we have conformed to generally accepted actuarial principles and practices which are consistent with the Code of Professional Conduct, and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board.

SECTION I
BOARD SUMMARY

General Comments

This is the third valuation of the Volunteer Firefighters' Compensation Act performed by Cheiron.

The annual required contribution increased from $987,116 at the June 30, 2010 valuation to $1,070,363 at the June 30, 2011 valuation. The required contribution is determined in by amortizing the unfunded actuarial liability over a 20-year period. During the year ended June 30, 2011, the System's assets gained 20.98% on a market value basis. However, due to the System's asset-smoothing method which recognizes only a portion of the gains and losses, the return on the actuarial asset value was a negative 0.14%. This return was below the assumed rate of return of 7.75% and resulted in an actuarial loss on investments of $2.1 million.

The System experienced an actuarial gain on System liabilities resulting from members retiring, terminating, becoming disabled and dying at rates different from the actuarial assumptions. The gain deducted $0.35 million from the actuarial liability. This type of activity is normal in the course of System experience. The System will experience actuarial gains and losses over time because we cannot predict exactly how people will behave. When a plan experiences alternating gains and losses that are small compared to the total actuarial liability, then the plan's actuarial assumptions are reasonable.

There also was a plan amendment which occurred since the last valuation. The plan amendment added $.15 million to the actuarial liability. A description of the amendment appears in Appendix C to this report.

As of the June 30, 2011 actuarial valuation, the System's unfunded actuarial liability was $9.01 million. This is an increase from last year's unfunded actuarial liability of $7.93 million. The funded ratio decreased from 77% at the prior valuation to 74% at June 30, 2011.

Montana Code Annotated (MCA) 19-2-407 requires an analysis of how market performance is affecting the actuarial funding of the Retirement System. The market value at June 30, 2011 was $0.8 million greater than actuarial value. If market value was used rather than actuarial value, the funded ratio on the valuation date would be 77%, up from 66% the prior year, and the required contribution would be $992,760.

The following table compares the results at June 30, 2011 using the pre- and post-amendment provisions and compared to the 2010 results.

SECTION I
BOARD SUMMARY

Table I-1
Montana Volunteer Firefighters' Compensation Act
Summary of Plan Changes

		Previous Plan	New Plan
Valuation as of:	**June 30, 2011**	**June 30, 2011**	**June 30, 2011**
Actuarial Accrued Liability (AL)	$ 34,511,511	$ 35,043,896	$ 35,194,712
Actuarial Value of Assets (AVA)	26,575,478	26,183,347	26,183,347
Unfunded AL	$ 7,936,033	$ 8,860,549	$ 9,011,365
Funded ratio	77.00%	74.72%	74.40%
Normal Cost	$ 222,855	$ 201,968	$ 202,545
Amortization Payment	764,261	853,294	867,818
Total	$ 987,116	$ 1,055,262	$ 1,070,363

SECTION I
BOARD SUMMARY

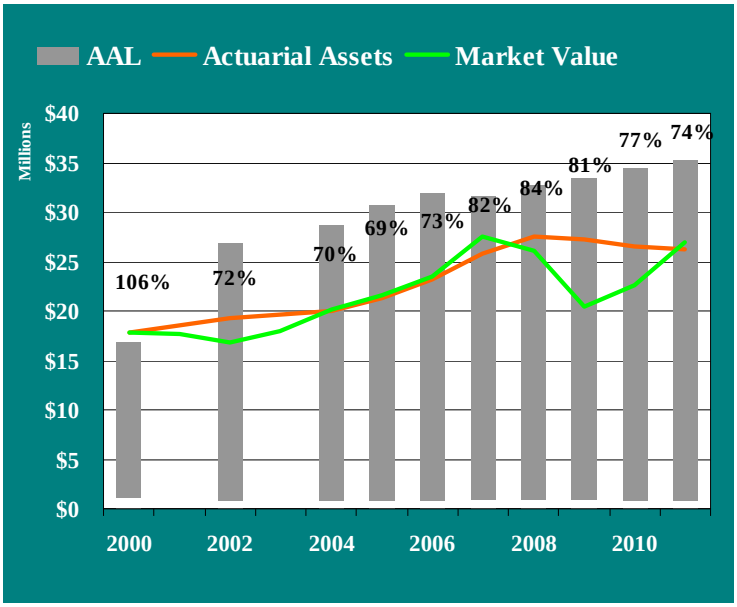
Trends

Assets and Liabilities

The market value of assets (MVA) increased over last year, gaining 20.98% from the value at the prior valuation. The determination of the System's actuarial value of assets reflects only a portion of the amount by which the return was below the assumed rate of 7.75%.

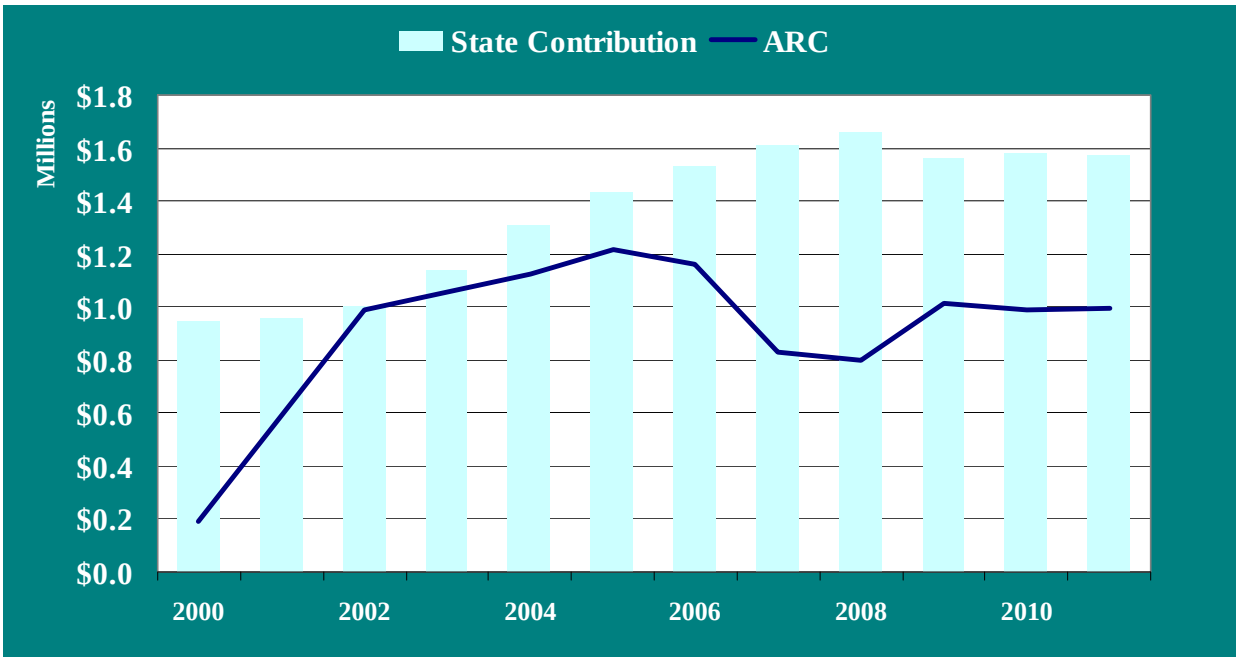
Over the period July 1, 2006 to June 30, 2011, the System's assets returned approximately 3.4% per year measured at actuarial value, compared to a current valuation assumption of 7.75% per year.

For funding purposes, the target amount is represented by the top of the gray bar. We compare the actuarial value of assets to this measure of liability in developing the funded percent. These are the percentages shown in the graph labels.



SECTION I
BOARD SUMMARY

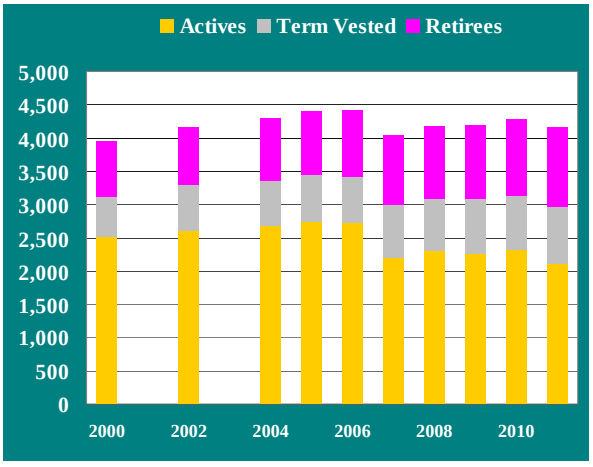
Contributions



The bar in this graph show the contributions made by the State. The black line shows the Annual Required Contribution (ARC) based upon a 20-year amortization of the unfunded actuarial liability.

Participant Trends

The bars show the number of participants in each category and should be read using the left-hand scale. As with any maturing fund, this System continues to show growth in the number of retired members. The active-to-inactive ratio has decreased from 1.7 actives for each inactive in 2000 to 1.0 actives for each inactive today.



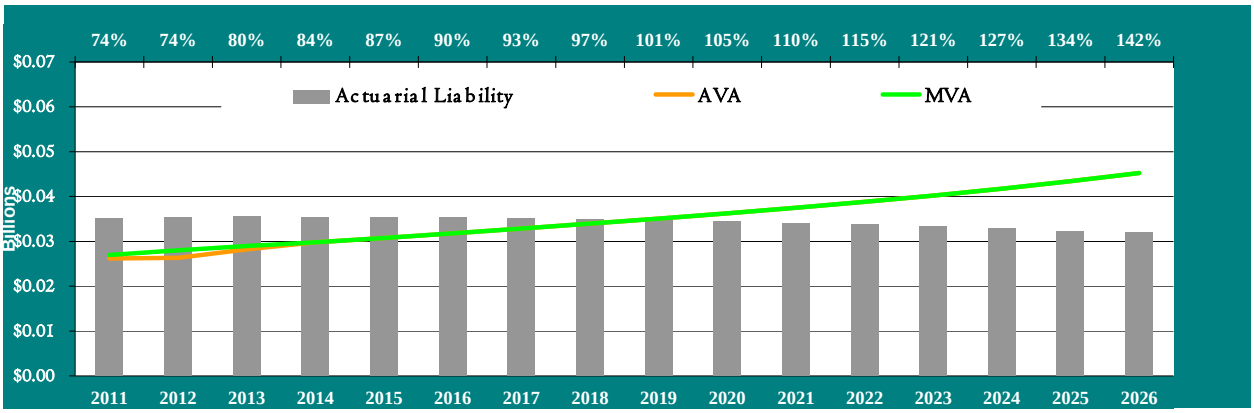
SECTION I
BOARD SUMMARY

Future Outlook

Base Line Projections

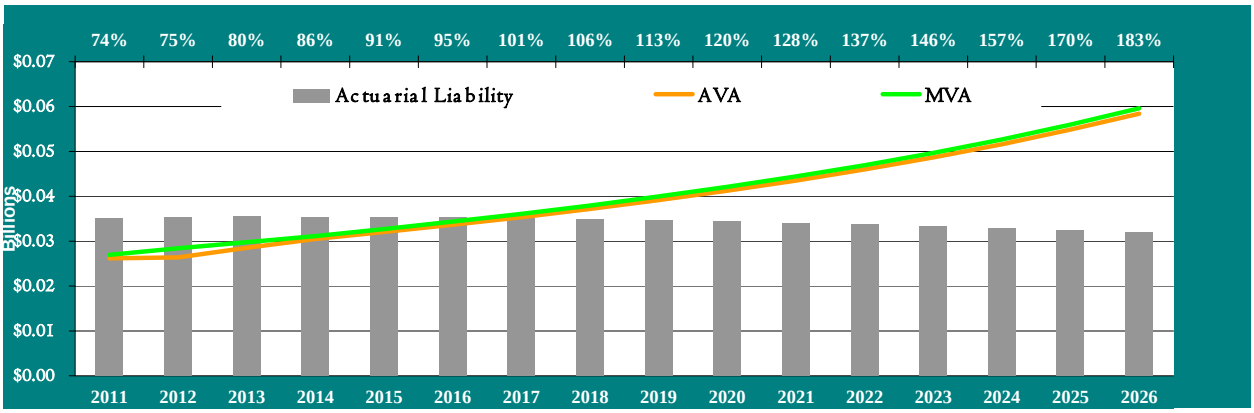
These graphs show the expected progress of the System over the next 15 years assuming the System's assets earn 7.75% on their *market value*, and that contributions continue to be made at the same amount as in the most recent fiscal year.

The chart below shows the funded status of the Plan is expected to increase substantially over the 15-year period.



Projections with Asset Returns of 9.25%

The future funding status of this System will be largely driven by the investment earnings. Due to the size of assets, as compared to liabilities, the System is in a highly leveraged position. This means that relatively minor changes in market returns can have significant effects on the System's status. The chart below shows what the next 15 years would look like with a 9.25% annual return in each year (i.e., 1.5% greater than the assumed rate of return).

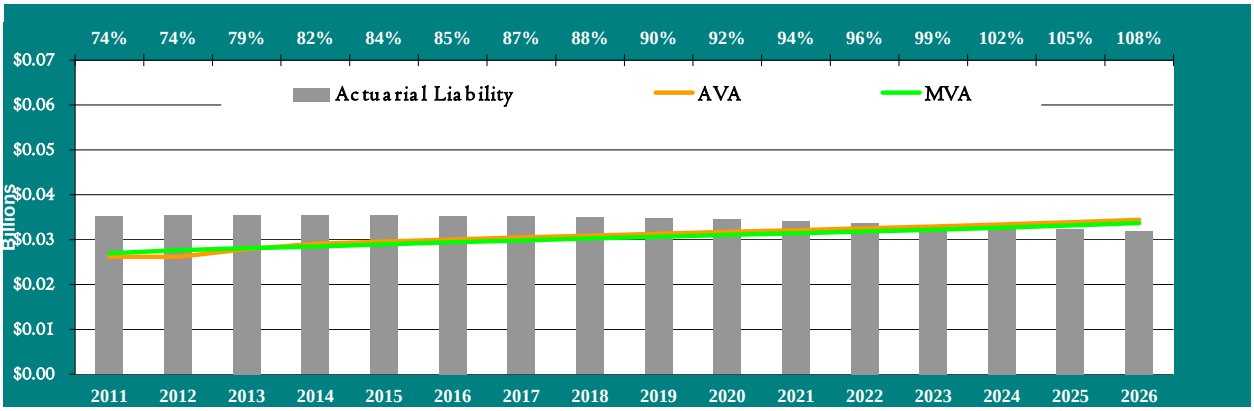


SECTION I
BOARD SUMMARY

Compared to the baseline projections, the funded status improves to a greater extent during the 15-year period.

Projections with Asset Returns of 6.25%

To further demonstrate how the future funding of this System will be driven by investment earnings, we show the anticipated System funding projections if the invested assets earn 6.25% per year over the entire 15-year period (i.e., 1.5% less than the assumed rate of return).



Under this scenario the funded status increases to a lesser extent but still exceeds 100% by the end of the 15-year period.

SECTION I
BOARD SUMMARY

Table I-2
Montana Volunteer Firefighters' Compensation Act
Summary of Principal System Results

Valuation as of:	June 30, 2010	June 30, 2011	% Change
Participant Counts			
Active Members	2,315	2,105	(9.1%)
Disabled Members	0	0	N/A
Retirees and Beneficiaries	1,149	1,183	3.0%
Terminated Vested Members	827	870	5.2%
Terminated Non-Vested Members	0	0	N/A
Total*	4,291	4,158	(3.1%)
Annual Retirement Allowances for Retired Members and Beneficiaries	$ 1,884,150	$ 2,002,322	6.3%
Assets and Liabilities			
Actuarial Accrued Liability (AAL)	$ 34,511,511	$ 35,194,712	2.0%
Actuarial Value of Assets (AVA)	26,575,478	26,183,347	(1.5%)
Unfunded AAL	7,936,033	9,011,365	13.5%
Funded Ratio (AVA/AAL)	77.00%	74.40%	
Present Value of Accrued Benefits (PVAB)	$ 29,423,468	$ 29,354,056	(0.2%)
Market Value of Assets	22,634,510	26,989,170	19.2%
Unfunded PVAB	$ 6,788,958	$ 2,364,886	(65.2%)
Accrued Benefit Funding Ratio	76.93%	91.94%	
Ratio of Actuarial Value to Market Value	117.41%	97.01%	
Contributions			
Normal Cost	$ 222,855	$ 202,545	(65.2%)
Amortization Payment	764,261	867,818	23.3%
Total	$ 987,116	$ 1,070,363	(2.6%)
Actual Contributions for Preceding Fiscal Year	$ 1,574,589	$ 1,596,436	
Amortization Period Based on Actual Contributions	7.7 years	8.8 years	

* A reconciliation of the counts for annual report purposes to counts for valuation purposes appears at the beginning of Appendix A.

SECTION II
ASSETS

Pension Plan assets play a key role in the financial operation of the System and in the decisions the Trustees may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact upon benefit levels, State contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on System assets including:

- **Disclosure** of System assets at June 30, 2010 and June 30, 2011;
- Statement of the **changes** in market values during the year;
- Development of the **Actuarial Value of Assets**;
- An assessment of **investment performance**; and
- A projection of the System's expected **cashflows** for the next ten years.

Disclosure

The market value of assets represents a "snap-shot" or "cash-out" values which provide the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace.

The actuarial values are market values which have been smoothed and are used for evaluating the System's ongoing liability to meet its obligations.

The actuarial value of assets is the current market value, adjusted by a four-year smoothing of gains and losses on a market value basis. Each year's gain or loss is a determined difference between the actual market return and the expected market return using the assumed rate of investment return.

SECTION II
ASSETS

Table II-1
Changes in Market Values

Value of Assets – June 30, 2010		**$ 22,634,510**
Additions		
State Contributions	$ 1,596,436	
Investment Return	4,792,369	
Total Additions	**$ 6,388,805**	
Deductions		
Benefit Payments	$ 1,952,910	
Administrative Expenses	81,235	
Total Deductions	**$ 2,034,145**	
Value of Assets – June 30, 2011		**$ 26,989,170**

SECTION II
ASSETS

Actuarial Value of Assets (AVA)

The actuarial value of assets represents a "smoothed" value developed by the actuary to reduce, or eliminate, erratic results which could develop from short-term fluctuations in the market value of assets. For this System, the actuarial value has been calculated by taking the market value of assets less 75% of the investment gain (loss) during the preceding year, less 50% of the investment gain (loss) during the second preceding year, and less 25% of the investment gain (loss) during the third preceding year. The tables below illustrate the calculation of actuarial value of assets for the June 30, 2011 valuation.

Table II-2
Market Value Gain/(Loss)

Value of Assets – June 30, 2010	$ 22,634,510
Employer Contributions	$ 1,596,436
Benefit Payments	(1,938,060)
Expected Return at 7.75%	1,740,619
Expected Value at June 30, 2011	$ 24,033,505
Actual Value at June 30, 2011	$ 26,989,170
Investment Gain/(Loss)	$ 2,955,665

Table II-3
Develop Excluded Gain/(Loss)

	Total Gain/(Loss)	Excluded Portion
Exclude 75% of 2011 Gain/(Loss)	$ 2,970,515	$ 2,227,886
Exclude 50% of 2010 Gain/(Loss)	$ 872,361	$ 436,180
Exclude 25% of 2009 Gain/(Loss)	$ (7,432,977)	$ (1,858,244)
Total Excluded Gain/(Loss) for AVA Calculation		$ 805,823

SECTION II
ASSETS

Table II-4
Actuarial Value of Assets

Market Value of Assets – June 30, 2011	$ 26,989,170
Total Gain/(Loss) excluded	805,823
Actuarial Value of Assets – June 30, 2011	$ 26,183,347

Investment Performance

The market value of assets (MVA) returned 20.98% during 2011, which is greater than the assumed 7.75% return. A return of (0.14%) on the actuarial value of assets (AVA) is primarily the result of the asset smoothing method being utilized for the calculation of the actuarial value of assets. Since only 25% of the gain or loss from the performance of the System is recognized in a given year, in periods of very good performance, the AVA can lag significantly behind the MVA. In a period of negative returns, the AVA does not decline as rapidly as the MVA.

Table II-5
Annual Rates of Return

Year Ending June 30,	Market Value	Actuarial Value
2005	7.74%	6.49%
2006	8.58%	9.10%
2007	17.52%	11.47%
2008	(4.65%)	7.37%
2009	(20.69%)	(0.37%)
2010	12.30%	(1.30%)
2011	20.98%	(0.14%)

SECTION II
ASSETS

Table II-6
Projection of System's Benefit Payments and Contributions

Year Beginning July 1,	Expected Benefits and Expenses	Expected Contributions*	Net Cash Flow
2011	$ 2,408,644	$ 1,596,436	$ (812,208)
2012	2,612,129	1,596,436	(1,015,693)
2013	2,794,217	1,596,436	(1,197,781)
2014	2,758,091	1,596,436	(1,161,655)
2015	2,843,878	1,596,436	(1,247,442)
2016	2,922,494	1,596,436	(1,326,058)
2017	2,981,813	1,596,436	(1,385,377)
2018	3,040,384	1,596,436	(1,443,948)
2019	3,109,811	1,596,436	(1,513,375)
2020	3,159,713	1,596,436	(1,563,277)

* Expected contributions only include expected State contributions. For illustration purposes, we have assumed State contributions will remain at the same level as the most recent fiscal year.

Expected benefit payments are projected for the closed group valued at June 30, 2011. Projecting any further than ten years using a closed-group would not yield reliable predictions due to the omission of new hires. Expenses are assumed to be 1.50% of benefit payments. (The expense assumption is only for the purposes of the cash flow projections in the above table.)

SECTION III
LIABILITIES

In this section, we present detailed information on System liabilities including:

- **Disclosure** of System liabilities at June 30, 2010 and June 30, 2011; and
- Statement of **changes** in these liabilities during the year.

Disclosure

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them.

- **Present Value of Benefits:** Used for analyzing the financial outlook of the System, this represents the amount of money needed today to fully pay off all future benefits and expenses of the System, assuming participants continue to accrue benefits.

- **Actuarial Accrued Liability:** Used for funding calculations and GASB disclosures, this liability is calculated by taking the Present Value of Benefits and subtracting the present value of future Member Contributions and future Employer Normal Costs under an acceptable actuarial funding method. This method is referred to as the **Entry Age Normal** (EAN) funding method.

- **Present Value of Accrued Liabilities:** Used for communicating the current level of liabilities, this liability represents the total amount of money needed today to fully pay off the current accrued obligations of the System, assuming no future accruals of benefits. These liabilities are also required for accounting purposes (FASB ASC Topic No. 960) and used to assess whether the System can meet its current benefit commitments.

The following table discloses each of these liabilities for the current and prior valuations. With respect to each disclosure, a subtraction of the appropriate value of System assets yields, for each respective type, a **net surplus** or an **unfunded liability**.

SECTION III
LIABILITIES

Table III-1
Liabilities/Net (Surplus)/Unfunded

	June 30, 2010	June 30, 2011
Present Value of Benefits		
Active Participant Benefits	$ 12,746,275	$ 12,265,110
Retiree and Inactive Benefits	22,748,068	23,817,256
Present Value of Benefits (PVB)	**$ 35,494,343**	**$ 36,082,366**
Market Value of Assets (MVA)	$ 22,634,510	$ 26,989,170
Funding Required by Future State Contributions	12,859,833	9,093,196
Total Resources	**$ 35,494,343**	**$ 36,082,366**
Actuarial Accrued Liability		
Present Value of Benefits (PVB)	$ 35,494,343	$ 36,082,366
Present Value of Future Normal Costs (PVFNC)	983,000	887,654
Actuarial Accrued Liability (AAL=PVB–PVFNC)	**34,511,343**	**35,194,712**
Actuarial Value of Assets (AVA)	26,575,478	26,183,347
Net (Surplus)/Unfunded (AAL – AVA)	**$ 7,935,865**	**$ 9,011,365**
Present Value of Accrued Liability		
Present Value of Benefits (PVB)	$ 35,494,343	$ 36,082,366
Present Value of Future Benefit Accruals (PVFBA)	6,070,875	6,728,310
Present Value of Accrued Liability (PVAB=PVB–PVFBA)	**29,423,468**	**29,354,056**
Market Value of Assets (MVA)	22,634,510	26,989,170
Net Unfunded (PVAB – MVA)	**$ 6,788,958**	**$ 2,364,886**

SECTION III
LIABILITIES

Changes in Liabilities

Each of the Liabilities disclosed in the prior table are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- System amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in System assets resulting from the following:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure System assets

In each valuation, we report on those elements of change which are of particular significance, potentially affecting the long-term financial outlook of the System. Below we present key changes in liabilities since the last valuation.

Table III-2

(In Thousands)	Present Value of Benefits	Actuarial Accrued Liability	Present Value of Accrued Liability
Liabilities June 30, 2010	$ 35,494,343	$ 34,511,511	$ 29,423,468
Liabilities June 30, 2011	36,082,366	35,194,712	29,354,056
Liability Increase (Decrease)	588,023	683,201	(69,412)
Change Due to:			
Actuarial (Gain)/Loss	NC*	(353,804)	NC*
Plan Changes	153,717	150,816	71,400
Benefits Accumulated and Other Sources	434,306	886,189	(140,812)

* NC = not calculated

SECTION III
LIABILITIES

Table III-3
Summary of Actuarial Gains and Losses as of June 30, 2011

Actuarial Liabilities as of July 1, 2010	$	34,511,511
Normal Cost		222,855
Actual Benefit Payments		(1,952,910)
Expected Earnings		2,616,244
Expected Actuarial Liability as of July 1, 2011		35,397,700
Actual Liability as of July 1, 2011 (before plan changes)	$	35,043,896
Liability (Gain)/Loss	$	(353,804)
Sources of Liability (Gain)/Loss		
Salary (Gain)/Loss	$	0
New Participant (Gain)/Loss		308,811
Active Retirements (Gain)/Loss		(69,224)
Active Terminations (Gain)/Loss		(485,780)
Active Deaths (Gain)/Loss		22,513
Active Disability (Gain)/Loss		0
Inactive Decrements (Gain)/Loss		(130,124)
Actual Liability as of July 1, 2011 (after plan changes)	$	35,194,712
Liability (Gain)/Loss due to plan changes	$	150,816
Actuarial Value of Assets as of July 1, 2010	$	26,575,478
Net Cash Flow		(356,474)
Expected Earnings		2,046,044
Expected Actuarial Value of Assets as of July 1, 2011		28,265,048
Actual Actuarial Value of Assets as of July 1, 2011	$	26,183,347
Investment (Gain)/Loss	$	2,081,701
Total Liability (Gain)/Loss		(202,988)
Total Actuarial (Gain)/Loss	$	1,878,713

SECTION III
LIABILITIES

Table III-4 shows the actuarial liabilities as of the prior and current valuation dates. The unfunded actuarial liability is the difference between the actuarial liability and the actuarial value of assets. The funded ratio is the ratio of the actuarial value of assets to the actuarial liability.

Table III-4
Actuarial Liabilities for Funding

	June 30, 2010	June 30, 2011
1. Actuarial Liabilities		
Retiree and Inactive Benefits	$ 22,748,068	$ 23,817,256
Active Member Benefits	11,763,443	11,377,456
Total Actuarial Liability	**$ 34,511,511**	**$ 35,194,712**
2. Actuarial Value of Assets	$ 26,575,478	$ 26,183,347
3. Unfunded Actuarial Liability	$ 7,936,033	$ 9,011,365
4. Funded Ratio	77.00%	74.40%

Montana Code Annotated (MCA) 19-2-407 requires an analysis of how market performance is affecting the actuarial funding of the System. Table III-5 presented below shows the same information as in Table III-4 above, but using market value of assets rather than actuarial value of assets.

Table III-5
Actuarial Liabilities on Market Value Basis (MCA 19-2-407)

	June 30, 2010	June 30, 2011
1. Actuarial Liabilities		
Retiree and Inactive Benefits	$ 22,748,068	$ 23,817,256
Active Member Benefits	11,763,443	11,377,456
Total Actuarial Liability	**$ 34,511,511**	**$ 35,194,712**
2. Market Value of Assets	$ 22,634,510	$ 26,989,170
3. Unfunded Actuarial Liability	$ 11,877,001	$ 8,205,542
4. Funded Ratio	65.59%	76.69%

SECTION IV
CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the Plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this System, the funding method employed is the **Entry Age Actuarial Cost Method**. Under this method, there are two components to the total contribution: the **normal cost** and the **unfunded actuarial liability payment** (UAL payment). The normal cost is determined by taking the value, as of entry age into the Plan, of each member's projected future benefits. This value is then divided by the value, also at entry age, of each member's expected future service. The EAN actuarial liability is the portion of the present value future projected benefits that will not be paid by future normal costs. The difference between the EAN actuarial liability and the actuarial value of assets is the unfunded actuarial liability.

Under the adopted funding policy, the annual required contribution is computed as the normal cost plus an amount that will amortize the UAL over a 20-year period. All UAL payments are determined as a level dollar amounts.

SECTION IV
CONTRIBUTIONS

The tables below present and compare the contribution rates for the System for this valuation and the prior one.

Table IV-1
Annual Required Contribution

	June 30, 2010	June 30, 2011
Normal Cost	$ 222,855	$ 202,545
Amortization Payment (20-years)	764,261	867,818
Total Annual Required Contribution	$ 987,116	$ 1,070,363
Actual Contributions for Preceding Fiscal Year	$ 1,574,589	$ 1,596,436
Amortization Period Based on Actual Contributions	7.7 years	8.8 years

Table IV-2
Calculated Contribution on Market Value (MCA 19-2-407)

	June 30, 2010	June 30, 2011
Normal Cost	$ 222,855	$ 202,545
Amortization Payment (20-years)	1,143,786	790,215
Total Calculated Contribution Rate	$ 1,366,641	$ 992,760
Actual Contributions for Preceding Fiscal Year	$ 1,574,589	$ 1,596,436
Amortization Period Based on Actual Contributions	14.3 years	7.8 years

The following table projects results of the annual required contributions for the next five valuations (assuming all assumptions are met, including 7.75% return).

Table IV-3
Projected Calculated Contributions

Valuation Year	Amount
2012	$ 1,149,765
2013	1,084,714
2014	1,034,258
2015	979,891
2016	979,891

SECTION V
ACCOUNTING STATEMENT INFORMATION

Accounting Standard Codification Topic No. 960 of the Financial Accounting Standards Board requires the System to disclose certain information regarding its funded status. Statement No. 25 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

The FASB ASC Topic No. 960 disclosures provide a quasi "snap shot" view of how the System's assets compare to its liabilities if contributions stopped and accrued benefit claims had to be satisfied. However, due to potential legal requirements and the possibility that alternative interest rates would have to be used to determine the liabilities, these values may not be a good indication of the amount of money it would take to buy the benefits for all members if the System were to terminate.

The GASB-25 actuarial accrued liability is the same as the actuarial liability amount calculated for funding purposes.

Both the present value of accrued benefits (FASB ASC Topic No. 960) and the actuarial accrued liability (GASB-25) are determined assuming that the System is on-going and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.75% per annum.

FASB ASC Topic No. 960 specifies that a comparison of the present value of accrued (accumulated) benefits with the market value of the assets as of the valuation date must be provided. GASB Statement No. 25 requires the actuarial accrued liability be compared with the actuarial value of assets for funding purposes. The relevant amounts as of June 30, 2011 are exhibited in Table V-1.

Tables V-2 through V-5 are exhibits to be used with the State CAFR report. Table V-2 is the Note to Required Supplementary Information, Table V-3 is a history of gains and losses in Accrued Liability, Table V-4 is the Schedule of Funding Progress, and V-5 is the Solvency Test which shows the portion of Accrued Liability covered by Assets.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-1
Accounting Statement Information

	June 30, 2010	June 30, 2011
A. FASB ASC Topic No. 960 Basis		
1. Present Value of Benefits Accrued and Vested to Date		
a. Members Currently Receiving Payments	$ 15,846,209	$ 16,483,163
b. Former Vested Members	6,901,859	7,334,093
c. Active Members	6,675,400	5,536,800
2. Total Present Value of Accrued Benefits (1 (a) + 1(b) + 1(c))	$ 29,423,468	$ 29,354,056
3. Assets at Market Value	22,634,510	26,989,170
4. Unfunded Present Value of Accrued Benefits (2 – 3)	$ 6,788,958	$ 2,364,886
5. Ratio of Assets to Present Value of Accrued Benefits (3 / 2)	76.93%	91.94%
B. GASB No. 25 Basis		
1. Actuarial Accrued Liabilities for retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	$ 22,748,068	$ 23,817,256
2. Actuarial Accrued Liabilities for current employees	11,763,443	11,377,456
3. Total Actuarial Accrued Liability (1 + 2)	$ 34,511,511	$ 35,194,712
4. Net Actuarial Assets available for benefits	26,575,478	26,183,347
5. Unfunded Actuarial Accrued Liability (3 – 4)	$ 7,936,033	$ 9,011,365

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-2
NOTE TO REQUIRED SUPPLEMENTARY INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation date	June 30, 2011
Actuarial cost method	Entry age
Amortization method	Open
Remaining amortization period	20 years
Asset valuation method	4-Year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.75%
General wage growth*	N/A
Merit salary increases	N/A
*Includes inflation at	3.00%

The actuarial assumptions used have been recommended based on the most recent review of the System's experience (completed in 2010) and adopted by the Retirement Board.

The rate of employer contributions to the System is composed of the normal cost and amortization of the unfunded actuarial accrued liability. The normal cost is a level cost which will pay for projected benefits at retirement for each participant. The actuarial accrued liability is that portion of the present value of projected benefits that will not be paid by future normal costs. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial accrued liability.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-3
ANALYSIS OF FINANCIAL EXPERIENCE*

Gain and Loss in Accrued Liability During Years Ended June 30
Resulting from Differences Between Assumed Experience and Actual Experience

Type of Activity	*Gain (or Loss) for Year ending June 30, (expressed in thousands)* 2006	2007	2008	2009	2010	2011
Investment Income on Actuarial Assets	$ 186	$ 754	$ (212)	$ (2,301)	$ (2,517)	$ (2,082)
Combined Liability Experience	245	1,643	1	396	27	354
(Loss)/Gain During Year from Financial Experience	$ 431	$ 2,397	$ (211)	$ (1,905)	$ (2,490)	$ (1,728)
Non-Recurring Items	0	0	0	0	170	(151)
Composite Gain (or Loss) During Year	$ 431	$ 2,397	$ (211)	$ (1,905)	$ (2,320)	$ (1,879)

Table V-4
SCHEDULE OF FUNDING PROGRESS*
(expressed in thousands)

Valuation Date June 30,	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Funded Ratio	Unfunded AAL (UAAL)	Covered Payroll	UAAL as a Percentage of Covered Payroll
2011	$ 26,183	$ 35,195	74	$ 9,012	N/A	N/A
2010	26,575	34,512	77	7,937	N/A	N/A
2009	27,239	33,548	81	6,309	N/A	N/A
2008	27,544	32,735	84	5,191	N/A	N/A
2007	25,862	31,599	82	5,737	N/A	N/A
2006	23,238	31,883	73	8,645	N/A	N/A

* Years prior to 2009 were taken from reports prepared by prior actuary.

SECTION V
ACCOUNTING STATEMENT INFORMATION

Table V-5
SOLVENCY TEST*
Aggregate Accrued Liabilities for
(expressed in thousands)

Valuation Date June 30,	Active Member Contributions (1)	Retirants & Beneficiaries (2)	Active Member Employer Financed Contributions (3)	Actuarial Value of Reported Assets	Portion of Accrued Liabilities Covered by Reported Assets (1)	(2)	(3)
2011	$ 0	16,483	$ 18,712	$ 26,183	N/A	100	52
2010	0	15,846	18,665	26,575	N/A	100	57
2009	0	14,498	19,050	27,239	N/A	100	67
2008	0	20,129	12,606	27,544	N/A	100	59
2007	0	19,579	12,019	25,862	N/A	100	52
2006	0	17,803	14,080	23,238	N/A	100	39

* Years prior to 2009 were taken from reports prepared by prior actuary.

APPENDIX A
MEMBERSHIP INFORMATION

Reconciliation of Participant Counts

	Active	Disabled	Retirees and Beneficiaries	Terminated Vested Members	Terminated Non-Vested Members	Total
Participant counts used for valuation	2,105	-	1,183	870	5,999	10,157
Disabled members having attained normal retirement age		-	-			0
Beneficiaries of Disabled Members						0
Beneficiaries with less than one year of certain payments remaining			-			0
Other Adjustments						0
Participant counts shown in Annual Financial Report	2,105	0	1,183	870	5,999	10,157

This chart is presented for informational purposes only. The counts shown in the valuation line were used for preparation of the liabilities disclosed within this report. The counts disclosed for the Annual Financial Report and the Board Summary (page 7) match the CAFR reports at the request of the Board. The differences between the counts have no material effect upon the liability calculation.

The benefits for retirees and beneficiaries used for the tables and charts which follow are different than the benefits used for the Board Summary on page 7. For this Appendix A, the valuation projected benefits are to be paid for the following fiscal year, whereas for the Board Summary, annual benefits are as of the valuation date.

APPENDIX A
MEMBERSHIP INFORMATION

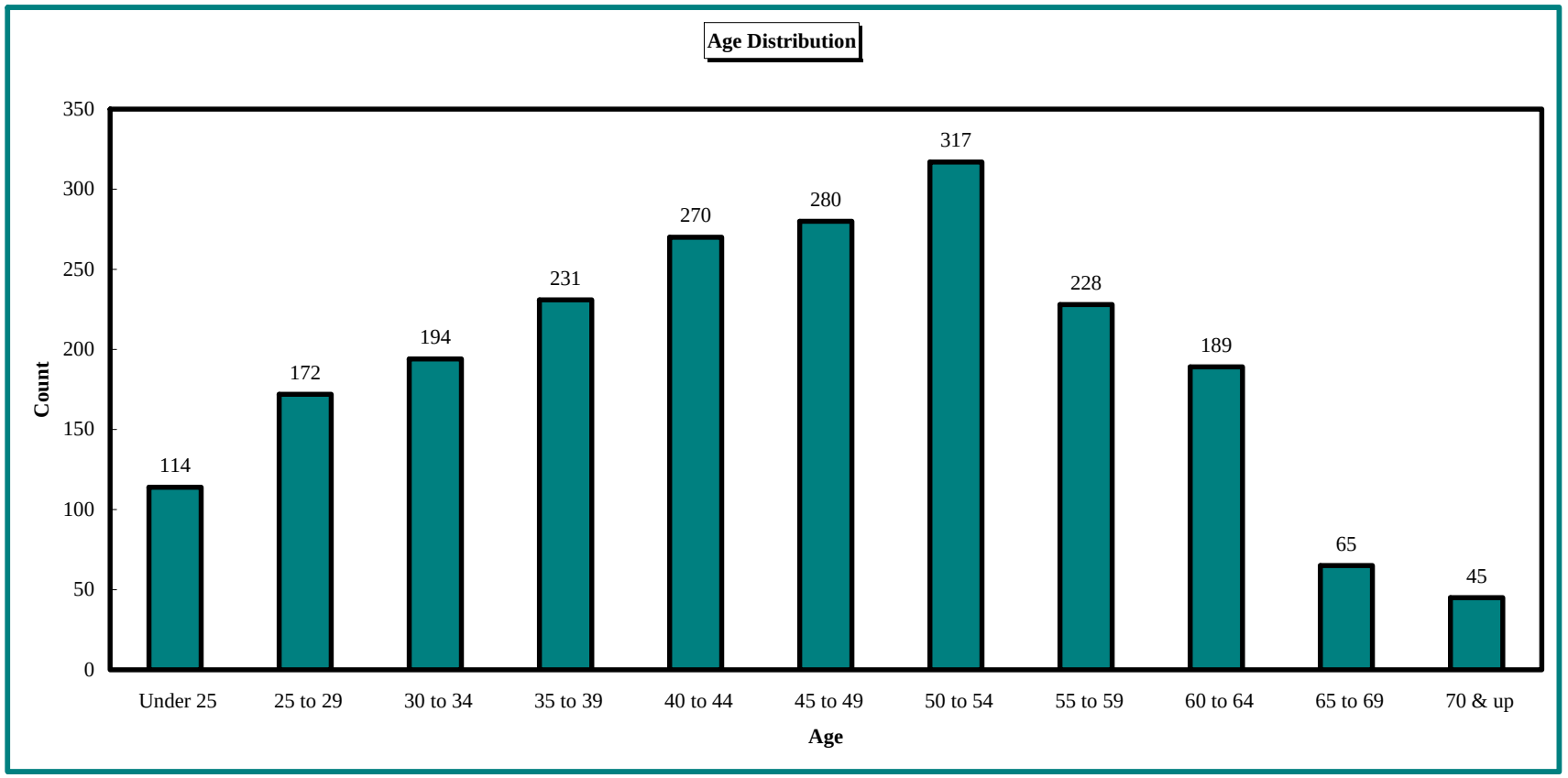
Montana Volunteer Firefighters' Compensation Act Distribution of Active Members by Age and Service as of June 30, 2011

COUNTS BY AGE/SERVICE

	Service										
Age	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & up	Total
Under 25	0	106	8	0	0	0	0	0	0	0	114
25 to 29	0	115	54	3	0	0	0	0	0	0	172
30 to 34	0	96	77	20	1	0	0	0	0	0	194
35 to 39	0	94	83	38	16	0	0	0	0	0	231
40 to 44	0	76	96	67	21	8	2	0	0	0	270
45 to 49	0	58	83	46	47	34	12	0	0	0	280
50 to 54	0	51	81	64	36	51	27	7	0	0	317
55 to 59	0	36	57	34	36	38	17	9	1	0	228
60 to 64	0	26	47	38	40	21	12	3	1	1	189
65 to 69	0	10	20	8	14	9	4	0	0	0	65
70 & up	0	4	18	9	7	3	4	0	0	0	45
Total	0	672	624	327	218	164	78	19	2	1	2,105

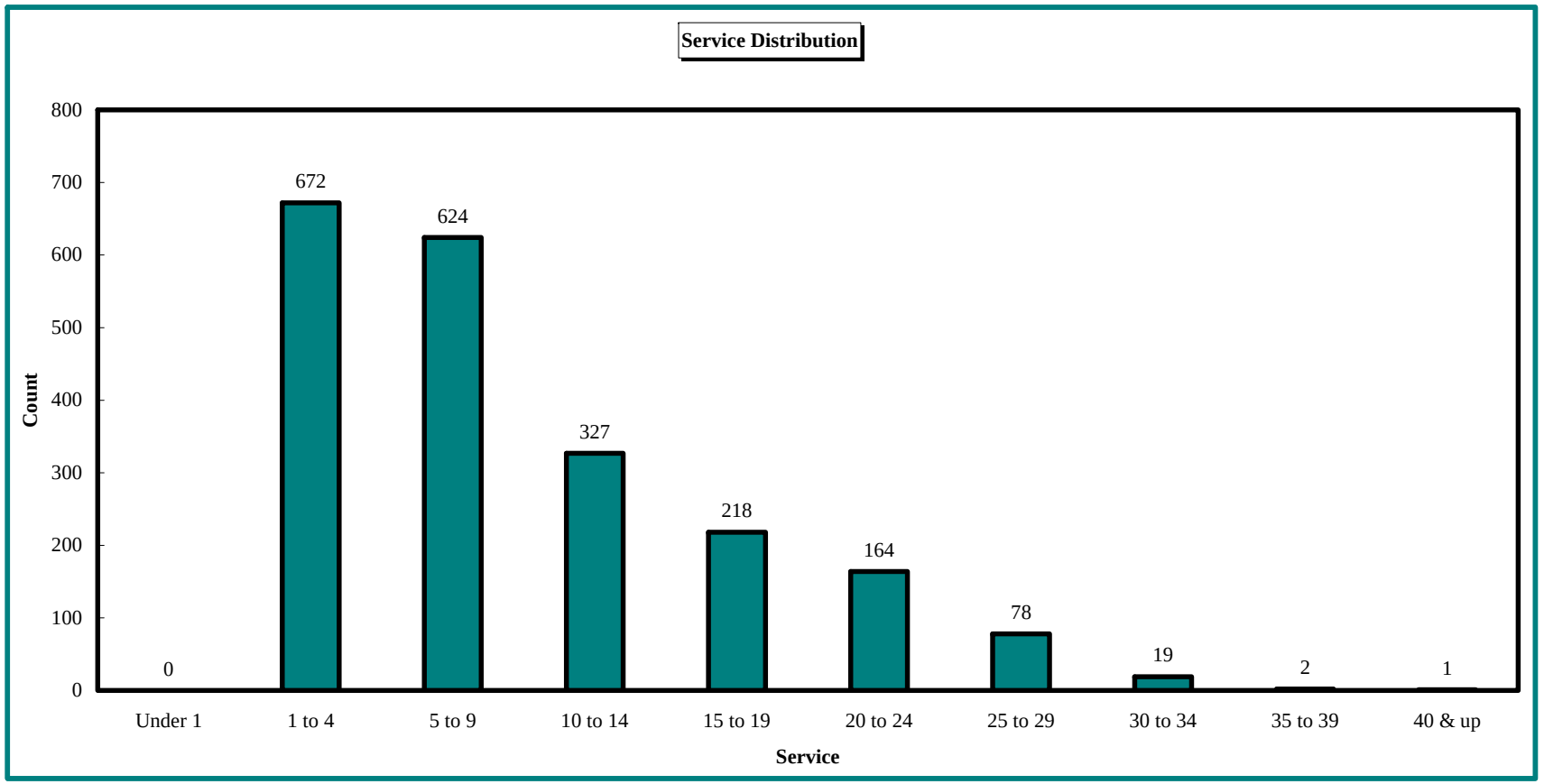
APPENDIX A
MEMBERSHIP INFORMATION

Montana Volunteer Firefighters' Compensation Act Distribution of Active Members by Age as of June 30, 2011



APPENDIX A
MEMBERSHIP INFORMATION

Montana Volunteer Firefighters' Compensation Act Distribution of Active Members by Service as of June 30, 2011



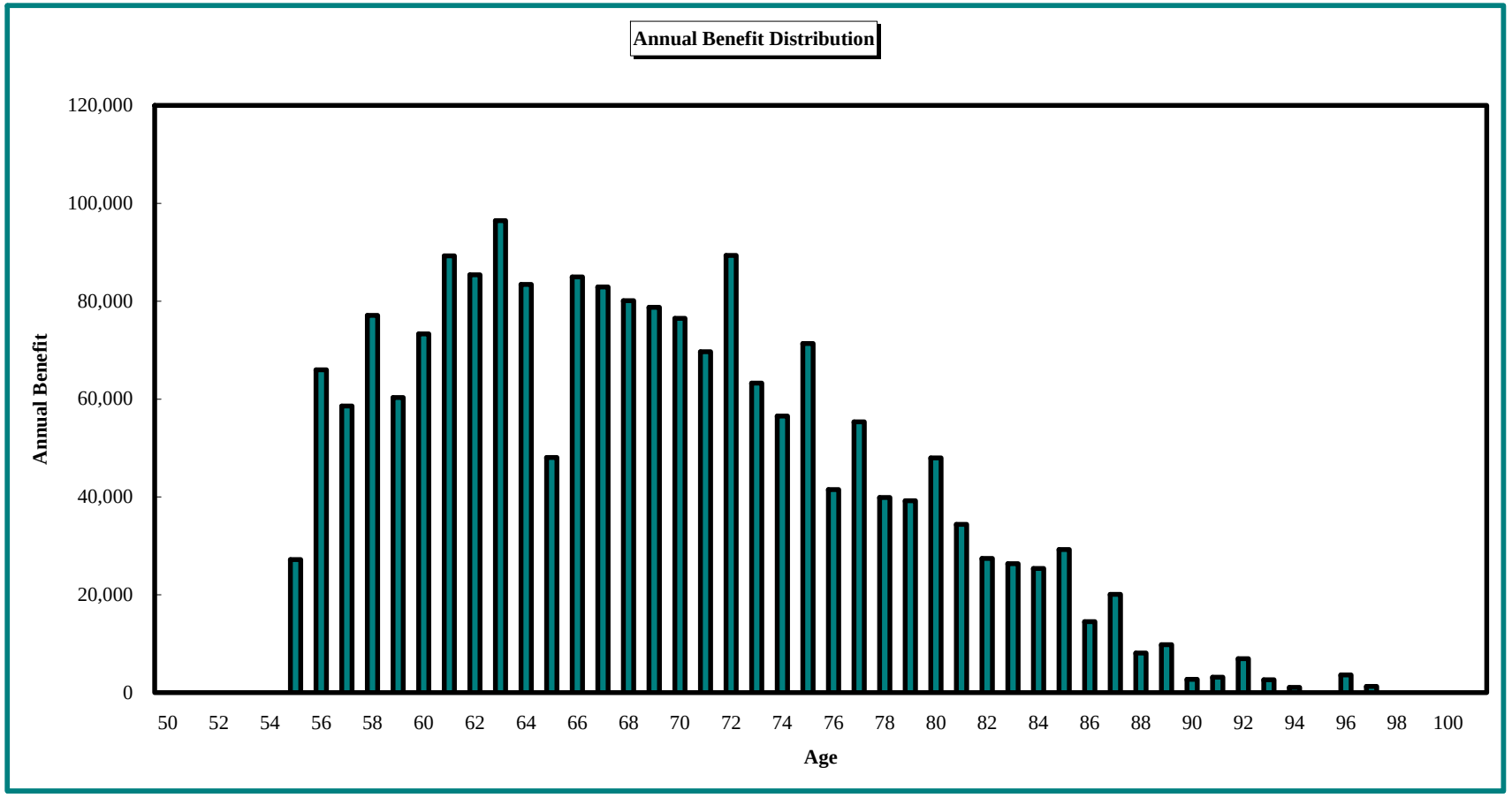
APPENDIX A
MEMBERSHIP INFORMATION

Montana Volunteer Firefighters' Compensation Act Distribution of Retired Members and Survivors as of June 30, 2011

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	$0	73	43	$63,270
25	0	$0	74	36	$56,520
26	0	$0	75	45	$71,370
27	0	$0	76	27	$41,490
28	0	$0	77	36	$55,350
29	0	$0	78	25	$39,870
30	0	$0	79	25	$39,240
31	0	$0	80	30	$47,970
32	0	$0	81	23	$34,380
33	0	$0	82	19	$27,450
34	0	$0	83	16	$26,370
35	0	$0	84	17	$25,380
36	0	$0	85	19	$29,250
37	0	$0	86	9	$14,490
38	0	$0	87	14	$20,070
39	0	$0	88	6	$8,100
40	0	$0	89	7	$9,810
41	0	$0	90	2	$2,700
42	0	$0	91	2	$3,150
43	0	$0	92	4	$6,930
44	0	$0	93	2	$2,610
45	0	$0	94	1	$1,080
46	0	$0	95	0	$0
47	0	$0	96	2	$3,600
48	0	$0	97	1	$1,260
49	0	$0	98	0	$0
50	0	$0	99	0	$0
51	0	$0	100	0	$0
52	0	$0	101	0	$0
53	0	$0	102	0	$0
54	0	$0	103	0	$0
55	13	$27,180	104	0	$0
56	31	$65,970	105	0	$0
57	28	$58,590	106	0	$0
58	37	$77,130	107	0	$0
59	29	$60,300	108	0	$0
60	41	$73,350	109	0	$0
61	50	$89,280	110	0	$0
62	50	$85,410	111	0	$0
63	57	$96,480	112	0	$0
64	50	$83,430	113	0	$0
65	30	$48,060	114	0	$0
66	55	$84,960	115	0	$0
67	54	$82,890	116	0	$0
68	50	$80,100	117	0	$0
69	49	$78,750	118	0	$0
70	46	$76,500	119	0	$0
71	44	$69,660	120	0	$0
72	58	$89,370			
			Totals	1,183	$1,959,120

APPENDIX A
MEMBERSHIP INFORMATION

Montana Volunteer Firefighters' Compensation Act Distribution of Retired Members and Survivors as of June 30, 2011



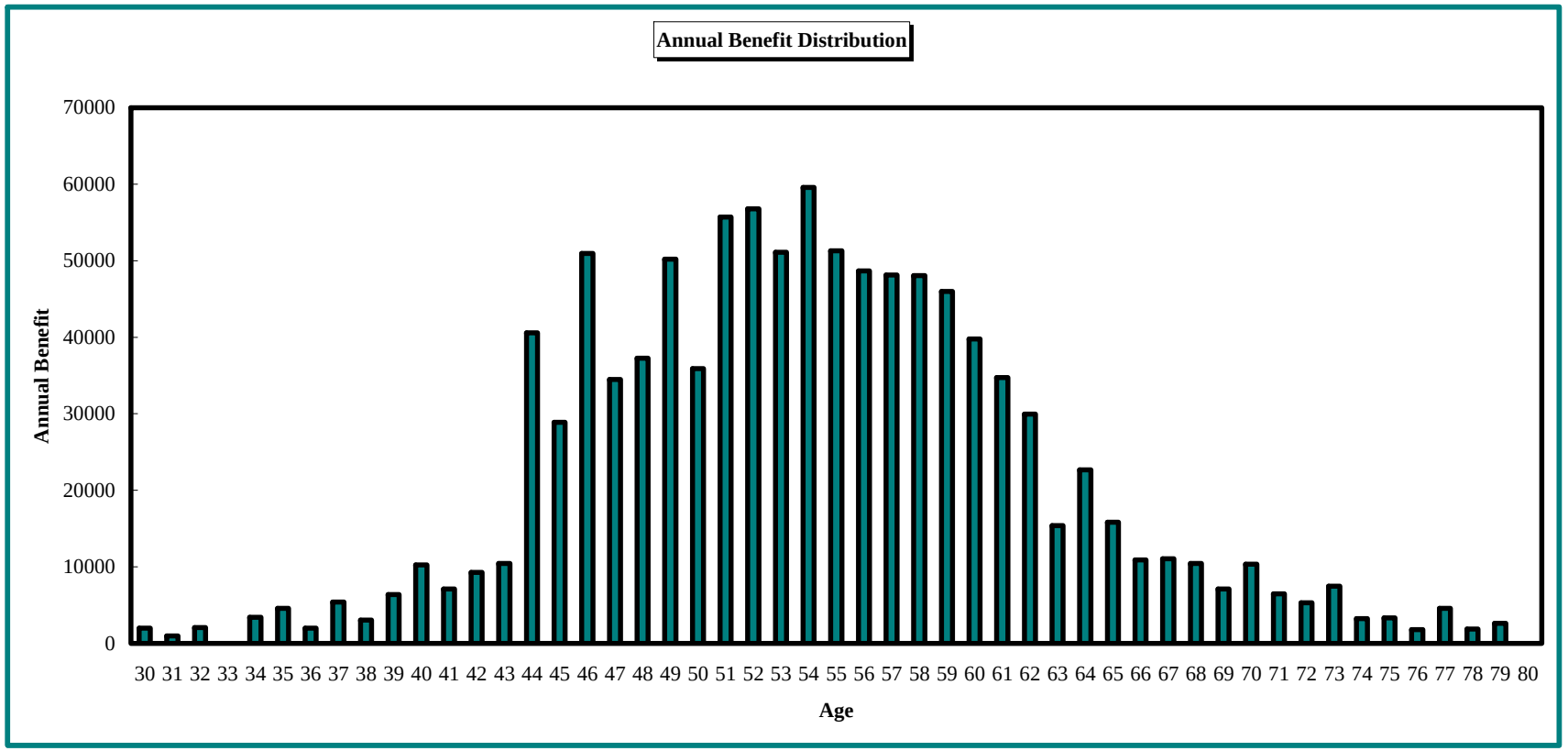
APPENDIX A
MEMBERSHIP INFORMATION

Montana Volunteer Firefighters' Compensation Act Distribution of Vested Members as of June 30, 2011

Age	Count	Annual Benefit	Age	Count	Annual Benefit
<25	0	$0	73	6	$7,470
25	0	$0	74	3	$3,240
26	0	$0	75	3	$3,330
27	0	$0	76	1	$1,800
28	0	$0	77	3	$4,590
29	0	$0	78	2	$1,890
30	2	$1,980	79	2	$2,610
31	1	$990	80	0	$0
32	2	$2,070	81	0	$0
33	0	$0	82	0	$0
34	3	$3,420	83	0	$0
35	4	$4,590	84	0	$0
36	2	$1,980	85	0	$0
37	5	$5,400	86	0	$0
38	3	$3,060	87	0	$0
39	6	$6,390	88	0	$0
40	9	$10,260	89	0	$0
41	7	$7,110	90	0	$0
42	8	$9,270	91	0	$0
43	8	$10,440	92	0	$0
44	40	$40,590	93	0	$0
45	29	$28,890	94	0	$0
46	45	$50,940	95	0	$0
47	29	$34,470	96	0	$0
48	30	$37,260	97	0	$0
49	41	$50,220	98	0	$0
50	28	$35,910	99	0	$0
51	45	$55,710	100	0	$0
52	41	$56,790	101	0	$0
53	38	$51,120	102	0	$0
54	43	$59,580	103	0	$0
55	39	$51,300	104	0	$0
56	37	$48,690	105	0	$0
57	37	$48,150	106	0	$0
58	39	$48,060	107	0	$0
59	37	$45,990	108	0	$0
60	34	$39,780	109	0	$0
61	30	$34,740	110	0	$0
62	26	$29,970	111	0	$0
63	14	$15,390	112	0	$0
64	20	$22,680	113	0	$0
65	14	$15,840	114	0	$0
66	10	$10,890	115	0	$0
67	10	$11,070	116	0	$0
68	9	$10,440	117	0	$0
69	6	$7,110	118	0	$0
70	8	$10,350	119	0	$0
71	6	$6,480	120	0	$0
72	5	$5,310			
			Totals	870	$1,055,610

APPENDIX A
MEMBERSHIP INFORMATION

Montana Volunteer Firefighters' Compensation Act Distribution of Vested Members as of June 30, 2011



APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

A. Long-Term Assumptions Used to Determine Plan Costs and Liabilities

1. Demographic Assumptions

a. Healthy Retirees, Beneficiaries and Non-Retired Members

RP-2000 Combined Healthy Male and Female Mortality Tables projected to 2015 with scale AA. The projection to year 2015 is to reflect potential future mortality improvement.

Sample Rates of Healthy Mortality		
Age	**Male**	**Female**
50	0.163%	0.130%
55	0.241%	0.241%
60	0.530%	0.469%
65	1.031%	0.900%
70	1.770%	1.553%
75	3.062%	2.492%
80	5.536%	4.129%
85	9.968%	7.076%
90	17.271%	12.588%

b. Disabled Inactive Mortality

RP-2000 Combined Healthy Male and Female Mortality Tables with no projections. No future mortality improvement is assumed.

Sample Rates of Disabled Inactive Mortality		
Age	**Male**	**Female**
50	0.241%	0.168%
55	0.362%	0.272%
60	0.675%	0.506%
65	1.274%	0.971%
70	2.221%	1.674%
75	3.783%	2.811%
80	6.437%	4.588%
85	11.076%	7.745%
90	18.341%	13.168%

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

c. Rates of Active Disability

None assumed.

d. Termination of Service (Prior to Normal Retirement Eligibility)

Annual Rates of Termination	
Service	**Rate**
<4	20.00%
4 – 9	15.00%
10 & over	10.00%

e. Retirement

Annual Retirement Rates		
Age	**10-19 Years**	**20 years or more**
<55	0.00%	0.00%
55 – 59	0.00%	40.00%
60 – 69	20.00%	40.00%
70 & over	100.00%	100.00%

Vested terminations are assumed to retire at their earliest unreduced eligibility.

f. Family Composition

Female spouses are assumed to be three years younger than males.

100% of non-retired members are assumed married for both male and female employees.

Actual marital characteristics are used for pensioners.

g. Vested Benefits for Terminated Members

Vested benefits for members who terminated during the years ending June 30, 2010 and later were estimated based upon service information in the census data. For members who terminated prior to June 30, 2008, vested benefits valued were the same as had been calculated by the prior actuary for the June 30, 2008 actuarial valuation.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

2. Economic Assumptions

a. Rate of Investment Return: 7.75% (net of expenses)

b. Rate of Increase in Inflation: 3.00%

3. Changes Since Last Valuation

None.

APPENDIX B
ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

1. Funding Method

The Entry Age Normal Actuarial Cost method is used to determine costs. Under this funding method, a normal cost is determined as a level ("percent of revenue") dollar amount individually for each active member.

The actuarial accrued liability is that portion of the present value of projected benefits that will not be paid by future normal costs. The difference between this liability and funds accumulated as of the same date is referred to as the unfunded actuarial liability.

The portion of the actuarial accrued liability in excess of Plan assets is amortized to develop an additional cost or savings which is added to each year's employer normal cost. Under this cost method, actuarial gains and losses are directly reflected in the size of the unfunded actuarial liability.

2. Actuarial Value of Assets

For purposes of determining the unfunded actuarial accrued liability, we use an actuarial value of assets. The asset adjustment method dampens the volatility in asset values that could occur because of fluctuations in market conditions. Use of an asset smoothing method is consistent with the long-term nature of the actuarial valuation process.

The actuarial value of assets is the current market value, adjusted by a four-year smoothing of gains and losses on a market value basis. Each year's gain or loss is determined as the difference between the actual market return and the expected market return using the assumed rate of investment return.

3. Amortization Method

The unfunded actuarial accrued liability is amortized over a rolling 20-year period, as level dollar amounts.

4. Changes Since Last Valuation

None.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

1. Membership

The Plan is a state-wide retirement and disability plan. The Plan covers volunteer firefighters serving with qualified volunteer fire companies in unincorporated areas throughout the state. All members are unpaid volunteers and the State of Montana is the only contributor to the Plan.

2. Contributions

There are no member contributions.

The State contributes 5.0% of certain premium taxes collected.

3. Credit for Service

To receive a year of credit for service, a volunteer firefighter must serve with a fire company for an entire fiscal year and received a minimum of 30 hours of training. Fractional years are not credited.

4. Normal Retirement

Eligibility: Age 55 with 20 years of credit for service, or age 60 with 10 years of credit for service.

Benefit: $7.50 per month for each year of credit for service but not exceeding 30 years up through June 30, 2011 and thereafter there is no service cap (see changes below for conditions under which the 30 year maximum would not be applied).

5. Disability Benefit

Eligibility: Any active member.

Benefit: The greater of (a) $75 per month, or (b) $7.50 per month per year of service (up to 20 years of service.

6. Survivor's Benefit

Eligibility: 10 years of credit for service or a retired member.

Benefit: A monthly survivor benefit to the surviving spouse (or equally to dependent children if there is no surviving spouse or after a surviving spouse dies, for as long as they remain dependent children) equal to the full benefit otherwise payable to the member. Survivor benefits terminate when benefits have been

paid for a total of 40 months, including any benefits paid to the retired member prior to death.

7. Changes Since Last Valuation

House Bill 119, effective July 1, 2011:

- The requirement of no more than 28 certificate members being listed on the annual certificate has been removed from §7-33-23-11, MCA.
- The roster of active and inactive members for the current year are to be filed annually with the Public Employees' Retirement Board (PERB) by September 1, and will not have to be certified by the county clerk of the county where the fire company is located. **A copy of the annual certificate will no longer be acceptable for this filing.**
- A new requirement of membership cards which must be filed with the PERB by September 1 of each year. These cards are required for all members, active and inactive, of a fire company qualified under the VFCA for the first year and for new members in each subsequent year.
- Definitions of allowance, compensation, and reimbursed have been added to the statute. In addition, allowable payments to volunteer firefighters are addressed in a separate section.
- Fire company, inactive member, and pension benefit have been defined or amended.
- Records retention requirements have been defined.
- Disputes regarding credited years of service must be resolved, either by staff of the PERB and the member or by the PERB prior to payment of the retirement or disability benefit. Payment will be retroactive to the retirement effective date.
- Any late or amended annual certificates and the associated certified training records must be filed by the current fire chief within **three** years of the original annual certificate due date; an annual certificate can be amended only once.

Senate Bill 223, effective July 1, 2011:

- Amends §19-17-404, MCA, the monthly pension benefit allowable for VFCA members.

- The change removes the 30 year cap on service for members who retire after July 1st, 2011.

- Volunteer firefighter monthly pension benefits are currently equal to $7.50 per year of credited service, capped at 30 years of service.

APPENDIX C
SUMMARY OF PLAN PROVISIONS

- To qualify for the benefit, the member must have

    - service recognized by the PERB beyond 30 years; **and**
    - the pension trust fund must be actuarially sound, amortizing any unfunded liabilities in 20 years or less.

- When the above criteria are met, the member will receive $7.50 per month for each additional year of credited service after 30 years. A VFCA member's benefit will remain capped at $225 a month (30 years of credited service) if the amortization period grows to greater than 20 years.

APPENDIX D
GLOSSARY

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disability, and retirement; inflation; rates of investment earnings, and asset appreciation or depreciation; and other relevant items.

2. Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a Normal Cost and an Actuarial Liability.

3. Actuarial Gain (Loss)

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two Actuarial Valuation dates, as determined in accordance with a particular Actuarial Cost Method.

4. Actuarial Liability

The portion of the Actuarial Present Value of Projected Benefits which will not be paid by future Normal Costs. It represents the value of the past Normal Costs with interest to the valuation date.

5. Actuarial Present Value (Present Value)

The value as of a given date of a future amount or series of payments. The Actuarial Present Value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made. As a simple example: assume you owe $100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you won't be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is as follows:

Amount		Probability of Payment	1/(1+Investment Return)		
$100	x	(1 - .01)	1/(1+.1)	=	$90

6. Actuarial Valuation

The determination, as of a specified date, of the Normal Cost, Actuarial Liability, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

APPENDIX D
GLOSSARY

7. Actuarial Value of Assets

The value of cash, investments and other property belonging to a pension plan as used by the actuary for the purpose of an Actuarial Valuation. The purpose of an Actuarial Value of Assets is to smooth out fluctuations in market values. This way long-term costs are not distorted by short-term fluctuations in the market.

8. Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of actuarial assumptions.

9. Amortization Payment

The portion of the pension plan contribution which is designed to pay interest and principal on the Unfunded Actuarial Liability in order to pay for that liability in a given number of years.

10. Entry Age Normal Actuarial Cost Method

A method under which the Actuarial Present Value of the Projected Benefits of each individual included in an Actuarial Valuation is allocated on a level basis between entry age and assumed exit ages.

11. Normal Cost

That portion of the Actuarial Present Value of pension plan benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

12. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.

13. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and increases in future compensation and service credits.

14. Funded Percentage

The ratio of the Actuarial Liabilities to the Actuarial Value of Assets.

APPENDIX D
GLOSSARY

15. Mortality Table

A set of percentages which estimate the probability of death at a particular point in time. Typically, the rates are annual and based on age and sex.

16. Investment Return Assumption

The assumed interest rate used for projecting dollar related values in the future.

17. Inflation (CPI)

The assumed increase in dollar related values in the future due to the general increase in the cost-of-living. The usual measure for inflation is the Consumer Price Index (CPI).