

**IOWA PEACE OFFICERS'
RETIREMENT, ACCIDENT AND
DISABILITY SYSTEM**

**Actuarial Valuation Report
as of July 1, 2008**

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**ACTUARIAL VALUATION
OF THE
IOWA PEACE OFFICERS'
RETIREMENT, ACCIDENT AND DISABILITY SYSTEM**

TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
	Certification Letter	
1	Executive Summary	1
2	System Assets	8
3	System Liabilities	14
4	Employer Contributions	19
5	Plan Accounting Information	23

APPENDICES

A	System Membership Information
B	Summary of Plan Provisions
C	Actuarial Method and Assumptions



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October 27, 2008

Board of Trustees
Iowa Peace Officers' Retirement, Accident
and Disability System
Wallace State Office Building
Des Moines, IA 50319

Dear Members of the Board:

In accordance with your request, we have performed an actuarial valuation of the Iowa Peace Officers' Retirement, Accident and Disability System as of July 1, 2008 for determining the adequacy of the statutory contribution rate. The results of the valuation are contained in this report. The report reflects the benefit provisions and contribution rates in effect as of July 1, 2008 for the fiscal year ended June 30, 2009. The benefit provisions and actuarial assumptions are unchanged from those used in last year's valuation. The employer contribution rate is scheduled to increase 2% per year for five years beginning July 1, 2008. The actuarial cost method used to determine the actuarial contribution rate was changed from the Aggregate method to the Entry Age Normal method.

In preparing our report, we relied, without audit, on information (some oral and some written) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, member data and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted principles and practices which are consistent with the Actuarial standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions, and supporting recommendations of the American Academy of Actuaries.

We hereby further certify that all costs, liabilities, rates of interest and other factors for the System have been determined on the basis of actuarial assumptions and methods which are, individually reasonable (taking into account the experience of the Plan and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience under the Plan. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions. The Board of Trustees has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix C.



Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this report are for purposes of determining the actuarial contribution rates for funding the System. Actuarial computations under GASB Statements No. 25 and 27 are for purposes of fulfilling financial accounting requirements. The computations prepared for these two purposes may differ as disclosed in our report. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals, and of GASB Statements No. 25 and 27. Determinations for purposes other than this may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work product was prepared exclusively for the Iowa Peace Officers' Retirement, Accident and Disability System for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning the Iowa Peace Officers' Retirement, Accident and Disability System operations, and uses Iowa Peace Officers' Retirement, Accident and Disability System data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

I, Patrice A. Beckham, F.S.A., am a Member of the American Academy of Actuaries and a Fellow of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

I, Brent A. Banister, F.S.A., am a Member of the American Academy of Actuaries and a Fellow of the Society of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

MILLIMAN, INC.

Handwritten signature of Patrice A. Beckham in cursive script.

Patrice A. Beckham, F.S.A.
Consulting Actuary

Handwritten signature of Brent A. Banister in cursive script.

Brent A. Banister, F.S.A.
Consulting Actuary

SECTION 1

EXECUTIVE SUMMARY

Purpose of the Report

This report presents the results of the July 1, 2008 actuarial valuation of the Iowa Peace Officers' Retirement, Accident and Disability System (PORS). The primary purposes of performing the valuation are as follows:

- to determine the normal contribution rate payable by the State under Chapter 97A.8(1b) of the Code of Iowa.
- to satisfy the reporting requirements under Chapter 97A.8 of the Code of Iowa.
- to disclose asset and liability measures indicating the current funded status of the System as of the valuation date.
- to analyze and report on trends in System contributions, assets, and liabilities over the past several years.
- to provide financial reporting information in accordance with Statements No. 25 and 27 of the Governmental Accounting Standards Board.

The 2008 Legislature passed SF2424, which provides for a 2% increase each year in the State's contribution rate to the POR System for five years commencing July 1, 2008. SF2424 also contains statutory reporting requirements for all statewide public retirement systems, including the Iowa Peace Officers' Retirement, Accident and Disability System. Effective with the fiscal year beginning July 1, 2008, the System must report the following information under the Entry Age Normal actuarial cost method, in addition to the regular valuation results:

- a) Actuarially required contribution rate, defined as the normal cost plus a payment to amortize the unfunded actuarial accrued liability as a level percent of payroll over thirty years,
- b) Normal cost rate.

The valuation results provide a "snapshot" view of the System's financial condition on July 1, 2008. The 2008 valuation is based on the same benefit provisions and actuarial assumptions as last year's valuation. The actuarial cost method used in this valuation was changed from the Aggregate method to Entry Age Normal method. The change to Entry Age Normal, with a thirty year amortization of the unfunded actuarial accrued liability, lowered the actuarial contribution rate for the plan year beginning July 1, 2008 from 45.90% to 41.48%.

The State's actuarial contribution rate decreased from 36.49% in last year's valuation to 32.13% this year, based on a member contribution rate of 9.35%. However, this rate still exceeds the State's appropriated contribution rate of 19% by 13.13%. Milliman did not make any assumption regarding the operation of Chapter 97A relating to the Board's ability to raise member contribution rates. Several factors, in addition to the change in the cost method, impacted the actuarial contribution rate:

- An investment return on the actuarial value of assets slightly below the expected rate increased the contribution rate.
- Actual contributions below the actuarial rate increased the contribution rate.
- Other actuarial experience was favorable, which lowered the contribution rate.

Changes in both the System's assets and liabilities impact the contribution rate. Experience which is more favorable than anticipated, based on actuarial assumptions, will generally lower the contribution rate and experience less favorable than expected will generally increase the contribution rate. If the change to the Entry Age Normal cost method had not occurred, the actuarial contribution rate would have remained close to the prior year rate (45.90% compared to 45.84% in 2007 valuation).

The State's appropriated contribution rate of 19% of payroll has been much lower than the actuarial contribution rate for the last seven years. The shortfall between the State's actuarial contribution rate and the actual contributions to the System results in an increase in the contribution rate in the current valuation. Given the statutory contribution rate, including the future increases of 2% per year for five years commencing July 1, 2008, a contribution shortfall is expected to exist, absent the existence of significant favorable experience to offset the shortfall. Given the System's funded status and assuming actuarial assumptions are met in future years, significantly higher contributions are needed to fund the benefits of the System. The longer it takes to increase the funding level, the higher the ultimate contribution rate will be. We urge the Board and the State to take further action to address the long-term funding of the System.

Assets

As of July 1, 2008, the System had total funds, measured on a market value basis, of \$290,306,257. This was a decrease of \$20,183,273 from last year's market value of \$310,489,530. The components of the change in the market value of assets are shown below:

	Market Value
Net Assets, July 1, 2007	\$310,489,530
<ul style="list-style-type: none"> • Employer and Member Contributions • Benefit Payments • Administrative Expenses • Investment Income 	10,397,547 (19,135,732) (163,180) (11,281,908)
Net Assets, July 1, 2008	\$290,306,257

The dollar weighted rate of return on the market value of assets, net of expenses, was -3.8%.

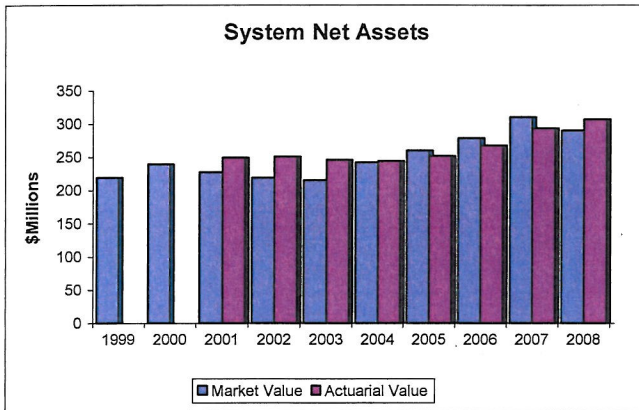
The market value of assets is not used directly in the calculation of the contribution rate. The System uses an asset valuation method to smooth the effects of market fluctuations. The actuarial value of assets spreads the difference between the actual return and the expected return (based on the actuarial assumption) over four years. See page 12 for a detailed development of the actuarial value of assets. The smoothing method was first implemented with the July 1, 2001 valuation.

Between July 1, 2007 and July 1, 2008, the actuarial value of assets increased by \$14 million.

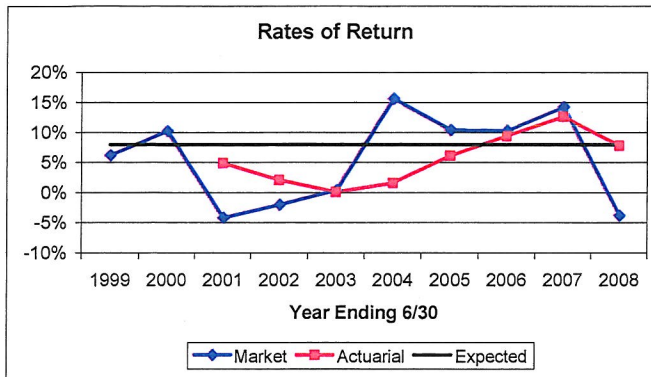
	Plan Year Ending June 30	
	2008	2007
Actuarial Value of Net Assets at the beginning of the plan year	\$293,374,805	\$267,813,445
Change in Assets		
- Employer and Member Contributions	10,397,547	9,880,794
- Benefit Payments	(19,135,732)	(17,493,416)
- Administrative Expenses	(163,180)	(130,584)
- Investment Income	22,818,168	33,304,566
Total Changes	13,916,803	25,561,360
Actuarial Value of Net Assets at the end of the plan year	\$307,291,608	\$293,374,805

The expected investment earnings on the actuarial value of assets are based on an assumed rate of return of 8.0%. The actual rate of return on the actuarial value of assets for the plan year ending June 30, 2008 was approximately 7.8%, resulting in a small actuarial loss of about \$500,000. More detail on the System assets is presented in Section 2 of this report.

There is currently \$17 million in deferred investment loss, which will decrease the System's funding and increase the contribution rate as it is reflected through the asset smoothing method, absent favorable investment experience in future years to offset the recognition of the loss.



An asset smoothing method was implemented with the 2001 valuation. Actual investment performance below the 8% assumption resulted in the actuarial value of assets exceeding the market value in 2001-2003. Strong investment performance from 2004 – 07 resulted in the market value of assets exceeding the actuarial value. With the 2008 valuation, the actuarial value of assets again exceeds the market value of assets.



Rates of return on the market value of assets are volatile. The return on the actuarial value of assets (first implemented in 2001), is smoother, illustrating the advantage of using an asset smoothing method.

System Liabilities

The actuarial cost method was changed from the Aggregate method to the Entry Age Normal (EAN) method. The Aggregate method does not produce an actuarial accrued liability, but the EAN method does.

The actuarial accrued liability is that portion of the present value of future benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and asset values at the same date is referred to as the unfunded actuarial accrued liability (UAAL). The unfunded actuarial accrued liability will be reduced if the employer's contributions exceed the employer's normal cost for the year, after allowing for interest earned on the previous balance of the unfunded actuarial accrued liability. Benefit improvements, experience gains and losses, and changes in actuarial assumptions and methods will also impact the total actuarial accrued liability (AAL) and the unfunded portion thereof.

The unfunded actuarial accrued liability as of July 1, 2008 is as follows:

Actuarial Accrued Liability	\$417,176,049
Actuarial Value of Assets	<u>307,291,608</u>
Unfunded Actuarial Accrued Liability	\$109,884,441

See Table 7 for the detailed development of the Actuarial Accrued Liability and Table 11 for the calculation of the Unfunded Actuarial Accrued Liability.

An evaluation of the unfunded actuarial accrued liability on a pure dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both very large numbers) is reflected. Another way to evaluate the unfunded actuarial liability and the progress made in its funding is to track the funded status, the ratio of the actuarial value of assets to the actuarial liability. The funded status of the System at July 1, 2008 is 74%.

Contribution Rates

The total contribution rate for the Plan Year beginning July 1, 2008 is 41.48% of covered payroll. Assuming a member contribution rate of 9.35%, the State's portion is 32.13%. The sources of change are as follows:

	Plan Year Beginning	
	July 1, 2008	July 1, 2007
Prior year total contribution rate	45.84% ¹	43.53% ¹
• change due to asset (gains)/losses	0.09%	(2.60)%
• change due to other actuarial experience	(1.60)%	(0.62)%
• change due to new assumptions	0.00%	4.13%
• change due to actual contribution rate other than actuarial rate	1.57%	1.40%
• change due to Entry Age Normal method	(4.42)%	0.00%
Current year total contribution rate	41.48% ²	45.84% ¹
Members' contribution rate	<u>9.35%</u>	<u>9.35%</u>
State's contribution rate	32.13%²	36.49%¹

¹ Based on Aggregate cost method

² Based on Entry Age Normal cost method

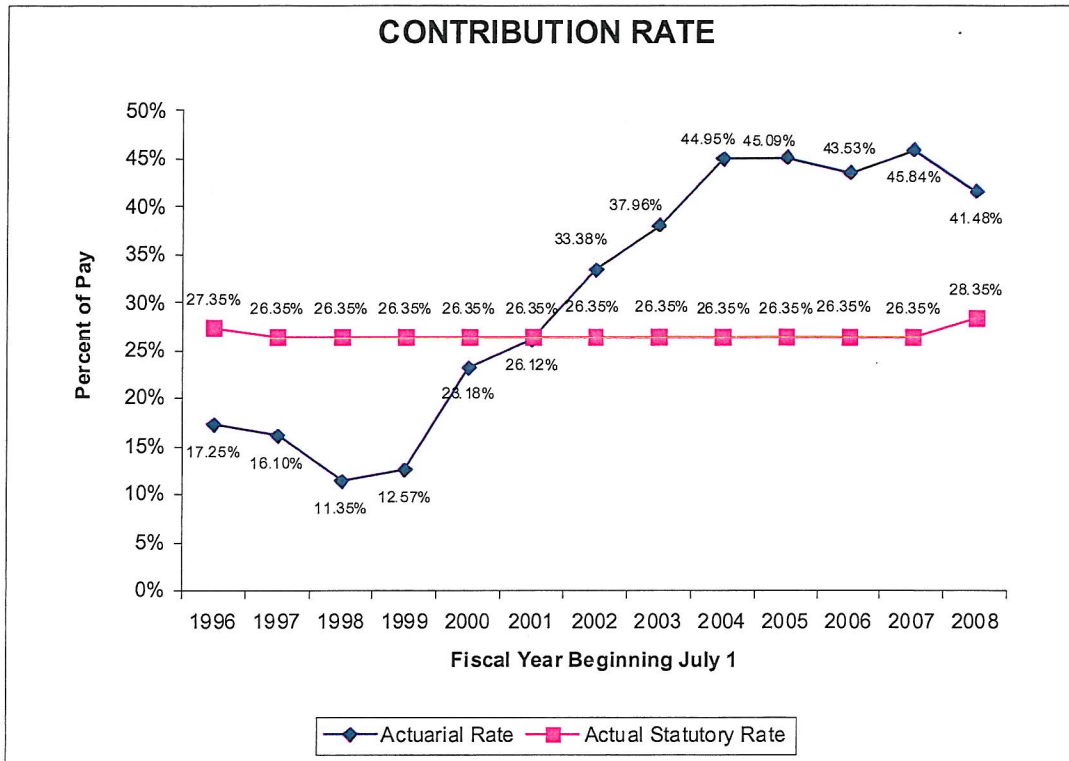
Effective with the July 1, 2008 actuarial valuation, the Entry Age Normal (EAN) actuarial cost method is used to develop the actuarial contribution rate. Previously, the Aggregate method was used, which does not determine an actuarial accrued liability. As a result, an actuarial accrued liability has first been calculated for the System as of July 1, 2008 and an amortization methodology is required in order to calculate the actuarial contribution rate. The Board has elected to amortize the unfunded actuarial accrued liability over a closed 30 year period, beginning July 1, 2008, as a level percent of payroll.

Under the Entry Age Normal cost method, the actuarial contribution rate consists of:

- a "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date,
- an "unfunded actuarial accrued liability contribution" for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

Contributions to the Retirement System are made by the members and the State. Members contribute 9.35% of pay. The State's contribution has been 17% of pay, but is increasing 2% per year for five years commencing July 1, 2008 to 27% of pay for the fiscal year beginning July 1, 2012.

The following graph shows the total actuarial contribution rate compared to the amount actually contributed in the year.



The statutory contribution rate exceeded the actuarial contribution rate in the late 1990's, but unfavorable experience from 2001 through 2003 helped lead to a reversal of that situation. During the middle of this period, the number of active members decreased which also increased the contribution rate. Due to actual contributions that are less than the actuarial normal contribution rate, the actuarial rate has continued to grow, stabilizing with favorable investment experience coupled with an influx of new members from 2004 to 2007. However, unfavorable experience on the market value of assets for FYE 2008 resulted in the actuarial value of assets exceeding the market value in the current valuation. The recognition of the deferred investment loss, along with the State contributing less than the actuarial rate, is expected to result in an increase in the actuarial contribution rate in future years.

SUMMARY OF PRINCIPAL RESULTS
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

	July 1, 2008 Valuation	July 1, 2007 Valuation	% Change
PARTICIPANT DATA			
Number of			
- Active Members	646	631	2.4
- Retired and Disabled Members and Beneficiaries	532	523	1.7
- Inactive Vested Members	<u>34</u>	<u>32</u>	6.3
Total Members	<u><u>1,212</u></u>	<u><u>1,186</u></u>	2.2
Projected Annual Salaries of Active Members	\$ 40,829,801	\$ 37,268,060	9.6
Average Annual Benefit for Retired Members and Beneficiaries	\$ 36,760	\$ 34,751	5.8
ASSETS AND LIABILITIES *			
Total Actuarial Accrued Liability	\$417,176,049	N/A	N/A
Market Value of Assets	290,306,257	\$310,459,530	(6.5)
Actuarial Value of Assets	307,291,608	293,374,805	4.7
Unfunded Actuarial Accrued Liability	109,884,441	N/A	N/A
Funded Ratio	73.7%	N/A	N/A
EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL *			
Normal Cost Rate	26.19%	45.84%	(42.9)
Amortization of Unfunded Actuarial Accrued Liability (Level Percent of Payroll Method)	<u>15.29%</u>	<u>N/A</u>	N/A
Actuarial Required Contribution Rate	41.48%	45.84%	(9.5)
Member Contribution Rate	<u>(9.35%)</u>	<u>(9.35%)</u>	0.0
Employer Actuarial Required Contribution Rate	32.13%	36.49%	(11.9)
Statutory State Employer Contribution Rate	<u>(19.00%)</u>	<u>(17.00%)</u>	(0.0)
Contribution Shortfall	13.13%	19.49%	(22.4)

* Aggregate cost method was used for 7/1/07 valuation and Entry Age Normal cost method was used for 7/1/08 valuation.

SECTION 2

SYSTEM ASSETS

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is July 1, 2008. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of assets. The actuarial process leads to a method of determining the contributions needed by members and the employer in the future to balance the System assets and liabilities.

Market Value of Assets

The current market value represents the “snapshot” or “cash-out” value of System assets as of the valuation date. In addition, market values of assets provide a basis for measuring investment performance from time to time. At July 1, 2008 the market value of assets for the Retirement System was \$290,306,257. Table 1 is a comparison, at market values, of System assets as of July 1, 2007 and July 1, 2008, in total and by investment category. Table 2 summarizes the change in the market value of assets from July 1, 2007 to July 1, 2008.

Actuarial Value of Assets

Neither the market value of assets, representing a “cash-out” value of System assets, nor the book value of assets, representing the cost of investments, may be the best measure of the System’s ongoing ability to meet its obligations. To arrive at a suitable value for the actuarial valuation, a technique for determining the actuarial value of assets is used which dampens swings in the market value while still indirectly recognizing market values. The actuarial value of assets is equal to the market value of assets less a four year phase-in of the excess (shortfall) between expected investment return (based on the actuarial assumption) and actual investment return.

Tables 3 and 4 show the development of the actuarial value of assets (AVA) as of the valuation date.

TABLE 1
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
ANALYSIS OF NET ASSETS AT MARKET VALUE

	<u>July 1, 2008</u>		<u>July 1, 2007</u>	
	Amount	% of Total	Amount	% of Total
Pooled Cash	\$ 1,614,703	0.5	\$ 3,798,580	1.1
Receivables	6,917,480	2.2	4,311,908	1.2
Common Stocks	173,583,628	54.3	189,302,783	54.7
Securities on Loan	23,277,554	7.3	34,899,986	10.1
Bonds	95,996,338	30.1	97,148,347	28.0
Real Estate	<u>17,926,221</u>	<u>5.6</u>	<u>16,945,038</u>	<u>4.9</u>
Subtotal	\$319,315,924	100.0%	\$ 346,406,642	100.0%
Payables	<u>(29,009,667)</u>		<u>(35,917,112)</u>	
NET ASSETS	<u>\$290,306,257</u>		<u>\$ 310,489,530</u>	

TABLE 2
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
SUMMARY OF FUND ACTIVITY
(Market Value)

1. NET ASSETS ON JULY 1, 2007		\$310,489,530
2. CONTRIBUTIONS		
a. Member Contributions	\$ 3,701,009	
b. Employer Contributions	6,696,538	
c. Lump Sum Contributions	<u>0</u>	
d. Total Contributions	\$ 10,397,547	
3. BENEFIT PAYMENTS		
a. Pension and annuity payments	\$ 19,128,339	
b. Refunds	<u>7,393</u>	
c. Total Benefit Payments	\$ 19,135,732	
4. ADMINISTRATIVE EXPENSE	\$ 163,180	
5. INVESTMENT INCOME	\$ (11,281,908)	
6. NET ASSETS ON JULY 1, 2008		
(1) + (2d) - (3c) - (4) + (5)		\$ 290,306,257

TABLE 3
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
CALCULATION OF EXCESS (SHORTFALL) INVESTMENT INCOME FOR
ACTUARIAL VALUE OF ASSETS

	Plan Year Ending June 30		
	2008	2007	2006
1. Market value of assets, beginning of year	\$310,489,530	\$278,940,737	\$260,104,910
2. Contributions during year			
a. Member	3,701,009	3,617,843	3,146,469
b. Employer	6,696,538	6,262,951	5,817,819
c. Lump sum payments	<u>0</u>	<u>0</u>	<u>0</u>
d. Total	10,397,547	9,880,794	8,964,288
3. Benefits paid during year	19,128,339	17,482,698	16,229,598
4. Refunds paid during year	7,393	10,718	14,975
5. Expected net investment income at 8%			
a. Market value of assets, beginning of year	24,839,162	22,315,259	20,808,393
b. Contributions	407,901	387,628	351,673
c. Benefits	(750,414)	(685,855)	(636,695)
d. Refunds	<u>(290)</u>	<u>(420)</u>	<u>(587)</u>
e. Total	24,496,359	22,016,612	20,522,784
6. Expected Value of Assets (1) + (2d) - (3) - (4) + (5e)	326,247,704	293,344,727	273,347,409
7. Market value of assets, end of year	290,306,257	310,489,530	278,940,737
8. Excess (shortfall) of investment income for Year (7) - (6)	(35,941,447)	17,144,803	5,593,328
			260,104,910
			5,837,836
			8,436,691
			15,541,819
			11,025
			19,382,400
			330,975
			(609,713)
			<u>(433)</u>
			19,103,229
			254,267,074

This work product was prepared solely for the Iowa Peace Officers' Retirement, Accident and Disability System for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

TABLE 4
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

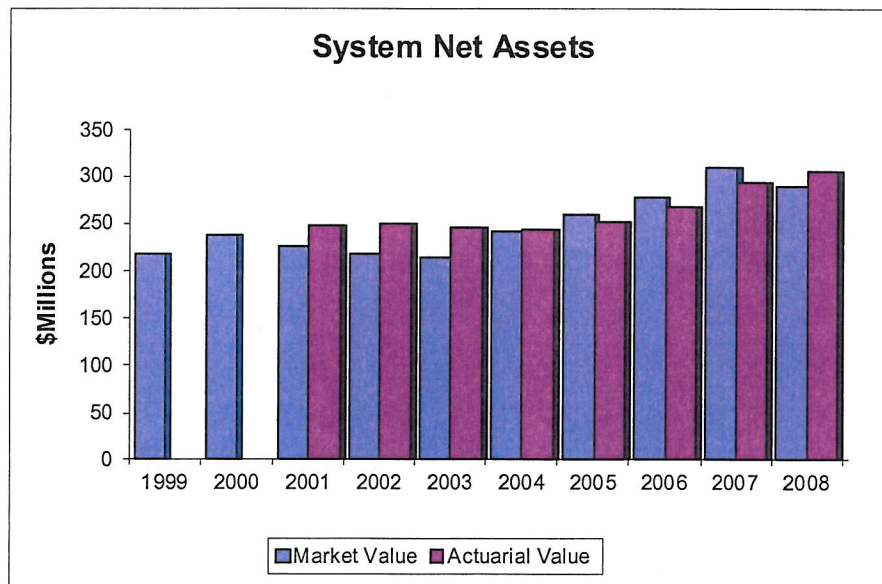
<u>Item</u>	<u>Plan Year Ending June 30</u>	
	<u>2008</u>	<u>2007</u>
1. Excess (Shortfall) of investment income for current and previous 2 years		
a. Current year	\$(35,941,447)	\$17,144,803
b. Current year - 1	17,144,803	5,593,328
c. Current year - 2	<u>5,593,328</u>	<u>5,837,836</u>
d. Total	(13,203,316)	28,275,967
2. Deferral of excess (shortfall) of investment income		
a. Current year (75%)	(26,956,085)	12,858,602
b. Current year - 1 (50%)	8,572,402	2,796,664
c. Current year - 2 (25%)	<u>1,398,332</u>	<u>1,459,459</u>
d. Total deferred	(16,985,351)	17,114,725
3. Market value of plan net assets, end of year	290,306,257	310,489,530
4. Actuarial value of plan assets, end of year (Item 3 - Item 2d)	\$307,291,608	\$293,374,805
5. Actuarial value divided by market value	105.9%	94.5%

TABLE 5
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
HISTORICAL COMPARISON

<u>Value As of</u>	<u>Market Value of Net Assets</u>	<u>Estimated Rate of Return (MVA)*</u>	<u>Actuarial Value of Assets**</u>	<u>Estimated Rate of Return (AVA)</u>
July 1, 1997	\$180,551,242	18.9%		
July 1, 1998	207,649,859	15.3%		
July 1, 1999	219,462,509	6.2%		
July 1, 2000	239,568,583	10.2%		
July 1, 2001	227,402,298	-4.2%	\$249,226,895	4.9%
July 1, 2002	219,373,555	-2.0%	250,914,077	2.1%
July 1, 2003	215,454,491	0.4%	246,443,660	0.1%
July 1, 2004	242,279,998	15.6%	244,161,533	1.6%
July 1, 2005	260,104,910	10.4%	251,828,813	6.1%
July 1, 2006	278,940,737	10.3%	267,813,445	9.4%
July 1, 2007	310,489,530	14.2%	293,374,805	12.6%
July 1, 2008	290,306,257	-3.8%	307,291,608	7.8%

* Net of Expenses.

** A smoothing method for actuarial value of assets was implemented July 1, 2001



SECTION 3

SYSTEM LIABILITIES

In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of assets of the System as of the valuation date, July 1, 2008. In this section, the discussion will focus on the commitments of the System, which are referred to as its liabilities.

Table 6 contains an analysis of the actuarial present value of all future benefits (PVFB) for contributing members, inactive members, retirees and their beneficiaries. The analysis is provided for each group.

The liabilities summarized in Table 6 include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes measures of both benefits already earned and future benefits expected to be earned. For all members, active and retired, the value extends over benefits earnable and payable for the rest of their lives and for the lives of the surviving beneficiaries.

The actuarial assumptions used to determine liabilities are based on the results of an Experience Study prepared in 2007. This set of assumptions, as adopted by the Board, is shown in Appendix C and was first used for the July 1, 2007 valuation. The Board's election to change the actuarial cost method from Aggregate to Entry Age Normal is first reflected in the July 1, 2008 valuation.

Actuarial Liabilities

A fundamental principle in financing the liabilities of a retirement program is that the cost of its benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. An actuarial cost method is a mathematical technique that allocates the present value of future benefits into annual costs. In order to do this allocation, it is necessary for the funding method to "breakdown" the present value of future benefits into two components:

- (1) that which is attributable to the past and
- (2) that which is attributable to the future.

Actuarial terminology calls the part attributable to the past the "past service liability" or the "actuarial accrued liability". The portion allocated to the future is known as the present value of future normal costs, with the specific piece of it allocated to the current year being called the "normal cost". Table 7 contains the calculation of actuarial accrued liability.

TABLE 6
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
PRESENT VALUE OF FUTURE BENEFITS

1. Active employees	
a. Retirement Benefit	\$254,350,461
b. Withdrawal Benefit	2,211,018
c. Pre-Retirement Death Benefit	8,353,567
d. Disability Benefit	<u>24,999,129</u>
e. Total	\$289,914,175
2. Inactive Vested Members	2,584,189
3. Disability Retirees	47,347,879
4. Retirees and Beneficiaries	200,237,787
5. Total Present Value of Future Benefits (1e) + (2) + (3) + (4)	<u>\$540,084,030</u>

TABLE 8
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ACTUARIAL BALANCE SHEET
as of
July 1, 2008

ASSETS

Actuarial value of assets	\$	307,291,608
Present value of future contributions		122,907,981
Unfunded actuarial accrued liability		109,884,441
<u>Total Net Assets</u>	\$	540,084,030

LIABILITIES

Present Value of Future Benefits

Retired Members and Beneficiaries	\$	247,585,666
Active Members		
Retirement	\$	254,350,461
Death		8,353,567
Disability		24,999,129
Termination		2,211,018
Total		289,914,175
Inactive Vested Members		2,584,189
<u>Total Liabilities</u>	\$	540,084,030

TABLE 9
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
PRESENT VALUE OF ACCRUED BENEFITS

The present value of accrued benefits represents the lump sum value, as of the valuation date, of benefits earned to date based on service and salary as of the valuation date.

<u>Present Value of Accrued Benefits</u>	<u>July 1, 2008</u>	<u>July 1, 2007</u>
1. Vested Benefits		
a. Participants currently receiving payments	\$247,585,666	\$238,095,076
b. Inactive vested members	2,584,189	2,427,082
c. Active members	<u>101,993,297</u>	<u>94,866,314</u>
d. Total vested benefits	\$352,163,152	\$335,388,472
2. Nonvested Benefits	\$ 2,744,409	\$ 1,774,849
3. Total Present Value of Accrued Benefits	\$354,907,561	\$337,163,321
4. Market Value of Assets	\$290,306,257	\$310,489,530
5. Unfunded (Surplus) Present Value of Accrued Benefits	\$ 64,601,304	\$ 26,673,791
6. Funded Percentage	81.8%	92.1%

SECTION 4

EMPLOYER CONTRIBUTIONS

The previous two sections were devoted to a discussion of the assets and liabilities of the System. A comparison of Tables 4 and 6 indicates that current assets fall short of meeting the present value of future benefits (total liability). This is expected in all but a fully closed down fund, where no further contributions are anticipated.

In an active system, there will almost always be a difference between the actuarial value of assets and total liabilities. This deficiency has to be made up by future contributions and investment returns. An actuarial valuation sets out a schedule of future contributions that will deal with this deficiency in an orderly fashion.

The method used to determine the incidence of the contributions in various years is called the actuarial cost method. Under an actuarial cost method, the contributions required to meet the difference between current assets and current liabilities are allocated each year between two elements: (1) the normal cost and (2) the payment on the unfunded actuarial accrued liability.

The term “fully funded” is often applied to a system in which contributions at the normal cost rate are sufficient to pay for the benefits of existing employees as well as for those of new employees. More often than not, systems are not fully funded, either because of past benefit improvements that have not been completely funded and/or because of actuarial deficiencies that have occurred because experience has not been as favorable as anticipated. Under these circumstances, an unfunded actuarial accrued liability (UAAL) exists.

Description of Rate Components

Effective with the July 1, 2008 valuation, the actuarial cost method used by the System changed from Aggregate to the traditional Entry Age Normal (EAN) – level percent of pay cost method. Under the EAN cost method, the actuarial present value of each member’s projected benefit is allocated on a level basis over the member’s compensation between the entry age of the member and the assumed exit ages. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The actuarial present value of benefits allocated to prior years of service is called the actuarial accrued liability. The unfunded actuarial accrued liability represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains/losses.

The UAAL is amortized as a level percent of payroll over a closed 30-year period commencing July 1, 2008. Given a stable active workforce, the level percent of payroll amortization method is expected to produce a payment stream that is constant as a percent of covered payroll.

Contribution Rate Summary

The normal cost rate is developed in Table 10. Table 11 develops the contribution rate for amortization of the unfunded actuarial accrued liability. Table 12 develops the total actuarial contribution rate.

TABLE 10
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
NORMAL COST RATE
AS OF JULY 1, 2008

1. Normal Cost at Beginning of Year		<u>% of Pay</u>
a. Retirement Benefit	\$ 7,950,636	19.48%
b. Withdrawal Benefit	253,254	0.62%
c. Pre-Retirement Death Benefit	702,660	1.72%
d. Disability Benefit	<u>1,786,132</u>	<u>4.37%</u>
e. Total	\$10,692,682	26.19%
2. Estimated Payroll for the Year	\$40,829,801	
3. Normal Cost Rate [(1e) / (2)]	26.19%	

TABLE 11
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM
UNFUNDED ACTUARIAL ACCRUED LIABILITY CONTRIBUTION RATE
AS OF JULY 1, 2008

1. Actuarial Present Value of Future Benefits	\$	540,084,030
2. Actuarial Present Value of Future Normal Costs		<u>122,907,981</u>
3. Actuarial Accrued Liability (1) – (2)	\$	417,176,049
4. Actuarial Value of Assets		<u>307,291,608</u>
5. Unfunded Actuarial Accrued Liability (UAAL) (3) – (4)	\$	109,884,441
6. Amortization of UAAL over 30 years from July 1, 2008 (assumed mid-year) *	\$	6,241,080
7. Total Estimated Payroll for Year Ending June 30, 2009	\$	40,829,801
8. Amortization as a Percent of Payroll	\$	15.29%

* The UAAL is amortized as a level percent of payroll, assuming payroll increases of 4% per year.

SECTION 5

PLAN ACCOUNTING INFORMATION

In an effort to enhance the understandability and usefulness of the pension information that is included in the financial reports of pension plans for state and local governments, the Governmental Accounting Standards Board (GASB) issued Statement No. 25 - Financial Reporting for Defined Benefit Pension Plans and Statement No. 27 - Accounting for Pensions by State and Local Governmental Employers.

GASB Statement No. 25 establishes a financial reporting framework for defined benefit plans. In addition to two required statements regarding plan assets, the statement requires two schedules and accompanying notes disclosing information relative to the funded status of the plan and historical contribution patterns.

- The Schedule of Funding Progress is not required for plans which use the Aggregate Method to determine the annual required contribution. Since the information shown in the schedule is similar to the information formerly required under GASB Statement No. 5, the Peace Officers' Retirement, Accident, and Disability System has elected to prepare the schedule based on the Projected Unit Credit method. The system uses an asset smoothing method, which was first implemented with the July 1, 2001 valuation.
- The Schedule of Employer Contributions provides historical information about the annual required contribution (ARC) and the percentage of the ARC that was actually contributed. For the Peace Officers' Retirement, Accident and Disability System, the ARC is equal to State's Normal Contribution Rate multiplied by the expected covered payroll for the fiscal year.

GASB Statement No. 27 establishes standards for the measurement, recognition, and display of pension expense and related liabilities. Annual pension cost is measured and disclosed on the accrual basis of accounting. In general, the annual pension cost is equal to the ARC with adjustments for past under-contributions or over-contributions. These adjustments are based on the net pension obligation (NPO) that represents the cumulative difference between the annual pension cost and the actual contributions to the plan. The first adjustment is equal to interest on the NPO which is added to the ARC. The second adjustment is an amortization of the NPO which is deducted from the ARC. Because the system uses the Aggregate method to determine the ARC, the amortization basis is a level percentage of payroll over the average remaining service life of active members.

These statements were adopted by the Peace Officers' Retirement System for the 1996 fiscal year. A transition pension liability (asset) was developed under Statement No. 27 equal to the cumulative difference between the actuarially determined funding requirement and the actual amount contributed for fiscal years 1988 through 1995. As of the adoption date, all outstanding pension liabilities (assets) were adjusted to equal the transition NPO.

TABLE 13

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

SCHEDULE OF FUNDING PROGRESS

In accordance with Statement No. 25 of the Governmental Accounting Standards Board

Actuarial Valuation Date	Actuarial Value of Assets* (a)	Actuarial Accrued Liability (AAL)** (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (P/R) (c)	UAAL as a Percentage of Covered P/R [(b-a)/c]
7/1/03	\$246,443,660	\$306,098,170	\$59,654,510	80.51%	\$33,019,306	180.67%
7/1/04	244,161,533	338,799,386	94,637,853	72.07%	32,519,722	291.00%
7/1/05	251,828,813	343,117,410	91,288,597	73.39%	33,336,856	273.84%
7/1/06	267,813,495	358,844,655	91,031,160	74.63%	36,231,639	251.25%
7/1/07	293,374,805	392,022,773	98,647,968	74.84%	37,268,060	264.70%
7/1/08	307,291,608	417,176,049	109,884,441	73.66%	40,829,801	269.13%

** Prior to 7/1/08 the Aggregate method, which does not directly develop an actuarial accrued liability, was used to determine the actuarial required contribution. The actuarial accrued liability using the Projected Unit Credit Cost method was reported for those years. Effective 7/1/08, the Entry Age Normal cost method was used and the actuarial accrued liability under that method is reported.

This work product was prepared solely for the Iowa Peace Officers' Retirement, Accident and Disability System for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

TABLE 14
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

SCHEDULE OF EMPLOYER CONTRIBUTIONS

In accordance with Statement No. 25 of the Governmental Accounting Standards Board

Fiscal Year Ending	Annual Required Contribution (a)	Total Employer Contribution (b)	Percentage of ARC Contribution (b / a)
6/30/06	\$11,914,592	\$5,817,819	48.83%
6/30/07	12,383,974	6,262,951	50.57%
6/30/08	13,599,115	6,696,538	49.24%

Notes to the Required Schedules:

1. The cost method used to determine the ARC for FYE 2008 and prior years is the Aggregate Cost Method. This method does not identify or separately amortize unfunded actuarial accrued liabilities.
2. The assets are shown at actuarial (smoothed) value.
3. Economic assumptions are as follows:
 - Investment return rate of 8.00%.
 - Salary increase rate varies from 6.75% to 4.75%, based on years of service.
 - Post-retirement benefit increases are based on expected payroll growth and provisions of the law.
4. The System used the Aggregate cost method for FYE 2006 to 2008. Therefore, there is no specific amortization method or period.

TABLE 15
IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

Development of the Net Pension Obligation

In Accordance with Statement No. 27 of the
Governmental Accounting Standards Board

Fiscal Year:	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Assumptions and Method:					
Interest Rate	8.00%	8.00%	8.00%	8.00%	8.00%
Wage Inflation	4.00%	4.00%	4.00%	4.00%	4.00%
Amortization Period (years)	18	18	18	18	17
Cost Method	Aggregate	Aggregate	Aggregate	Aggregate	Aggregate
Annual Pension Cost:					
Annual Required Contribution (ARC)	\$948,875	\$4,231,914	\$5,332,844	\$7,883,879	\$9,446,823
Interest on NPO	(1,053,431)	(1,298,858)	(1,386,201)	(1,399,643)	(1,216,369)
Adjustment to ARC	<u>1,027,211</u>	<u>1,266,529</u>	<u>1,351,697</u>	<u>1,346,805</u>	<u>1,234,931</u>
Annual Pension Cost	\$922,655	\$4,199,585	\$5,298,340	\$7,831,041	\$9,465,385
Contribution for the Year:	\$3,990,488	\$5,291,371	\$5,466,366	\$5,540,116	\$5,502,718
Net Pension Obligation (NPO):					
NPO at beginning of year	\$(13,167,892)	\$(16,235,725)	\$(17,327,511)	(17,495,537)	(15,204,612)
Annual Pension Cost for year	922,655	4,199,585	5,298,340	7,831,041	9,465,385
Contributions for year	<u>(3,990,488)</u>	<u>(5,291,371)</u>	<u>(5,466,366)</u>	<u>(5,540,116)</u>	<u>(5,502,718)</u>
NPO at end of year	(16,235,725)	(17,327,511)	(17,495,537)	(15,204,612)	(11,241,945)
<hr/>					
Fiscal Year:	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Assumptions and Method:					
Interest Rate	8.00%	8.00%	8.00%	8.00%	8.00%
Wage Inflation	4.00%	4.00%	4.00%	4.00%	4.00%
Amortization Period (years)	17	17	17	16	30
Cost Method	Aggregate	Aggregate	Aggregate	Aggregate	EAN
Annual Pension Cost:					
Annual Required Contribution (ARC)	\$11,577,021	\$11,914,592	\$12,383,974	\$13,599,115	\$13,118,615
Interest on NPO	(899,356)	(407,525)	80,714	570,297	1,119,738
Adjustment to ARC	<u>913,080</u>	<u>413,744</u>	<u>(81,946)</u>	<u>(604,863)</u>	<u>(794,969)</u>
Annual Pension Cost	\$11,590,745	\$11,920,811	\$12,382,742	\$13,564,549	\$13,443,384
Contribution for the Year:	5,442,868	5,817,819	6,262,951	6,696,538	*
Net Pension Obligation (NPO):					
NPO at beginning of year	(11,241,945)	(5,094,068)	1,008,924	7,128,715	
Annual Pension Cost for year	11,590,745	11,920,811	12,382,742	13,564,549	
Contributions for year	<u>(5,442,868)</u>	<u>(5,817,819)</u>	<u>(6,262,951)</u>	<u>(6,696,538)</u>	*
NPO at end of year	(5,094,068)	1,008,924	7,128,715	13,996,726	

* Will not be determined until the end of Fiscal Year 2009.

APPENDIX A

**SYSTEM MEMBERSHIP
INFORMATION**

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

AGE AND SERVICE DISTRIBUTION AS OF JULY 1, 2008 FOR ACTIVE PARTICIPANTS

Males and Females

Years of Service

Age	0 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40 and over		Total	
	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary	No.	Avg. Salary
Under 25	26	40,867	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	26	40,867
25-29	75	45,208	7	52,573	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	82	45,836
30-34	38	45,722	47	57,316	22	62,235	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	107	54,210
35-39	16	47,804	30	57,516	91	66,875	13	73,107	0	NA	0	NA	0	NA	0	NA	0	NA	150	63,509
40-44	1	42,349	4	53,689	42	68,368	60	69,862	5	72,623	0	NA	0	NA	0	NA	0	NA	112	68,602
45-49	0	NA	0	NA	9	66,887	28	72,605	42	77,959	7	76,047	0	NA	0	NA	0	NA	86	74,902
50-54	0	NA	0	NA	1	63,250	10	76,523	22	73,892	22	82,139	10	87,401	0	NA	0	NA	65	79,003
55-59	0	NA	0	NA	0	NA	0	NA	4	87,972	9	75,444	4	79,164	1	74,187	0	NA	18	78,985
60-64	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA
65-69	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA
70 & over	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA
Totals	156	44,857	88	56,842	165	66,615	111	71,534	73	76,917	38	79,431	14	85,048	1	NA	0	NA	646	63,204

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IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ANALYSIS OF RETIREES AND BENEFICIARIES as of July 1, 2008 Males and Females

**Number of
Participants**

Age	Service Retirement	Accidental Disability	Ordinary Disability	Vested Retirement	Child Beneficiary	Contingent Beneficiary	Deferred Vested	Total
Under 40	0	3	0	0	10	0	16	29
40 to 44	0	4	0	0	0	1	7	12
45 to 49	0	2	0	0	0	3	7	12
50 to 54	0	7	1	0	0	5	4	17
55 to 59	54	10	2	2	0	4	0	72
60 to 64	60	13	3	5	0	9	0	90
65 to 69	64	24	1	8	0	12	0	109
70 to 74	54	12	1	3	0	13	0	83
75 to 79	32	5	2	1	0	23	0	63
80 to 84	36	2	0	0	0	14	0	52
85 to 89	10	0	0	0	0	7	0	17
90 to 94	2	0	0	0	0	4	0	6
95 to 99	0	0	0	0	0	4	0	4
100 & over	0	0	0	0	0	0	0	0
Totals	312	82	10	19	10	99	34	566

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

ANALYSIS OF RETIREES AND BENEFICIARIES

as of July 1, 2008

Males and Females

Average Annual Benefits of Participants

<u>Age</u>	<u>Service Retirement</u>	<u>Accidental Disability</u>	<u>Ordinary Disability</u>	<u>Vested Retirement</u>	<u>Child Beneficiary</u>	<u>Contingent Beneficiary</u>	<u>Deferred Vested</u>
Under 40	NA	33,664	NA	NA	3,856	NA	9,235
40 to 44	NA	35,955	NA	NA	NA	19,984	14,565
45 to 49	NA	33,963	NA	NA	NA	20,565	16,277
50 to 54	NA	38,818	29,786	NA	NA	22,150	32,910
55 to 59	57,146	45,577	36,060	12,292	NA	38,307	NA
60 to 64	53,631	42,094	40,189	12,165	NA	23,863	NA
65 to 69	46,872	40,244	34,406	12,309	NA	20,114	NA
70 to 74	39,932	37,640	29,383	6,667	NA	19,956	NA
75 to 79	34,029	36,261	26,589	5,616	NA	19,025	NA
80 to 84	33,554	34,188	NA	NA	NA	19,478	NA
85 to 89	30,472	NA	NA	NA	NA	18,687	NA
90 to 94	31,665	NA	NA	NA	NA	21,478	NA
95 to 99	NA	NA	NA	NA	NA	19,757	NA
100 & over	NA	NA	NA	NA	NA	NA	NA
Totals	45,272	39,691	33,944	11,026	3,856	20,881	14,568

APPENDIX B

SUMMARY OF PLAN PROVISIONS

Chapter 97A of the Iowa code sets out the benefit provisions of the Iowa Peace Officers' Retirement, Accident and Disability System, which are briefly summarized as follows:

Retirement Benefit

Eligibility

Age 55 with 22 years of service.

Monthly Annuity

The sum of (1) and (2):

- (1)
 - a. For retirement prior to July 1, 1990, 50% of average final compensation at retirement. Average final compensation equals average of highest three years of compensation.
 - b. For retirement after June 30, 1990 and before July 1, 1992, 54% of average final compensation at retirement.
 - c. For retirement after June 30, 1992 and before July 1, 1993, 56% of average final compensation at retirement.
 - d. For retirement after June 30, 1993 and before July 1, 1994, 58% of average final compensation at retirement.
 - e. For retirement after June 30, 1994, and before July 1, 2000, 60% of average final compensation at retirement.
 - f. For retirement after July 1, 2000, 60.5% of average final compensation at retirement.
- (2) For members who do not withdraw member contributions:
 - a. For retirement after June 30, 1990 and before July 1, 1991, 0.3% of average final compensation for each year of service over 22 years (up to 8 years). Service after age 55 is excluded.
 - b. For retirement after June 30, 1991 and before October 16, 1992, 0.6% of average final compensation for each year of service over 22 years (up to 8 years). Service after age 55 is excluded.

- c. For retirement after October 15, 1992 and before July 1, 1996, 0.6% of average final compensation for each year of service over 22 years (up to 8 years).
- d. For retirement after June 30, 1996, 1.5% of average final compensation for each year of service over 22 years (up to 8 years).
- e. For retirement after June 30, 1998, 1.5% of average final compensation for each year of service over 22 years (up to 10 years).
- f. For retirement after June 30, 2000, 2.75% of average final compensation for each year of service over 22 years (up to 10 years).

Early Retirement Benefit

Eligibility

Effective July 1, 1996, age 50 (but not age 55) with 22 years of service.

Monthly Annuity

The benefit provided as a retirement benefit actuarially reduced for commencement prior to age 55.

Deferred Vested Benefit

Eligibility

Four years of service.

Monthly Annuity

At age 55. The benefit provided as a retirement benefit at termination times a service ratio. The service ratio equals service at termination divided by 22 (not greater than 1.0).

Ordinary Disability Benefit

Eligibility

None.

Benefit

- (1) If service at disability is greater than or equal to 5 years, 50% of average final compensation at disability.

- (2) If service at disability is greater than or equal to 22 years, the greater of (1) or the benefit amount calculated under a service retirement. Effective July 1, 1998, the service requirement does not apply.
- (3) If service at disability is less than 5 years, 25% of average final compensation at disability.

Accidental Disability Benefit

Eligibility

None.

Benefit

- (1) For retirement prior to July 1, 1990, 66-2/3% of average final compensation at disability.
- (2) For retirement after June 30, 1990, 60% of average final compensation at disability. If the service amount at disability is greater than or equal to 22 years, the greater of 60% of average final compensation at disability or the benefit amount calculated under a service retirement.

Ordinary Death Benefit

Eligibility

For member in service: None.
For member not in service: Four years of service.

Benefit

- (1) A lump sum equal to 50% of compensation during the last year of employment, or
- (2) A pension based on 40% of average final compensation but not less than 25% of compensation paid to an active member having the rank of senior patrol officer of the state patrol. For members not in service, benefit is multiplied by the ratio of service at termination to 22 years (not greater than 1.0).
- (3) Additional benefit for members in service of 6% of compensation payable to an active member having the rank of senior patrol officer of the state patrol for each child.

Payment Date

- (1) For members in service: Immediately upon death of member.
- (2) For member not in service: Payable when member would have been age 55. If there are children of the member, payable commencing at the member's death until children reach age 18 or 22. Pension resumes when member would have been age 55.

Accidental Death Benefit

Eligibility

In actual performance of duty.

Benefit

- (1) 50% of average final compensation payable to surviving spouse, children or dependent parents.
- (2) If there is not surviving spouse, children or dependent parents, or if accidental death occurs while not in the actual performance of duty, an Ordinary Death Benefit is payable.
- (3) Additional benefit for members in service of 6% of compensation payable to an active member having the rank of senior patrol officer of the state patrol, for each child.
- (4) If the death meets specified criteria, a lump sum of \$100,000 payable to surviving spouse, children, dependent parents, or estate.

Death After Retirement

Benefit

- (1) 50% of retirement allowance of retired member but not less than 25% of compensation paid to an active member having the rank of senior patrol officer of the state patrol.
- (2) Additional benefit of 6% of compensation payable to an active member having the rank of senior patrol officer of the state patrol, for each child.

Adjustments to Pensions

Each July 1 and January 1, if applicable, the following adjustments are made: Monthly earnable compensation payable to an active member, of the same rank and position in the salary scale as was held by the retired or deceased member at the time of the member's retirement or death, for July of the current year less that of the preceding July, times the following percentages:

- (1) 40% for members receiving a service retirement allowance and for beneficiaries receiving an accidental death benefit.
- (2) 40% for members with five or more years of membership who are receiving an ordinary disability benefit.
- (3) 40% for member receiving an accidental disability benefit.
- (4) 24% for members with less than five years of membership who are receiving an ordinary disability benefit and for beneficiaries receiving an ordinary death benefit.
- (5) 50% of the amount which would have been added to the benefit of the retired member, for surviving spouses, but not less than 25% of the monthly earnable compensation paid to an active member having the rank of senior patrol officer.

Additionally, the following aggregate amounts will be added to a member or beneficiary monthly pension as follows:

<u>Years Since Retired*</u>	<u>Increase Per Year</u>
0-4	\$15
5-9	20
10-14	25
15-19	30
20 or more	35

*Measured in whole years.

Surviving children's pensions are adjusted each July to equal 6% of monthly earnable compensation payable to an active member having the rank of senior patrol officer of the state patrol.

Member Contributions

- (1) The following percentage of earnable compensation will be paid as member contributions:

<u>Period</u>	<u>Member Contribution Rate</u>
January 1, 1995 - June 30, 1995	8.35%
July 1, 1995 forward	9.35%

- (2) Beginning July 1, 1996 and each fiscal year thereafter, the system will increase the member contribution rate as necessary to cover the increased cost to the system resulting from statutory changes enacted by any session of the general assembly after January 1, 1995 if such increase cannot be absorbed within the contribution rate otherwise established, subject to a maximum member contribution rate of 11.3%. After this maximum rate is reached, 60% of any additional costs due to statutory changes will be absorbed by the employer and 40% will be paid by the members.

**Withdrawal of Member
Contributions**

Effective July 1, 1990, members who terminate service, other than by death or disability, can elect to withdraw their accumulated contributions with interest in lieu of any benefits to which the member may be entitled from the System.

**Transfers With Statewide Fire
and Police Retirement System**

Beginning July 1, 1996, vested members of an eligible retirement system who terminate employment and, within one year, commences covered employment under another eligible retirement system, may elect to transfer the average accrued benefit or the refund liability earned from the former system to the current system. Once such transfer is completed, service under the former system shall be treated as membership service under the current system.

APPENDIX C

ACTUARIAL METHOD AND ASSUMPTIONS

Actuarial Cost Method

Liabilities and contributions shown in this report are computed using the Individual Entry Age method of funding.

Sometimes called "funding method," this is a particular technique used by actuaries for establishing the amount of the annual actuarial cost of pension System benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily the annual contribution to the System is comprised of (1) the normal cost and (2) an amortization payment on the unfunded actuarial accrued liability.

Under the Entry Age Actuarial Cost Method, the **Normal Cost** is computed as the level percentage of pay which, if paid from the earliest time each member would have been eligible to join the System if it then existed (thus, entry age) until his retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the System.

The **Actuarial Accrued Liability** under this method at any point in time is the theoretical amount of the fund that would have accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The **Unfunded Actuarial Accrued Liability** is the excess of the actuarial accrued liability over the actuarial value of System assets on the valuation date.

Under this method experience gains or losses, i.e. decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

Actuarial Assumptions

<i>Interest Rate:</i>	8% per year.
<i>Price Inflation:</i>	3.5% per year.
<i>Payroll Growth:</i>	4.0% per year, including price inflation.
<i>Active Members:</i>	
1. Ordinary death rate	RP-2000 Mortality Table for Employees with Generational Projection.
2. Accidental death rate	8.5 deaths per 10,000 exposed for one year.

3. Disability rates

<u>Age</u>	<u>Accidental Disability</u>	<u>Ordinary Disability</u>
22	0.14%	0.09%
27	0.15%	0.10%
32	0.20%	0.13%
37	0.24%	0.16%
42	0.29%	0.19%
47	0.36%	0.24%
52	0.46%	0.31%

4. Withdrawal rate

The following table is used:

<u>Service</u>	<u>Rate</u>
0	5.0%
1-2	3.5%
3	3.0%
4	2.5%
5	2.0%
6	1.5%
7-14	1.0%
15-19	0.5%
20	0.0%

6. Retirement age

<u>Age</u>	<u>Probability of Retirement</u>
55	45%
56	30%
57-59	20%
60-61	50%
62	100%

7. Salary scale

<u>Year</u>	<u>Increase</u>
0-5	6.75%
6	6.50%
7	6.00%
8-24	5.25%
25+	4.75%

8. Post-retirement adjustments

Same as for retired members.

***Retired Members and Other
Beneficiaries:***

- | | |
|---------------------------------------|--|
| 1. Mortality rate - Service retirees | Service retirements and beneficiaries: RP-2000 Mortality Table for Healthy Annuitants with Generational Projection Mortality Tables - Male and Female. |
| 2. Mortality rate - Disabled retirees | Disability retirements: RP-2000 Mortality Table for Healthy Annuitants with Generational Projection with a 5 year age set forward. |
| 3. Annual readjustment of pensions | Wages for the same rank are assumed to increase 4%. |

Dependency Ratios:

- | | |
|--|---|
| 1. Ordinary death benefit | Alternate benefits payable to widow and minor children in 90% of cases. |
| 2. Pension to spouse and children of deceased pensioned member | In 90% of cases. |

Reconciliation of Member Status From July 1, 2007 to July 1, 2008

	Active Members	Members & Beneficiaries Receiving Benefits	Former Members with Deferred Benefits	Children Receiving Benefits	Total
Members as of July 1, 2007	631	512	32	11	1,186
Began Receiving Benefits	(15)	+25	0	0	+10
Terminated Without Further Benefit Eligibility (including refunds of contributions)	(4)	0	0	(1)	(5)
Terminated With Benefit Eligibility	(2)	0	+2	0	0
Returned to Active Status	0	0	0	0	0
Deceased	0	(15)	0	0	(15)
Benefits Ended	0	0	0	0	0
Newly Hired	+36	0	0	0	+36
Adjustments	0	0	0	0	0
Members as of July 1, 2008	646	522	34	10	1,212

This work product was prepared solely for the Iowa Peace Officers' Retirement, Accident and Disability System for the purposes described herein and may not be appropriate to use for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work.

ADDENDUM

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM CERTIFICATION

We have prepared an actuarial valuation of the Iowa Peace Officers' Retirement, Accident and Disability System as of July 1, 2008, for the fiscal year ending June 30, 2009. The results of the valuation are set forth in this addendum, which reflects the benefit provisions in effect on July 1, 2008.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete, or missing. It should be noted that if any data or other information is inaccurate or incomplete, our calculations may need to be revised.

The results in this Addendum have been prepared for the sole purpose of providing the information required under Chapter 97 D.5 of the Iowa code. Calculations are based on the following prescribed methods:

Actuarial cost method: Entry Age Normal
Amortization method: Level percent of payroll
Amortization period: 30 years, open period

All other assumptions, methodologies, and System provisions used are consistent with those used in the regular July 1, 2008 valuation for the Iowa Peace Officers' Retirement, Accident and Disability System.

The results shown in this Addendum may not be consistent with those in the regular July 1, 2008 valuation. The July 1, 2008, valuation results were determined in accordance with generally accepted actuarial principles and practices that are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying opinion and supporting recommendations of the American Academy of Actuaries. The results shown in this Addendum are not necessarily based on the methodologies adopted by the System.

Milliman's work product was prepared exclusively for the Iowa Peace Officers' Retirement, Accident and Disability System (POR) for a specific and limited purpose. It is a complex technical analysis that assumes a high level of knowledge concerning POR's operations, and used POR data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose other than to provide the required reporting to the Iowa Public Retirement Systems Committee. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage a qualified professional for advice appropriate to its own specific needs.

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

The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Patrice Beckham

October 27, 2008

Patrice A. Beckham, F.S.A.

Date

Brent A. Banister

October 27, 2008

Brent A. Banister, F.S.A.

Date



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ADDENDUM

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM SUMMARY OF VALUATION RESULTS UNDER PRESCRIBED METHODOLOGY

This addendum report has been prepared to present the results of a valuation of the Iowa Peace Officers' Retirement, Accident and Disability System as of July 1, 2008, based on the prescribed methodology under current statutes and regulations issued thereunder.

The unfunded actuarial accrued liability has been amortized as a level percent of payroll over 30 years. The payroll growth assumption used was 4%.

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

	<u>Actuarial Valuation as of</u>	
	<u>July 1, 2008</u>	<u>July 1, 2007</u>
Summary of Costs		
Normal cost	26.19%	N/A
UAAL amortization	<u>15.29%</u>	N/A
Total	41.48%	N/A
Less Employee Contribution Rate	<u>(9.35%)</u>	N/A
State Required Contribution	32.18%	N/A
Funded Status		
Actuarial accrued liability	\$417,176,049	N/A
Actuarial value of assets	307,291,608	N/A
Unfunded actuarial accrued liability	109,884,441	N/A
Funded Ratio	74.4%	N/A
Asset Values		
Market value of assets (MVA)	\$290,306,257	N/A
Actuarial Value of Assets (AVA)	307,291,608	N/A
MVA/AVA	94%	



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