

REPORT ON  
ACTUARIAL VALUATION  
STATE EMPLOYEES'  
RETIREMENT ASSOCIATION  
OF  
MINNESOTA  
DECEMBER 31, 1966

April 21, 1967

COATES, HERFURTH & ENGLAND

OFFICES IN  
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AREA CODE 213 681-4455

April 21, 1967

Board of Trustees  
State Employees' Retirement  
Association of Minnesota  
Centennial Office Building  
St. Paul, Minnesota 55101

Gentlemen:

We are pleased to transmit herewith our report on the actuarial valuation of your Retirement System made as of December 31, 1966.

Pursuant to Contract No. E-338, under which this valuation was authorized, the actuarial valuation was carried out on the basis of a 3% interest rate assumption and on the basis of the other actuarial assumptions set forth in our report submitted to the Board on November 12, 1965. Also, in accordance with the above noted contract, we utilized the entry age normal cost method of funding to determine the unfunded accrued liability of the System.

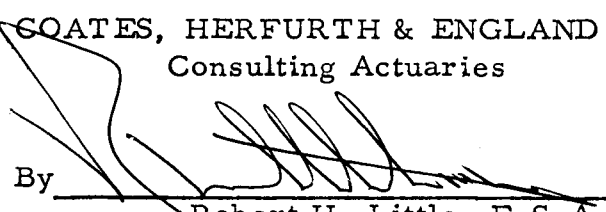
We hereby certify that the actuarial valuation of the State Employees' Retirement Association of Minnesota made as of December 31, 1966 was carried out on the basis of accepted actuarial methods and procedures and that the results of that valuation indicate that the contributions required from the employees and from the State under Minnesota Statutes 1961, Chapter 352, as presently constituted are adequate to provide the benefits that will be paid from the System.

We look forward to the opportunity of discussing this report with you at your convenience.

Very truly yours,

COATES, HERFURTH & ENGLAND  
Consulting Actuaries

By

  
Robert H. Little, F.S.A.

RHL:th

REPORT ON  
ACTUARIAL VALUATION  
OF THE  
STATE EMPLOYEES' RETIREMENT ASSOCIATION  
OF  
MINNESOTA  
AS OF  
DECEMBER 31, 1966

SECTION I

INTRODUCTION

In accordance with Contract No. E-338 between the State of Minnesota and this firm, we have completed the actuarial valuation of the State Employees' Retirement Association of Minnesota as of December 31, 1966.

The Executive Secretary of the Association furnished us with detailed employee information on all active members, inactive members and retired members of the Association as of December 31, 1966. The following schedule shows a summary of the membership on which the valuation was based:

# SUMMARY OF MEMBERSHIP

DECEMBER 31, 1966

## ACTIVE MEMBERS

|        | <u>Number</u> | <u>1966 Annual Salary</u> |
|--------|---------------|---------------------------|
| Male   | 17,110        | \$ 92,956,433             |
| Female | <u>15,896</u> | <u>51,654,435</u>         |
| Total  | 33,006        | \$144,610,868             |

## INACTIVE MEMBERS

|                       | <u>Number</u> | <u>Accumulated Contributions</u> |
|-----------------------|---------------|----------------------------------|
| With Vested Rights    | 335           | \$603,193.03                     |
| Without Vested Rights | <u>5,345</u>  | <u>383,571.62</u>                |
| Total                 | 5,680         | \$986,764.65                     |

## RETIRED MEMBERS

|                            | <u>Number</u> | <u>Annual Allowance</u> |
|----------------------------|---------------|-------------------------|
| Age and Service Retirement | 3,455         | \$3,552,948.48          |
| Disability Retirement      | 130           | 101,928.60              |
| Survivors                  | 41            | 35,507.64               |
| Deferred Retirements       | <u>6</u>      | <u>1,662.96</u>         |
| Total                      | 3,632         | \$3,692,047.68          |

The Executive Secretary and his staff are to be complimented on the accuracy and completeness of the aforementioned data.

The Executive Secretary also furnished us with a Financial Report setting forth the assets and liabilities of the Fund as of December 31, 1966. No physical audit of these assets was made by us and our calculations are based upon the Financial Report as submitted.

The following Section II sets forth the results of the actuarial valuation and Section III contains our conclusions. The schedules attached at the end of the report show the actuarial assumptions used in the current valuation which were developed during the course of the actuarial investigation carried out as of December 31, 1964. These schedules were requested by the Interim Commission in their "GVS Minnesota Memo #18".

## SECTION II

### RESULTS OF ACTUARIAL VALUATION

The contract under which this valuation was authorized specified that the actuarial valuation be carried out on the basis of a 3% interest rate assumption and upon the actuarial assumptions developed during the course of the actuarial investigation carried out as of December 31, 1964 which was summarized in our Report to the Board dated November 12, 1965. We were also instructed to carry out the actuarial valuation on the basis of an entry age normal cost method of funding. The current valuation was carried out in accordance with the stipulations contained in the aforementioned contract.

The valuation was carried out on the basis of the \$7,200 maximum annual participating salary that became effective July 1, 1965.

The entry age normal cost method of funding requires the determination of the level contribution rate which, if contributed on behalf of all new employees from their dates of employment to their dates of separation from service, will be adequate to provide all of their benefits. Under this funding method, the unfunded accrued liability is taken as the total liability of the System for benefits earned in the past as well as those earnable in the future, less the assets on hand, less the present value of future employee contributions and less the present value of future State entry age normal cost contributions.

In order to develop the entry age normal cost contribution rate for new

employees, we carried out a complete valuation of active members as of December 31, 1965 who were employed during the preceding five-year period. The results of these calculations, as reported in our Report on the December 31, 1965 valuation, indicate that the total entry age normal cost rate amounts to 5.11% of participating salary.

Employees are required by law to contribute 3% and, accordingly, the State's share of the entry age normal cost contribution rate amounts to 2.11%. We expect the entry age normal cost rate to remain fairly stable unless there is a change in employment practices or in the Retirement Law.

The law requires that the State make the following contributions to the Fund with respect to members contributing at a 3% rate:

- (1) A "matching" contribution equal to 3% of the members' participating salaries, and
- (2) An "additional" contribution equal to two-thirds of members' contributions, or 2% of participating salary.

In the case of members contributing at a 6% rate, the required contributions by the State are:

- (1) A "matching" contribution equal to 6% of the members' participating salaries, and
- (2) An "additional" contribution equal to one-sixth of members' contributions, or 1% of participating salary.

We have been advised that it is the intent of the Minnesota Legislature to pay the "additional" contributions referred to above for a limited time only. Inasmuch as there were only 35 active employees who were contributing at the 6% level as of December 31, 1966, we will hereinafter refer only to the State's contribution totaling 5% of participating salary which applies to members contributing at the 3% rate.

The Accounting Balance Sheet shown on the following page was furnished by the Executive Secretary. The Reserves for benefits already granted in the amount of \$33,714,602.00 reflects the balances shown on the System records before making the adjustments which will result from the current valuation.

The Actuarial Balance Sheet shown on the page following the Accounting Balance Sheet summarizes the results of the valuation.

The Interim Commission pointed out in their "GVS Minnesota Memo #19" that the actuarial valuations of SERA (as well as other Minnesota retirement systems) did not make specific provision for administrative expenses. We agree with the Commission that it would be appropriate to do so. Accordingly, in the current valuation we have made provision for such expenses which for 1966 amounted to approximately .19% of participating salaries.



STATE EMPLOYEES' RETIREMENT ASSOCIATION  
OF  
MINNESOTA

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ACTUARIAL BALANCE SHEET  
AS OF  
DECEMBER 31, 1966

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ASSETS

|    |                                                                                                                                                       |                 |                         |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------|
| 1. | Assets on Hand from Accounting Balance Sheet                                                                                                          |                 | \$ 94,514,491.25        |
| 2. | Present Value of Employees' Future Contributions<br>(3% of Participating Salary)                                                                      |                 | 39,215,311.00           |
| 3. | Present Value of State Future Contributions<br>Applicable to:                                                                                         |                 |                         |
|    | (a) Entry Age Normal Cost<br>(2.11% of Participating Salary)                                                                                          | \$27,581,436.00 |                         |
|    | (b) Unfunded Accrued Liability<br>(Balance of 3% "Matching" Con-<br>tribution less .19% for Operating<br>Expenses or .70% of Participating<br>Salary) | 9,150,239.00    |                         |
|    | (c) Unfunded Accrued Liability<br>(Portion to be funded by 2% "Addi-<br>tional" Contribution)                                                         | 19,619,219.72   | 56,350,894.72           |
| 4. | TOTAL ASSETS                                                                                                                                          |                 | <u>\$190,080,696.97</u> |

LIABILITIES

|     |                                                                                          |                  |                         |
|-----|------------------------------------------------------------------------------------------|------------------|-------------------------|
| 5.  | Current Liabilities from Accounting Balance Sheet                                        |                  | \$ 31,874.97            |
| 6.  | Present Value of Earned and Earnable<br>Benefits Payable to Presently Active<br>Members: |                  |                         |
|     | (a) Retirement Benefits                                                                  | \$121,115,232.00 |                         |
|     | (b) Disability Benefits                                                                  | 9,857,136.00     |                         |
|     | (c) Refundments due to death or<br>withdrawal                                            | 22,746,176.00    | 153,718,544.00          |
| 7.  | Present Value of Benefits for Deferred<br>Annuitants:                                    |                  |                         |
|     | (a) Retirement Benefits                                                                  | \$ 1,896,866.00  |                         |
|     | (b) Refundments due to death or<br>withdrawal                                            | 95,008.00        |                         |
|     | (c) Benefits already Authorized                                                          | 23,282.00        | 2,015,156.00            |
| 8.  | Present Value of Refundments to former<br>members without vested rights                  |                  | 383,782.00              |
| 9.  | Present Value of Benefits Payable to Annuitants:                                         |                  |                         |
|     | (a) Retirement Benefits                                                                  | \$ 32,362,458.00 |                         |
|     | (b) Disability Benefits                                                                  | 1,146,888.00     |                         |
|     | (c) Survivors' Benefits                                                                  | 421,994.00       | 33,931,340.00           |
| 10. | TOTAL LIABILITIES                                                                        |                  | <u>\$190,080,696.97</u> |

The Actuarial Balance Sheet is a convenient device to present the results of an actuarial valuation. The following comments are intended to assist you in your understanding of the items contained in the Actuarial Balance Sheet.

Item 1 shows the assets on hand and was taken directly from the Accounting Balance Sheet.

Item 2 shows the present value of members' future contributions required by law equal to 3% of the members' participating salaries.

Item 3 shows the present value of State future contributions to the System. We have divided the present value applicable to the State's contributions as follows:

Item 3(a) The portion attributable to the State's share of the total entry age normal cost contribution of 5.11% of members' participating salaries. After deducting the members' share of 3%, the State's share of the entry age normal cost contribution amounts to 2.11% of members' participating salaries.

Item 3(b) The portion attributable to the balance of the State's "matching" 3% contribution (.89% of members' participating salaries less .19% which is allocated for operating expenses) which is being used to pay a portion of the State's share of the cost.

Item 3(c) The portion attributable to the State's "additional" 2% contribution. On the basis of present levels of participating

salaries, this 2% "additional" contribution amounts to approximately \$2,793,000 per year and the full amount of the contribution will amortize the \$19,619,219.72 shown in Item 3(c) in about 8 years. The level annual contribution required to amortize \$19,619,219.72 over the 31 year period ending on December 31, 1997 is \$966,514.00.

Item 5 shows the current liabilities and was taken directly from the Accounting Balance Sheet.

Item 6 shows the actuarially computed present value of all benefits earned to December 31, 1966 and earnable after that date that will be paid from the System to presently active members.

Item 7 shows the actuarially computed present value of all benefits payable from the System to members who have terminated service with vested benefits.

Item 8 shows the actuarially computed present value of refundments that will be paid from the System to members who have terminated service without vested benefits.

Item 9 shows the actuarially computed present value of all benefits payable from the System with respect to members who have retired. The System's account "Reserve for Benefits Already Granted" should be adjusted to \$33,954,622.00 as of January 1, 1967. This is the sum of Item 7(c) and Item 9.

Minnesota Statutes 1965, Chapter 359, requires, in Section 1, Subdivision 4(1), that the actuary of the System prepare an exhibit setting forth certain specified information with regard to the System as of the valuation date, including "Reserves Required" under the System. In an earlier conference with representatives of the State's Employee Retirement System's Interim Commission, we were advised that "Reserve Required", as contemplated in the aforementioned statute, may be defined as the actuarially computed present value applicable to a specified benefit reduced by the actuarially computed present value of any portion of the total entry age normal cost contribution under the System which is applicable to the specified benefit.

The exhibit required by Section 1, Subdivision 4(1) of Minnesota Statutes 1965, Chapter 359, is presented on the following pages of this Section II and we hereby certify that the Reserves Required set forth therein have been computed in accordance with the Entry Age Normal Cost (level Normal Cost) basis in the manner outlined in the definition referred to above.

STATE EMPLOYEES' RETIREMENT ASSOCIATION OF MINNESOTA

EXHIBIT REQUIRED BY MINNESOTA STATUTES 1965, CHAPTER 359,  
SECTION 1, SUBDIVISION 4(1)

AS OF  
DECEMBER 31, 1966

ASSETS AND UNFUNDED ACCRUED LIABILITY

Assets

|                                                                |               |    |               |
|----------------------------------------------------------------|---------------|----|---------------|
| 1. Cash in Office                                              |               | \$ | 25.00         |
| 2. Deposits in Banks                                           |               |    | 201,395.30    |
| 3. Short Term Investments                                      |               |    | 1,114,126.18  |
| 4. Accounts Receivable:                                        |               |    |               |
| (a) Members' Contributions                                     | \$ 136,726.28 |    |               |
| (b) Employer Contributions                                     | 1,113,085.95  |    |               |
| (c) Other                                                      | 36,192.56     |    | 1,286,004.79  |
| 5. Accrued Interest on Investments                             |               |    | 837,337.84    |
| 6. Dividends declared but not received                         |               |    | 7,623.40      |
| 7. Bonds at Amortized Cost                                     |               |    | 68,567,999.76 |
| 8. Stocks at Cost (Market Value 12/31/66 -<br>\$22,957,470.00) |               |    | 22,487,405.01 |
| 9. Equipment at Cost, less depreciation                        |               |    | 11,573.97     |
| 10. Other - Prepaid Postage                                    |               |    | 1,000.00      |
| 11. TOTAL ASSETS                                               |               | \$ | 94,514,491.25 |

Unfunded Accrued Liability

|                                                                                                                                                                                                    |  |    |                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----|-------------------------|
| 12. Unfunded Accrued Liability to be funded by<br>portion of State's 3% "Matching Contribu-<br>tion" in excess of State's share of entry<br>age normal cost contribution and<br>Operating Expenses |  | \$ | 9,150,239.00            |
| 13. Unfunded Accrued Liability to be funded by<br>State's 2% "Additional" contribution                                                                                                             |  |    | 19,619,219.72           |
| 14. Total Unfunded Accrued Liability                                                                                                                                                               |  | \$ | 28,769,458.72           |
| 15. TOTAL ASSETS AND UNFUNDED ACCRUED LIABILITY                                                                                                                                                    |  |    | <u>\$123,283,949.97</u> |

CURRENT LIABILITIES AND RESERVES REQUIRED

Current Liabilities

|                               |             |    |           |
|-------------------------------|-------------|----|-----------|
| 16. Accounts payable:         |             |    |           |
| (a) Annuity Payments          | \$ 2,615.04 |    |           |
| (b) Survivor Payments         | 3,108.97    |    |           |
| (c) Refunds to members        | 7,224.18    |    |           |
| (d) Accrued expenses          | 16,869.70   |    | 29,817.89 |
| 17. Suspense items            |             |    | 2,057.08  |
| 18. Total Current Liabilities |             | \$ | 31,874.97 |

Reserves Required

|                                                     |  |  |                         |
|-----------------------------------------------------|--|--|-------------------------|
| 19. Total Reserves Required per attached schedule   |  |  | 123,252,075.00          |
| 20. TOTAL CURRENT LIABILITIES AND RESERVES REQUIRED |  |  | <u>\$123,283,949.97</u> |

Note: Accumulated contributions, without interest, of members not yet  
retired amounted to \$32,028,080.18 as of December 31, 1966.

STATE EMPLOYEES' RETIREMENT ASSOCIATION OF MINNESOTA

DETERMINATION OF RESERVES REQUIRED  
AS OF  
DECEMBER 31, 1966

|                                               | (1)                                      | (2)                                                                                    | (3)                                        |
|-----------------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------|
| <u>Benefits For:</u>                          | <u>Present Value<br/>of<br/>Benefits</u> | <u>Present Value<br/>of Applicable<br/>Portion of<br/>Normal Cost<br/>Contribution</u> | <u>Reserves<br/>Required<br/>(1) - (2)</u> |
| 1. Active Members                             |                                          |                                                                                        |                                            |
| (a) Retirement Benefits                       | \$121,115,232.00                         | \$43,921,149.00                                                                        | \$ 77,194,083.00                           |
| (b) Disability Benefits                       | 9,857,136.00                             | 5,882,297.00                                                                           | 3,974,839.00                               |
| (c) Refundments due to<br>death or withdrawal | 22,746,176.00                            | 16,993,301.00                                                                          | 5,752,875.00                               |
| 2. Deferred Annuitants                        | 2,015,156.00                             | -                                                                                      | 2,015,156.00                               |
| 3. Former Members Without<br>Vested Rights    | 383,782.00                               | -                                                                                      | 383,782.00                                 |
| 4. Annuitants                                 |                                          |                                                                                        |                                            |
| (a) Retirement Benefits                       | 32,362,458.00                            | -                                                                                      | 32,362,458.00                              |
| (b) Disability Benefits                       | 1,146,888.00                             | -                                                                                      | 1,146,888.00                               |
| (c) Survivors' Benefits                       | 421,994.00                               | -                                                                                      | 421,994.00                                 |
| 5. TOTAL                                      | \$190,048,822.00                         | \$66,796,747.00                                                                        | \$123,252,075.00                           |

Minnesota Statutes 1965, Chapter 359, requires, in Section 1, Subdivision 4(2) and (3), that there be submitted annually an analysis of the System's income and deductions from income with increases in total reserves required being specifically referred to as a deduction from income. The exhibit required by Section 1, Subdivision 4(2) and (3) is presented on the following pages of this Section II. Items of income and deductions from income with the exception of increases in total reserves required were taken directly from statements prepared by the Executive Secretary.

Inasmuch as any excess of "income" over "deductions from income" must be equal to the reduction in the Unfunded Accrued Liability of the System over the period covered by the analysis, we have confirmed that fact in Item 13 of the exhibit.

STATE EMPLOYEES' RETIREMENT ASSOCIATION OF MINNESOTA

EXHIBIT REQUIRED BY MINNESOTA STATUTES 1965, CHAPTER 359,  
SECTION 1, SUBDIVISION 4(2) and (3)  
FISCAL YEAR ENDING DECEMBER 31, 1966

ANALYSIS OF INCOME AND DEDUCTIONS FROM INCOME

INCOME

|                                                         |                        |
|---------------------------------------------------------|------------------------|
| 1. From Members:                                        |                        |
| (a) Employee Contributions                              | \$ 4,105,331.25        |
| (b) Employee Accrued Contributions Receivable           | 136,726.28             |
| (c) Employee Contributions Applied to Past Due Payments | 12,556.71              |
| 2. From Employers:                                      |                        |
| (a) Employer Contributions                              | 4,083,515.55           |
| (b) Employer Additional Contributions                   | 2,636,522.21           |
| (c) Employer Accrued Contributions Receivable           | 219,672.24             |
| (d) Employer Past Due Contributions Receivable          | 120,859.33             |
| 3. From Investments:                                    |                        |
| (a) Interest on Bonds and Notes (Net)                   | 2,885,028.51           |
| (b) Dividends on Corporate Stock                        | 710,275.31             |
| (c) Premiums on Bonds Called                            | 2,395.82               |
| 4. Other Revenues:                                      |                        |
| (a) Interest on Back Payments by Members                | 1,830.02               |
| (b) Gain on Sale of Assets                              | 10.00                  |
| (c) Unclaimed Contributions and Benefits Canceled       | 509.01                 |
| 5. TOTAL INCOME                                         | <u>\$14,915,232.24</u> |

DEDUCTIONS FROM INCOME

|                                                     |                        |
|-----------------------------------------------------|------------------------|
| 6. Benefits:                                        |                        |
| (a) Annuities, Disability and Retirement Allowances | \$ 3,540,796.78        |
| (b) Survivor Benefits                               | 37,237.47              |
| (c) Interest Paid on Deposits of Deceased Members   | 39,070.65              |
| 7. Refundments:                                     |                        |
| (a) Left Service                                    | 1,515,413.68           |
| (b) Members of Other Retirement Systems             | 35,773.19              |
| (c) Member Deaths                                   | 198,023.23             |
| (d) Annuitant Deaths                                | 42,875.07              |
| (e) Erroneous Deductions                            | 10,626.69              |
| 8. Operating Expenses                               | 271,285.96             |
| 9. Net Loss on Sale of Investments                  | 289,395.30             |
| 10. Increase in Total Reserves Required:            |                        |
| (a) Reserves Required 12-31-65                      | \$116,511,935.00       |
| (b) Reserves Required 12-31-66                      | <u>123,252,075.00</u>  |
|                                                     | <u>6,740,140.00</u>    |
| 11. TOTAL DEDUCTIONS FROM INCOME                    | <u>\$12,720,638.02</u> |
| 12. EXCESS OF INCOME OVER DEDUCTIONS FROM INCOME    | \$ 2,194,594.22        |
| 13. REDUCTION IN UNFUNDED ACCRUED LIABILITY:        |                        |
| (a) Unfunded Accrued Liability 12-31-65             | \$ 30,964,052.94       |
| (b) Unfunded Accrued Liability 12-31-66             | <u>28,769,458.72</u>   |
|                                                     | <u>\$ 2,194,594.22</u> |

Minnesota Statutes 1965, Chapter 359, requires, in Section 1, Subdivision 4(4), that there be submitted annually an analysis of changes in the membership of the System. The exhibit required by Section 1, Subdivision 4(4) is presented on the following pages of this Section II. All of the information was taken directly from an exhibit prepared by the Executive Secretary.

STATE EMPLOYEES' RETIREMENT ASSOCIATION OF MINNESOTA  
EXHIBIT REQUIRED BY MINNESOTA STATUTES 1965, CHAPTER 359,  
SECTION 1, SUBDIVISION 4(4)  
FISCAL YEAR ENDING DECEMBER 31, 1966

ANALYSIS OF CHANGES IN MEMBERSHIP

Active Members

|    |                                                              |              |        |
|----|--------------------------------------------------------------|--------------|--------|
| 1. | Active Members as of January 1, 1966                         |              | 31,396 |
| 2. | Increases:                                                   |              |        |
|    | (a) New Members                                              | 7,897        |        |
|    | (b) Former members who returned after taking<br>a refundment | 951          |        |
|    | (c) Former members who returned after an<br>inactive period: |              |        |
|    | Restored from the Inactive Account                           | 132          |        |
|    | Restored after transfer of account to<br>Retirement Fund     | <u>66</u>    |        |
| 3. | Total Increases                                              | 9,046        |        |
| 4. | Decreases:                                                   |              |        |
|    | (a) Refundments:                                             |              |        |
|    | Termination of service                                       | 5,114        |        |
|    | Deductions taken in error                                    | 166          |        |
|    | Less accounts in which a balance remained                    | (16)         |        |
|    | (b) Deaths                                                   | 109          |        |
|    | (c) Members becoming annuitants                              | 371          |        |
|    | (d) Transferred to inactive status                           | <u>1,692</u> |        |
| 5. | Total Decreases                                              | 7,436        |        |
| 6. | Net Increase                                                 |              | 1,610  |
| 7. | Active Members as of December 31, 1966                       |              | 33,006 |

### Inactive Members

|                                                             |            |       |
|-------------------------------------------------------------|------------|-------|
| 1. Inactive Members as of January 1, 1966                   |            | 5,065 |
| 2. Increases:                                               |            |       |
| (a) Accounts transferred from active to inactive status     | 1,692      |       |
| (b) Accounts transferred from Suspension to inactive status | <u>46</u>  |       |
| 3. Total Increases                                          | 1,738      |       |
| 4. Decreases:                                               |            |       |
| (a) Return to active membership                             | 132        |       |
| (b) Refunds                                                 | 314        |       |
| (c) Deaths                                                  | 5          |       |
| (d) Became Annuitants                                       | 32         |       |
| (e) Transferred to the Retirement Fund                      | <u>640</u> |       |
| 5. Total Decreases                                          | 1,123      |       |
| 6. Net Increase                                             |            | 615   |
| 7. Inactive Members as of December 31, 1966                 |            | 5,680 |

### Annuitants and Beneficiaries

|                                                                                   |           |       |
|-----------------------------------------------------------------------------------|-----------|-------|
| 1. Annuitants and Beneficiaries as of January 1, 1966                             |           | 3,359 |
| 2. Increases:                                                                     |           |       |
| (a) Disability Retirement                                                         | 28        |       |
| (b) Service Retirement                                                            | 329       |       |
| (c) Deferred Retirement                                                           | 46        |       |
| (d) Beneficiaries of reversionary and optional type annuities who began receiving | <u>14</u> |       |
| 3. Total Increases                                                                | 417       |       |
| 4. Decreases:                                                                     |           |       |
| (a) Deaths                                                                        | 184       |       |
| (b) Disability who recovered                                                      | <u>1</u>  |       |
| 5. Total Decreases                                                                | 185       |       |
| 6. Net Increase                                                                   |           | 232   |
| 7. Annuitants and Beneficiaries as of December 31, 1966                           |           | 3,591 |

Note: In addition to the above, there are currently 41 "survivors" receiving monthly benefits.

### SECTION III

#### CONCLUSIONS

In a Retirement System such as yours where both the benefits and contributions are specified in the Retirement Law, the major purpose of an actuarial valuation is to determine whether or not the prescribed contributions are adequate to provide the benefits that will ultimately be paid under the System. The results of the current valuation show that the benefits to be provided under the System can be financed by the 3% members' contributions and the State's "matching" 3% contributions plus the State's "additional" 2% contribution for approximately 8 years.

SCHEDULE 1

SALARY SCALES

| <u>Age</u> | <u>Male</u> | <u>Female</u> |
|------------|-------------|---------------|
| 20         | .303        | .378          |
| 21         | .344        | .406          |
| 22         | .386        | .435          |
| 23         | .428        | .463          |
| 24         | .467        | .491          |
| 25         | .506        | .518          |
| 26         | .544        | .544          |
| 27         | .579        | .570          |
| 28         | .614        | .596          |
| 29         | .648        | .622          |
| 30         | .681        | .646          |
| 31         | .711        | .670          |
| 32         | .739        | .693          |
| 33         | .767        | .715          |
| 34         | .789        | .737          |
| 35         | .808        | .757          |
| 36         | .825        | .774          |
| 37         | .842        | .790          |
| 38         | .856        | .806          |
| 39         | .869        | .822          |
| 40         | .881        | .837          |
| 41         | .892        | .852          |
| 42         | .900        | .865          |
| 43         | .908        | .878          |
| 44         | .916        | .889          |
| 45         | .924        | .900          |
| 46         | .932        | .911          |
| 47         | .938        | .921          |
| 48         | .944        | .930          |
| 49         | .950        | .937          |
| 50         | .956        | .944          |
| 51         | .961        | .951          |
| 52         | .965        | .957          |
| 53         | .969        | .963          |
| 54         | .974        | .969          |

SCHEDULE 1

SALARY SCALES

(Continued)

| <u>Age</u> | <u>Male</u> | <u>Female</u> |
|------------|-------------|---------------|
| 55         | .978        | .974          |
| 56         | .981        | .978          |
| 57         | .984        | .981          |
| 58         | .986        | .985          |
| 59         | .988        | .989          |
| 60         | .990        | .991          |
| 61         | .992        | .993          |
| 62         | .994        | .994          |
| 63         | .996        | .996          |
| 64         | .998        | .998          |
| 65         | 1.000       | 1.000         |
| 66         | 1.000       | 1.000         |
| 67         | 1.000       | 1.000         |
| 68         | 1.000       | 1.000         |
| 69         | 1.000       | 1.000         |
| 70         | 1.000       | 1.000         |

SCHEDULE 2

Male Members

Probabilities of Separation from Active Service

(Number Separating at Each Age Per 10,000 Working at That Age)

| <u>Age</u> | <u>Withdrawal</u> | <u>Death</u> | <u>Disability</u> | <u>Age and Service Retirement</u> |
|------------|-------------------|--------------|-------------------|-----------------------------------|
| 20         | 1,870             | 6            |                   |                                   |
| 21         | 1,750             | 6            |                   |                                   |
| 22         | 1,620             | 7            |                   |                                   |
| 23         | 1,490             | 7            |                   |                                   |
| 24         | 1,370             | 7            |                   |                                   |
| 25         | 1,250             | 8            |                   |                                   |
| 26         | 1,140             | 8            |                   |                                   |
| 27         | 1,040             | 8            |                   |                                   |
| 28         | 950               | 9            |                   |                                   |
| 29         | 870               | 9            |                   |                                   |
| 30         | 800               | 10           | 1                 |                                   |
| 31         | 730               | 10           | 1                 |                                   |
| 32         | 680               | 11           | 1                 |                                   |
| 33         | 630               | 12           | 1                 |                                   |
| 34         | 590               | 13           | 1                 |                                   |
| 35         | 550               | 15           | 1                 |                                   |
| 36         | 510               | 16           | 1                 |                                   |
| 37         | 480               | 18           | 1                 |                                   |
| 38         | 450               | 20           | 2                 |                                   |
| 39         | 430               | 22           | 2                 |                                   |
| 40         | 420               | 25           | 2                 |                                   |
| 41         | 400               | 28           | 2                 |                                   |
| 42         | 390               | 30           | 2                 |                                   |
| 43         | 380               | 33           | 2                 |                                   |
| 44         | 370               | 37           | 2                 |                                   |
| 45         | 360               | 41           | 2                 |                                   |
| 46         | 350               | 46           | 3                 |                                   |
| 47         | 340               | 51           | 3                 |                                   |
| 48         | 330               | 57           | 3                 |                                   |
| 49         | 320               | 63           | 4                 |                                   |

SCHEDULE 2

Male Members

(Continued)

Probabilities of Separation from Active Service

(Number Separating at Each Age Per 10,000 Working at That Age)

| <u>Age</u> | <u>Withdrawal</u> | <u>Death</u> | <u>Disability</u> | <u>Age and Service<br/>Retirement</u> |
|------------|-------------------|--------------|-------------------|---------------------------------------|
| 50         | 310               | 70           | 4                 |                                       |
| 51         | 300               | 77           | 5                 |                                       |
| 52         | 280               | 85           | 7                 |                                       |
| 53         | 260               | 93           | 9                 |                                       |
| 54         | 240               | 102          | 12                |                                       |
| 55         | 220               | 111          | 15                |                                       |
| 56         | 190               | 120          | 19                |                                       |
| 57         | 150               | 129          | 23                |                                       |
| 58         | 110               | 139          | 28                | 280                                   |
| 59         | 60                | 148          | 33                | 30                                    |
| 60         |                   | 157          | 38                | 100                                   |
| 61         |                   | 166          | 44                | 100                                   |
| 62         |                   | 175          | 51                | 140                                   |
| 63         |                   | 184          | 58                | 180                                   |
| 64         |                   | 194          | 65                | 870                                   |
| 65         |                   | 204          |                   | 2,200                                 |
| 66         |                   | 214          |                   | 950                                   |
| 67         |                   | 224          |                   | 1,250                                 |
| 68         |                   | 234          |                   | 1,700                                 |
| 69         |                   | 244          |                   | 2,150                                 |
| 70         |                   |              |                   | 10,000                                |

SCHEDULE 3

Female Members

Probabilities of Separation from Active Service

(Number Separating at Each Age Per 10,000 Working at That Age)

| <u>Age</u> | <u>Withdrawal</u> | <u>Death</u> | <u>Disability</u> | <u>Age and Service Retirement</u> |
|------------|-------------------|--------------|-------------------|-----------------------------------|
| 20         | 3,150             | 5            |                   |                                   |
| 21         | 3,080             | 6            |                   |                                   |
| 22         | 2,990             | 6            |                   |                                   |
| 23         | 2,890             | 6            |                   |                                   |
| 24         | 2,760             | 6            |                   |                                   |
| 25         | 2,650             | 6            |                   |                                   |
| 26         | 2,500             | 6            |                   |                                   |
| 27         | 2,360             | 6            |                   |                                   |
| 28         | 2,210             | 6            |                   |                                   |
| 29         | 2,060             | 6            |                   |                                   |
| 30         | 1,900             | 6            |                   |                                   |
| 31         | 1,750             | 7            |                   |                                   |
| 32         | 1,600             | 7            |                   |                                   |
| 33         | 1,460             | 7            |                   |                                   |
| 34         | 1,340             | 7            |                   |                                   |
| 35         | 1,230             | 8            | 1                 |                                   |
| 36         | 1,140             | 8            | 1                 |                                   |
| 37         | 1,060             | 8            | 1                 |                                   |
| 38         | 980               | 8            | 1                 |                                   |
| 39         | 910               | 9            | 2                 |                                   |
| 40         | 840               | 9            | 2                 |                                   |
| 41         | 780               | 10           | 2                 |                                   |
| 42         | 720               | 11           | 3                 |                                   |
| 43         | 670               | 12           | 3                 |                                   |
| 44         | 610               | 13           | 3                 |                                   |
| 45         | 560               | 14           | 3                 |                                   |
| 46         | 520               | 15           | 4                 |                                   |
| 47         | 480               | 16           | 4                 |                                   |
| 48         | 450               | 17           | 4                 |                                   |
| 49         | 420               | 18           | 5                 |                                   |

SCHEDULE 3

Female Members

(Continued)

Probabilities of Separation from Active Service

(Number Separating at Each Age Per 10,000 Working at That Age)

| <u>Age</u> | <u>Withdrawal</u> | <u>Death</u> | <u>Disability</u> | <u>Age and Service Retirement</u> |
|------------|-------------------|--------------|-------------------|-----------------------------------|
| 50         | 400               | 19           | 5                 |                                   |
| 51         | 370               | 20           | 6                 |                                   |
| 52         | 350               | 22           | 7                 |                                   |
| 53         | 320               | 24           | 8                 |                                   |
| 54         | 290               | 26           | 10                |                                   |
| 55         | 260               | 32           | 12                |                                   |
| 56         | 230               | 39           | 14                |                                   |
| 57         | 180               | 45           | 16                |                                   |
| 58         | 130               | 53           | 19                | 200                               |
| 59         | 60                | 61           | 23                | 50                                |
| 60         |                   | 80           | 27                | 100                               |
| 61         |                   | 83           | 31                | 50                                |
| 62         |                   | 86           | 36                | 150                               |
| 63         |                   | 96           | 42                | 200                               |
| 64         |                   | 105          | 49                | 600                               |
| 65         |                   | 114          |                   | 2,150                             |
| 66         |                   | 124          |                   | 1,200                             |
| 67         |                   | 133          |                   | 1,400                             |
| 68         |                   | 144          |                   | 2,500                             |
| 69         |                   | 154          |                   | 3,550                             |
| 70         |                   |              |                   | 10,000                            |

SERA VALUATION AS OF DECEMBER 31, 1966

The purpose of this memorandum is to discuss the valuation report of the State Employees' Retirement Association, dated April 21, 1967, which was submitted to the Commission in accordance with Chapter 359 of Minnesota Laws 1965. The valuation was made using the entry age normal cost method and assuming 3% interest. All valuation reports mentioned in this memorandum were prepared by Coates, Herfurth and England, Consulting Actuaries.

This memo contains the following:

1. Statistical and Valuation Data
2. Discussion of Valuation Results
3. Conclusion

1. Statistical and Valuation Data

Results of the valuation reports as of December 31, 1965 and December 31, 1966 are shown for comparative purposes. Figures are rounded where necessary for simplicity of presentation.

|                                          | As of<br><u>Dec. 31, 1965</u> | As of<br><u>Dec. 31, 1966</u> |
|------------------------------------------|-------------------------------|-------------------------------|
| (1) <u>Membership</u>                    |                               |                               |
| Active Members                           | 31,396                        | 33,006                        |
| Inactive Members                         | 5,065                         | 5,680                         |
| Retired Members                          | 3,244                         | 3,461                         |
| Disabled Members                         | 115                           | 130                           |
| Survivors of Deceased Members            | 42                            | 41                            |
| (2) <u>Payroll and Annuities Payable</u> |                               |                               |
| Total Payroll                            | \$135.6 Million               | \$144.6 Million               |
| Covered Payroll<br>(\$7,200 limit)       | \$129.0 Million               | \$139.7 Million               |
| Annuities (annual)                       | 3.2 Million                   | 3.7 Million                   |

|                                                      | As of<br>Dec. 31, 1965 | As of<br>Dec. 31, 1966 |
|------------------------------------------------------|------------------------|------------------------|
| (3) <u>Valuation Balance Sheet</u>                   |                        |                        |
| Accrued Liability                                    | \$116.5 Million        | \$123.3 Million        |
| Assets                                               | <u>85.5 Million</u>    | <u>94.5 Million</u>    |
| Unfunded Accrued Liability (Deficit)                 | \$ 31.0 Million        | \$ 28.8 Million        |
| Funding Ratio (Ratio of Assets to Accrued Liability) | 73.4%                  | 76.6%                  |

(4) Normal Cost and Funding Costs

|                                 | % of<br>Covered<br>Payroll | % of<br>Covered<br>Payroll |
|---------------------------------|----------------------------|----------------------------|
| Normal Cost                     | 5.11%                      | 5.11%                      |
| Normal Cost                     | 5.11%                      | 5.11%                      |
| Interest on Deficit             | 0.72%                      | 0.62%                      |
| Expenses                        | <u>0.19%</u>               | <u>0.19%</u>               |
| Total ("Minimum Contribution")  | 6.02%                      | 5.92%                      |
| Normal Cost                     | 5.11%                      | 5.11%                      |
| Amortization by 1997            | 1.16%                      | 1.00%                      |
| Expenses                        | <u>0.19%</u>               | <u>0.19%</u>               |
| Total ("Required Contribution") | 6.46%                      | 6.30%                      |

(5) Statutory Contributions

|                     |             |             |
|---------------------|-------------|-------------|
| Employee            | 3.0%        | 3.0%        |
| Employer Regular    | 3.0%        | 3.0%        |
| Employer Additional | <u>2.0%</u> | <u>2.0%</u> |
| Total Contributions | 8.0%        | 8.0%        |

(6) Investment Yield (A)                      3.99%                      4.17%

(A) Ratio of investment income (on an accrual basis) to mean assets. The yield for 1965 has been restated on an accrual basis.

## 2. Discussion of Valuation Results

### (1) Discussion of Normal Cost

The normal cost as a percentage of participating payroll turned out to be 5.11% which is the same result as that obtained in 1965.

In the SERA valuation, normal cost as a percentage of payroll was obtained from a valuation of presently active members who were hired during the preceding five-year period rather than from a valuation of the entire membership. Therefore, unless there is a change in hiring practices or changes in the benefit formula, it is to be expected that the percentage will remain relatively constant.

### (2) Change in Deficit

The deficit decreased from \$31.0 million on December 31, 1965 to \$28.7 million on December 31, 1966, a decrease of \$2.3 million. As of December 31, 1965, we estimated that the anticipated contribution toward the deficit would retire the deficit in about ten years. The corresponding estimate at the present time is eight to nine years. Thus, the retiring of the deficit is proceeding in a satisfactory manner.

### (3) Valuation Results Based Upon 3 1/2% Interest

A separate SERA Valuation Report based upon an assumption of 3 1/2% interest was submitted. A comparison of certain items from this report with the corresponding items in the other report are shown below:

|                              | <u>3 1/2%</u>  | <u>3%</u>      |
|------------------------------|----------------|----------------|
| Normal Cost                  | 4.69%          | 5.11%          |
| Amortization by 1997         | 0.71%          | 1.00%          |
| Expenses                     | 0.19%          | 0.19%          |
| Total                        | <u>5.59%</u>   | <u>6.30%</u>   |
| Present Value of Benefits    | \$174.0 *      | \$190.1 *      |
| Present Value of Normal Cost | 59.0           | 66.8           |
| Reserves Required            | <u>\$115.0</u> | <u>\$123.3</u> |
| Assets (Less Current         |                |                |
| Liabilities)                 | <u>94.5</u>    | <u>94.5</u>    |
| Unfunded Accrued Liability   |                |                |
| (Deficit)                    | \$ 20.5        | \$ 28.8        |

\* Millions

### 3. Conclusion

The 1966 Valuation Report filed by SERA conforms with the requirements of Chapter 359. Furthermore, considerable useful information has been added to this year's report.

On page 19 of the report, the SERA actuary concludes: "The results of the current valuation show that the benefits to be provided under the System can be financed by the 3% members' contributions and the State's "matching" 3% contributions plus the State's "additional" 2% contribution for approximately 8 years." In our opinion, this conclusion is correct.

It should be pointed out that the report discussed above was based on a valuation as of December 31, 1966 which was prior to the time that the 1967 Legislature convened. Since the 1967 Legislature removed the \$7200 limit on covered salary, it can be anticipated that the results of the 1967 valuation will differ considerably from those discussed above.

Franklin C. Smith  
Associate, Society of Actuaries  
GEORGE V. STENNES AND ASSOCIATES  
Commission Actuaries

REPORT ON  
ACTUARIAL VALUATION  
STATE EMPLOYEES'  
RETIREMENT ASSOCIATION  
OF MINNESOTA  
DECEMBER 31, 1966  
3-1/2% INTEREST RATE ASSUMPTION

April 27, 1967



COATES, HERFURTH & ENGLAND

OFFICES IN  
SAN FRANCISCO  
DENVER  
PASADENA

CONSULTING ACTUARIES  
301 EAST COLORADO BLVD.  
PASADENA, CALIFORNIA 91101

TELEPHONE  
AREA CODE 213 681-4455

April 27, 1967

Board of Trustees  
State Employees' Retirement  
Association of Minnesota  
Centennial Office Building  
St. Paul, Minnesota 55101

Gentlemen:

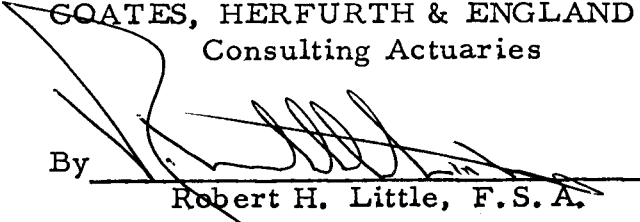
We are pleased to transmit herewith our report on the actuarial valuation of your Retirement System made as of December 31, 1966 on the basis of a 3-1/2% interest rate assumption.

We look forward to the opportunity of discussing this report with you at your convenience.

Very truly yours,

GOATES, HERFURTH & ENGLAND  
Consulting Actuaries

By

  
Robert H. Little, F.S.A.

RHL:th

REPORT ON  
ACTUARIAL VALUATION  
OF THE  
STATE EMPLOYEES' RETIREMENT ASSOCIATION  
OF  
MINNESOTA  
AS OF  
DECEMBER 31, 1966  
  
ON THE BASIS OF 3-1/2% INTEREST RATE ASSUMPTION

The supplemental contract under which this valuation was authorized specified that the actuarial valuation be carried out on the basis of a 3-1/2% interest rate assumption and upon the actuarial assumptions developed during the course of the December 31, 1964 actuarial investigation. The valuation was carried out on the basis of the \$7,200 maximum annual participating salary which became effective July 1, 1965.

In order to develop the entry age normal cost contribution rate for new employees, we carried out a complete valuation of active members as of December 31, 1965 who were employed during the preceding five-year period. The results of these calculations, as reported in our report on the December 31, 1965 valuation, indicate that the total entry age normal cost rate amounts to 4.69% of participating salary. This rate compares with a 5.11% rate

developed on the basis of a 3% interest assumption.

Employees are required by law to contribute 3% and, accordingly, the State's share of the entry age normal cost contribution rate amounts to 1.69%. We expect the entry age normal cost rate to remain fairly stable unless there is a change in employment practices or in the Retirement Law.

The law requires that the State make the following contributions to the Fund with respect to members contributing at a 3% rate:

- (1) A "matching" contribution equal to 3% of the members' participating salaries, and
- (2) An "additional" contribution equal to two-thirds of members' contributions, or 2% of participating salaries.

In the case of members contributing at a 6% rate, the required contributions by the State are:

- (1) A "matching" contribution equal to 6% of the members' participating salaries, and
- (2) An "additional" contribution equal to one-sixth of members' contributions, or 1% of participating salaries.

We have been advised that it is the intent of the Minnesota Legislature to pay the "additional" contributions referred to above for a limited time only. Inasmuch as there were only 35 active employees who were contributing at the 6% level as of December 31, 1966, we will hereinafter refer only to the State's contribution totaling 5% of participating salary which applies to members contributing at the 3% rate.

The Actuarial Balance Sheet shown on the following page summarizes the results of the valuation. An Accounting Balance Sheet has not been included in this report because it would duplicate the Accounting Balance Sheet included in our report on the 3% valuation required by law.

STATE EMPLOYEES' RETIREMENT ASSOCIATION  
OF  
MINNESOTA

---

ACTUARIAL BALANCE SHEET  
AS OF  
DECEMBER 31, 1966

---

3-1/2% INTEREST RATE ASSUMPTION

ASSETS

|    |                                                                                                                                             |                     |                                |
|----|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------|
| 1. | Assets on Hand from Accounting Balance Sheet                                                                                                |                     | \$ 94,514,491.25               |
| 2. | Present Value of Employees' Future Contributions<br>(3% of Participating Salary)                                                            |                     | 37,716,637.00                  |
| 3. | Present Value of State Future Contributions<br>Applicable to:                                                                               |                     |                                |
|    | (a) Entry Age Normal Cost<br>(1.69% of Participating Salary)                                                                                | \$ 21,247,039.00    |                                |
|    | (b) Unfunded Accrued Liability<br>(Balance of 3% "Matching" Contribution less .19% for operating expenses or 1.12% of Participating Salary) | 14,080,878.00       |                                |
|    | (c) Unfunded Accrued Liability<br>(Portion to be funded by 2% "Additional" Contribution)                                                    | <u>6,470,566.72</u> | <u>41,798,483.72</u>           |
| 4. | TOTAL ASSETS                                                                                                                                |                     | <u><u>\$174,029,611.97</u></u> |

LIABILITIES

|     |                                                                                          |                      |                                |
|-----|------------------------------------------------------------------------------------------|----------------------|--------------------------------|
| 5.  | Current Liabilities from Accounting Balance Sheet                                        |                      | \$ 31,874.97                   |
| 6.  | Present Value of Earned and Earnable<br>Benefits Payable to Presently Active<br>Members: |                      |                                |
|     | (a) Retirement Benefits                                                                  | \$108,019,279.00     |                                |
|     | (b) Disability Benefits                                                                  | 8,965,632.00         |                                |
|     | (c) Refundments due to death or<br>withdrawal                                            | <u>22,005,608.00</u> | <u>138,990,519.00</u>          |
| 7.  | Present Value of Benefits for Deferred<br>Annuitants:                                    |                      |                                |
|     | (a) Retirement Benefits                                                                  | \$ 1,757,543.00      |                                |
|     | (b) Refundments due to death or<br>withdrawal                                            | 95,008.00            |                                |
|     | (c) Benefits already Authorized                                                          | <u>21,959.00</u>     | <u>1,874,510.00</u>            |
| 8.  | Present Value of Refundments to former<br>members without vested rights                  |                      | 383,782.00                     |
| 9.  | Present Value of Benefits Payable to Annuitants:                                         |                      |                                |
|     | (a) Retirement Benefits                                                                  | \$ 31,235,695.00     |                                |
|     | (b) Disability Benefits                                                                  | 1,100,099.00         |                                |
|     | (c) Survivors' Benefits                                                                  | <u>413,132.00</u>    | <u>32,748,926.00</u>           |
| 10. | TOTAL LIABILITIES                                                                        |                      | <u><u>\$174,029,611.97</u></u> |

The Actuarial Balance Sheet is a convenient device to present the results of an actuarial valuation. The following comments are intended to assist you in your understanding of the items contained in the Actuarial Balance Sheet.

Item 1 shows the assets on hand and was taken directly from the Accounting Balance Sheet.

Item 2 shows the present value of members' future contributions required by law equal to 3% of the members' participating salaries.

Item 3 shows the present value of State future contributions to the System. We have divided the present value applicable to the State's contributions as follows:

Item 3(a) The portion attributable to the State's share of the total entry age normal cost contribution of 4.69% of members' participating salaries. After deducting the members' share of 3%, the State's share of the entry age normal cost contribution amounts to 1.69% of members' participating salaries.

Item 3(b) The portion attributable to the balance of the State's "matching" 3% contribution (1.31% of members' participating salaries less .19% for operating expenses) which is being used to pay a portion of the State's share of the cost.

Item 3(c) The portion attributable to the State's "additional" 2% contribution. On the basis of present levels of participating salaries, this 2% "additional" contribution amounts to

approximately \$2,793,000 per year and the full amount of the contribution will amortize the \$6,470,566.72 shown in Item 3(c) in about 2-1/2 years. The level annual contribution required to amortize \$6,470,566.72 over the 31 year period ending on December 31, 1997 is \$339,443.00.

Item 5 shows the current liabilities and was taken directly from the Accounting Balance Sheet.

Item 6 shows the actuarially computed present value of all benefits earned to December 31, 1966 and earnable after that date that will be paid from the System to presently active members.

Item 7 shows the actuarially computed present value of all benefits payable from the System to members who have terminated service with vested benefits.

Item 8 shows the actuarially computed present value of refundments that will be paid from the System to members who have terminated service without vested benefits.

Item 9 shows the actuarially computed present value of all benefits payable from the System with respect to members who have retired.

The three exhibits presented on the following pages of this report are those which conform to the requirements of Minnesota Statutes 1965, Chapter 359, Section 1, Subdivisions (1), (2) and (3), except for the fact that they reflect a 3-1/2% interest assumption rather than the 3% assumption required by Chapter 359.

STATE EMPLOYEES' RETIREMENT ASSOCIATION OF MINNESOTA

EXHIBIT REQUIRED BY MINNESOTA STATUTES 1965, CHAPTER 359,  
SECTION 1, SUBDIVISION 4(1)

AS OF  
DECEMBER 31, 1966

ASSETS AND UNFUNDED ACCRUED LIABILITY

| <u>Assets</u>                                                  | <u>3-1/2% INTEREST RATE ASSUMPTION</u> |                  |
|----------------------------------------------------------------|----------------------------------------|------------------|
| 1. Cash in Office                                              |                                        | \$ 25.00         |
| 2. Deposits in Banks                                           |                                        | 201,395.30       |
| 3. Short Term Investments                                      |                                        | 1,114,126.18     |
| 4. Accounts Receivable:                                        |                                        |                  |
| (a) Members' Contributions                                     | \$ 136,726.28                          |                  |
| (b) Employer Contributions                                     | 1,113,085.95                           |                  |
| (c) Other                                                      | <u>36,192.56</u>                       | 1,286,004.79     |
| 5. Accrued Interest on Investments                             |                                        | 837,337.84       |
| 6. Dividends declared but not received                         |                                        | 7,623.40         |
| 7. Bonds at Amortized Cost                                     |                                        | 68,567,999.76    |
| 8. Stocks at Cost (Market Value 12/31/66 -<br>\$22,957,470.00) |                                        | 22,487,405.01    |
| 9. Equipment at Cost, less depreciation                        |                                        | 11,573.97        |
| 10. Other - Prepaid Postage                                    |                                        | <u>1,000.00</u>  |
| 11. TOTAL ASSETS                                               |                                        | \$ 94,514,491.25 |

Unfunded Accrued Liability

|                                                                                                                                                                                                   |  |                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------|
| 12. Unfunded Accrued Liability to be funded by<br>portion of State's 3% "Matching Contribution"<br>in excess of State's share of entry age<br>normal cost contributions and Operating<br>Expenses |  | \$ 14,080,878.00        |
| 13. Unfunded Accrued Liability to be funded by<br>State's 2% "Additional" contribution                                                                                                            |  | <u>6,470,566.72</u>     |
| 14. Total Unfunded Accrued Liability                                                                                                                                                              |  | \$ 20,551,444.72        |
| 15. TOTAL ASSETS AND UNFUNDED ACCRUED LIABILITY                                                                                                                                                   |  | <u>\$115,065,935.97</u> |

CURRENT LIABILITIES AND RESERVES REQUIRED

Current Liabilities

|                               |                  |                 |
|-------------------------------|------------------|-----------------|
| 16. Accounts payable:         |                  |                 |
| (a) Annuity Payments          | \$ 2,615.04      |                 |
| (b) Survivor Payments         | 3,108.97         |                 |
| (c) Refunds to members        | 7,224.18         |                 |
| (d) Accrued expenses          | <u>16,869.70</u> | \$ 29,817.89    |
| 17. Suspense items            |                  | <u>2,057.08</u> |
| 18. Total Current Liabilities |                  | \$ 31,874.97    |

Reserves Required

|                                                     |                         |
|-----------------------------------------------------|-------------------------|
| 19. Total Reserves Required per attached schedule   | <u>115,034,061.00</u>   |
| 20. TOTAL CURRENT LIABILITIES AND RESERVES REQUIRED | <u>\$115,065,935.97</u> |

Note: Accumulated contributions, without interest, of members not yet  
retired amounted to \$32,028,080.18 as of December 31, 1966.

STATE EMPLOYEES' RETIREMENT ASSOCIATION  
OF  
MINNESOTA

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DETERMINATION OF RESERVES REQUIRED  
AS OF  
DECEMBER 31, 1966

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3-1/2% INTEREST RATE ASSUMPTION

|                                               | (1)                                      | (2)                                                                         | (3)                               |
|-----------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------|
|                                               |                                          | Present Value<br>of Applicable<br>Portion of<br>Normal Cost<br>Contribution | Reserves<br>Required<br>(1) - (2) |
| <u>Benefits For:</u>                          | <u>Present Value<br/>of<br/>Benefits</u> |                                                                             |                                   |
| 1. Active Members                             |                                          |                                                                             |                                   |
| (a) Retirement Benefits                       | \$108,019,279.00                         | \$37,465,193.00                                                             | \$ 70,554,086.00                  |
| (b) Disability Benefits                       | 8,965,632.00                             | 5,280,329.00                                                                | 3,685,303.00                      |
| (c) Refundments due to<br>death or withdrawal | 22,005,608.00                            | 16,218,154.00                                                               | 5,787,454.00                      |
| 2. Deferred Annuitants                        | 1,874,510.00                             | -                                                                           | 1,874,510.00                      |
| 3. Former Members Without<br>Vested Rights    | 383,782.00                               | -                                                                           | 383,782.00                        |
| 4. Annuitants                                 |                                          |                                                                             |                                   |
| (a) Retirement Benefits                       | 31,235,695.00                            | -                                                                           | 31,235,695.00                     |
| (b) Disability Benefits                       | 1,100,099.00                             | -                                                                           | 1,100,099.00                      |
| (c) Survivors' Benefits                       | 413,132.00                               | -                                                                           | 413,132.00                        |
| 5. TOTAL                                      | \$173,997,737.00                         | \$58,963,676.00                                                             | \$115,034,061.00                  |

STATE EMPLOYEES' RETIREMENT ASSOCIATION OF MINNESOTA

EXHIBIT REQUIRED BY MINNESOTA STATUTES 1965, CHAPTER 359,  
SECTION 1, SUBDIVISION 4(2) and (3)  
FISCAL YEAR ENDING DECEMBER 31, 1966

ANALYSIS OF INCOME AND DEDUCTIONS FROM INCOME

| <u>INCOME</u>                                           | <u>3-1/2% INTEREST RATE ASSUMPTION</u> |
|---------------------------------------------------------|----------------------------------------|
| 1. From Members:                                        |                                        |
| (a) Employee Contributions                              | \$ 4,105,331.25                        |
| (b) Employee Accrued Contributions Receivable           | 136,726.28                             |
| (c) Employee Contributions Applied to Past Due Payments | 12,556.71                              |
| 2. From Employers:                                      |                                        |
| (a) Employer Contributions                              | 4,083,515.55                           |
| (b) Employer Additional Contributions                   | 2,636,522.21                           |
| (c) Employer Accrued Contributions Receivable           | 219,672.24                             |
| (d) Employer Past Due Contributions Receivable          | 120,859.33                             |
| 3. From Investments:                                    |                                        |
| (a) Interest on Bonds and Notes (Net)                   | 2,885,028.51                           |
| (b) Dividends on Corporate Stock                        | 710,275.31                             |
| (c) Premiums on Bonds Called                            | 2,395.82                               |
| 4. Other Revenues:                                      |                                        |
| (a) Interest on Back Payments by Members                | 1,830.02                               |
| (b) Gain on Sale of Assets                              | 10.00                                  |
| (c) Unclaimed Contributions and Benefits Canceled       | 509.01                                 |
| 5. TOTAL INCOME                                         | <u>\$14,915,232.24</u>                 |

DEDUCTIONS FROM INCOME

|                                                     |                       |                        |
|-----------------------------------------------------|-----------------------|------------------------|
| 6. Benefits:                                        |                       |                        |
| (a) Annuities, Disability and Retirement Allowances |                       | \$ 3,540,796.78        |
| (b) Survivor Benefits                               |                       | 37,237.47              |
| (c) Interest Paid on Deposits of Deceased Members   |                       | 39,070.65              |
| 7. Refundments:                                     |                       |                        |
| (a) Left Service                                    |                       | 1,515,413.68           |
| (b) Members of Other Retirement Systems             |                       | 35,773.19              |
| (c) Member Deaths                                   |                       | 198,023.23             |
| (d) Annuitant Deaths                                |                       | 42,875.07              |
| (e) Erroneous Deductions                            |                       | 10,626.69              |
| 8. Operating Expenses                               |                       | 271,285.96             |
| 9. Net Loss on Sale of Investments                  |                       | 289,395.30             |
| 10. Increase in Total Reserves Required:            |                       |                        |
| (a) Reserves Required 12/31/65                      | \$108,708,164.00      |                        |
| (b) Reserves Required 12/31/66                      | <u>115,034,061.00</u> | <u>6,325,897.00</u>    |
| 11. TOTAL DEDUCTIONS FROM INCOME                    |                       | <u>\$12,306,395.02</u> |
| 12. EXCESS OF INCOME OVER DEDUCTIONS FROM INCOME    |                       | \$ 2,608,837.22        |
| 13. REDUCTION IN UNFUNDED ACCRUED LIABILITY:        |                       |                        |
| (a) Unfunded Accrued Liability 12/31/65             | \$ 23,160,281.94      |                        |
| (b) Unfunded Accrued Liability 12/31/66             | <u>20,551,444.72</u>  | <u>\$ 2,608,837.22</u> |