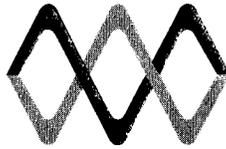


**Elective State Officers Retirement Fund**  
***ACTUARIAL VALUATION REPORT***

**July 1, 1997**

 **FILE COPY**



**MILLIMAN & ROBERTSON, INC.**  
Actuaries & Consultants

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December 3, 1997

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, 1997.

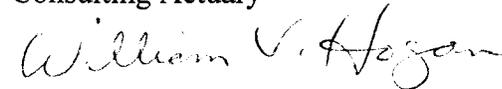
The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Minnesota State Retirement System.

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.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

  
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**Elective State Officers Retirement Fund**

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**Elective State Officers Retirement Fund**

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**Elective State Officers Retirement Fund**

**Report Highlights**

*(dollars in thousands)*

	07/01/96	07/01/97
	<u>Valuation</u>	<u>Valuation</u>
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 352C % of Payroll	9.00%	9.00%
2. Required Contributions - Chapter 356 % of Payroll	43.49%	51.07%
3. Sufficiency (Deficiency): (A.1. - A.2.)	<u>-34.49%</u>	<u>-42.07%</u>
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$412	\$456
b. Current Benefit Obligations (Table 8)	<u>\$2,843</u>	<u>\$3,071</u>
c. Funding Ratio: (a/b)	14.49%	14.85%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$412	\$456
b. Actuarial Accrued Liability (Table 9)	<u>\$2,983</u>	<u>\$3,214</u>
c. Funding Ratio: (a/b)	13.81%	14.19%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$633	\$639
b. Current and Expected Future Benefit Obligations	<u>\$3,204</u>	<u>\$3,397</u>
c. Funding Ratio: (a/b)	19.76%	18.81%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	6	6
b. Projected Annual Earnings	\$475	\$483
c. Average Annual Earnings (Actual \$)	\$79,167	\$80,469
d. Average Age	53.0	54.0
e. Average Service	11.3	12.3
2. Others		
a. Service Retirements (Table 4)	5	5
b. Survivors (Table 5)	7	6
c. Disability Retirements (Table 6)	0	0
d. Deferred Retirements (Table 7)	4	4
e. Terminated Other Non-vested (Table 7)	0	0
f. Total	<u>16</u>	<u>15</u>

## Elective State Officers Retirement Fund

### 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:

- ° 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 14.85%. The corresponding ratio for the prior year was 14.49%.
- ° 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 1997 the ratio is 14.19%, which is an increase from the 1996 value of 13.81%.
- ° The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 18.81% 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 E1 to E6. 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 as follows:

- ° 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.
- ° For Non-active Members - the discounted value of benefits, including augmentation in cases where benefits have not commenced.

***GASB Disclosure***

Disclosure of the Current Benefit Obligation amounts used to be required by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 has been superseded by Statement No. 25. Tables 14 and 15 of this report have been added to fulfill the new requirements of Statement No. 25. For this transition year only, disclosure in accordance with Statement No. 5 is shown below as of JULY 1, 1997:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$1,632,000
Current Employees	
Accumulated employee contributions including allocated investment income	\$645,000
Employer-financed vested	765,000
Employer-financed nonvested	<u>29,000</u>
Total Pension Benefit Obligation	\$3,071,000
Net Assets Available for Benefits at Cost	\$456,000
Total Benefit Obligation less Assets	\$2,615,000
Funded Ratio	14.85%

### *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 5.00% 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.
- ° 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 51.07%.

***Changes in Actuarial Assumptions***

Assumptions were changed this year as summarized below:

	ASSUMPTION CHANGED	
	FROM	TO
Salary Increase:	Level 6.5%	Level 5.0%
Payroll Growth:	6.5%	5.0%
Annuitant Mortality:	M: 1971 GAM M F: 1971 GAM M (-8)	M: 1983 GAM M F: 1983 GAM F
Active Mortality:	M:1971 GAM M F:1971 GAM M(-8)	M:1983GAM M (-4) F:1983 GAM F(-2)

***Changes in Plan Provisions***

This valuation reflects the new plan provisions which became effective July 1, 1997. Substantive provisions of that legislation included:

1. Post-retirement benefit increases now paid in excess of 6% rather than 5% of earnings, with a corresponding increase in the benefit level made at the time of retirement.

TABLE 1

## Elective State Officers Retirement Fund

**Statement of Plan Net Assets**  
(dollars in thousands)

JULY 1, 1997

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS IN TRUST		
1. Cash, Equivalents, Short-term Securities	\$0	\$0
2. Fixed Income	0	0
3. Equity	0	0
4. Real Estate	0	0
5. Equity in MPRIF	0	0
6. Other	459	459
<b>Subtotal</b>	<u>\$459</u>	<u>\$459</u>
B. ASSETS RECEIVABLE	2	2
C. LIABILITIES	(5)	(5)
D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS		
1. MPRIF Reserves	0	0
2. Member Reserves	455	455
3. Other Non-MPRIF Reserves	1	1
4. Total Assets Available for Benefits	<u>\$456</u>	<u>\$456</u>

## E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available for Benefits (D4)		\$456
2. Market Value (D4)	\$456	
3. Cost Value (D4)	<u>456</u>	
4. Market Over Cost: (E2-E3)	\$0	
5. One-third of Market Over Cost: (E4)/3		<u>0</u>
6. Actuarial Value of Assets (E1+E5) (Same as "Current Assets")		<u>\$456</u>

TABLE 2

## Elective State Officers Retirement Fund

**Statement of Change In Plan Net Assets***(dollars in thousands)*

YEAR ENDING JUNE 30, 1997

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$413	\$413
B. ADDITIONS		
1. Member Contributions	\$42	\$42
2. Employer Contributions	167	167
3. Contributions From Other Sources	0	0
4. MPRIF Income	0	0
5. Net Investment Income		
a. Interest and Dividends	0	0
b. Net Realized Gain (Loss)	0	0
c. Net Change in Unrealized Gain (Loss)	(1)	0
d. Investment Expenses	0	0
<b>Net Subtotal</b>	<b>(1)</b>	<b>0</b>
6. Other	0	0
7. Total Additions	<u>\$208</u>	<u>\$208</u>
C. OPERATING EXPENSES		
1. Service Retirements paid from MPRIF	\$0	\$0
2. Service Retirements paid from plan assets	160	160
2. Disability Benefits	0	0
3. Survivor Benefits	0	0
4. Refunds	0	0
6. Administrative Expenses	5	5
7. Other	0	0
8. Total Disbursements	<u>\$165</u>	<u>\$165</u>
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	<u><u>\$456</u></u>	<u><u>\$456</u></u>

**ELECTIVE STATE OFFICERS RETIREMENT PLAN**  
**ACTIVE MEMBERS AS OF JUNE 30, 1997**

Age	Years of Service								ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	1	0	0	0	0	0	0	1
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0
50-54	0	1	0	0	0	0	0	0	1
55-59	0	0	0	2	0	0	0	0	2
60-64	0	0	0	0	1	1	0	0	2
65+	0	0	0	0	0	0	0	0	0
<b>ALL</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>6</b>

**AVERAGE ANNUAL EARNINGS**

Age	Years of Service								ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0
35-39	0	68,453	0	0	0	0	0	0	68,453
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0
50-54	0	62,733	0	0	0	0	0	0	62,733
55-59	0	0	0	75,920	0	0	0	0	75,920
60-64	0	0	0	0	114,068	62,733	0	0	88,401
65+	0	0	0	0	0	0	0	0	0
<b>ALL</b>	<b>0</b>	<b>65,593</b>	<b>0</b>	<b>75,920</b>	<b>114,068</b>	<b>62,733</b>	<b>0</b>	<b>0</b>	<b>76,638</b>

**PRIOR FISCAL YEAR EARNINGS (IN ACTUAL DOLLARS) BY YEARS OF SERVICE**

Age	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<b>All</b>	<b>0</b>	<b>131,186</b>	<b>0</b>	<b>151,840</b>	<b>114,068</b>	<b>62,733</b>	<b>0</b>	<b>0</b>	<b>459,828</b>

**ELECTIVE STATE OFFICERS RETIREMENT PLAN**

**SERVICE RETIREMENTS AS OF JUNE 30, 1997**

Age	YEARS RETIRED							ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25+	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	1	0	0	0	0	0	1
65-69	0	1	2	0	0	0	0	3
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	1	0	1
<b>ALL</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>5</b>

**AVERAGE ANNUAL BENEFIT**

Age	YEARS RETIRED							ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25+	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	4,845	0	0	0	0	0	4,845
65-69	0	2,186	21,273	0	0	0	0	14,911
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	21,449	0	21,449
<b>ALL</b>	<b>0</b>	<b>3,516</b>	<b>21,273</b>	<b>0</b>	<b>0</b>	<b>21,449</b>	<b>0</b>	<b>14,205</b>

**TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS RETIRED**

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<b>All</b>	<b>0</b>	<b>7,032</b>	<b>42,546</b>	<b>0</b>	<b>0</b>	<b>21,449</b>	<b>0</b>	<b>71,025</b>

**ELECTIVE STATE OFFICERS RETIREMENT PLAN**

**SURVIVORS AS OF JUNE 30, 1997**

Age	YEARS DEATH							ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25+	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	1	0	0	0	0	0	1
60-64	0	0	0	0	0	0	0	0
65-69	0	1	0	0	0	0	0	1
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	1	1	0	0	2	0	4
85+	0	0	0	0	0	0	0	0
<b>ALL</b>	0	3	1	0	0	2	0	6

**AVERAGE ANNUAL BENEFIT**

Age	YEARS DEATH							ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25+	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	4,845	0	0	0	0	0	4,845
60-64	0	0	0	0	0	0	0	0
65-69	0	27,924	0	0	0	0	0	27,924
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	13,081	24,153	0	0	13,371	0	15,994
85+	0	0	0	0	0	0	0	0
<b>ALL</b>	0	15,283	24,153	0	0	13,371	0	16,124

**TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DEATH**

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
All	0	45,849	24,153	0	0	26,742	0	96,744

## ELECTIVE STATE OFFICERS RETIREMENT PLAN

DISABILITY RETIREMENTS AS OF JUNE 30, 1997

Age	YEARS DISABLED							ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25+	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	0	0	0	0	0	0	0

AVERAGE ANNUAL BENEFIT

Age	YEARS DISABLED							ALL
	≤1	1-4	5-9	10-14	15-19	20-24	25+	
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	0	0	0	0	0	0	0

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

Age	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	0	0	0	0	0	0	0	0

TABLE 7

## Elective State Officers Retirement Fund

**Reconciliation Of Members**

	Actives	Terminated	
		Deferred Retirement	Other Non-Vested
A. ON JUNE 30, 1996	6	4	0
B. ADDITIONS	0	0	0
C. DELETIONS			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated - Deferred	0	0	0
5. Terminated - Refund	0	0	0
6. Terminated - Other Non-Vested	0	0	0
7. Returned as Active	0	0	0
8. Transferred to Other Fund	0	0	0
D. DATA ADJUSTMENTS	0	0	0
Vested	4		
Non-Vested	2		
E. TOTAL ON JUNE 30, 1997	6	4	0

	Recipients		
	Retirement Annuitants	Disabled	Survivors
A. ON JUNE 30, 1996	5	0	7
B. ADDITIONS	0	0	0
C. DELETIONS			
1. Service Retirement	0	0	0
2. Death	0	0	(1)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	0	0	0
E. TOTAL ON JUNE 30, 1997	5	0	6

## Elective State Officers Retirement Fund

**Actuarial Balance Sheet***(dollars in thousands)*

JULY 1, 1997

A. CURRENT ASSETS (TABLE 1, E6)			\$456
B. EXPECTED FUTURE ASSETS			
1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			\$0
2. Present Value of Future Normal Costs			183
3. Total Expected Future Assets			<u>\$183</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS			<u>\$639</u>
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>
1. Benefit Recipients			
a. Retirement Annuities		\$570	\$570
b. Disability Benefits		0	0
c. Surviving Spouse and Child Benefits		798	798
2. Deferred Retirements with Future Augmentation		264	264
3. Former Members without Vested Rights		0	0
4. Active Members			
a. Retirement Annuities	9	1,194	1,203
b. Disability Benefits	0	0	0
c. Survivor's Benefits	8	0	8
d. Deferred Retirements	12	195	207
e. Refund Liability Due to Death or Withdrawal	0	21	21
5. Total Current Benefit Obligations	<u>\$29</u>	<u>\$3,042</u>	<u>\$3,071</u>
E. EXPECTED FUTURE BENEFIT OBLIGATIONS			<u>\$326</u>
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			<u>\$3,397</u>
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			\$2,615
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			\$2,758

## Elective State Officers Retirement Fund

**Determination Of Unfunded Actuarial Accrued Liability (UAAL)  
And Supplemental Contribution Rate**  
(dollars in thousands)

JULY 1, 1997

	Actuarial Present Value of Projected Benefits <u>(1)</u>	Actuarial Present Value of Future Normal Costs <u>(2)</u>	Actuarial Accrued Liability <u>(3)=(1)-(2)</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	\$1,436	\$50	\$1,386
b. Disability Benefits	0	0	0
c. Survivor's Benefit	10	3	7
d. Deferred Retirements	277	84	193
e. Refunds Due to Death or Withdrawal	42	46	(4)
f. Total	<u>\$1,765</u>	<u>\$183</u>	<u>\$1,582</u>
2. Deferred Retirements With Future Augmentation	264		264
3. Former Members Without Vested Rights	0		0
4. Annuitants in MPRIF	0		0
5. Recipients Not in MPRIF	<u>1,368</u>		<u>1,368</u>
6. Total	<u>\$3,397</u>	<u>\$183</u>	<u>\$3,214</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$3,214
2. Current Assets (Table 1, E6)			456
3. UAAL (B1-B2)			<u>\$2,758</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020			\$7,586
2. Supplemental Contribution Rate (B3/C1)			36.36%

Note: If non-segregated member reserves were not counted as assets, the UAAL would be \$3,217, resulting in a Supplemental Contribution Rate of 42.41%.

## Elective State Officers Retirement Fund

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

YEAR ENDING JUNE 30, 1997

A. UAAL AT BEGINNING OF YEAR	\$2,571
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$69
2. Contribution	(209)
3. Interest on A, B1 and B2	213
4. Total (B1+B2+B3)	<u>\$73</u>
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$2,644
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$98)
2. Investment Return	37
3. MPRIF Mortality	0
4. Mortality of Other Benefit Recipients	371
5. Other Items	<u>(310)</u>
6. Total	<u>\$0</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	\$2,644
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	0
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	<u>114</u>
H. UAAL AT END OF YEAR (E+F+G)	<u><u>\$2,758</u></u>

## Elective State Officers Retirement Fund

**Determination Of Contribution Sufficiency**  
(dollars in thousands)

JULY 1, 1997

	<u>Percent of Payroll</u>	<u>Dollar Amount</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 352C		
1. Employee Contributions	9.00%	\$43
2. Employer Contributions	0.00%	0
3. Total	<u>9.00%</u>	<u>\$43</u>
* 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	3.73%	\$18
b. Disability benefits	0.00%	0
c. Survivors	0.21%	1
d. Deferred Retirement Benefits	6.42%	31
e. Refunds Due to Death or Withdrawal	3.31%	16
f. Total	<u>13.67%</u>	<u>\$66</u>
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	36.36%	176
3. Allowance for Expenses	<u>1.04%</u>	<u>5</u>
4. Total	<u>51.07%</u>	<u>\$247</u>
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-42.07%	(\$204)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1997 is \$483.

The deficiency amount shown above is calculated based on reported assets which include a receivable of 459 for member contributions 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 48.12%.

## Elective State Officers Retirement Fund

**Summary of Actuarial Assumptions and Methods**

<b>Interest:</b>	<b>Pre-Retirement:</b> 8.5% per annum
	<b>Post-Retirement:</b> 5.0% per annum
<b>Salary Increases:</b>	5.0% annually, 6.5% in prior valuation
<b>Mortality:</b>	<b>Pre-Retirement:</b>
	Male - 1983 GAM (Males -4)
	Female - 1983 GAM (Females -2)
	<b>Post-Retirement:</b>
	Male - 1983 GAM (Males)
	Female - 1983 GAM (Females)
	<b>Post-Disability:</b>
	Male - N/A
	Female - N/A
<b>Retirement Age:</b>	Age 62 or if over age 62, one year from valuation date.
<b>Separation:</b>	Rates based on years of service:

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

**Disability:** None

<i>Expenses:</i>	Prior year administration expenses expressed as percentage of prior year payroll.
<i>Return of Contributions:</i>	All employees withdrawing after eight years of service were assumed to leave their contributions on deposit and receive a deferred annuitant benefit.
<i>Family Composition:</i>	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.
<i>Social Security:</i>	N/A
<i>Benefit Increases After Retirement:</i>	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.
<i>Actuarial Cost Method:</i>	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.
<i>Asset Valuation Method:</i>	Cost Value plus one-third Unrealized Gains or Losses.
<i>Payment on the Unfunded Actuarial Accrued Liability:</i>	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5.0% per annum, 6.5% in prior valuation.

## Elective State Officers Retirement Fund

**Summary of Plan Provisions****GENERAL**

<b><i>Eligibility:</i></b>	Employment as a "Constitutional Officer" as elected prior to July 1, 1997 and who elect to retain coverage under this plan (i.e., do not elect Social Security coverage).
<b><i>Contributions:</i></b>	
<i>Member:</i>	9% of salary.
<i>Employer:</i>	No specified statutory contribution rate. State must contribute an amount equal to the full annuity value at benefit commencement less accumulated member contributions.
<b><i>Allowable Service:</i></b>	Service while in an eligible position.
<b><i>Salary:</i></b>	Salary upon which Elective State Officers Retirement Plan contributions have been made.
<b><i>Average Salary:</i></b>	Average of the five highest successive years of salary.

**RETIREMENT*****Normal Retirement Benefit:***

<b><i>Eligibility:</i></b>	Age 62 and eight years of Allowable Service.
<b><i>Amount:</i></b>	2.5% of Average Salary for each year of Allowable Service. For Members who were employed as of June 30, 1997 and are still employed on July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

***Early Retirement Benefit:***

<b><i>Eligibility:</i></b>	Age 60 and eight years of Allowable Service.
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*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 retirement.

*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 determining the portion payable to the spouse.

If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefit as of July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

### *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).

If a Member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefit as of July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

*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.

If a Member terminated employment prior to July 1, 1997 but was not eligible to commence their pension before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5% to 6%.

## SIGNIFICANT CHANGES

1. Post-retirement benefit increases now paid in excess of 6% rather than 5% of earnings with a corresponding increase in the benefit level made at the time of retirement.

TABLE 14

**Elective State Officers Retirement Fund**

**SCHEDULE OF FUNDING PROGRESS**  
(dollars in thousands)

<b>Actuarial Valuation Date</b>	<b>Actuarial Value of Assets (A)</b>	<b>Actuarial Accrued Liability (AAL) (B)</b>	<b>Unfunded AAL (UAAL) (B - A)</b>	<b>Funded Ratio (A)/(B)</b>	<b>Actual Covered Payroll (Previous FY) (C)</b>	<b>UAAL as % of Covered Payroll (B - A) / (C)</b>
07/01/91	308	2,249	1,941	13.69%	422	459.95%
07/01/92	334	2,380	2,046	14.03%	378	541.27%
07/01/93	322	2,689	2,367	11.97%	500	473.40%
07/01/94	361	2,848	2,487	12.68%	411	605.11%
07/01/95	378	2,948	2,570	12.82%	422	609.00%
07/01/96	412	2,983	2,571	13.81%	456	563.82%
07/01/97	456	3,214	2,758	14.19%	467	590.58%

**TABLE 15**

**Elective State Officers Retirement Fund**  
**SCHEDULE OF EMPLOYER CONTRIBUTIONS**  
(dollars in thousands)

<b>Year Ended June 30</b>	<b>Actuarially Required Contribution Rate (A)</b>	<b>Actual Covered Payroll (B)</b>	<b>Actual Member Contributions (C)</b>	<b>Annual Required Contribution [(A) x (B)] - (C)</b>	<b>Actual Employer Contribution*</b>	<b>Percentage Contributed</b>
1991	34.84%	422	38	109	40	36.70%
1992	33.28%	378	34	92	111	120.65%
1993	36.23%	500	45	136	88	64.71%
1994	38.64%	411	37	122	164	134.43%
1995	42.00%	422	38	139	165	118.71%
1996	43.58%	456	41	158	151	95.57%
1997	43.49%	467	42	161	167	103.73%

\* Includes contributions from other sources (if applicable).