

ELECTIVE STATE OFFICERS RETIREMENT FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1988

THE *Wyatt* COMPANY

AN INDEPENDENT WORLDWIDE BENEFITS
AND COMPENSATION CONSULTING FIRM

ACTUARIAL SERVICES
COMPENSATION PROGRAMS
ADMINISTRATIVE SYSTEMS
INTERNATIONAL SERVICES
ORGANIZATION SURVEYS

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HEALTH CARE CONSULTING

November 22, 1988

Legislative Commission on
Pensions and Retirement
55 State Office Building
St. Paul, Minnesota 55155

RE: ELECTIVE STATE OFFICERS RETIREMENT FUND

Commission Members:

We have prepared an actuarial valuation of the Fund as of July 1, 1988 based on membership and financial data supplied by the Fund.

We certify that to the best of our knowledge and belief this actuarial valuation was performed 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 August 22, 1988.

Respectfully submitted,

THE WYATT COMPANY

Robert E. Perkins

Robert E. Perkins, FSA
Consulting Actuary

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ELECTIVE STATE OFFICERS RETIREMENT FUND

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ELECTIVE STATE OFFICERS RETIREMENT FUND

**REPORT HIGHLIGHTS
(DOLLARS IN THOUSANDS)**

	<u>07/01/87</u> <u>VALUATION</u>	<u>07/01/88</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	37.93%	39.43%
3. Sufficiency (Deficiency) (A1-A2)	-28.93%	-30.43%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$246	\$281
b. Current Benefit Obligations (Table 8)	\$1,619	\$1,757
c. Funding Ratio (a/b)	15.19%	15.99%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$246	\$281
b. Actuarial Accrued Liability (Table 9)	\$1,800	\$1,929
c. Funding Ratio (a/b)	13.67%	14.57%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$482	\$499
b. Current and Expected Future Benefit Obligations	\$2,210	\$2,311
c. Funding Ratio (a/b)	21.81%	21.59%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	6	6
b. Projected Annual Earnings	\$373	\$386
c. Average Annual Earnings (Actual \$)	\$62,219	\$64,399
d. Average Age	49.1	50.1
e. Average Service	7.2	8.2
2. Others		
a. Service Retirements (Table 4)	3	3
b. Disability Retirements (Table 5)	NA	NA
c. Survivors (Table 6)	5	5
d. Deferred Retirements (Table 7)	5	5
e. Terminated Other Non-vested (Table 7)	1	1
f. Total	14	14

ELECTIVE STATE OFFICERS RETIREMENT FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine the financial status of the Fund. 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 statutory contributions, representing only member contributions, for the Elective State Officers Retirement Fund are 9.00%. The remaining 30.43% needed to reach the required contribution level of 39.43% will be paid by the State as needed in future years according to Chapter 352C of Minnesota Statutes.

The financial status of the Fund can be measured by three different funding ratios. These ratios are lower than the corresponding ratios for funds that include both member contributions and employer contributions in the assets.

- o 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. This ratio is based on Statement No. 5 of the Governmental Accounting Standards Board. This year's ratio is 15.99%. The corresponding ratio for the prior year was 15.19%.
- o 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 1988 the ratio is 14.57%, which is an increase from the 1987 value of 13.67%.

- o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 21.59% verifies that the current statutory contributions by members are going to cover only a portion of the plan benefits. Since the State will make the necessary payments to pay other benefits as they come due, this Funding Ratio may be considered to be 100%.

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 gains 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.

) The term MPRIF appears on some of the tables with a corresponding value of zero. MPRIF stands for Minnesota Post Retirement Investment Fund, which is used by many of the public funds. For purposes of consistency all of the actuarial reports follow the same format.

Membership Data (Tables 3, 4, 6 and 7)

Tables 3 through 6 summarize statistical information about members by category. Active members are grouped by age and completed years of service in Table 3. The earnings shown for these members are for the prior fiscal year.

) The service retirements in Table 4 include not only those retiring from active status but also members with deferred benefits who have attained retirement age and started receiving benefits. The survivors category (Table 6) includes spouses and children of deceased members.

The reconciliation of members in Table 7 provides a method for tracking what happened to members during the past year.

Actuarial Balance Sheet (Table 8)

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

) Current funding levels are evaluated by comparing Current Assets on line A to Current Benefit Obligations on line D5. Current and future funding levels are evaluated by comparing the Total Current and Expected Future Assets on line C to the Total Current and Expected Future Benefit Obligations on line F.

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:

- o 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.
- o For non-active members - the discounted value of benefits, including augmentation in cases where benefits have not commenced.

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, 1988 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	\$1,004,000
Current Employees -	
Accumulated employee contributions including allocated investment income	242,000 *
Employer-financed vested	417,000
Employer-financed nonvested	94,000

Total Pension Benefit Obligation	\$1,757,000

* Estimated

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 6.5% 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. The major sources of gain and loss, which have been identified, are:

- o A gain from salaries because the average increase was less than the expected increase.
- o A loss from Current Assets because the return was below the assumed 8%.

Contribution Sufficiency (Table 11)

This report answers the question of "How adequate are the Statutory Contributions?" by comparing the Statutory Contributions to the Required Contributions.

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

- o Normal Costs based on the Entry Age Normal Actuarial Cost Method
- o A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability
- o An Allowance for Expenses

Table 11 shows the Fund has a contribution deficiency since the Statutory Contribution Rate is 9.00% compared to the Required Contribution Rate of 39.43%. As noted earlier, Statutory Contributions are required only from members. The State will make the necessary contributions to meet benefit payments.

Projected Cash Flow (Table 12)

Table 12 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Current Assets. Contributions are then added based on the present statutory rates for employees. As members become eligible for payments, disbursements are made from the Fund.

This projected cash flow assumes that future payrolls increase by 6.5%. This is the only table in the report where new members are assumed to be hired in order to replace those who terminate from the active group. This open group method provides a more realistic picture of future cash flow. The statutory interest rate of 8% is used to project future investment return.

Changes in Actuarial Assumptions

This valuation does not reflect any changes in actuarial assumptions since the prior valuation.

Changes in Plan Provisions

This valuation does not reflect any changes in plan provisions since the prior valuation.

TABLE 1

ELECTIVE STATE OFFICERS RETIREMENT FUND

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1988

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash, Equivalents, Short-Term Securities	\$0	\$0
2. Investments		
a. Fixed Income	0	0
b. Equity	0	0
c. Real Estate	0	0
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	0	0
4. Other	282	282
	-----	-----
B. TOTAL ASSETS	\$282	\$282
	=====	=====
C. AMOUNTS CURRENTLY PAYABLE	\$1	\$1
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$278	\$278
2. State Reserves	(717)	(717)
3. MPRIF Reserves	0	0
4. Non-MPRIF Reserves	720	720
	-----	-----
5. Total Assets Available for Benefits	\$281	\$281
	-----	-----
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	\$282	\$282
	=====	=====

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available for Benefits (D5)		\$281
2. Market Value (D5)	\$281	
3. Cost Value (D5)	281	

4. Market Over Cost (F2-F3)	\$0	
5. 1/3 of Market Over Cost(F4)/3		0

6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		\$281
		=====

TABLE 2

ELECTIVE STATE OFFICERS RETIREMENT FUND
CHANGES IN ASSETS AVAILABLE FOR BENEFITS
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1988

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$246	\$246
B. OPERATING REVENUES		
1. Member Contributions	\$34	\$34
2. Employer Contributions	132	132
3. Investment Income	0	0
4. MPRIF Income	0	0
5. Net Realized Gain (Loss)	0	0
6. Other	0	0
7. Net Change in Unrealized Gain (Loss)	0	0
	-----	-----
8. Total Revenue	\$166	\$166
	-----	-----
C. OPERATING EXPENSES		
1. Service Retirements	\$55	\$55
2. Disability Benefits	0	0
3. Survivor Benefits	43	43
4. Refunds	0	0
5. Expenses	1	1
6. Other	0	0
	-----	-----
7. Total Disbursements	\$99	\$99
	-----	-----
D. OTHER CHANGES IN RESERVES	(32)	(32)
E. ASSETS AVAILABLE AT END OF PERIOD	\$281	\$281
	=====	=====

TABLE 3

ELECTIVE STATE OFFICERS RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1988

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39									0
40-44			1						1
45-49		1	1						2
50-54			1	1					2
55-59									0
60-64				1					1
65+									0
TOTAL	0	1	3	2	0	0	0	0	6

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39									0
40-44			50,767						50,767
45-49		48,027	72,109						60,068
50-54			53,274	48,840					51,057
55-59									0
60-64				92,297					92,297
65+									0
ALL	0	48,027	58,717	70,569	0	0	0	0	60,886

PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	48	176	141	0	0	0	0	365

TABLE 4

ELECTIVE STATE OFFICERS RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1988

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

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59								0
60-64								0
65-69								0
70-74			15,376					15,376
75-79			28,554	12,730				20,642
80-84								0
85+								0
ALL	0	0	21,965	12,730	0	0	0	18,887

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	0	44	13	0	0	0	57

TABLE 6

ELECTIVE STATE OFFICERS RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1988

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59								0
60-64								0
65-69								0
70-74		2						2
75-79								0
80-84								0
85+					2	1		3
TOTAL	0	2	0	0	2	1	0	5

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59								0
60-64								0
65-69								0
70-74		7,886						7,886
75-79								0
80-84								0
85+					10,832	6,947		9,537
ALL	0	7,886	0	0	10,832	6,947	0	8,876

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	16	0	0	21	7	0	44

TABLE 7

ELECTIVE STATE OFFICERS RETIREMENT FUND
RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1987	6	5	1
B. Additions	0	0	0
C. Deletions:			
1. Service Retirement	0	0	
2. Disability	0		
3. Death	0	0	0
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	0
D. Data Adjustments	0	0	0
	Vested	3	
	Non-Vested	3	
E. Total on June 30, 1988	6	5	1

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1987	3	NA	5
B. Additions	0		0
C. Deletions:			
1. Service Retirement			
2. Death	0		0
3. Annuity Expired	0		0
4. Returned as Active	0		
D. Data Adjustments	0		0
E. Total on June 30, 1988	3	NA	5

TABLE 8

ELECTIVE STATE OFFICERS RETIREMENT FUND

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1988

A. CURRENT ASSETS (TABLE 1, F6)				\$281
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions				0
2. Present Value of Future Normal Costs				218
3. Total Expected Future Assets				----- \$218 -----
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				----- \$499 =====
D. CURRENT BENEFIT OBLIGATIONS				
		<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>
1. Benefit Recipients				
a. Retirement Annuities			\$426	\$426
b. Disability Benefits			0	0
c. Surviving Spouse and Child Benefits			294	294
2. Deferred Retirements with Future Augmentation			268	268
3. Former Members without Vested Rights			16	16
4. Active Members				
a. Retirement Annuities	71		622	693
b. Disability Benefits	0		0	0
c. Survivors' Benefits	23		0	23
d. Deferred Retirements	0		0	0
e. Refund Liability Due to Death or Withdrawal	0		37	37
5. Total Current Benefit Obligations		----- \$94 -----	----- \$1,663 -----	----- \$1,757 -----
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				----- \$554 -----
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				----- \$2,311 =====
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				\$1,476
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				\$1,812

TABLE 9

ELECTIVE STATE OFFICERS RETIREMENT FUND

DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
AND SUPPLEMENTAL CONTRIBUTION RATE
(DOLLARS IN THOUSANDS)

JULY 1, 1988

	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	\$1,210	\$280	\$930
b. Disability Benefits	0	0	0
c. Survivors Benefits	37	19	18
d. Deferred Retirements	0	0	0
e. Refunds Due to Death or Withdrawal	60	83	(23)
f. Total	<u>\$1,307</u>	<u>\$382</u>	<u>\$925</u>
2. Deferred Retirements with Future Augmentation	\$268		\$268
3. Former Members Without Vested Rights	16		16
4. Annuitants in MPRIF	0		0
5. Recipients Not in MPRIF	720		720
6. Total	<u>\$2,311</u>	<u>\$382</u>	<u>\$1,929</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$1,929
2. Current Assets (Table 1,F6)			281
3. UAAL (B1-B2)			<u>\$1,648</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls through the Amortization Date of July 1, 2009			\$6,791
2. Supplemental Contribution Rate (B3/C1)			24.27%

TABLE 10

ELECTIVE STATE OFFICERS RETIREMENT FUND
CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1988

A. UAAL AT BEGINNING OF YEAR	\$1,554
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$57
2. Contribution	(166)
3. Interest on A, B1, and B2	120
4. Total (B1+B2+B3)	\$11
C. EXPECTED UAAL AT END OF YEAR (A+B4)	
	\$1,565
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$9)
2. Investment Return	19
3. MPRIF Mortality	0
4. Mortality of Other Benefit Recipients	42
5. Other Items	31
6. Total	\$83
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D7)	
	\$1,648
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)	
	\$1,648

TABLE 11

ELECTIVE STATE OFFICERS RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

JULY 1, 1988

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 352C		
1. Employee Contributions	9.00%	\$35
2. Employer Contributions	0.00%	0
	-----	-----
3. Total	9.00%	\$35
	=====	=====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	10.88%	\$42
b. Disability Benefits	0.00%	0
c. Survivors	0.78%	3
d. Deferred Retirement Benefits	0.00%	0
e. Refunds Due to Death or Withdrawal	3.11%	12
	-----	-----
f. Total	14.77%	\$57
	-----	-----
2. Supplemental Contribution Amortization by July 1, 2009 of UAAL of \$1,648	24.27%	\$94
3. Allowance for Expenses	0.39%	\$2
	-----	-----
4. Total	39.43%	\$153
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY)		
(A3-B4)	-30.43%	(\$118)

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1988 is \$386

TABLE 12

ELECTIVE STATE OFFICERS RETIREMENT FUND

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

<u>FISCAL YEAR</u>	<u>STATUTORY CONTRIBUTIONS</u>	<u>TRANSFERS TO MPRIF</u>	<u>OTHER DISBURSEMENTS</u>	<u>INVESTMENT RETURN</u>	<u>CURRENT ASSETS YEAR END</u>
1988					\$281
1989	\$35	\$0	\$100	\$20	236
1990	37	0	95	17	195
1991	39	0	178	10	66
1992	42	0	118	2	(8)
1993	45	0	143	(5)	(111)
1994	48	0	139	(13)	(215)
1995	51	0	130	(20)	(314)
1996	54	0	130	(28)	(418)
1997	58	0	179	(38)	(577)
1998	61	0	208	(52)	(776)
1999	65	0	196	(67)	(974)
2000	70	0	207	(83)	(1,194)
2001	74	0	187	(100)	(1,407)
2002	79	0	176	(116)	(1,620)
2003	84	0	199	(134)	(1,869)
2004	89	0	193	(154)	(2,127)
2005	95	0	217	(175)	(2,424)
2006	101	0	235	(199)	(2,757)
2007	108	0	260	(227)	(3,136)
2008	115	0	225	(255)	(3,501)
2009	123	0	278	(286)	(3,942)
2010	131	0	298	(322)	(4,431)
2011	139	0	320	(362)	(4,974)
2012	148	0	302	(404)	(5,532)
2013	158	0	329	(449)	(6,152)

ELECTIVE STATE OFFICERS RETIREMENT FUND
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	Pre-Retirement: 8% per annum Post-Retirement: 5% per annum																		
Salary Increases:	Reported salary at valuation date increased 2.5% to current fiscal year, 5% for the next year and 6.5% annually for each future year.																		
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 - NA Female - NA																		
Retirement Age:	Age 62, or if over age 62, one year from the valuation date.																		
Separation:	Rates based on years of service:																		
	<table border="0"> <thead> <tr> <th style="text-align: center;"><u>Year</u></th> <th style="text-align: center;"><u>Rate</u></th> </tr> </thead> <tbody> <tr><td style="text-align: center;">1</td><td style="text-align: center;">0%</td></tr> <tr><td style="text-align: center;">2</td><td style="text-align: center;">0</td></tr> <tr><td style="text-align: center;">3</td><td style="text-align: center;">0</td></tr> <tr><td style="text-align: center;">4</td><td style="text-align: center;">50</td></tr> <tr><td style="text-align: center;">5</td><td style="text-align: center;">0</td></tr> <tr><td style="text-align: center;">6</td><td style="text-align: center;">0</td></tr> <tr><td style="text-align: center;">7</td><td style="text-align: center;">0</td></tr> <tr><td style="text-align: center;">8</td><td style="text-align: center;">50</td></tr> </tbody> </table>	<u>Year</u>	<u>Rate</u>	1	0%	2	0	3	0	4	50	5	0	6	0	7	0	8	50
<u>Year</u>	<u>Rate</u>																		
1	0%																		
2	0																		
3	0																		
4	50																		
5	0																		
6	0																		
7	0																		
8	50																		
Disability:	None																		
Expenses:	Prior year expenses expressed as percentage of prior year payroll. (0.39% of payroll)																		
Return of Contributions:	All employees withdrawing after 8 years of service were assumed to leave their contributions on deposit and receive a deferred annuitant benefit.																		

TABLE 13
(cont)

Family Composition:	85% of Members are married. Female is three years younger than male. Each Member may have up to two dependent children depending on the Member's age.
Social Security:	NA
Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.
Special Considerations:	NA
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 6.5% per annum.
Projected Cash Flow Method:	Cash flows for the Fund were projected based on the current plan benefits, participant data, and actuarial assumptions. In addition new entrants were assumed so that the total payroll would increase by 6.5% per annum.

ELECTIVE STATE OFFICERS RETIREMENT FUND

SUMMARY OF PLAN PROVISIONS

Eligibility	Employment as a "Constitutional Officer".
Contributions	
Member	9% of Salary.
Employer	No statutory 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 5 highest successive years of Salary.
RETIREMENT	
Normal Retirement Benefit	
Eligibility	Age 62 and 8 years of Allowable Service.
Amount	2.5% of Average Salary per year of Allowable Service.
Early Retirement Benefit	
Eligibility	Age 60 and 8 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 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 8 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 8 years of Allowable Service. Benefit is paid for life or until remarriage. 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.

TABLE 14
(cont)

Surviving Dependent
Children's 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. A deferred annuity may be elected in lieu of a refund.

Deferred Benefit
Eligibility

8 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% thereafter until the annuity begins. Amount is payable as a normal or early retirement.