

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

Actuarial Valuation Report
as of July 1, 1999
(Reissued January 5, 2000)

Milliman & Robertson, Inc.
10050 Regency Circle, Suite 500
Omaha, NE 68114



MILLIMAN & ROBERTSON, INC.

Actuaries & Consultants

Internationally WOODROW MILLIMAN

Suite 500, 10050 Regency Circle, Omaha, Nebraska 68114-3720

Telephone: 402/393-9400

Fax: 402/393-1037

January 10, 2000

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

Dear Members of the Board:

At your request, we have conducted our annual valuation of the Iowa Peace Officers' Retirement, Accident and Disability System as of July 1, 1999. The results of the valuation are contained in the following report.

The plan provisions are unchanged from last year's valuation, but the actuarial assumptions have been changed to reflect the new set of assumptions adopted by the Board earlier this year.

In preparing our report, we relied, without audit, on the employee census data and financial statements provided by the System.

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 actuarial principles and practices that are consistent with the applicable Guides to Professional Conduct of the American Academy of Actuaries.

We hereby further certify that all costs, liabilities, rates of interest and other factors under the Plan have been determined on the basis of actuarial assumptions and methods which are in the aggregate 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.

Respectfully submitted,
MILLIMAN & ROBERTSON, INC.

Patrice A. Beckham, FSA
Principal

Brent A. Banister, ASA
Associate Actuary

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

TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
-	Letter of Transmittal	
I	Executive Summary	1
II	System Assets	7
III	System Liabilities	10
IV	System Contributions	14
V	GASB Accounting Information	17

APPENDICES

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

SECTION I

EXECUTIVE SUMMARY

SECTION I

EXECUTIVE SUMMARY

Purpose of Report

This report presents the results of the July 1, 1999 actuarial valuation of the Iowa Peace Officers' Retirement, Accident and Disability System (IPORS). The primary purposes of performing the valuation are as follows:

- to determine the normal contribution rate payable by the State under Section 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 law governing the Peace Officers' Retirement, Accident and Disability System requires the actuary, as the technical advisor to the Board of Trustees, to make "an annual valuation of the assets and liabilities of the funds of the System created by this Chapter." [Chapter 97A, Section 5].

As the Actuary for the System, Milliman & Robertson, Inc. has completed the actuarial valuation as of July 1, 1999, based upon membership and financial data compiled by the System. The valuation is based on new assumptions that were adopted by the board last fall.

The State's normal contribution rate increased from 2.00% last year to 3.22% this year. Contributions in excess of requirements partially offset actuarial losses on the investment return and demographic experience and the impact of the assumption changes.

System Contributions

The total contribution rate for the Plan Year beginning July 1, 1999 is 12.57% of covered payroll. This is higher than the prior year's rate of 11.35% by 1.22%.

The sources of change are as follows:

	Plan Year Beginning July 1, 1999	July 1, 1998
Prior year total contribution rate	11.35%	16.10%
• change due to benefit improvements	0.00%	1.08%
• change due to asset gains/losses	0.93%	(4.04%)
• change due to other actuarial experience	0.72%	(0.89%)
• change due to contribution rate in excess of actuarial rate	(1.03%)	(0.90%)
• change due to assumption changes	0.60%	0.00%
Current year total contribution rate	12.57%	11.35%
Member's contribution rate	<u>9.35%</u>	<u>9.35%</u>
State's normal contribution rate	3.22%	2.00%

Liabilities

Three different measurements of liabilities are shown in the following chart.

- **Actuarial Balance Sheet Liability** is used in developing the total contribution rate. This liability is calculated based on both future salary projections and service credits to retirement or other separation from service. It represents the present value of all benefits expected to be paid to all current System participants (retired, active and deferred vested) in the future. The difference between the actuarial balance sheet liability and the actuarial value of assets is the present value of future contributions to the System, which determines the total contribution rate.
- **Projected Benefit Obligation (PBO)** was a liability measurement used for reporting purposes under GASB No. 5. New GASB Standards replaced this reporting basis, but information on the PBO is provided for comparative purposes. The PBO represents the present value of benefits based on future payroll projections but only reflecting service credits as of June 30, 1999. This measure of the funded status of the plan does not impact the normal contribution rate.
- **Liability for Accrued Benefits** is used only for informational purposes. It does not impact the total contribution rate for the System. This liability represents the present value of benefits earned to date, based on service and salary as of June 30, 1998. The liability for accrued benefits is often used as a measure of the funded status since it represents the amount required to pay all accrued benefits if the fund were to liquidate on the measurement date.

Each liability measurement discussed above is used for a different purpose. Therefore, the relative importance of the measurement will depend on the perspective of the person using the information. From an actuarial viewpoint, the actuarial balance sheet liability is the most critical because it, along with the actuarial value of assets, ultimately determines the total contribution rate for the System. The other liability figures are valuable because they provide useful comparisons of assets and liabilities, but the actuarial balance sheet liability is the driving force in determining the contribution rate. Because that determination is the main objective of the actuarial valuation process, it is the most important liability measure from an actuarial perspective.

A comparison of System liabilities between July 1, 1998 and July 1, 1999 are summarized below:

	June 30		Change
	1999	1998	
Actuarial Balance Sheet Liability	\$270,302,057	\$244,883,298	10.4%
PBO	187,312,171	178,631,341	4.9%
Liability for Accrued Benefits	161,689,453	153,453,642	5.4%

Assets

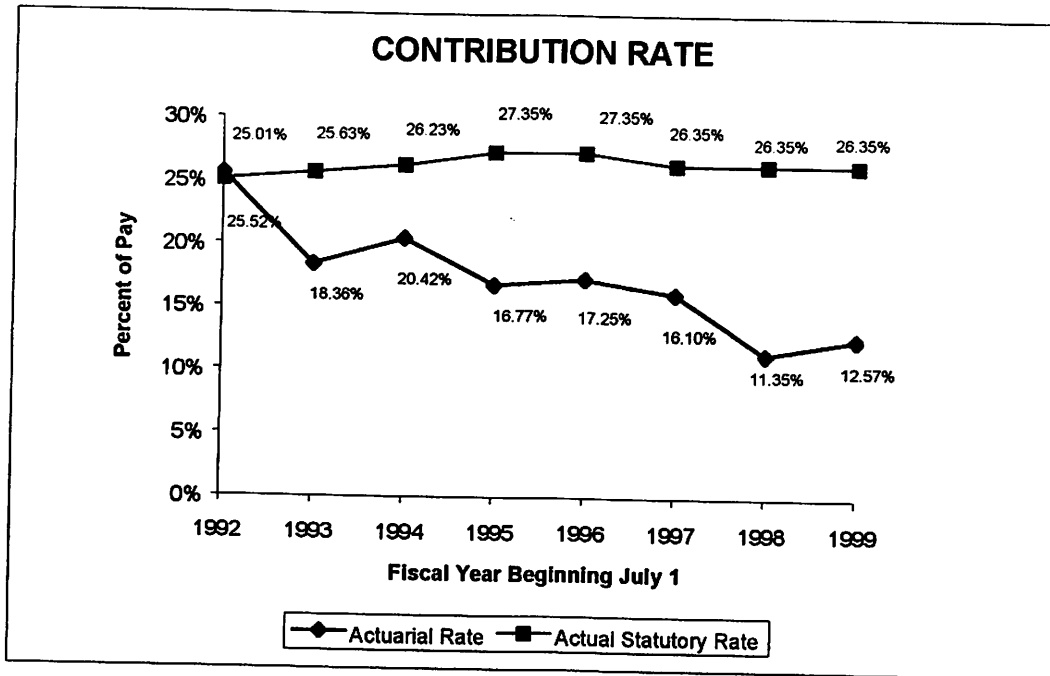
Between July 1, 1998 and July 1, 1999, the actuarial (market) value of assets increased by \$11.8 million. This change was attributable to the following:

	Plan Year Ending June 30	
	1999	1998
Actuarial Value of Net Assets at the beginning of the plan year	\$207,649,859	\$180,551,242
Change in Assets		
• Contributions (including lump sum)	7,484,385	7,108,889
• Benefits, Refunds	(8,495,864)	(7,679,579)
• Administrative Expenses	(80,906)	(44,243)
• Investment Return	12,905,035	27,713,550
Total Changes	11,812,650	27,098,617
Actuarial Value of Net Assets at the end of the plan year	\$219,462,509	\$207,649,859

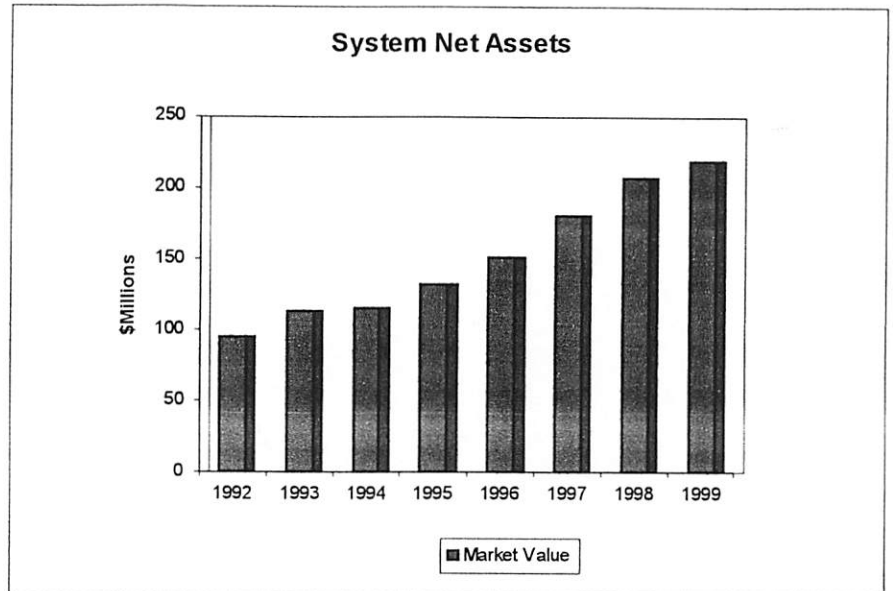
The expected investment earnings on the actuarial value of assets for the plan year ending June 30, 1999 were based on an assumed rate of return of 8.0%. However, the dollar weighted rate of return on the actuarial value of assets, net of expenses, was 6.2%. This determination assumes contributions and benefit payments occur evenly throughout the year. The dollar amount of actuarial loss was \$3,747,401. More details on the System assets are presented in Section II of this report.

Comparison of Major Valuation Results

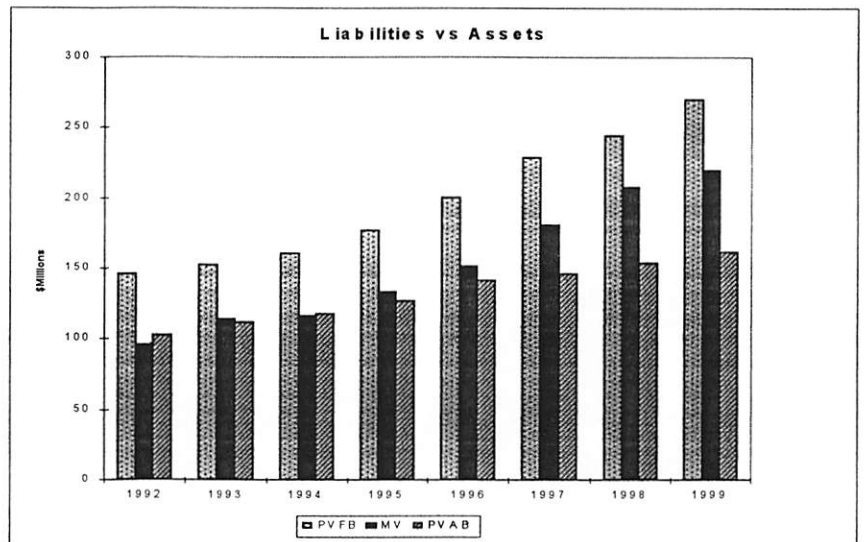
The major findings of the 1999 valuation compared with prior valuation results are summarized and compared in the following charts.



The System's assets have grown considerably in recent years due to investment performance and contributions.



Projected and accrued liabilities have increased steadily each year. The market value of assets as a percent of the present value of accrued liabilities has grown significantly during this period.



PVFB = Present Value of Future Benefits (Actuarial Balance Sheet Liability)

PVAB = Present Value of Accrued Benefits

MV = Market Value of Assets

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

	July 1, 1999	July 1, 1998	% Chg
SYSTEM MEMBERSHIP			
1. Active Membership			
- Number of Participants	641	625	2.6
- Projected Covered Payroll	29,468,176	27,815,874	5.9
- Average Salary	46,211	44,505	3.8
- Average Attained Age	37.8	38.0	(0.5)
- Average Service	12.2	12.3	(0.8)
2. Inactive Membership			
- Number of Vested Deferred Members	15	14	7.1
- Number of Retired Members	400	382	4.7
- Average Annual Benefit	21,964	21,054	4.3
ASSETS AND LIABILITIES			
1. Net Assets			
- Market Value	219,462,509	207,649,859	5.7
- Actuarial Value	219,462,509	207,649,859	5.7
2. Projected Liabilities			
- Annuity Savings Fund	0	0	0
- Pension Reserve Fund	100,951,345	97,499,930	3.5
- Annuity Reserve Fund	0	0	0
- Pension Accumulation Fund	169,350,985	147,383,368	14.9
- Total	270,302,330	244,883,298	10.4
SYSTEM CONTRIBUTIONS			
Total Contribution Rate	12.57%	11.35%	10.7
Member's Contribution Rate	9.35%	9.35%	0.0
State's Normal Contribution Rate	3.22%	2.00%	61.0
Appropriated Contribution Rate	17.00%	17.00%	0.0
Excess (Shortfall)	13.78%	15.00%	(8.1)

SECTION II
SYSTEM ASSETS

SECTION II
SYSTEM ASSETS

The System currently uses the market value of assets as the actuarial value of assets.

The following tables present information regarding the market value of System assets as of July 1, 1999.

<u>Page</u>	<u>Contents</u>
8	Summary of Fund Activity
9	Historical Comparison (Actuarial and Market)

SUMMARY OF FUND ACTIVITY
(Market Value)

NET ASSETS ON 7/1/98 **\$207,649,859**

CONTRIBUTIONS

Member Contributions	\$ 2,623,551
Employer Contributions	4,860,834
Lump Sum Contributions	<u>0</u>

Total Contributions **\$ 7,484,385**

BENEFIT PAYMENTS

Pension and annuity payments	\$ 8,483,475
Refunds	<u>12,389</u>

Total Benefit Payments **\$ 8,495,864**

Administrative Expense \$ 80,906

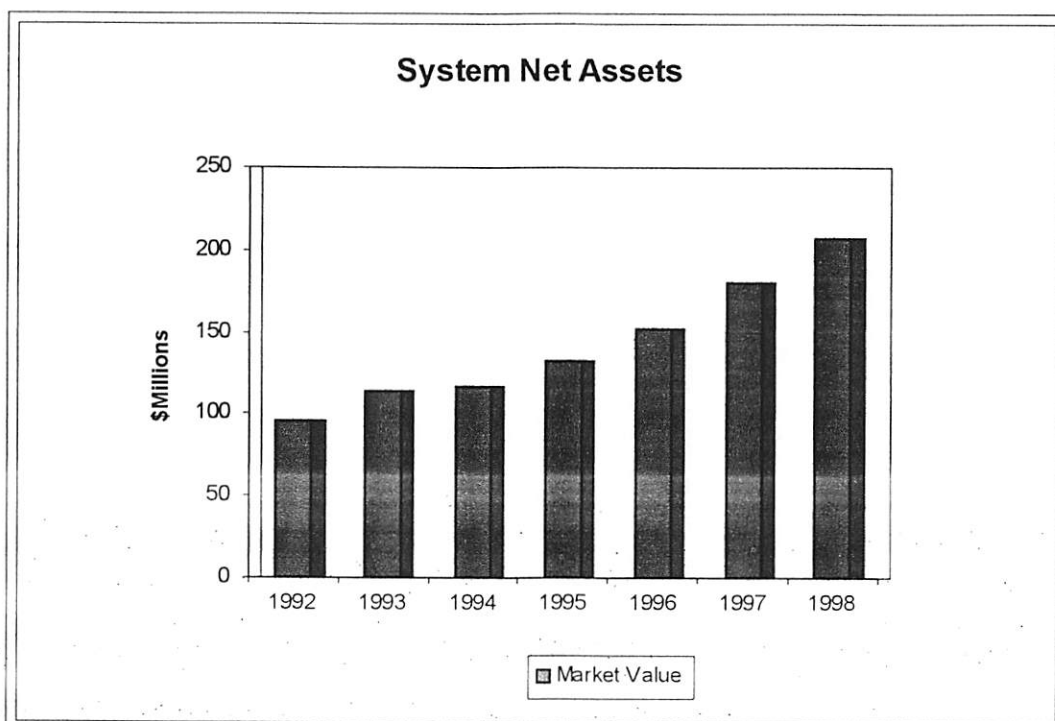
Investment Income \$ 12,905,035

NET ASSETS ON 7/1/99 **\$219,462,509**

HISTORICAL COMPARISON

<u>Value As of</u>	<u>Market Value of Net Assets</u>	<u>Estimated Rate of Return*</u>
July 1, 1992	95,351,357	N/A
July 1, 1993	113,571,943	N/A
July 1, 1994	115,966,733	N/A
July 1, 1995	132,708,760	N/A
July 1, 1996	151,753,761	13.8%
July 1, 1997	180,551,242	18.9%
July 1, 1998	207,649,859	15.3%
July 1, 1999	219,462,509	6.2%

*Net of Expenses - Information prior to 1996 not readily available.



SECTION III
SYSTEM LIABILITIES

SECTION III

SYSTEM LIABILITIES

In this section the values assigned to the liabilities of the System are presented and then compared to System assets.

Explanation of Fund Accounts

The **Annuity Savings Fund** liability represents the accumulated contributions of the individual members and of inactive members who have withdrawn with vested pension rights. Prior amendments have allowed members to withdraw their balance after July 1, 1979.

The **Pension Accumulation Fund** liability represents the estimated present value of future benefits payable by the State to present active members and their beneficiaries and to any inactive members with vested pension rights.

The **Annuity Reserve Fund** liability represents the estimated present value of future annuity benefits payable to members and their beneficiaries now receiving such benefits. The annuity benefits, provided by accumulated contributions of the members, remain constant as they are not adjusted annually under the "half-escalator" provision.

The **Pension Reserve Fund** liability represents the estimated present value of future pension benefits payable to members and their beneficiaries now receiving such benefits. These benefits are assumed to increase according to the "half-escalator" provision excluding members who terminated with vested benefits whose benefits remain constant.

Chapter 97A.8 states that the actuary shall annually determine the amounts required in the Pension Reserve and Annuity Reserve Funds. If the amount required is less than the amount in the particular reserve fund, the Board of Trustees shall transfer the excess funds from the particular reserve fund to the pension accumulation fund. If the amount required is more than the amount in the particular reserve fund, the respective Board of Trustees shall transfer the additional amount prescribed by the actuary to the particular reserve fund from the pension accumulation fund.

The basic valuation results calculated under the Aggregate Actuarial Cost Method show the required liabilities to be carried in the Pension Reserve Fund and the Annuity Reserve Fund on June 30, 1999. These amounts should be compared with the assets carried in such funds on June 30, 1999 and transfers to or from the Pension Accumulation Fund should then be made to adjust the asset balances so that they equal the required liabilities.

The tables in this section present System liabilities as follows:

<u>Page</u>	<u>Contents</u>
12	System Balance Sheet Liabilities
13	Present Value of Accrued Benefits/ System Accrued Liabilities

SYSTEM BALANCE SHEET LIABILITIES

	JULY 1, 1999	JULY 1, 1998
Actuarial Present Value of Projected Benefits		
1. Annuity Savings Fund	\$ 0	\$ 0
2. Pension Accumulation Fund	169,350,985	139,454,726
3. Annuity Reserve Fund	0	0
4. Pension Reserve Fund	100,951,345	89,549,407
5. Total	\$ 270,302,330	\$ 229,004,133

PRESENT VALUE OF ACCRUED BENEFITS

		7/1/99	7/1/98
<u>Present Value of Accumulated Benefits</u>			
1.	Vested Benefits		
	Participants currently receiving payments	\$ 100,951,345	\$ 97,499,930
	Deferred vested members	978,963	979,026
	Active members	<u>58,661,835</u>	<u>53,576,868</u>
	Total vested benefits	160,592,143	152,055,824
2.	Nonvested Benefits	\$ 1,097,310	\$ 1,397,818
3.	Total actuarial present value of accumulated benefits	\$ 161,689,453	\$ 153,453,642
4.	Market Value of Assets	\$ 219,462,509	\$ 207,649,859
5.	Unfunded (Surplus) Actuarial Present Value	\$ (57,773,056)	\$ (54,196,217)
6.	Funded Percentage	135.7%	135.3%

SECTION IV
SYSTEM CONTRIBUTIONS

SECTION IV

SYSTEM CONTRIBUTIONS

In this section the normal contribution rate required in the upcoming plan year is developed.

The actuarial funding method used to determine System costs is the Aggregate Cost method. A more detailed description of this method can be found in Appendix C.

In the following pages we present information on System contributions as follows:

<u>Page</u>	<u>Contents</u>
15	Actuarial Balance Sheet
16	Normal Contribution Rate

ACTUARIAL BALANCE SHEET
July 1, 1999

ASSETS

Market value of assets	\$ 219,462,509
Present value of future contributions	<u>50,839,821</u>
<u>Total Net Assets</u>	\$ 270,302,330

LIABILITIES

Present Value of Projected Benefits

Retired Members and Beneficiaries	\$ 100,951,345
<u>Active Members</u>	
Retirement	148,324,079
Ordinary death	5,458,736
Accidental death	2,195,765
Accidental disability	6,461,404
Ordinary disability	5,872,909
Termination	59,129
Inactive Members	<u>978,963</u>
<u>Total Liabilities</u>	\$ 270,302,330

NORMAL CONTRIBUTION RATE

	<u>7/1/99</u>	<u>7/1/98</u>
1. Actuarial Present Value of Projected Benefits	\$ 270,302,330	\$ 244,883,298
2. Market Value of Plan Assets	219,462,509	207,649,859
3. Actuarial Present Value of Future Contributions The excess of the actuarial present value of projected pension benefits over the actuarial value of assets; the amount used to determine normal cost.	50,839,821	37,233,439
4. Actuarial Present Value of Future Valuation Earnings of Active Members	404,478,823	328,073,520
5. Total Normal Contribution Rate The actuarial present value of future contributions divided by the actuarial present value of future earnings.	12.57%	11.35%
6. Member's Contribution Rate	9.35%	9.35%
7. State's Normal Contribution Rate (5) - (6)	3.22%	2.00%
8. Contribution Rate Appropriated	17.00%	17.00%
9. Excess (Shortfall) The excess of the appropriated contribution rate over the State's normal contribution rate: (8) - (7)	13.78%	15.00%
10. Projected Covered Payroll	\$ 29,468,176	\$ 27,815,874
11. Estimated Amount of State's Contribution		
(a) Normal Contribution: (7) x (10)	948,875	556,317
(b) Appropriated Contribution: (8) x (10)	5,009,590	4,728,699
(c) Excess (Shortfall): (11b) - (11a)	4,060,715	4,172,382

SECTION V

PLAN ACCOUNTING INFORMATION

SECTION V

PLAN ACCOUNTING INFORMATION

Pension Benefit Obligation GASB Statement No. 5

One measurement for evaluating the funded status of the Plan is the standardized "pension benefit obligation" as set forth in GASB Statement No. 5 for governmental plans. This value is known as the actuarial present value of credited projected benefits and is that portion of the present value of all projected pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to date under the projected unit credit actuarial cost method. The measure is independent of the actuarial funding method used to determine contributions to the System.

The pension benefit obligation as determined for both this year and last year is summarized below:

	<u>7/1/99</u>	<u>7/1/98</u>
Pension Benefit Obligation		
Former Members (in pay status or deferred)	\$ 101,930,308	\$ 98,478,956
Current Employees:		
- Estimated accumulated employee contributions including allocated investment earnings (at 8%)	30,555,188	27,834,375
- Employer-financed vested obligation	52,311,697	49,429,602
- Employer-financed nonvested obligation	2,514,978	<u>2,888,408</u>
Total Pension Benefit Obligation	\$187,312,171	\$178,631,341
Net Market Value of Assets Available for Benefits	\$219,462,509	\$207,649,859
Unfunded Pension Benefit Obligation	\$ (32,150,338)	\$(29,018,518)
Funded Percentage	117.2%	116.2%

The actuarial assumptions used to determine the pension benefit obligation are the same as those used in the respective valuations (see the Actuarial Assumptions section).

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) has 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, IPORS has elected to prepare the schedule based on the Projected Unit Credit method. The system is also using an actuarial value of assets equal to the fair market value.
- 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.

Based on the NPO of \$(8,986,581) as of June 30, 1998 and the annual required contribution for the 1999 fiscal year of \$556,317, the annual pension cost for the 1998 fiscal year is \$679,523. The actual employer contribution is \$4,860,834. The effect of the excess contribution is to decrease the net pension obligation by \$4,181,311 to \$(13,167,892) as of June 30, 1999. As a result, the annual pension cost for the 2000 fiscal year is \$922,655 based on the annual required contribution of \$948,875.

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	Market 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]
6/30/91	\$ 82,238,357	\$111,333,251	\$29,094,894	73.87%	\$18,487,882	157.37%
6/30/92	95,351,369	118,572,469	23,221,100	80.42%	19,387,030	119.78%
6/30/93	113,571,943	124,278,348	10,706,405	91.39%	20,292,646	52.76%
6/30/94	115,966,733	130,157,882	14,191,149	89.10%	20,512,937	69.18%
6/30/95	132,708,760	140,803,526	8,094,766	94.25%	23,765,267	34.06%
6/30/96	151,753,761	160,781,808	9,028,047	94.38%	25,272,192	35.72%
6/30/97	180,551,242	166,700,726	(13,850,516)	108.31%	26,277,703	(52.71%)
6/30/98	207,649,859	178,631,341	(29,018,518)	116.24%	26,954,246	(107.66%)
6/30/99	219,462,509	187,312,171	(32,150,338)	117.16%	28,059,369	(114.58%)

*The Aggregate method, which does not directly develop an actuarial accrued liability, is used to determine the required contribution. This amount is based on the Projected Unit Credit method.

**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)
6/30/91	\$4,252,637	\$3,242,922	76.26%
6/30/92	4,037,753	3,339,755	82.71%
6/30/93	3,588,539	3,648,617	101.67%
6/30/94	2,177,401	3,670,513	168.57%
6/30/95	2,500,527	4,035,053	161.37%
6/30/96	1,763,383	4,390,688	248.99%
6/30/97	1,996,503	4,597,867	230.30%
6/30/98	1,773,145	4,588,667	258.79%
6/30/99	556,317	4,860,834	873.75%

Notes to the Required Schedules:

1. The cost method used to determine the ARC is the Aggregate Cost Method. This method does not identify or separately amortize unfunded actuarial liabilities.
2. The assets are shown at fair market value.
3. Economic assumptions are as follows:
 - Inflation rate of 4.00%
 - Investment return rate of 8.00%
 - Salary increase rate of 10% the first year, 5% for each of the next 4 years and 5.5% thereafter.
 - Post-retirement benefit increases vary from 2.00% to 2.40%

These assumptions were first used in the 6/30/99 valuation.

4. The amortization method is an open period, level percentage of payroll. The average remaining service life of active members is 18 years as of 6/30/99.

Development of the Net Pension Obligation

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

Fiscal Year:	<u>1991*</u>	<u>1992*</u>	<u>1993*</u>	<u>1994*</u>	<u>1995*</u>
Assumptions and Method:					
Interest Rate	8.00%	8.00%	8.00%	8.00%	8.00%
Inflation Rate	4.00%	4.00%	4.00%	4.00%	4.00%
Amortization Period (years)	15	15	15	15	15
Cost Method	Aggregate	Aggregate	Aggregate	Aggregate	Aggregate
Annual Pension Cost:					
Annual Required Contribution (ARC)	\$4,252,637	\$4,037,753	\$3,588,539	\$2,177,401	\$2,500,527
Interest on NPO	28,110	108,608	163,370	156,942	35,934
Adjustment to ARC	<u>(31,598)</u>	<u>(122,087)</u>	<u>(183,644)</u>	<u>(176,418)</u>	<u>(40,394)</u>
Annual Pension Cost	\$4,249,149	\$4,024,274	\$3,568,265	2,159,925	\$2,496,067
Contribution for the Year:	\$3,242,922	\$3,339,755	\$3,648,617	\$3,670,513	\$4,035,053
Net Pension Obligation (NPO):					
NPO at beginning of year	\$ 351,375	\$1,357,602	\$2,042,121	\$1,961,769	\$ 449,181
Annual Pension Cost for year	4,249,149	4,024,274	3,568,265	2,157,925	2,496,067
Contributions for year	<u>(3,242,922)</u>	<u>(3,339,755)</u>	<u>(3,648,617)</u>	<u>(3,670,513)</u>	<u>(4,035,053)</u>
NPO at end of year	\$1,357,602	\$2,042,121	\$1,961,769	\$449,181	\$(1,089,805)

Fiscal Year:	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>
Assumptions and Method:					
Interest Rate	8.00%	8.00%	8.00%	8.00%	8.00%
Inflation Rate	4.00%	4.00%	4.00%	4.00%	4.00%
Amortization Period (years)	15	14	14	14	18
Cost Method	Aggregate	Aggregate	Aggregate	Aggregate	Aggregate
Annual Pension Cost:					
Annual Required Contribution (ARC)	\$1,763,383	\$1,996,503	\$1,773,145	\$556,317	\$948,875
Interest on NPO	(87,183)	(296,503)	(500,547)	(718,926)	(1,053,431)
Adjustment to ARC	<u>98,004</u>	<u>347,316</u>	<u>586,328</u>	<u>842,132</u>	<u>1,027,211</u>
Annual Pension Cost	\$1,774,204	\$2,047,316	\$1,858,926	679,523	\$922,655
Contribution for the Year:	\$4,390,688	\$4,597,867	4,588,667	4,860,834	N/A
Net Pension Obligation (NPO):					
NPO at beginning of year	\$(1,089,005)	\$(3,706,289)	\$(6,256,840)	\$(8,986,581)	N/A
Annual Pension Cost for year	1,774,204	2,047,316	1,858,926	679,523	
Contributions for year	<u>(4,390,688)</u>	<u>(4,597,867)</u>	<u>(4,588,667)</u>	<u>(4,860,834)</u>	
NPO at end of year	\$(3,706,289)	\$(6,256,840)	(8,986,581)	(13,167,892)	

* As calculated by the System.

APPENDIX A

**SYSTEM MEMBERSHIP
INFORMATION**

Reconciliation of Member Status
From July 1, 1998 to July 1, 1999

	Active Members	Members & Beneficiaries Receiving Benefits	Former Members with Deferred Benefits	Children Receiving Benefits	Total
Members as of July 1, 1998	625	370	14	12	1,021
Began Receiving Benefits	(20)	23	(1)	0	2
Terminated Without Further Benefit Eligibility	(2)	0	0	(1)	(3)
Terminated With Benefit Eligibility	(2)	0	2	0	0
Deceased	0	(4)	0	0	(4)
Newly Hired	40	0	0	0	40
Members as of July 1, 1999	641	389	15	11	1,056

AGE AND SERVICE DISTRIBUTION AS OF JULY 1, 1999 FOR ACTIVE PARTICIPANTS

Males and Females

Age	Years of Service																		Total	
	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 and over		No.	Avg.
	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	27	33,187	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	27	33,187
25-29	129	39,083	15	44,395	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	144	39,636
30-34	41	41,609	71	44,989	4	45,937	0	NA	0	NA	0	NA	0	NA	0	NA	0	NA	116	43,827
35-39	13	43,336	29	45,130	47	46,976	12	48,829	0	NA	0	NA	0	NA	0	NA	0	NA	101	46,197
40-44	1	42,211	8	45,824	20	50,145	35	50,494	10	53,781	0	NA	0	NA	0	NA	0	NA	74	50,227
45-49	0	NA	1	43,925	8	45,978	6	45,989	49	54,016	9	52,542	0	NA	0	NA	0	NA	73	52,155
50-54	0	NA	0	NA	1	61,385	3	50,703	20	48,951	46	54,100	2	62,786	0	NA	0	NA	72	52,870
55-59	0	NA	0	NA	0	NA	0	NA	8	58,598	7	56,224	15	58,444	0	NA	0	NA	30	57,967
60-64	0	NA	0	NA	0	NA	0	NA	1	51,835	0	NA	2	44,825	1	56,349	0	NA	4	49,459
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	211	39,096	124	44,996	80	47,796	56	49,666	88	53,230	62	54,113	19	57,467	1	56,349	0	NA	641	46,212

ANALYSIS OF RETIREES AND BENEFICIARIES
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	23,788	NA	NA	3,553	NA	7,946
40 to 44	NA	25,200	NA	NA	NA	16,910	14,341
45 to 49	NA	26,210	23,982	NA	NA	13,459	11,917
50 to 54	NA	27,945	23,699	NA	NA	17,428	10,877
55 to 59	33,224	28,858	26,068	18,568	NA	13,745	6,576
60 to 64	28,908	26,123	17,760	10,805	NA	12,737	NA
65 to 69	24,178	23,081	14,752	10,562	NA	12,381	NA
70 to 74	21,633	24,931	NA	8,020	NA	11,933	NA
75 to 79	17,783	NA	13,749	NA	NA	11,056	NA
80 to 84	16,904	17,039	NA	NA	NA	11,859	NA
85 to 89	17,875	21,763	NA	NA	NA	11,278	NA
90 to 94	16,557	NA	NA	NA	NA	11,011	NA
95 to 99	NA	NA	NA	NA	NA	NA	NA
100 & over	NA	NA	NA	NA	NA	NA	NA
Totals	26,545	26,376	21,416	12,641	3,553	12,577	9,858

ANALYSIS OF RETIREES AND BENEFICIARIES
Males and Females

Number 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>	<u>Total</u>
Under 40	0	3	0	0	11	0	5	19
40 to 44	0	2	0	0	0	2	2	6
45 to 49	0	6	2	0	0	1	1	10
50 to 54	0	6	2	0	0	5	5	18
55 to 59	38	23	4	7	0	6	2	80
60 to 64	57	18	2	8	0	7	0	92
65 to 69	40	9	2	4	0	13	0	68
70 to 74	44	5	0	4	0	10	0	63
75 to 79	19	0	1	0	0	7	0	27
80 to 84	7	1	0	0	0	10	0	18
85 to 89	1	1	0	0	0	8	0	10
90 to 94	1	0	0	0	0	3	0	4
95 to 99	0	0	0	0	0	0	0	0
100 & over	0	0	0	0	0	0	0	0
Totals	207	74	13	23	11	72	15	415

APPENDIX B
SUMMARY OF PLAN PROVISIONS

IOWA PEACE OFFICERS' RETIREMENT, ACCIDENT AND DISABILITY SYSTEM

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, 60% 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).

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 20% of compensation paid to an active member having the rank of senior patrol officer of the Iowa Highway Safety 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 Iowa Highway Safety 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 Iowa Highway Safety Patrol, for each child.

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 Iowa Highway Safety Patrol.
- (2) Additional benefit of 6% of compensation payable to an active member having the rank of senior patrol officer of the Iowa Highway Safety Patrol, for each child.

Adjustments to Pensions

Each July 1 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) 30% for members receiving a service retirement allowance and for beneficiaries receiving an accidental death benefit.
- (2) 30% for members with five or more years of membership who are receiving an ordinary disability benefit.
- (3) 33-1/3% for member receiving an accidental disability benefit.
- (4) 15% 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.

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 Iowa Highway Safety 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 60 days, commence covered employment under another eligible retirement system, may elect to transfer the average accrued benefit 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

The Aggregate Actuarial Cost Method has been used in this valuation. Under this method, the normal cost (the portion of the total cost of pension benefits under this plan allocated to the current year under this actuarial cost method) is determined by multiplying the normal cost accrual rate for the current year by the total valuation earnings for active participants under the assumed retirement age on the current valuation date.

An actuarial accrued liability, as such, is not determined under the Aggregate Actuarial Cost Method; all past and future costs are funded over the future. The normal cost accrual rate for the current year is:

1. the actuarial present value of projected pension benefits for all participants determined using the assumptions shown below for normal cost, minus the actuarial value of assets (as reported by the System), both as of the current valuation date, divided by
2. the actuarial present value of the expected future valuation earnings for all active participants from the current valuation date to the assumed retirement age.

Actuarial gains and losses are reflected in this accrual rate and are spread over the current and future years' normal costs. Experience gains will reduce and experience losses will increase future normal cost accrual rates.

Actuarial Assumptions

Active Members:

- | | |
|-------------------------------|---|
| 1. Ordinary death rate | 1983 Group Annuity Mortality Table. |
| 2. Accidental death rate | 8.5 deaths per 10,000 exposed for one year. |
| 3. Ordinary disability rate | 1970-71 Industry Experience on Male Lives (Occupational Group II). |
| 4. Accidental disability rate | 1970-71 Industry Experience on Male Lives (Occupational Group II) increased by 50% for age 35 and younger, grading up 1% per age to 69% for age 54. |
| 5. Withdrawal rate | 5% for first year of employment, grading down 1% a year to 0% in sixth and following years. |

6. Retirement age

<u>Age</u>	<u>Probability of Retirement</u>
55	45%
56	30%
57-58	20%
59-60	25%
61	33%
62	100%

7. Salary scale

Annual increases: 10% the first year, 5% for each of the next 4 years, and 5.5% thereafter.

8. Post-retirement adjustments

Same as for retired members.

Retired Members and Other Beneficiaries:

1. Mortality rate

Service retirements and female beneficiaries: 1983 Group Annuity Mortality (GAM) Tables - Male and Female.

2. Mortality rate

Disability retirements: 1983 GAM Tables - Male and Female rated up 5 years in age.

3. Annual readjustment of pensions

For retirements prior to July 1, 1990: 2.40% increase each year for retired members and beneficiaries; 2.00% for retired members receiving accidental disability; 2.40% for retired members receiving ordinary disability.

For retirements July 1, 1990 through June 30, 1992: 2.22% increase each year for retired members and beneficiaries; 2.22% for retired members receiving accidental disability; 2.40% for retired members receiving ordinary disability.

For retirements July 1, 1992 through June 30, 1993: 2.14% increase each year for retired members and beneficiaries; 2.22% for retired members receiving accidental disability; 2.40% for retired members receiving ordinary disability.

For retirements July 1, 1993 through June 30, 1994: 2.07% increase each year for retired members and beneficiaries; 2.22% for retired members receiving

accidental disability; 2.40% for retired members receiving ordinary disability.

For retirements after July 1, 1994: 2.00% increase each year for retired members and beneficiaries; 2.22% for retired members receiving accidental disability; 2.40% for retired members receiving ordinary disability.

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. |

Interest Rate: 8% per year.

Inflation: 3.5% per year.

Reconciliation of Member Status
From July 1, 1998 to July 1, 1999

	Active Members	Members & Beneficiaries Receiving Benefits	Former Members with Deferred Benefits	Children Receiving Benefits	Total
Members as of July 1, 1998	625	370	14	12	1,021
Began Receiving Benefits	(20)	23	(1)	0	2
Terminated Without Further Benefit Eligibility	(2)	0	0	(1)	(3)
Terminated With Benefit Eligibility	(2)	0	2	0	0
Deceased	0	(4)	0	0	(4)
Newly Hired	40	0	0	0	40
Members as of July 1, 1999	641	389	15	11	1,056