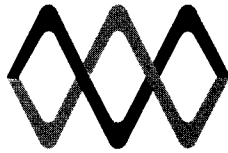


Elective State Officers Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 1998

 **FILE COPY**



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December 9, 1998

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, 1998.

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

Report Highlights

(dollars in thousands)

| | 07/01/97 Valuation | 07/01/98 Valuation |
|---|-----------------------|-----------------------|
| A. CONTRIBUTIONS (Table 11) | | |
| 1. Statutory Contributions - Chapter 352C % of Payroll | 9.00% | 9.00% |
| 2. Required Contributions - Chapter 356 % of Payroll | 51.07% | 51.66% |
| 3. Sufficiency (Deficiency): (A.1. - A.2.) | -42.07% | -42.66% |
| B. FUNDING RATIOS | | |
| 1. Accrued Benefit Funding Ratio | | |
| a. Current Assets (Table 1) | \$456 | \$500 |
| b. Current Benefit Obligations (Table 8) | \$3,071 | \$3,222 |
| c. Funding Ratio: (a/b) | 14.85% | 15.52% |
| 2. Accrued Liability Funding Ratio | | |
| a. Current Assets (Table 1) | \$456 | \$500 |
| b. Actuarial Accrued Liability (Table 9) | \$3,214 | \$3,369 |
| c. Funding Ratio: (a/b) | 14.19% | 14.84% |
| 3. Projected Benefit Funding Ratio (Table 8) | | |
| a. Current and Expected Future Assets | \$639 | \$653 |
| b. Current and Expected Future Benefit Obligations | \$3,397 | \$3,522 |
| c. Funding Ratio: (a/b) | 18.81% | 18.54% |
| C. PLAN PARTICIPANTS | | |
| 1. Active Members | | |
| a. Number (Table 3) | 6 | 6 |
| b. Projected Annual Earnings | \$483 | \$500 |
| c. Average Annual Earnings (Actual \$) | \$80,469 | \$83,280 |
| d. Average Age | 54.0 | 55.0 |
| e. Average Service | 12.3 | 13.3 |
| 2. Others | | |
| a. Service Retirements (Table 4) | 5 | 5 |
| b. Survivors (Table 5) | 6 | 6 |
| c. Disability Retirements (Table 6) | 0 | 0 |
| d. Deferred Retirements (Table 7) | 4 | 3 |
| e. Terminated Other Non-vested (Table 7) | 0 | 0 |
| f. Total | 15 | 14 |

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 15.52%. The corresponding ratio for the prior year was 14.85%
- 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 1998 the ratio is 14.84%, which is an increase from the 1997 value of 14.19%.
- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 18.54% 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.

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 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.

Source 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 expectations. 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 sufficiency since the Statutory Contribution Rate is 9.00% compared to the Required Contribution Rate of 51.66%.

Changes in Actuarial Assumptions

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

Changes in Plan Provisions

There were no significant changes in plan provisions since the last valuation.

TABLE 1

Elective State Officers Retirement Fund

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

JULY 1, 1998

| | Market Value | Cost Value |
|--|--------------|------------|
| 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 | 500 | 500 |
| Subtotal | \$500 | \$500 |
| B. ASSETS RECEIVABLE | 3 | 3 |
| C. LIABILITIES | (3) | (3) |
| <hr/> | | |
| D. NET ASSETS HELD IN TRUST FOR PENSION BENEFITS | | |
| 1. MPRIF Reserves | 0 | 0 |
| 2. Member Reserves | 497 | 497 |
| 3. Other Non-MPRIF Reserves | 3 | 3 |
| 4. Total Assets Available for Benefits | \$500 | \$500 |
| <hr/> | | |
| E. DETERMINATION OF ACTUARIAL VALUE OF ASSETS | | |
| 1. Cost Value of Assets Available for Benefits (D4) | | \$500 |
| 2. Market Value (D4) | \$500 | |
| 3. Cost Value (D4) | 500 | |
| 4. Market Over Cost: (E2-E3) | \$0 | |
| 5. One-third of Market Over Cost: (E4)/3 | | 0 |
| 6. Actuarial Value of Assets (E1+E5) (Same as "Current Assets") | | \$500 |

TABLE 2

Elective State Officers Retirement Fund

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

YEAR ENDING JUNE 30, 1998

| | Market Value | Cost Value |
|--|--------------|--------------|
| A. ASSETS AVAILABLE AT BEGINNING OF PERIOD | \$457 | \$457 |
| B. ADDITIONS | | |
| 1. Member Contributions | \$42 | \$42 |
| 2. Employer Contributions | 175 | 175 |
| 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) | 0 | 0 |
| d. Investment Expenses | 0 | 0 |
| Net Subtotal | <u>0</u> | <u>0</u> |
| 6. Other | 0 | 0 |
| 7. Total Additions | <u>\$217</u> | <u>\$217</u> |
| C. OPERATING EXPENSES | | |
| 1. Service Retirements paid from MPRIF | \$0 | \$0 |
| 2. Service Retirements paid from plan assets | 171 | 171 |
| 2. Disability Benefits | 0 | 0 |
| 3. Survivor Benefits | 0 | 0 |
| 4. Refunds | 0 | 0 |
| 6. Administrative Expenses | 3 | 3 |
| 7. Other | 0 | 0 |
| 8. Total Disbursements | <u>\$174</u> | <u>\$174</u> |
| D. OTHER CHANGES IN RESERVES | 0 | 0 |
| E. ASSETS AVAILABLE AT END OF PERIOD | <u>\$500</u> | <u>\$500</u> |

TABLE 3

**ELECTIVE STATE OFFICERS RETIREMENT PLAN
ACTIVE MEMBERS AS OF JUNE 30, 1998**

| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55-59 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 3 |
| 60-64 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| 65+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALL | 0 | 2 | 0 | 1 | 2 | 1 | 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 | 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 | 70,833 | 0 | 0 | 0 | 0 | 0 | 0 | 70,833 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55-59 | 0 | 64,931 | 0 | 64,931 | 92,217 | 0 | 0 | 0 | 74,026 |
| 60-64 | 0 | 0 | 0 | 0 | 118,050 | 64,931 | 0 | 0 | 91,491 |
| 65+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALL | 0 | 67,882 | 0 | 64,931 | 105,134 | 64,931 | 0 | 0 | 79,315 |

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 |
|-----|----|---------|-----|--------|---------|--------|-------|-----|---------|
| All | 0 | 135,764 | 0 | 64,931 | 210,268 | 64,931 | 0 | 0 | 475,890 |

ELECTIVE STATE OFFICERS RETIREMENT PLAN

SERVICE RETIREMENTS AS OF JUNE 30, 1998

| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65-69 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 4 |
| 70-74 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 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 | 1 | 1 | 3 | 0 | 0 | 0 | 0 | 5 |

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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65-69 | 0 | 2,406 | 17,391 | 0 | 0 | 0 | 0 | 13,645 |
| 70-74 | 11,208 | 0 | 0 | 0 | 0 | 0 | 0 | 11,208 |
| 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 | 11,208 | 2,406 | 17,391 | 0 | 0 | 0 | 0 | 13,158 |

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS RETIRED

| Age | ≤1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | ALL |
|-----|--------|-------|--------|-------|-------|-------|-----|--------|
| All | 11,208 | 2,406 | 52,173 | 0 | 0 | 0 | 0 | 65,790 |

ELECTIVE STATE OFFICERS RETIREMENT PLAN

SURVIVORS AS OF JUNE 30, 1998

| Age | Years Since 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 | 0 | 1 | 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 | 1 | 0 | 3 |
| 85+ | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| ALL | 1 | 2 | 2 | 0 | 0 | 1 | 0 | 6 |

AVERAGE ANNUAL BENEFIT

| Age | Years Since 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 | 0 | 5,334 | 0 | 0 | 0 | 0 | 5,334 |
| 60-64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65-69 | 0 | 30,740 | 0 | 0 | 0 | 0 | 0 | 30,740 |
| 70-74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75-79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80-84 | 0 | 14,400 | 26,590 | 0 | 0 | 6,686 | 0 | 15,892 |
| 85+ | 11,806 | 0 | 0 | 0 | 0 | 0 | 0 | 11,806 |
| ALL | 11,806 | 22,570 | 15,962 | 0 | 0 | 6,686 | 0 | 15,926 |

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

| Age | ≤1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | ALL |
|-----|--------|--------|--------|-------|-------|-------|-----|--------|
| All | 11,806 | 45,140 | 31,924 | 0 | 0 | 6,686 | 0 | 95,556 |