# Elective State Officers Retirement Fund ACTUARIAL VALUATION REPORT

July 1, 1995



**Actuaries & Consultants** 

#### Internationally WOODROW MILLIMAN

Suite 400, 15800 Bluemound Road, Brookfield, Wisconsin 53005-6069 Telephone: 414/784-2250 Fax: 414/784-4116 Wendell Milliman, F.S.A. (1976) Stuart A. Robertson, F.S.A. Chairman Emeritus

November 16, 1995

Steven R. Baker, M.D. T. Scott Bentley, A.S.A.

Gerald R. Bernstein, F.S.A.

Stephen D. Brink, F.S.A. Brian Z. Brown, F.C.A.S. Stephen M. Cigich, F.S.A. Timothy D. Courtney, A.S.A.

Thomas K. Custis, F.S.A. Patrick J. Dunks, F.S.A. Pamela J. Evans, A.S.A. Daniel J. Flaherty, F.C.A.S. Eric P. Goetsch, A.S.A. Steven G. Hanson, A.S.A.

Richard H. Hauboldt, F.S.A.

Gary R. Josephson, F.C.A.S. Gail E. Kappeler, A.C.A.S. Joan M. Klucarich, A.C.A.S.

Catherine L. Knuth, A.S.A. Rose M. Leben, R.N. Frank Kopenski, Jr., A.S.A.

Kenneth E. Leinbach, F.S.A. Mark E. Litow, F.S.A. John D. Meerschaert, A.S.A.

Sandra A. Mertes, F.S.A.

Nicholas E. Mischler, M.D. James C. Modaff, F.S.A. Stacey V. Muller, A.S.A. David F. Ogden, F.S.A.

ickolas J. Ortner, A.S.A. anet L. Perrie, A.S.A.

William M. Pollock, F.S.A. Michael D. Price, A.C.A.S.

Robert L. Sanders, F.C.A.S. Steven J. Sherman, F.S.A. Clark E. Slipher, F.S.A.

Patricia L. Priebe, R.N. Douglas A. Proebsting, A.S.A.

John B. Snyder, F.S.A. Lee H. Straate, F.S.A.

Collin J. Suttie, A.C.A.S. Gregory S. Wanner, A.C.A.S.

Peter G. Wick, F.C.A.S.

Peggy L. Hauser, F.S.A. Timothy J. Herman, A.S.A. Gregory N. Herrle, F.S.A. William V. Hogan, F.S.A. Legislative Commission on Pensions and Retirement 55 State Office Building St. Paul, Minnesota 55155

RE: Elective State Officers Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 1995.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Minnesota State Retirement 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 the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on July 8, 1992.

Respectfully submitted,

Thomas K. Custis, F.S.A., M.A.A.A.

Consulting Actuary

William V. Hogan, F.S.A., M.A.A.A.

Consulting Actuary

TKC/WVH/bh

# Table of Contents

		Page
REPORT HIGH	LIGHTS	1
COMMENTARY	?	
Purpose		2
Report High	ılights	
Asset Inform	nation	2
	alance Sheet	2 2 3 3
GASB Disc	<del>-</del>	3
Actuarial Co		4
	Actuarial Gains and Losses	4
	n Sufficiency	4
	Actuarial Assumptions	5
Changes in	Plan Provisions	5
ASSET INFORM	IATION	
Table 1 -	Accounting Balance Sheet	6
Table 2 -	Changes in Assets Available for Benefits	7
MEMBERSHIP 1	DATA	
Table 3 -	Active Members	8
Table 4 -	Service Retirements	9
Table 5 -		10
Table 6 -	Disability Retirements	11
	Reconciliation of Members	12
FUNDING STAT	`US	
Table 8 -	Actuarial Balance Sheet	13
	Determination of Unfunded Actuarial Accrued Liability	14
	(UAAL) and Supplemental Contribution Rate	
	Changes in Unfunded Actuarial Accrued Liability (UAAL)	15
Table 11 -	Determination of Contribution Sufficiency	16

# Table of Contents

(Continued)

	Page
ACTUARIAL ASSUMPTIONS	
Table 12 - Summary of Actuarial Assumptions and Methods	17
PLAN PROVISIONS	
Table 13 - Summary of Plan Provisions	19

# Report Highlights (dollars in thousands)

		07/01/94 Valuation	07/01/95 Valuation
A.	CONTRIBUTIONS (Table 11)		
	<ol> <li>Statutory Contributions - Chapter 352C</li> <li>of Payroll</li> </ol>	9.00%	9.00%
	<ol><li>Required Contributions - Chapter 356</li><li>% of Payroll</li></ol>	42.00%	43.58%
	3. Sufficiency (Deficiency): (A.1 A.2.)	-33.00%	-34.58%
В.	FUNDING RATIOS		
	1. Accrued Benefit Funding Ratio		
	a. Current Assets (Table 1)	\$361	\$378
	b. Current Benefit Obligations (Table 8)	\$2,718	\$2,800
	c. Funding Ratio: (a/b)	13.28%	13.50%
	2. Accrued Liability Funding Ratio		
	a. Current Assets (Table 1)	\$361	\$378
	b. Actuarial Accrued Liability (Table 9)	\$2,848	\$2,948
	c. Funding Ratio: (a/b)	12.68%	12.82%
	3. Projected Benefit Funding Ratio (Table 8)		
	a. Current and Expected Future Assets	\$571	\$627
	b. Current and Expected Future Benefit Obligations	\$3,058	\$3,197
	c. Funding Ratio: (a/b)	18.67%	19.61%
C.	PLAN PARTICIPANTS		
	1. Active Members		
	a. Number (Table 3)	6	6
	b. Projected Annual Earnings	\$462	\$452
	c. Average Annual Earnings (Actual \$)	\$77,000	\$75,374
	d. Average Age	53.7	52.0
	e. Average Service	10.5	10.3
	2. Others		
	a. Service Retirements (Table 4)	5	5
	b. Disability Retirements (Table 5)	0	0
	<ul><li>c. Survivors (Table 6)</li><li>d. Deferred Retirements (Table 7)</li></ul>	6	6
	e. Terminated Other Non-vested (Table 7)	4	5
	f. Total	0	<u>0</u> 16
		1.5	10

## Commentary

#### Purpose

The purpose of this valuation is to determine the financial status of the Plan. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

#### Report Highlights

The financial status of the Plan can be measured by three different funding ratios:

- <sup>o</sup> The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 13.50%. The corresponding ratio for the prior year was 13.28%.
- <sup>o</sup> The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 1995 the ratio is 12.82%, which is an increase from the 1994 value of 12.68%.
- <sup>o</sup> The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 19.61% shows that the current statutory contributions are inadequate.

#### Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gain and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F1 to F6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets", the latter phrase will be used in the remainder of this report.

This Plan participates in the Minnesota Post Retirement Investment Fund (i.e. MPRIF). After the MPRIF liability has been calculated for each participating Plan, the State Board of Investments, (i.e. SBI), will determine each Plan's portion of the excess earnings for the January benefit increase as well as the Plan's allocated market share of MPRIF.

#### Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

The Current Benefit Obligation used to measure current funding levels is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

#### **GASB** Disclosure

The Current Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 uses the terms "Actuarial Present Value of Credited Projected Benefits" and "Pension Benefit Obligation" rather than "Current Benefit Obligation".

The JULY 1, 1995 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the following table:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$1,642,000
Current Employees	
Accumulated employee contributions including allocated investment income	\$414,000
Employer-financed vested	724,000
Employer-financed nonvested	20,000
Total Pension Benefit Obligation	\$2,800,000
Net Assets Available for Benefits at Cost	\$378,000
Total Benefit Obligation less Assets	\$2,422,000
Funded Ratio	13.50%

<sup>&</sup>lt;sup>o</sup> For Active Members - salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.

<sup>&</sup>lt;sup>o</sup> For Non-active Members - the discounted value of benefits, including augmentation in cases where benefits have not commenced.

## Actuarial Cost Method (Table 9)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level percentage of payroll.

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

The payments will increase 6.50% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years, the annual payment will cover the interest and also repay a portion of the unfunded.

## Sources of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. For a detailed analysis of the major components, refer to Table 10.

#### Contribution Sufficiency (Table 11)

This report determines the adequacy of Statutory Contributions by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

- Normal costs based on the Entry Age Normal Actuarial Cost Method.
- <sup>o</sup> A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability.

An Allowance for Expenses.

Table 11 shows the Plan has a contribution deficiency since the Statutory Contribution Rate is 9.00% compared to the Required Contribution Rate of 43.58%.

## Changes in Actuarial Assumptions

There were no changes in actuarial assumptions since the last valuation.

## Changes in Plan Provisions

There were no changes in plan provisions since the last valuation which impacted funding costs.

# Accounting Balance Sheet

(dollars in thousands)

## JULY 1, 1995

Α.	ASSETS	Market Value	Cost Value
A.	1. Cash, Equivalents, Short-term Securities	<b>ም</b> ስ	<sub>የ</sub>
	2. Investments	\$0	\$0
	a. Fixed Income	0	0
	b. Equity	. 0	0
	c. Real Estate	Õ	ŏ
	3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	0	0
	4. Other *	379	379
В.	TOTAL ASSETS	\$379	\$379
C.	AMOUNTS CURRENTLY PAYABLE	\$1	\$1
D.	ASSETS AVAILABLE FOR BENEFITS		
	1. Member Reserves	\$379	\$379
	2. Employer Reserves	(1,385)	(1,385)
	3. MPRIF Reserves	0	0
	4. Non-MPRIF Reserves	1,384	1,384
	5. Total Assets Available for Benefits	\$378	\$378
E.	TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	\$379	\$379
F.	DETERMINATION OF ACTUARIAL VALUE OF ASSETS	S	
	1. Cost Value of Assets Available		\$378
	for Benefits (D5)		
	2. Market Value (D5)	\$378	
	3. Cost Value (D5)	378	
	4. Market Over Cost: (F2-F3)	\$0	
	5. 1/3 of Market Over Cost: (F4)/3	-	0
	6. Actuarial Value of Assets (F1+F5)	=	\$378
	(Same as "Current Assets")		

<sup>\*</sup> Includes \$379 of Member Reserves not segregated from general funds.

# Change In Assets Available For Benefits

(dollars in thousands)

# YEAR ENDING JUNE 30, 1995

		Market Value	Cost Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$361	\$361
B.	OPERATING REVENUES		
	1. Member Contributions	\$38	\$38
	2. Employer Contributions	0	0
	3. Investment Income	(1)	(1)
	4. MPRIF Income	0	O O
	5. Net Realized Gain (Loss)	0	0
	6. Other	165	165
	7. Net Change in Unrealized Gain (Loss)	0	0
	8. Total Revenue	\$202	\$202
C.	OPERATING EXPENSES		
	1. Service Retirements	\$164	\$164
	2. Disability Benefits	0	0
	3. Survivor Benefits	0	0
	4. Refunds	18	18
	5. Investment Fees	0	0
	6. Administrative Expenses	1	1
	7. Other	2	2
	8. Total Disbursements	\$185	\$185
D.	OTHER CHANGES IN RESERVES	0	0
E.	ASSETS AVAILABLE AT END OF PERIOD	\$378	\$378

## ACTIVE MEMBERS AS OF JUNE 30, 1995

				OF SERVIC	E			
<u>AGE</u>	<u>&lt;1</u>	<u>1-4</u> <u>5</u> .	<u>9</u> <u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	30+	ALL
<25								
25-29								
30-34	1							1
35-39								•
40-44								
45-49								
ED E4	1							_
50-54 55-59	1		1 1					3
60-64 65+		,		1	1			2
05+								
ALL	2		1 1	1	1		•	6
			VERAGE AN	MIIAI EADN	TNICC			
		•	VERAGE AN	NUAL EARN	ITINGS			
405		1 4 - 5	YEARS (	OF SERVIC				
AGE	<u>&lt;1</u>	<u>1-4</u> <u>5-</u>	9 10-14	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
<25 25-29								
23-23								
30-34	61,607							61,607
35-39								
40-44								
45-49								
50-54	56,219	61,13	2 86,774					68,042
55-59	00,215	01,10	2 00,774					00,042
60-64				111 145	C1 100			06 100
65+				111,145	61,132			86,139
	50.010							
ALL	58.913	61,13	2 86,774	111,145	61,132			73,001
	PRIOR	FISCAL YEAR	EARNINGS	(ACTUAL D	OLLARS)	BY YEARS	OF SERV	[CE
<u>AGE</u>	<u>&lt;1</u>	<u>1-4</u> <u>5-</u>	<u>9 10-14</u>	<u>15-19</u>	<u>20-24</u>	25-29	<u>30+</u>	ALL
ALL	117,826	61,13	2 86,774	111,145	61,132			438,006

# Elective State Officers Retirement Fund SERVICE RETIREMENTS AS OF JUNE 30, 1995

YEARS_RETIRED								
<u>AGE</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u> 15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50 50-54								
55-59 60-64		1						1
65-69 70-74		3						3
75-79 80-84					1			1
85+								
ALL		4			1			5
			AVERAGE	ANNUAL E	BENEFIT			
			YE	ARS RETIF	RED			
<u>AGE</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u> 15-19</u>	<u> 20-24</u>	<u>25+</u>	ALL
<50 50-54								
55-59 60-64		3,843						3,843
65-69 70-74		26,206						26,206
75-79 80-84					17,891			17,891
85+								
ALL		20,615			17,891			20,070
		<u>L ANNUAL B</u>	ENEFIT (	ACTUAL DO	LLARS) BY	YEARS RET	IRED	
<u>AGE</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL
ALL		82,460			17,891			100,350

# Elective State Officers Retirement Fund SURVIVORS AS OF JUNE 30, 1995

405				S SINCE I				
<u>AGE</u> <50 50-54	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL
55-59 60-64		1	·					1
65-69 70-74								
75-79 80-84		1 1			1	1		1 3
85+							1	1
ALL		3			1	1	1	6
			AVERAGE	ANNUAL E	BENEFIT			
<u>AGE</u>		1-4		S SINCE I 10-14		20.24	25.	A11
<50 50-54	<u>&lt;1</u>	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL
55-59 60-64		3,843						3,843
65-69 70-74								
75-79 80-84		10,805 20,065			5.048	17,118		10.805 14.077
85+							9.763	9,763
ALL		11,571			5,048	17,118	9,763	11,107
405		ANNUAL BEN		TUAL DOLI	ARS) BY	YEARS SIN	CE DEATH	A1 /
<u>age</u> All	<u>&lt;1</u>	<u>1-4</u> 34,713	<u>5-9</u>	<u>10-14</u>	<u>15-19</u> 5,048	<u>20-24</u> 17,118	<u>25+</u> 9.763	ALL 66,642
ALL		U <del>1</del> ,/1U			5,040	17,110	9,703	00,042

# DISABILITY RETIREMENTS AS OF JUNE 30, 1995

		· · · · · · · · · · · · · · · · · · ·	YEA	RS DISABL				
AGE <50 50-54	<u>&lt;1</u>	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
55-59 60-64								
65-69 70-74								
75-79 80-84								
85+								
ALL								
			AVERAGE	ANNUAL B	ENEFIT			
				RS DISABL				
<u>AGE</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<50 50-54								
55-59 60-64								
65-69 70-74								
75-79 80-84								
85+								
ALL								
405						YEARS DIS	SABLED	All
<u>AGE</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u> 10-14</u>	<u> 15-19</u>	<u> 20-24</u>	<u>25+</u>	<u>ALL</u>
ALL								

# **Reconciliation Of Members**

			Terminated		
		Actives	Deferred Retirement	Other Non-Vested	
A.	ON JUNE 30, 1994	6	4	0	
B.	ADDITIONS	2	1	0	
C.	DELETIONS 1. Service Retirement 2. Disability 3. Death 4. Terminated - Deferred 5. Terminated - Refund 6. Terminated - Other Non-Vested 7. Returned as Active 8. Transferred to Other Fund	0 0 0 (1) (1) 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0	
D.	DATA ADJUSTMENTS	0	0	0	
	Vested Non-Vested	4 2			
E.	TOTAL ON JUNE 30, 1995	6	, 5	0	
		Retirement Annuitants	Recipients  Disabled	Survivors	
A.	ON JUNE 30, 1994	5	0	6	
В.	ADDITIONS	0	0	0	
C.	DELETIONS 1. Service Retirement 2. Death 3. Annuity Expired 4. Returned as Active	0 0 0 0	0 0 0 0	0 0 0 0	
D.	DATA ADJUSTMENTS	0	0	0	
E.	TOTAL ON JUNE 30, 1995	5	0	6	

# **Actuarial Balance Sheet**

(dollars in thousands)

# JULY 1, 1995

A.	CURRENT ASSETS (TABLE 1, F6)					
B.	EXPECTED FUTURE ASSETS  1. Present Value of Expected Future Statutory Supplemental Contributions  2. Present Value of Future Normal Costs  3. Total Expected Future Assets	\$0 249 \$249				
C.	TOTAL CURRENT AND EXPECTED FUT	TURE ASSETS	=	\$627		
D.	CURRENT BENEFIT OBLIGATIONS  1. Benefit Recipients	Non-Vested	Vested	Total		
	<ul> <li>a. Retirement Annuities</li> <li>b. Disability Benefits</li> <li>c. Surviving Spouse</li> <li>and Child Benefits</li> </ul>		\$882 0 502	\$882 0 502		
	2. Deferred Retirements with Future Augme	entation	258	258		
	3. Former Members without Vested Rights		0	0		
	<ul> <li>4. Active Members</li> <li>a. Retirement Annuities</li> <li>b. Disability Benefits</li> <li>c. Survivor's Benefits</li> <li>d. Deferred Retirements</li> </ul>	2 0 15	996 0 0	998 0 15		
	e. Refund Liability Due to Death or Withdrawal	3 0	138 4	141		
	5. Total Current Benefit Obligations	\$20	\$2,780	\$2,800		
E.	E. EXPECTED FUTURE BENEFIT OBLIGATIONS					
F.	TOTAL CURRENT AND EXPECTED FUT	TURE BENEFIT O	BLIGATIONS _	\$3,197		
G.	G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)					
H.	CURRENT AND FUTURE UNFUNDED A	\$2,570				

# Determination Of Unfunded Actuarial Accrued Liability (UAAL) And Supplemental Contribution Rate

(dollars in thousands)

## JULY 1, 1995

		Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued
A.	DETERMINATION OF ACTUARIAL	(I)	(2)	$\frac{\text{Liability}}{(3)=(1)-(2)}$
71.	ACCRUED LIABILITY (AAL)			,,,,,,
	1. Active Members			
	a. Retirement Annuities	\$1,266	\$74	¢1 102
	b. Disability Benefits	0	0	\$1,192
	c. Survivor's Benefit	21	8	0 13
	d. Deferred Retirements	247	128	119
	e. Refunds Due to Death or Withdrawal	21	39	(18)
	f. Total	\$1,555	\$249	\$1,306
	1. 10th	\$1,555	Ψ247	\$1,500
	2. Deferred Retirements	258		258
	With Future Augmentation	250		236
	3. Former Members Without Vested Rights	0		0
	4. Annuitants in MPRIF	0		0
	5. Recipients Not in MPRIF	1,384		1,384
	6. Total	\$3,197	\$249	\$2,948
B.	DETERMINATION OF UNFUNDED ACT	UARIAL ACCRI	UED LIABILITY	(UAAL)
	1. AAL (A6)			\$2,948
	2. Current Assets (Table 1, F6)			378
	3. UAAL (B1-B2)			\$2,570
C.	DETERMINATION OF SUPPLEMENTAL	CONTRIBUTIO	N RATE	
	1. Present Value of Future Payrolls Through	L		\$8,733
	the Amortization Date of July 1, 2020			
	2. Supplemental Contribution Rate (B3/C1)			29.43%
Mod	to If non gaggagated member recommend	.4 4 - 1	4. 41 TTA AT	

Note: If non-segregated member reserves were not counted as assets, the UAAL would be \$2,949, resulting in a Supplemental Contribution Rate of 33.77%.

# Changes In Unfunded Actuarial Accrued Liability (UAAL) (dollars in thousands)

## YEAR ENDING JUNE 30, 1995

A.	UAAL AT BEGINNING OF YEAR	\$2,487
В.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	<ol> <li>Normal Cost and Expenses</li> <li>Contribution</li> <li>Interest on A, B1 and B2</li> </ol>	\$72 (38) 213
	4. Total (B1+B2+B3)	\$247
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	\$2,734
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	<ol> <li>Salary Increases</li> <li>Investment Return</li> <li>MPRIF Mortality</li> <li>Mortality of Other Benefit Recipients</li> <li>Other Items</li> </ol>	(\$98) 32 0 19 (117)
	6. Total	(\$164)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	\$2,570
F.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	0
G.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR (E+F+G)	\$2,570

# **Determination Of Contribution Sufficiency**

(dollars in thousands)

JULY 1, 1995

A.	STATUTORY CONTRIBUTIONS - CHAPTER 352C	Percent of Payroll	Dollar Amount
	<ol> <li>Employee Contributions</li> <li>Employer Contributions</li> </ol>	9.00% 	\$41 0 *
	3. Total	9.00%	\$41

<sup>\*</sup> Employer contributions are required to cover the portion of the benefit liabilities which are not funded by the member's accumulated contribution at the time of benefit commencement.

## B. REQUIRED CONTRIBUTIONS - CHAPTER 356

	1. Normal Cost		·
	a. Retirement Benefits	4.20%	\$19
	b. Disability benefits	0.00%	0
	c. Survivors	0.44%	2
	d. Deferred Retirement Benefits	7.30%	33
	e. Refunds Due to Death or Withdrawal	1.99%	9
	f. Total	13.93%	\$63
	2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	29.43%	133
	3. Allowance for Expenses	0.22%	1
	4. Total	43.58%	<u>\$197</u>
C.	CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-34.58%	(\$156)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1995 is \$452.

The deficiency amount shown above is calculated based on reported assets which include a receivable of \$379 for member contribution that are held in the State's general fund. If this amount was not considered as an asset of the fund in these calculations, the deficiency would be 38.92%.

# Summary of Actuarial Assumptions and Methods

Interest:

Pre-Retirement: 8.5% per annum

Post-Retirement: 5.0% per annum

Salary Increases:

The statutory salary rate as prescribed in Chapter 345, Article I, Sec. 28,

through January 1, 1996 and 6.5% per year thereafter.

Mortality:

**Pre-Retirement:** 

Male -

1971 Group Annuity Mortality Table

Female -

1971 Group Annuity Mortality Table male rates

set back 8 years

**Post-Retirement:** 

Male -

Same as above

Female -

Same as above

**Post-Disability:** 

Male -

N/A

Female -

N/A

Retirement Age:

Age 62 or if over age 62, one year from valuation date.

Separation:

Rates based on years of service:

Year	<u>Rate</u>
1	0%
2	0
3	0
4	50
5	0
6	0
7	0
8	50

Disability:

None

Expenses:

Prior year administration expenses expressed as percentage of

prior year payroll.

Return of Contributions:

All employees withdrawing after eight years of service

were assumed to leave their contributions on deposit and receive

a deferred annuitant benefit.

Family Composition:

85% of Members are assumed to be married. Female is three years younger than male. Each Member may have up to two dependent children depending on the Member's age. Assume first child born at Member's age 28 and second child born at

Member's age 31.

Social Security:

N/A

Benefit Increases
After Retirement:

Payment of earnings on retired reserves in excess

of 5% accounted for by 5% post-retirement assumptions.

Actuarial Cost Method:

Entry Age Normal Actuarial Cost Method based on earnings and the date the employee entered the plan is applied to all plan benefits. Under this method, Actuarial Gains (Losses) reduce

(increase) the Unfunded Actuarial Accrued Liability.

Asset Valuation Method:

Cost Value plus one-third Unrealized Gains or Losses.

Payment on the Unfunded Actuarial Accrued Liability: A level percentage of payroll each year to the statutory amortization date assuming payroll

increases of 6.5% per annum.

# Summary of Plan Provisions

#### **GENERAL**

Eligibility:

Employment as a "Constitutional Officer".

Contributions:

Member:

9% of salary.

Employer:

No specified statutory contribution rate. State must contribute an amount equal to the full annuity value at benefit commencement less accumulated member contributions.

Allowable Service:

Service while in an eligible position.

Salary:

Salary upon which Elective State Officers Retirement Plan

contributions have been made.

Average Salary:

Average of the five highest successive years of salary.

## RETIREMENT

### Normal Retirement Benefit:

Eligibility:

Age 62 and eight years of Allowable Service.

Amount:

2.5% of Average Salary for each year of Allowable Service.

#### Early Retirement Benefit:

Eligibility:

Age 60 and eight years of Allowable Service.

Amount:

Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with reduction of 0.5% for

each month the Member is under age 62 at time of retire-

ment.

Form of Payment:

Life annuity

Benefit Increases:

Adjusted by MSRS to provide same increase as MPRIF.

## **DISABILITY**

None

#### DEATH

## Surviving Spouse Benefit:

Eligibility:

Death while active or after retirement or with at least eight

years of Allowable Service.

Amount:

Survivor's payment of 50% of the retirement benefit of the Member assuming the Member had attained age 62 and had a minimum of eight years of Allowable Service. Benefit is paid for life. A former Member's benefit is augmented the same as a Deferred Annuity to date of death before determin-

ing the portion payable to the spouse.

#### Surviving Dependent Child Benefit:

Eligibility:

Same as spouse's benefit.

Amount:

Benefit for first child is 25% of the retirement benefit (computed as for surviving spouse) with 12.5% for each additional child. Maximum payable (including spouse) is 100% of the retirement benefit. Benefits cease when a child

marries or attains age 18 (22 if a full-time student).

Benefit Increases:

Adjusted by MSRS to provide same increase as MPRIF.

## **TERMINATION**

## Refund of Contributions:

Eligibility:

Termination of service.

Amount:

Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989 and 6% interest compounded annually if termination occurred on or after May 16, 1989. A deferred annuity may be elected in

lieu of a refund.

## Deferred Benefit:

Eligibility:

Eight years of Allowable Service.

Amount:

Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/79; 5% from 7/1/79 to 1/1/81; and 3% until age 55; and 5% thereafter until the annuity begins. Amount is payable as

a normal or early retirement.

## **SIGNIFICANT CHANGES**

None.