# ELECTIVE STATE OFFICERS RETIREMENT PLAN

## ACTUARIAL VALUATION REPORT

JULY 1, 1992

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MILLIMAN & ROBERTSON, INC.
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December 2, 1992

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

RE: Elective State Officers Retirement Plan

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 1992.

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 September 20, 1989.

Respectfully submitted,

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## ELECTIVE STATE OFFICERS RETIREMENT PLAN

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# ELECTIVE STATE OFFICERS RETIREMENT FUND

## REPORT HIGHLIGHTS
## (DOLLARS IN THOUSANDS)

| | | | 07/01/91 Valuation | 07/01/92 Valuation |
|---|---|---|---|---|
| A. | CONTRIBUTIONS (Table 11) | | | |
| | 1. | Statutory Contributions - Chapter 352C % of Payroll | 9.00% | 9.00% |
| | 2. | Required Contributions - Chapter 356 % of Payroll | 33.28% | 36.23% |
| | 3. | Sufficiency (Deficiency): (A.1. - A.2.) | -24.28% | -27.23% |
| B. | FUNDING RATIOS | | | |
| | 1. | Accrued Benefit Funding Ratio | | |
| | | a. Current Assets (Table 1) | $308 | $334 |
| | | b. Current Benefit Obligations (Table 8) | $2,160 | $2,269 |
| | | c. Funding Ratio: (a/b) | 14.26% | 14.72% |
| | 2. | Accrued Liability Funding Ratio | | |
| | | a. Current Assets (Table 1) | $308 | $334 |
| | | b. Actuarial Accrued Liability (Table 9) | $2,249 | $2,380 |
| | | c. Funding Ratio: (a/b) | 13.70% | 14.03% |
| | 3. | Projected Benefit Funding Ratio (Table 8) | | |
| | | a. Current and Expected Future Assets | $634 | $675 |
| | | b. Current and Expected Future Benefit Obligations | $2,575 | $2,721 |
| | | c. Funding Ratio: (a/b) | 24.62% | 24.81% |
| C. | PLAN PARTICIPANTS | | | |
| | 1. | Active Members | | |
| | | a. Number (Table 3) | 6 | 6 |
| | | b. Projected Annual Earnings | $440 | $451 |
| | | c. Average Annual Earnings (Actual $) | $73,271 | $75,167 |
| | | d. Average Age | 50.7 | 51.7 |
| | | e. Average Service | 7.0 | 8.0 |
| | 2. | Others | | |
| | | a. Service Retirements (Table 4) | 3 | 4 |
| | | b. Disability Retirements (Table 5) | NA | NA |
| | | c. Survivors (Table 6) | 4 | 4 |
| | | d. Deferred Retirements (Table 7) | 7 | 6 |
| | | e. Terminated Other Non-vested (Table 7) | 0 | 0 |
| | | f. Total | 14 | 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 14.72%. The corresponding ratio for the prior year was 14.26%.

- 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 1992 the ratio is 14.03%, which is an increase from the 1991 value of 13.69%.

- The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 24.81% shows that the current statutory contributions are inadequate.

Under current law, the state is required to fund the remaining full liability for retirements as they occur. The funding ratios shown here do not reflect the anicipated contributions arising from this requirement.

## 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. Both the market value and cost value of assets shown in Tables 1 and 2 include the value of member deposits with accumulated interest. Since these "Other Assets" are not separately held apart from the State's general fund it may be argued that these amounts are not 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:

- 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**

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, 1992 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 | $1,457,310 |
| Current Employees | |
| Accumulated employee contributions including allocated investment income | $227,286 |
| Employer-financed vested | 516,065 |
| Employer-financed nonvested | 67,321 |
| Total Pension Benefit Obligation | $2,267,982 |
| Net Assets Available for Benefits at Cost | $334,000 |
| Total Benefit Obligation less Assets | $1,933,982 |
| Funded Ratio | 14.73% |

## 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. For a detailed analysis of the major components, refer to Table 10.

## Contribution Sufficiciency (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 36.23%. Under current law, the state is required to fund the remaining full liability for retirements as they occur. Therefore, this deficiency is theoretical only; technically, no deficiency exists under a terminal funding structure as long as current requirements are met.

It should be noted that if the "Other Assets" of Tables 1 and 2 are excluded from the Actuarial Value of Assets, the contribution deficiency would be larger.

## Changes in Actuarial Assumptions

The actuarial assumptions are the same as those used in the prior valuation.

Paragraph X.1.4 of the Actuarial Standards requires that the Actuarial Present Value of Compensation for purposes of determining the Normal Cost of the Fund be calculated assuming mid-year payments. Previously, beginning of year payments were assumed. This change in methodology results in an increase of 1.33% of payroll in the Normal Cost and Contribution Deficiency of the Fund.

## Changes in Plan Provisions

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

# ELECTIVE STATE OFFICERS RETIREMENT FUND

## ACCOUNTING BALANCE SHEET
## (DOLLARS IN THOUSANDS)

## JULY 1, 1992

| | | Market Value | Cost Value |
|---|---|---|---|
| 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 * | 336 | 336 |
| B. | TOTAL ASSETS | $336 | $336 |
| C. | AMOUNTS CURRENTLY PAYABLE | $2 | $2 |
| D. | ASSETS AVAILABLE FOR BENEFITS | | |
| | 1. Member Reserves * | $334 | $334 |
| | 2. Employer Reserves | (982) | (982) |
| | 3. MPRIF Reserves | 0 | 0 |
| | 4. Non-MPRIF Reserves | 982 | 982 |
| | 5. Total Assets Available for Benefits | $334 | $334 |
| E. | TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS | $336 | $336 |

| | | | |
|---|---|---|---|
| F. | DETERMINATION OF ACTUARIAL VALUE OF ASSETS | | |
| | 1. Cost Value of Assets Available for Benefits (D5) | | $334 |
| | 2. Market Value (D5) | $334 | |
| | 3. Cost Value (D5) | 334 | |
| | 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") | | $334 |

* Includes $333 of Member Reserves not segregated from general funds.

TABLE 2

## ELECTIVE STATE OFFICERS RETIREMENT FUND

## CHANGE IN ASSETS AVAILABLE FOR BENEFITS
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1992

| | | Market Value | Cost Value |
|---|---|---|---|
| A. | ASSETS AVAILABLE AT BEGINNING OF PERIOD | $308 | $308 |
| B. | OPERATING REVENUES | | |
| | 1. Member Contributions | $34 | $34 |
| | 2. Employer Contributions | 0 | 0 |
| | 3. Investment Income | 0 | 0 |
| | 4. MPRIF Income | 0 | 0 |
| | 5. Net Realized Gain (Loss) | 0 | 0 |
| | 6. Other | 111 | 111 |
| | 7. Net Change in Unrealized Gain (Loss) | 0 | 0 |
| | 8. Total Revenue | $145 | $145 |
| C. | OPERATING EXPENSES | | |
| | 1. Service Retirements | $117 | $117 |
| | 2. Disability Benefits | 0 | 0 |
| | 3. Survivor Benefits | 0 | 0 |
| | 4. Refunds | 0 | 0 |
| | 5. Expenses | 2 | 2 |
| | 6. Other | 0 | 0 |
| | 7. Total Disbursements | $119 | $119 |
| D. | OTHER CHANGES IN RESERVES | 0 | 0 |
| E. | ASSETS AVAILABLE AT END OF PERIOD | $334 | $334 |

# ELECTIVE STATE OFFICERS RETIREMENT PLAN

## ACTIVE MEMBERS AS OF JUNE 30, 1992

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

## AVERAGE ANNUAL EARNINGS

| AGE | YEARS OF SERVICE <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | ALL |
|---|---|---|---|---|---|---|---|---|---|
| <25 | | | | | | | | | |
| 25-29 | | | | | | | | | |
| 30-34 | | | | | | | | | |
| 35-39 | | | | | | | | | |
| 40-44 | 65,438 | | | | | | | | 65,438 |
| 45-49 | | 59,982 | 59,982 | 85,195 | | | | | 68,386 |
| 50-54 | | | | | | | | | |
| 55-59 | | | | 109,054 | 59,982 | | | | 84,518 |
| 60-64 | | | | | | | | | |
| 65+ | | | | | | | | | |
| ALL | 65,438 | 59,982 | 59,982 | 97,125 | 59,982 | | | | 73,272 |

| AGE | PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | ALL |
|---|---|---|---|---|---|---|---|---|---|
| ALL | 65,438 | 59,982 | 59,982 | 194,250 | 59,982 | | | | 439,632 |

TABLE 4

## ELECTIVE STATE OFFICERS RETIREMENT PLAN

## SERVICE RETIREMENTS AS OF JUNE 30, 1992

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

## AVERAGE ANNUAL BENEFIT

| | YEARS RETIRED | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AGE | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | ALL |
| <50 | | | | | | | | |
| 50-54 | | | | | | | | |
| 55-59 | | | | | | | | |
| 60-64 | 2,566 | 38,805 | | | | | | 20,686 |
| 65-69 | | | | | | | | |
| 70-74 | | | | | | | | |
| 75-79 | | | | 18,748 | | | | 18,748 |
| 80-84 | | | | | 15,522 | | | 15,522 |
| 85+ | | | | | | | | |
| ALL | 2,566 | 38,805 | | 18,748 | 15,522 | | | 18,911 |

| | TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS RETIRED | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| AGE | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | ALL |
| ALL | 2,566 | 38,805 | | 18,748 | 15,522 | | | 75,644 |

# ELECTIVE STATE OFFICERS RETIREMENT PLAN

## SURVIVORS AS OF JUNE 30, 1992

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

## AVERAGE ANNUAL BENEFIT

| AGE | YEARS SINCE DEATH <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | ALL |
|---|---|---|---|---|---|---|---|---|
| <50 | | | | | | | | |
| 50-54 | | | | | | | | |
| 55-59 | | | | | | | | |
| 60-64 | | | | | | | | |
| 65-69 | | | | | | | | |
| 70-74 | | | | | | | | |
| 75-79 | | 17,408 | | | 9,615 | | | 12,213 |
| 80-84 | | | | | | | | |
| 85+ | | | | | | 8,470 | | 8,470 |
| ALL | | 17,408 | | | 9,615 | 8,470 | | 11,277 |

| AGE | TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | ALL |
|---|---|---|---|---|---|---|---|---|
| ALL | | 17,408 | | | 19,230 | 8,470 | | 45,108 |

## ELECTIVE STATE OFFICERS RETIREMENT FUND

## RECONCILIATION OF MEMBERS

| | | Actives | Terminated: Deferred Retirement | Terminated: Other Non-Vested |
|---|---|---|---|---|
| A. | ON JUNE 30, 1991 | 6 | 7 | 0 |
| B. | ADDITIONS | 0 | 0 | 0 |
| C. | DELETIONS | | | |
| | 1. Service Retirement | 0 | (1) | 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 | 3 | | |
| | Non-Vested | 3 | | |
| E. | TOTAL ON JUNE 30, 1992 | 6 | 6 | 0 |

| | | Recipients: Retirement Annuitants | Recipients: Disabled | Recipients: Survivors |
|---|---|---|---|---|
| A. | ON JUNE 30, 1991 | 3 | NA | 4 |
| B. | ADDITIONS | 1 | 0 | 0 |
| C. | DELETIONS | | | |
| | 1. Service Retirement | 0 | 0 | 0 |
| | 2. Death | 0 | 0 | 0 |
| | 3. Annuity Expired | 0 | 0 | 0 |
| | 4. Returned as Active | 0 | 0 | 0 |
| D. | DATA ADJUSTMENTS | 0 | 0 | 0 |
| E. | TOTAL ON JUNE 30, 1992 | 4 | NA | 4 |

TABLE 8

## ELECTIVE STATE OFFICERS RETIREMENT FUND

### ACTUARIAL BALANCE SHEET
### (DOLLARS IN THOUSANDS)

### JULY 1, 1992

| | | Non-Vested | Vested | Total |
|---|---|---|---|---|
| A. | CURRENT ASSETS (TABLE 1, F6) | | | $334 |
| B. | EXPECTED FUTURE ASSETS | | | |
| | 1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11) | | | $0 |
| | 2. Present Value of Future Normal Costs | | | 341 |
| | 3. Total Expected Future Assets | | | $341 |
| C. | TOTAL CURRENT AND EXPECTED FUTURE ASSETS | | | $675 |
| D. | CURRENT BENEFIT OBLIGATIONS | Non-Vested | Vested | Total |
| | 1. Benefit Recipients | | | |
| | a. Retirement Annuities | | $638 | $638 |
| | b. Disability Benefits | | 0 | 0 |
| | c. Surviving Spouse and Child Benefits | | 345 | 345 |
| | 2. Deferred Retirements With Future Augmentation | | 475 | 475 |
| | 3. Former Members Without Vested Rights | | 0 | 0 |
| | 4. Active Members | | | |
| | a. Retirement Annuities | 21 | 511 | 532 |
| | b. Disability Benefits | 0 | 0 | 0 |
| | c. Survivor's Benefits | 19 | 0 | 19 |
| | d. Deferred Retirements | 43 | 210 | 253 |
| | e. Refund Liability Due to Death or Withdrawal | 0 | 7 | 7 |
| | 5. Total Current Benefit Obligations | $83 | $2,186 | $2,269 |
| E. | EXPECTED FUTURE BENEFIT OBLIGATIONS | | | $452 |
| F. | TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS | | | $2,721 |
| G. | CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A) | | | $1,935 |
| H. | CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C) | | | $2,046 |

TABLE 9

## ELECTIVE STATE OFFICERS RETIREMENT FUND

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

JULY 1, 1992

| | Actuarial Present Value of Projected Benefits (1) | Actuarial Present Value of Future Normal Costs (2) | Actuarial Accrued Liability (3)=(1)-(2) |
|---|---|---|---|
| A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL) | | | |
| 1. Active Members | | | |
| a. Retirement Annuities | $818 | $113 | $705 |
| b. Disability Benefits | 0 | 0 | 0 |
| c. Survivor's Benefit | 27 | 13 | 14 |
| d. Deferred Retirements | 392 | 155 | 237 |
| e. Refunds Due to Death or Withdrawal | 27 | 60 | (33) |
| f. Total | $1,264 | $341 | $923 |
| 2. Deferred Retirements With Future Augmentation | 475 | | 475 |
| 3. Former Members Without Vested Rights | 0 | | 0 |
| 4. Annuitants in MPRIF | 0 | | 0 |
| 5. Recipients Not in MPRIF | 982 | | 982 |
| 6. Total | $2,721 | $341 | $2,380 |

| | |
|---|---|
| B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL) | |
| 1. AAL (A6) | $2,380 |
| 2. Current Assets (Table 1, F6) | 334 |
| 3. UAAL (B1-B2) | $2,046 |
| C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE | |
| 1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020 | $9,878 |
| 2. Supplemental Contribution Rate (B3/C1) | 20.71% |

* If non-segregated member reserves were not counted as assets, the UAAL would be $2,379, resulting in a Supplemental Contribution Rate of 24.08%.

TABLE 10

## ELECTIVE STATE OFFICERS RETIREMENT FUND

### CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
### (DOLLARS IN THOUSANDS)

### YEAR ENDING JUNE 30, 1992

| | | | |
|---|---|---|---|
| A. | UAAL AT BEGINNING OF YEAR | | $1,941 |
| B. | CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING | | |
| | 1. | Normal Cost and Expenses | $62 |
| | 2. | Contribution | (34) |
| | 3. | Interest on A, B1 and B2 | 166 |
| | 4. | Total (B1+B2+B3) | $194 |
| C. | EXPECTED UAAL AT END OF YEAR (A+B4) | | $2,135 |
| D. | INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED | | |
| | 1. | Salary Increases | $0 |
| | 2. | Investment Return | 27 |
| | 3. | MPRIF Mortality | 0 |
| | 4. | Mortality of Other Benefit Recipients | 56 |
| | 5. | Other Items | (172) |
| | 6. | Total | ($89) |
| E. | UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D5) | | $2,046 |
| 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) | | $2,046 |

# ELECTIVE STATE OFFICERS RETIREMENT FUND

## DETERMINATION OF CONTRIBUTION SUFFICIENCY
## (DOLLARS IN THOUSANDS)

## JULY 1, 1992

| | Percent of Payroll | Dollar Amount |
|---|---|---|
| **A. STATUTORY CONTRIBUTIONS - CHAPTER 352C** | | |
| 1. Employee Contributions | 9.00% | $41 |
| 2. Employer Contributions | 0.00%* | 0 * |
| 3. Total | 9.00% | $41 |

* 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.

| | Percent of Payroll | Dollar Amount |
|---|---|---|
| **B. REQUIRED CONTRIBUTIONS - CHAPTER 356** | | |
| 1. Normal Cost | | |
| a. Retirement Benefits | 4.88% | $22 |
| b. Disability benefits | 0.00% | 0 |
| c. Survivors | 0.67% | 3 |
| d. Deferred Retirement Benefits | 6.87% | 31 |
| e. Refunds Due to Death or Withdrawal | 2.66% | 12 |
| f. Total | 15.08% | $68 |
| 2. Supplemental Contribution Amortization by July 1, 2020 of UAAL | 20.71% | 93 |
| 3. Allowance for Expenses | 0.44% | 2 |
| 4. Total | 36.23% | $163 |
| **C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]** | -27.23% | ($122) |

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1992 is $451.

The deficiency amount shown above is calculated based on reported assets which include a receivable of $333 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 30.60%.

## ELECTIVE STATE OFFICERS RETIREMENT PLAN

## 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, with a 2.5% increase for the 1992-93 fiscal year 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 | Rate |
|---|---|
| 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.

**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.

TABLE 12
(Continued)

## ELECTIVE STATE OFFICERS RETIREMENT PLAN

## SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

| | |
|---|---|
| **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. |

# ELECTIVE STATE OFFICERS RETIREMENT PLAN

## SUMMARY OF PLAN PROVISIONS

| | |
|---|---|
| **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 retirement. |
| **Form of Payment:** | Life annuity |
| **Benefit Increases:** | Adjusted by MSRS to provide same increase as MPRIF. |

TABLE 13
(Continued)

## ELECTIVE STATE OFFICERS RETIREMENT PLAN

## SUMMARY OF PLAN PROVISIONS

| | |
|---|---|
| **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. |
| **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. |

## ELECTIVE STATE OFFICERS RETIREMENT PLAN

## SUMMARY OF PLAN PROVISIONS

**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. |