

PUBLIC EMPLOYEES RETIREMENT FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1985

 **FILE COPY**

December 9, 1985

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

RE: PUBLIC EMPLOYEES RETIREMENT FUND

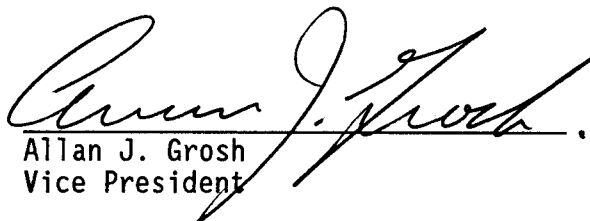
Gentlemen:

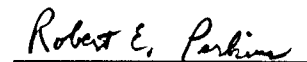
We have prepared an actuarial valuation of the Fund as of July 1, 1985 based on membership and financial data supplied by the Fund.

We certify that to the best of our knowledge and belief this actuarial valuation was performed in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on June 11, 1985.

Respectfully submitted,

THE WYATT COMPANY


Allan J. Grosh
Vice President


Robert E. Perkins
Consulting Actuary

PUBLIC EMPLOYEES RETIREMENT FUND

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PUBLIC EMPLOYEES RETIREMENT FUND

REPORT HIGHLIGHTS (DOLLARS IN THOUSANDS)

| | <u>06/30/84 VALUATION</u> | <u>07/01/85 VALUATION</u> |
|--|-------------------------------|-------------------------------|
| A. CONTRIBUTIONS (TABLE 11) | | |
| 1. Statutory Contributions - Chapter 353 % of Payroll | 9.61% | 9.36% |
| 2. Required Contributions - Chapter 356 % of Payroll | 8.32% | 8.77% |
| 3. Sufficiency (Deficiency) (A1-A2) | 1.29% | 0.59% |
| B. FUNDING RATIOS | | |
| 1. Accrued Benefit Funding Ratio | | |
| a. Current Assets (Table 1) | NA | \$1,842,957 |
| b. Current Benefit Obligations (Table 8) | NA | \$2,310,374 |
| c. Funding Ratio (a/b) | NA | 79.77% |
| 2. Accrued Liability Funding Ratio | | |
| a. Current Assets (Table 1) | \$1,599,674 | \$1,842,957 |
| b. Actuarial Accrued Liability (Table 9) | \$2,228,361 | \$2,614,116 |
| c. Funding Ratio (a/b) | 71.79% | 70.50% |
| 3. Projected Benefit Funding Ratio (Table 8) | | |
| a. Current and Expected Future Assets | \$2,403,175 | \$3,373,562 |
| b. Current and Expected Future Benefit Obligations | \$2,702,139 | \$3,209,739 |
| c. Funding Ratio (a/b) | 88.94% | 105.10% |
| C. PLAN PARTICIPANTS | | |
| 1. Active Members (Table 3) | | |
| a. Number | 83,702 | 86,312 |
| b. Projected Annual Earnings | \$1,225,625 | \$1,423,911 |
| c. Average Annual Earnings (Actual \$) | \$14,643 | \$16,497 |
| d. Average Age | NA | 42.2 |
| e. Average Service | NA | 8.1 |
| 2. Others | | |
| a. Service Retirements (Table 4) | 15,765 | 17,277 |
| b. Disability Retirements (Table 5) | 638 | 654 |
| c. Survivors (Table 6) | 3,665 | 3,854 |
| d. Deferred Retirements (Table 7) | 1,843 | 1,863 |
| e. Terminated Other Non-vested (Table 7) | NA | 38,986 |
| f. Total | 21,911 | 62,634 |

PUBLIC EMPLOYEES RETIREMENT FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine the financial status of the Fund. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The statutory contributions for the Public Employees Retirement Fund continue to be sufficient. The margin of sufficiency has decreased from 1.29% in 1984 to 0.59% in 1985. According to this valuation a contribution rate of 8.77% is required to comply with Minnesota Law.

The financial status of the Fund can be measured by three different funding ratios:

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This ratio is based on recently published Governmental Accounting Standards Board proposals. This year's ratio is 79.77%. The corresponding ratio for the prior year was not calculated.
- o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that

has historically been used. For 1985 the ratio is 70.50%, which is a decrease from the 1984 value of 71.79%.

- o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This ratio exceeds 100% and verifies that the current statutory contributions are adequate.

Asset Information

Beginning in 1984, changes in Section 356.215 of Minnesota Statutes require that the asset value used for actuarial purposes reflect a portion of the unrealized gains and losses. Only a portion of these gains and losses are considered because market values are typically volatile and could produce erratic changes in the contribution requirements from year to year.

The calculation of assets for actuarial purposes begins with the reporting of Total Assets by the Fund (Table 1, line B). These Total Assets, reduced by any Amounts Currently Payable (line C), produce the Assets Available for Benefits (line D5), which is the starting value for determining the Actuarial Value of Assets.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F1 to F6. It combines the cost value and one-third of the difference between market value and cost value.

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.

Since this Fund participates in the Minnesota Post Retirement Investment Fund, referred to as MPRIF, the asset value shown on line A3 is initially calculated by the State Board of Investment(SBI), and is the expected amount of MPRIF participation assuming the Fund earns 5% interest. The actual amount is determined by calculating the liability based on annuitant information supplied by the Fund. If the actual liability is larger than expected, the difference is labelled a mortality loss and if smaller a gain.

Investment performance by SBI above the 5% level is not shown in the assets but will be added in on January 1, 1986 when benefits will be increased for those annuitants who have been receiving payments for 18 months. Next year's valuation will include the 1986 benefit increase in determining the MPRIF value.

Membership Data

Tables 3 through 6 summarize statistical information on members by category. Active members are grouped by age and completed years of service in Table 3. The earnings shown for these members are for the prior fiscal year except in the case of new hires where earnings have been annualized.

The service retirements in Table 4 include not only those retiring from active status but also disabled members who have attained retirement age. Disabled members under retirement age are shown in Table 5. The survivors category (Table 6) includes spouses and children of deceased members.

Actuarial Balance Sheet

An actuarial balance sheet is required by Section 356.215, Subdivision 4f of Minnesota Law. This balance sheet (Table 8) establishes a method for evaluating both current and future levels of funding.

Current funding levels are evaluated by comparing Current Assets on line A to Current Benefit Obligations on line D5. The difference between the obligations and the assets is shown as Current Unfunded Liability on line G.

The measurement of the Current Benefit Obligation is based on the Proposed Statement of Governmental Accounting Standards published by the Governmental Accounting Standards Board (GASB) in August 1985. This value is known as the Actuarial Present Value of Credited Projected Benefits.

The first step in the GASB calculation for active members involves projecting salaries and service to determine future benefits payable under the plan and then discounting those projected benefits to the date of the valuation. The second step is to determine the discounted value of benefits for the non-active members. For those non-active members whose benefits have not commenced, the liability includes augmentation of benefits to date of commencement. The result of the first two steps is shown on line F, Total Current and Expected Future Benefit Obligations.

The third step is to determine the portion that represents Current Benefit Obligations. In the case of active members the Current Benefit Obligation is computed by attributing an equal benefit amount to each year of credited and expected future employee service. For all others, their entire liability is

considered a Current Benefit Obligation.

Current and future funding levels are evaluated by comparing Current and Future Expected Assets on line C to Current and Expected Future Benefit Obligations on line F. The difference between the obligations and the assets is shown as the Current and Future Unfunded Liability on line H.

Since line F has already been calculated, the remaining step is to determine the Expected Future Assets . The portion of the statutory contribution rate in excess of the combined normal cost rate and expense rate is first calculated. The amount of assets for line B1 can be determined by projecting from the valuation date to the amortization date (the date for paying off all unfunded liabilities) on the assumption that total payroll is increasing at 6.5% annually and then discounted to the date of the valuation.

The Current Unfunded Liability, line G, is a measurement of the status of the funding to the date of the valuation. The Current and Future Unfunded Liability is a measurement of the adequacy of the current statutory contribution level.

Contribution Sufficiency

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal 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) shows similarities and differences. The similarity is that both approaches calculate the value of all future benefits the same way. This can be

) verified by comparing line F of Table 8 to line A6, column 1, of Table 9. The difference arises from the technique for allocating liabilities between 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.

) An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal 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. Prior to 1984 these payments were calculated to be a level dollar amount similar to a fixed interest rate mortgage. The method of funding was changed in 1984 to produce a series of payments that remain a constant percentage of payroll each year.

Under this new approach the payments will increase 6.5% each year since 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 begin to cover not only the interest but also repay a portion of the unfunded.

Projected Cash Flow

) Table 12 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Non-MPRIF Assets, which are the Current Assets reduced by the MPRIIF Reserves. Contributions are then added based on the

) present statutory rates for employers and employees. As members become eligible for payments from MPRIF an amount of reserve is transferred to SBI. The other disbursements represent benefit payments made directly by the Fund.

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

) The amounts transferred to MPRIF will be affected by the number of members who reach the assumed retirement age during a given year. The amount for 1987 is large because it includes those already over age 64 who are assumed to retire a year from the valuation date.

Basic and Coordinated

) Table 2 allocates the Current Assets between the Basic and Coordinated Plans. This allocation is performed by separating the assets between MPRIF and Non-MPRIF. The MPRIF portion is allocated automatically as a result of the liability calculations at the beginning and end of the year.

The Non-MPRIF portion, referred to in Table 2 as the Allocable Assets, is determined by starting with last year's allocation and projecting to the current valuation date based on the receipts and disbursements by Plan. Numbers marked with an asterisk represent approximations based on the following assumptions:

-) o Line G3 - Assumes all State appropriations are for the Basic Plan

)

- o Line H1 - Allocates new MPRIIF annuitants in proportion to liabilities for those retired on or after July 1, 1984

- o Line H2 - Places all of the State appropriation in the Basic Plan and allocates the remaining in proportion to Non-MPRIIF payouts projected for the current fiscal year.

- o Line H3 - Assumes 99% of the refunds are made to Coordinated members.

- o Line H4 - Assumes expenses in proportion to beginning of year Current Assets (line F1)

)

- o Line H5 - Allocates the MPRIIF mortality loss in proportion to the MPRIIF reserves at the end of the year.

Additional tables at the end of this report show contributions and liabilities for the Basic and Coordinated Plans.

TABLE 1

PUBLIC EMPLOYEES RETIREMENT FUND

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1985

| | <u>MARKET VALUE</u> | <u>COST VALUE</u> |
|--|---------------------|-------------------|
| A. ASSETS | | |
| 1. Cash and Cash Equivalents | \$63,210 | \$63,210 |
| 2. Investments | | |
| a. Fixed Income | 270,004 | 262,752 |
| b. Equity | 691,661 | 613,091 |
| c. Real Estate | 60,538 | 53,563 |
| 3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF) | 822,377 | 822,377 |
| 4. Other | 3,861 | 3,861 |
| | ----- | ----- |
| B. TOTAL ASSETS | \$1,911,651 | \$1,818,854 |
| | ===== | ===== |
| C. AMOUNTS CURRENTLY PAYABLE | \$6,829 | \$6,829 |
| D. ASSETS AVAILABLE FOR BENEFITS | | |
| 1. Member Reserves | \$391,294 | \$391,294 |
| 2. Employer Reserves | 691,151 | 598,354 |
| 3. MPRIF Reserves | 822,377 | 822,377 |
| 4. Non-MPRIF Reserves | 0 | 0 |
| | ----- | ----- |
| 5. Total Assets Available for Benefits | \$1,904,822 | \$1,812,025 |
| | ----- | ----- |
| E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS | \$1,911,651 | \$1,818,854 |
| | ===== | ===== |
| F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS | | |
| 1. Cost Value of Assets Available for Benefits (D5) | | \$1,812,025 |
| 2. Market Value (D5) | \$1,904,822 | |
| 3. Cost Value (D5) | 1,812,025 | |
| | ----- | |
| 4. Market Over Cost (F2-F3) | \$92,797 | |
| 5. 1/3 of Market Over Cost(F4)/3 | | 30,932 |
| | | ----- |
| 6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets") | | \$1,842,957 |
| | | ===== |

TABLE 2

PUBLIC EMPLOYEES RETIREMENT FUND

CHANGES IN ASSETS AVAILABLE FOR BENEFITS AND ASSET ALLOCATION
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

| | <u>MARKET VALUE</u> | <u>COST VALUE</u> |
|--|---------------------|-------------------|
| A. ASSETS AVAILABLE AT BEGINNING OF YEAR | \$1,562,569 | \$1,616,748 |
| B. OPERATING REVENUES | | |
| 1. Member Contributions | \$60,564 | \$60,564 |
| 2. Employer Contributions | 68,375 | 68,375 |
| 3. Investment Income | 99,325 | 99,325 |
| 4. MPRIF Income | 72,720 | 72,720 |
| 5. Net Realized Gain (Loss) | 0 | 0 |
| 6. Other | 668 | 668 |
| 7. Net Change in Unrealized Gain (Loss) | 146,976 | 0 |
| | ----- | ----- |
| 8. Total Revenue | \$448,628 | \$301,652 |
| | ----- | ----- |
| C. OPERATING EXPENSES | | |
| 1. Service Retirements | \$79,477 | \$79,477 |
| 2. Disability Benefits | 3,281 | 3,281 |
| 3. Survivor Benefits | 7,631 | 7,631 |
| 4. Refunds | 13,158 | 13,158 |
| 5. Expenses | 4,677 | 4,677 |
| 6. Other | 28 | 28 |
| | ----- | ----- |
| 7. Total Disbursements | \$108,252 | \$108,252 |
| | ----- | ----- |
| D. OTHER CHANGES IN RESERVES | 1,877 | 1,877 |
| E. ASSETS AVAILABLE AT END OF YEAR | \$1,904,822 | \$1,812,025 |
| | ===== | ===== |

TABLE 2
(cont)

PUBLIC EMPLOYEES RETIREMENT FUND

CHANGES IN ASSETS AVAILABLE FOR BENEFITS AND ASSET ALLOCATION
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

| | <u>BASIC</u> | <u>COORDINATED</u> | <u>TOTAL</u> |
|--|--------------|--------------------|--------------|
| F. BEGINNING OF YEAR | | | |
| 1. Current Assets | \$682,896 | \$916,778 | \$1,599,674 |
| 2. MPRIIF Reserves | 533,887 | 100,906 | 634,793 |
| 3. Allocable Assets(F1-F2) | 149,009 | 815,872 | 964,881 |
| G. RECEIPTS | | | |
| 1. Member Contributions | 12,691 | 47,873 | 60,564 |
| 2. Employer Contributions | 16,350 | 52,025 | 68,375 |
| 3. Other | 1,877 * | 0 * | 1,877 |
| | ----- | ----- | ----- |
| 4. Total | 30,918 | 99,898 | 130,816 |
| H. DISBURSEMENTS | | | |
| 1. MPRIIF New Annuitants | 151,794 * | 34,988 * | 186,782 |
| 2. Non-MPRIIF Benefits | 10,984 * | 1,160 * | 12,144 |
| 3. Refunds | 132 * | 13,026 * | 13,158 |
| 4. Expenses | 1,997 * | 2,680 * | 4,677 |
| 5. Other | 5,232 * | 1,094 * | 6,326 |
| | ----- | ----- | ----- |
| 6. Total | 170,139 | 52,948 | 223,087 |
| I. EXPECTED INVESTMENT RETURN 8% OF (F3+.5XG4-.5XH6) | 6,352 | 67,148 | 73,500 |
| J. ALLOCATION OF REMAINING ASSETS IN PROPORTION TO LINE I | 6,436 | 68,034 | 74,470 |
| K. END OF YEAR | | | |
| 1. Allocable Assets | 22,576 | 998,004 | 1,020,580 |
| 2. MPRIIF Reserves | 680,091 | 142,286 | 822,377 |
| 3. Current Assets | 702,667 | 1,140,290 | 1,842,957 |

* Allocated by Wyatt

TABLE 3

PUBLIC EMPLOYEES RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1985

| AGE | YEARS OF SERVICE | | | | | | | | TOTAL |
|-------|------------------|--------|--------|--------|-------|-------|-------|-----|--------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | |
| <25 | 1,968 | 2,757 | 297 | | | | | | 5,022 |
| 25-29 | 1,903 | 4,678 | 3,337 | 190 | | | | | 10,108 |
| 30-34 | 1,753 | 4,355 | 4,740 | 1,773 | 78 | | | | 12,699 |
| 35-39 | 1,674 | 3,974 | 4,095 | 2,434 | 747 | 29 | | | 12,953 |
| 40-44 | 1,422 | 3,071 | 3,367 | 1,946 | 1,169 | 293 | 18 | | 11,286 |
| 45-49 | 713 | 2,011 | 2,840 | 2,116 | 1,299 | 521 | 261 | 23 | 9,784 |
| 50-54 | 429 | 1,487 | 2,215 | 2,045 | 1,579 | 633 | 427 | 180 | 8,995 |
| 55-59 | 303 | 1,086 | 1,780 | 1,945 | 1,758 | 779 | 467 | 337 | 8,455 |
| 60-64 | 127 | 574 | 1,133 | 1,286 | 1,240 | 586 | 269 | 206 | 5,421 |
| 65+ | 53 | 243 | 428 | 374 | 271 | 104 | 59 | 57 | 1,589 |
| TOTAL | 10,345 | 24,236 | 24,232 | 14,109 | 8,141 | 2,945 | 1,501 | 803 | 86,312 |

AVERAGE ANNUAL EARNINGS

| AGE | YEARS OF SERVICE | | | | | | | | ALL |
|-------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | |
| <25 | 7,746 | 11,459 | 14,297 | | | | | | 10,172 |
| 25-29 | 9,610 | 14,447 | 16,662 | 17,085 | | | | | 14,317 |
| 30-34 | 9,193 | 15,079 | 19,272 | 19,867 | 20,779 | | | | 16,535 |
| 35-39 | 8,219 | 13,653 | 18,703 | 23,543 | 24,476 | 19,643 | | | 17,043 |
| 40-44 | 7,362 | 12,321 | 15,723 | 20,150 | 25,080 | 25,742 | 26,173 | | 15,753 |
| 45-49 | 7,786 | 11,916 | 14,141 | 16,032 | 21,234 | 26,545 | 25,819 | 26,198 | 15,572 |
| 50-54 | 7,637 | 11,399 | 13,860 | 15,083 | 18,347 | 25,179 | 28,331 | 26,918 | 15,967 |
| 55-59 | 7,606 | 10,824 | 13,682 | 15,214 | 16,985 | 21,110 | 25,560 | 29,285 | 16,099 |
| 60-64 | 6,424 | 9,590 | 12,856 | 14,648 | 16,435 | 20,561 | 23,752 | 27,946 | 15,551 |
| 65+ | 5,146 | 6,951 | 8,824 | 9,745 | 12,891 | 16,120 | 16,280 | 22,773 | 10,580 |
| ALL | 8,323 | 13,072 | 16,271 | 17,849 | 19,593 | 23,107 | 25,712 | 27,860 | 15,497 |

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

| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | TOTAL |
|--------|---------|---------|---------|---------|--------|--------|--------|-----------|
| 86,096 | 316,803 | 394,284 | 251,828 | 159,508 | 68,050 | 38,594 | 22,372 | 1,337,535 |

TABLE 4

PUBLIC EMPLOYEES RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1985

| AGE | YEARS RETIRED | | | | | | | TOTAL |
|-------|---------------|-------|-------|-------|-------|-------|-----|--------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | | | | | | | | 0 |
| 50-54 | 1 | 3 | | | | | | 4 |
| 55-59 | 244 | 236 | 1 | | | | | 481 |
| 60-64 | 617 | 1,664 | 69 | 1 | | | | 2,351 |
| 65-69 | 455 | 3,958 | 920 | 28 | | | 1 | 5,362 |
| 70-74 | 55 | 611 | 3,537 | 285 | 6 | | 1 | 4,495 |
| 75-79 | 6 | 81 | 409 | 1,816 | 109 | 1 | | 2,422 |
| 80-84 | 1 | 20 | 55 | 422 | 713 | 45 | 1 | 1,257 |
| 85+ | | 1 | 21 | 54 | 297 | 372 | 160 | 905 |
| TOTAL | 1,379 | 6,574 | 5,012 | 2,606 | 1,125 | 418 | 163 | 17,277 |

AVERAGE ANNUAL ANNUITY

| AGE | YEARS RETIRED | | | | | | | ALL |
|-------|---------------|--------|-------|-------|-------|-------|-------|--------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | | | | | | | | 0 |
| 50-54 | 8,683 | 6,674 | | | | | | 7,177 |
| 55-59 | 9,753 | 11,964 | 6,326 | | | | | 10,831 |
| 60-64 | 6,769 | 6,835 | 6,095 | 7,188 | | | | 6,796 |
| 65-69 | 4,966 | 4,441 | 5,912 | 5,879 | | | 5,522 | 4,746 |
| 70-74 | 2,360 | 3,246 | 4,202 | 6,078 | 2,979 | | 4,754 | 4,167 |
| 75-79 | 1,202 | 1,694 | 3,125 | 3,364 | 3,297 | 4,440 | | 3,259 |
| 80-84 | 825 | 1,989 | 3,268 | 2,941 | 2,835 | 3,242 | 7,965 | 2,893 |
| 85+ | | 478 | 3,132 | 2,998 | 2,974 | 3,267 | 3,197 | 3,136 |
| ALL | 6,499 | 5,165 | 4,439 | 3,613 | 2,917 | 3,267 | 3,250 | 4,617 |

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | TOTAL |
|-------|--------|--------|-------|-------|-------|-----|--------|
| 8,962 | 33,954 | 22,250 | 9,415 | 3,282 | 1,366 | 530 | 79,759 |

TABLE 5

PUBLIC EMPLOYEES RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1985

| AGE | YEARS DISABLED | | | | | | | TOTAL |
|-------|----------------|------------|------------|--------------|--------------|--------------|------------|-------|
| | <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | |
| <50 | 9 | 16 | 8 | 2 | | | | 35 |
| 50-54 | 17 | 41 | 14 | 4 | | | | 76 |
| 55-59 | 27 | 89 | 58 | 2 | 2 | | | 178 |
| 60-64 | 31 | 173 | 117 | 30 | 5 | | | 356 |
| 65-69 | 3 | 5 | 1 | | | | | 9 |
| 70-74 | | | | | | | | 0 |
| 75-79 | | | | | | | | 0 |
| 80-84 | | | | | | | | 0 |
| 85+ | | | | | | | | 0 |
| TOTAL | 87 | 324 | 198 | 38 | 7 | 0 | 0 | 654 |

AVERAGE ANNUAL BENEFIT

| AGE | YEARS DISABLED | | | | | | | ALL |
|-------|----------------|------------|------------|--------------|--------------|--------------|------------|-------|
| | <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | |
| <50 | 6,766 | 4,291 | 3,676 | 3,941 | | | | 4,767 |
| 50-54 | 8,107 | 5,085 | 5,367 | 2,428 | | | | 5,673 |
| 55-59 | 4,249 | 4,942 | 5,061 | 4,075 | 2,779 | | | 4,841 |
| 60-64 | 3,816 | 4,898 | 5,421 | 3,182 | 2,035 | | | 4,791 |
| 65-69 | 2,010 | 6,089 | 10,238 | | | | | 5,190 |
| 70-74 | | | | | | | | 0 |
| 75-79 | | | | | | | | 0 |
| 80-84 | | | | | | | | 0 |
| 85+ | | | | | | | | 0 |
| TOTAL | 5,032 | 4,922 | 5,266 | 3,189 | 2,248 | 0 | 0 | 4,911 |

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

| <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | <u>TOTAL</u> |
|--------------|------------|------------|--------------|--------------|--------------|------------|--------------|
| 438 | 1,594 | 1,043 | 121 | 16 | 0 | 0 | 3,212 |

TABLE 6

PUBLIC EMPLOYEES RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1985

| AGE | YEARS SINCE DEATH | | | | | | | TOTAL |
|-------|-------------------|-----|-----|-------|-------|-------|-----|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | 12 | 46 | 53 | 20 | 14 | 7 | | 152 |
| 50-54 | 9 | 28 | 26 | 10 | 10 | 1 | | 84 |
| 55-59 | 17 | 90 | 51 | 38 | 17 | 15 | 3 | 231 |
| 60-64 | 12 | 134 | 113 | 51 | 40 | 21 | 7 | 378 |
| 65-69 | 14 | 121 | 214 | 103 | 79 | 36 | 15 | 582 |
| 70-74 | 17 | 58 | 157 | 172 | 107 | 61 | 29 | 601 |
| 75-79 | 8 | 76 | 120 | 147 | 145 | 91 | 23 | 610 |
| 80-84 | 13 | 72 | 95 | 116 | 120 | 129 | 32 | 577 |
| 85+ | 17 | 61 | 103 | 143 | 141 | 93 | 81 | 639 |
| TOTAL | 119 | 686 | 932 | 800 | 673 | 454 | 190 | 3,854 |

AVERAGE ANNUAL BENEFIT

| AGE | YEARS SINCE DEATH | | | | | | | ALL |
|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | 8,258 | 5,390 | 4,414 | 2,690 | 1,307 | 1,362 | | 4,359 |
| 50-54 | 9,364 | 5,480 | 4,305 | 2,516 | 1,861 | 1,486 | | 4,701 |
| 55-59 | 7,127 | 4,826 | 4,390 | 2,780 | 1,470 | 1,453 | 1,510 | 4,053 |
| 60-64 | 4,660 | 4,436 | 4,395 | 2,888 | 1,450 | 1,430 | 1,514 | 3,685 |
| 65-69 | 3,855 | 3,352 | 3,801 | 2,942 | 1,436 | 1,493 | 1,734 | 3,040 |
| 70-74 | 2,891 | 1,880 | 3,089 | 2,903 | 1,598 | 1,528 | 1,518 | 2,414 |
| 75-79 | 1,679 | 1,878 | 2,139 | 2,436 | 1,753 | 1,531 | 1,526 | 1,966 |
| 80-84 | 1,445 | 1,606 | 1,847 | 2,095 | 1,934 | 1,668 | 1,520 | 1,818 |
| 85+ | 1,805 | 1,585 | 1,684 | 1,581 | 1,718 | 1,715 | 1,685 | 1,667 |
| ALL | 4,424 | 3,352 | 3,187 | 2,452 | 1,683 | 1,594 | 1,607 | 2,574 |

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | TOTAL |
|-----|-------|-------|-------|-------|-------|-----|-------|
| 526 | 2,300 | 2,971 | 1,961 | 1,133 | 724 | 305 | 9,920 |

PUBLIC EMPLOYEES RETIREMENT FUND
RECONCILIATION OF MEMBERS

TABLE 7

| | <u>ACTIVES</u> | <u>TERMINATED</u> | |
|--------------------------------|----------------|--------------------------------|-----------------------------|
| | | <u>DEFERRED RETIREMENT</u> | <u>OTHER NON-VESTED</u> |
| A. On June 30, 1984 | 83,702 | 1,843 | NA |
| B. Additions | 13,683 | 169 | NA |
| C. Deletions: | | | |
| 1. Service Retirement | (1,585) | (151) | |
| 2. Disability | (120) | | |
| 3. Death | (141) | (7) | |
| 4. Terminated-Deferred | (45) | | |
| 5. Terminated-Refund | (5,680) | (72) | NA |
| 6. Terminated-Other Non-vested | (3,355) | | |
| 7. Returned as Active | | (1) | NA |
| D. Data Adjustments | (147) | 82 | NA |
| | Vested | | |
| | Non-Vested | | |
| | 27,499 | | |
| | 58,813 | | |
| E. Total on June 30, 1985 | 86,312 | 1,863 | 38,986 |

| | <u>RETIREMENT ANNUITANTS</u> | <u>RECIPIENTS</u> | |
|---------------------------|----------------------------------|-------------------|------------------|
| | | <u>DISABLED</u> | <u>SURVIVORS</u> |
| A. On June 30, 1984 | 15,765 | 638 | 3,665 |
| B. Additions | 1,449 | 97 | 234 |
| C. Deletions: | | | |
| 1. Service Retirement | 0 | 0 | 0 |
| 2. Death | (148) | (33) | 0 |
| 3. Annuity Expired | 0 | 0 | 0 |
| 4. Returned as Active | 0 | 0 | 0 |
| D. Data Adjustments | 211 | (48) | (45) |
| E. Total on June 30, 1985 | 17,277 | 654 | 3,854 |

TABLE 8

PUBLIC EMPLOYEES RETIREMENT FUND

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1985

| | | | | |
|--|-------------------|---------------|--------------|-------------|
| A. CURRENT ASSETS (TABLE 1, F6) | | | | \$1,842,957 |
| B. EXPECTED FUTURE ASSETS | | | | |
| 1. Present Value of Expected Future Supplemental Contributions | | | | 934,982 |
| 2. Present Value of Future Normal Costs | | | | 595,623 |
| 3. Total Expected Future Assets | | | | 1,530,605 |
| C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS | | | | \$3,373,562 |
| D. CURRENT BENEFIT OBLIGATIONS | <u>Non-Vested</u> | <u>Vested</u> | <u>Total</u> | |
| 1. Benefit Recipients | | | | |
| a. Retirement Annuities | | \$810,509 | | \$810,509 |
| b. Disability Benefits | | 15,911 | | 15,911 |
| c. Surviving Spouse's Benefits | | 92,168 | | 92,168 |
| d. Surviving Children's Benefits | | 1,507 | | 1,507 |
| 2. Deferred Retirements with Future Augmentation | | 18,714 | | 18,714 |
| 3. Former Members without Vested Rights | | 15,927 | | 15,927 |
| 4. Active Members | | | | |
| a. Retirement Annuities | 101,435 | 784,955 | | 886,390 |
| b. Disability Benefits | 9,158 | 55,542 | | 64,700 |
| c. Survivors' Benefits | 7,375 | 77,100 | | 84,475 |
| d. Deferred Retirements | 67,454 | 164,973 | | 232,427 |
| e. Refund Liability Due to Death or Withdrawal | 55,214 | 32,432 | | 87,646 |
| 5. Total Current Benefit Obligations | \$240,636 | \$2,069,738 | | \$2,310,374 |
| E. EXPECTED FUTURE BENEFIT OBLIGATIONS | | | | \$899,365 |
| F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS | | | | \$3,209,739 |
| G. CURRENT UNFUNDED LIABILITY (D5-A) | | | | \$467,417 |
| H. CURRENT AND FUTURE UNFUNDED LIABILITY (F-C) | | | | (\$163,823) |

TABLE 9

PUBLIC EMPLOYEES RETIREMENT FUND

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

JULY 1, 1985

| | 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 | \$1,516,053 | \$298,453 | \$1,217,600 |
| b. Disability Benefits | 105,488 | 23,560 | 81,928 |
| c. Survivors Benefits | 133,697 | 35,816 | 97,881 |
| d. Deferred Retirements | 372,679 | 122,469 | 250,210 |
| e. Refunds Due to Death or Withdrawal | 127,088 | 115,325 | 11,763 |
| f. Total | <u>\$2,255,005</u> | <u>\$595,623</u> | <u>\$1,659,382</u> |
| 2. Deferred Retirements with Future Augmentation | \$18,714 | | \$18,714 |
| 3. Former Members Without Vested Rights | 15,927 | | 15,927 |
| 4. Annuitants in MPRIF | 822,376 | | 822,376 |
| 5. Recipients Not in MPRIF | 97,717 | | 97,717 |
| 6. Total AAL | <u>\$3,209,739</u> ===== | <u>\$595,623</u> ===== | <u>\$2,614,116</u> ===== |
| B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL) | | | |
| 1. AAL (A6) | | | \$2,614,116 |
| 2. Current Assets (Table 1,F6) | | | 1,842,957 |
| 3. UAAL (B1-B2) | | | <u>\$771,159</u> ===== |
| C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE | | | |
| 1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2009 | | | \$28,051,045 |
| 2. Supplemental Contribution Rate (B3/C1) | | | 2.75% |

TABLE 10

PUBLIC EMPLOYEES RETIREMENT FUND

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

YEAR ENDING JUNE 30, 1985

| | |
|--|-----------------------------|
| A. UAAL AT BEGINNING OF YEAR | \$628,688 |
| B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING | |
| 1. Normal Cost and Expenses | \$79,550 |
| 2. Contribution | (128,939) |
| 3. Interest on A, B1, and B2 | 48,319 |
| 4. Total (B1+B2+B3) | ----- (\$1,070) ----- |
| C. EXPECTED UAAL AT END OF YEAR (A+B4) | \$627,618 |
| D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED | |
| 1. Salary Increases | \$20,877 |
| 2. Investment Return | (74,470) |
| 3. MPRIF Mortality | 6,326 |
| 4. Mortality of Other Benefit Recipients | (2,091) |
| 5. Active Members' Turnover, Retirement, Mortality and Disability | 29,414 |
| 6. Other Items | 163,485 |
| 7. Total | ----- \$143,541 ----- |
| E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D7) | \$771,159 |
| 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) | ----- \$771,159 ===== |

TABLE 11

PUBLIC EMPLOYEES RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

JULY 1, 1985

| | <u>% OF PAYROLL</u> | <u>\$ AMOUNT</u> |
|--|-------------------------|-----------------------------|
| A. STATUTORY CONTRIBUTIONS - CHAPTER 353 | | |
| 1. Employee Contributions | 4.43% | \$63,147 |
| 2. Employer Contributions | 4.93% | 70,187 |
| 3. Total | ----- 9.36% ===== | ----- \$133,334 ===== |
| B. REQUIRED CONTRIBUTIONS - CHAPTER 356 | | |
| 1. Normal Cost | | |
| a. Retirement Benefits | 2.84% | \$40,452 |
| b. Disability Benefits | 0.22% | 3,187 |
| c. Survivors | 0.35% | 4,984 |
| d. Deferred Retirement Benefits | 1.17% | 16,592 |
| e. Refunds Due to Death or Withdrawal | 1.10% | 15,623 |
| f. Total | ----- 5.68% ----- | ----- \$80,838 ----- |
| 2. Supplemental Contribution Amortization by July 1, 2009 of UAAL of \$771,159 | 2.75% | \$39,099 |
| 3. Allowance for Expenses | 0.35% | \$4,984 |
| 4. Total | ----- 8.77% | ----- \$124,921 |
| C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4) | 0.59% | \$8,413 |

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$1,423,911

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 12

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

| <u>FISCAL YEAR</u> | <u>STATUTORY CONTRIBUTIONS</u> | <u>TRANSFERS TO MPRIF</u> | <u>OTHER DISBURSEMENTS</u> | <u>INVESTMENT RETURN</u> | <u>NON-MPRIF ASSETS YEAR END</u> |
|------------------------|------------------------------------|-----------------------------------|--------------------------------|------------------------------|--|
| 1985 | | | | | \$1,020,580 |
| 1986 | \$133,334 | \$29,820 | \$34,584 | \$84,404 | 1,173,914 |
| 1987 | 139,366 | 152,534 | 32,789 | 92,075 | 1,220,032 |
| 1988 | 146,716 | 50,583 | 32,160 | 100,162 | 1,384,167 |
| 1989 | 154,908 | 70,936 | 32,208 | 112,804 | 1,548,735 |
| 1990 | 163,588 | 87,096 | 32,431 | 125,661 | 1,718,457 |
| 1991 | 172,805 | 101,340 | 33,049 | 139,013 | 1,895,886 |
| 1992 | 182,535 | 118,658 | 34,029 | 152,865 | 2,078,599 |
| 1993 | 193,053 | 120,314 | 35,378 | 167,783 | 2,283,743 |
| 1994 | 204,175 | 138,729 | 37,133 | 183,832 | 2,495,888 |
| 1995 | 216,133 | 142,702 | 38,612 | 201,064 | 2,731,771 |
| 1996 | 228,915 | 151,426 | 40,573 | 220,019 | 2,988,706 |
| 1997 | 242,352 | 185,912 | 42,827 | 239,641 | 3,241,960 |
| 1998 | 256,778 | 186,135 | 45,187 | 260,375 | 3,527,791 |
| 1999 | 272,329 | 204,668 | 47,853 | 283,016 | 3,830,615 |
| 2000 | 288,988 | 205,659 | 50,403 | 307,767 | 4,171,308 |
| 2001 | 306,616 | 239,142 | 53,301 | 334,271 | 4,519,752 |
| 2002 | 325,504 | 247,215 | 56,285 | 362,460 | 4,904,216 |
| 2003 | 345,711 | 250,301 | 59,587 | 393,771 | 5,333,810 |
| 2004 | 367,391 | 290,347 | 63,139 | 427,261 | 5,774,976 |
| 2005 | 390,678 | 297,433 | 66,795 | 463,056 | 6,264,482 |
| 2006 | 415,550 | 310,499 | 70,877 | 502,525 | 6,801,181 |
| 2007 | 442,011 | 344,634 | 75,247 | 544,980 | 7,368,291 |
| 2008 | 470,332 | 350,096 | 79,881 | 591,078 | 7,999,724 |
| 2009 | 500,514 | 449,999 | 84,812 | 638,606 | 8,604,033 |
| 2010 | 532,787 | 463,374 | 88,181 | 687,572 | 9,272,837 |

TABLE 13

PUBLIC EMPLOYEES RETIREMENT FUND
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

| | |
|---|---|
| Interest: | Pre-Retirement: 8% per annum Post-Retirement: 5% per annum |
| Salary Increases: | Reported salary for prior fiscal year, with new hires annualized, increased 6.5% to current fiscal year and 6.5% annually for each future year. |
| Mortality: | Pre-Retirement: Male - UP-1984 Unisex set forward 1 year Female - UP-1984 Unisex set back 4 years Post-Retirement: Male - Same as above Female - Same as above Post-Disability: Male - 1965 RRB rates Female - 1965 RRB rates |
| Retirement Age: | Age 64, or if over age 64, one year from valuation date. In addition, 50% of employees are assumed to retire under the Rule of 85 or Rule of 90 when first eligible. |
| Separation: | Graded rates shown in rate table. |
| Disability: | Rates as shown in rate table. |
| Administrative and Investment Expenses: | Prior year expenses expressed as percentage of prior year payroll. (0.35% of payroll) |
| Return of Contributions: | All employees withdrawing after age 40 were assumed to leave their contributions on deposit and receive a deferred annuitant benefit. |
| Family Composition: | 85% of male members and 65% of female members are assumed to be married. Female is four years younger than male. Assume members have no children. |
| Social Security: | NA |
| Benefit Increases After Retirement: | Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions. |
| Special Consideration: | NA |

TABLE 13
(cont)

| | |
|--|--|
| Actuarial Cost Method: | Entry Age Normal Cost Method with normal costs expressed as a level percentage of earnings. 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. |
| Projected Cash Flow Method: | Cash flows from the Non-MPRIF portion of the Fund were projected based on the current plan benefits, participant data, and actuarial assumptions. In addition, new entrants were assumed so that the total payroll would increase by 6.5% per annum. |

TABLE 13
(cont)SEPARATIONS EXPRESSED AS THE
NUMBER OF OCCURRENCES PER 10,000

| Age | Death | | Withdrawal | | Disability | | Retirement | |
|-----|-------|--------|------------|--------|------------|--------|------------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female |
| 20 | 13 | 14 | 2,750 | 3,832 | 9 | 9 | 0 | 0 |
| 21 | 12 | 14 | 2,638 | 3,777 | 9 | 9 | 0 | 0 |
| 22 | 12 | 14 | 2,505 | 3,712 | 9 | 9 | 0 | 0 |
| 23 | 11 | 14 | 2,390 | 3,631 | 10 | 10 | 0 | 0 |
| 24 | 11 | 13 | 2,265 | 3,516 | 10 | 10 | 0 | 0 |
| 25 | 11 | 13 | 2,160 | 3,356 | 10 | 10 | 0 | 0 |
| 26 | 11 | 12 | 2,045 | 3,226 | 10 | 10 | 0 | 0 |
| 27 | 11 | 12 | 1,925 | 3,103 | 10 | 10 | 0 | 0 |
| 28 | 11 | 11 | 1,820 | 2,997 | 11 | 11 | 0 | 0 |
| 29 | 11 | 11 | 1,715 | 2,891 | 11 | 11 | 0 | 0 |
| 30 | 11 | 11 | 1,610 | 2,805 | 11 | 11 | 0 | 0 |
| 31 | 12 | 11 | 1,528 | 2,694 | 11 | 11 | 0 | 0 |
| 32 | 12 | 11 | 1,435 | 2,590 | 11 | 11 | 0 | 0 |
| 33 | 13 | 11 | 1,330 | 2,463 | 12 | 12 | 0 | 0 |
| 34 | 14 | 11 | 1,245 | 2,325 | 12 | 12 | 0 | 0 |
| 35 | 15 | 11 | 1,170 | 2,160 | 12 | 12 | 0 | 0 |
| 36 | 16 | 12 | 1,092 | 1,990 | 12 | 12 | 0 | 0 |
| 37 | 18 | 12 | 1,010 | 1,830 | 13 | 13 | 0 | 0 |
| 38 | 19 | 13 | 940 | 1,650 | 13 | 13 | 0 | 0 |
| 39 | 21 | 14 | 880 | 1,485 | 14 | 14 | 0 | 0 |
| 40 | 23 | 15 | 818 | 1,340 | 15 | 15 | 0 | 0 |
| 41 | 26 | 16 | 762 | 1,230 | 16 | 16 | 0 | 0 |
| 42 | 28 | 18 | 715 | 1,130 | 17 | 17 | 0 | 0 |
| 43 | 31 | 19 | 670 | 1,045 | 18 | 18 | 0 | 0 |
| 44 | 34 | 21 | 622 | 972 | 20 | 20 | 0 | 0 |
| 45 | 38 | 23 | 580 | 900 | 22 | 22 | 0 | 0 |
| 46 | 42 | 26 | 539 | 830 | 23 | 23 | 0 | 0 |
| 47 | 46 | 28 | 497 | 787 | 25 | 25 | 0 | 0 |
| 48 | 51 | 31 | 450 | 745 | 27 | 27 | 0 | 0 |
| 49 | 56 | 34 | 420 | 704 | 30 | 30 | 0 | 0 |
| 50 | 62 | 38 | 385 | 663 | 33 | 33 | 0 | 0 |
| 51 | 69 | 42 | 345 | 628 | 36 | 36 | 0 | 0 |
| 52 | 75 | 46 | 310 | 595 | 40 | 40 | 0 | 0 |
| 53 | 83 | 51 | 270 | 555 | 45 | 45 | 0 | 0 |
| 54 | 90 | 56 | 230 | 522 | 51 | 51 | 0 | 0 |

TABLE 13
(cont)

| Age | Death | | Withdrawal | | Disability | | Retirement | |
|-----|-------|--------|------------|--------|------------|--------|------------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female |
| 55 | 99 | 62 | 195 | 478 | 58 | 58 | 0 | 0 |
| 56 | 108 | 69 | 150 | 410 | 66 | 66 | 0 | 0 |
| 57 | 119 | 75 | 100 | 362 | 76 | 76 | 0 | 0 |
| 58 | 130 | 83 | 50 | 210 | 88 | 88 | 0 | 0 |
| 59 | 142 | 90 | 0 | 50 | 102 | 102 | 0 | 0 |
| 60 | 155 | 99 | 0 | 0 | 118 | 118 | 0 | 0 |
| 61 | 170 | 108 | 0 | 0 | 136 | 136 | 0 | 0 |
| 62 | 187 | 119 | 0 | 0 | 157 | 157 | 0 | 0 |
| 63 | 205 | 130 | 0 | 0 | 181 | 181 | 0 | 0 |
| 64 | 226 | 142 | 0 | 0 | 208 | 208 | 10,000 | 10,000 |
| 65 | 248 | 155 | 0 | 0 | 0 | 0 | 0 | 0 |
| 66 | 272 | 170 | 0 | 0 | 0 | 0 | 0 | 0 |
| 67 | 296 | 187 | 0 | 0 | 0 | 0 | 0 | 0 |
| 68 | 321 | 205 | 0 | 0 | 0 | 0 | 0 | 0 |
| 69 | 347 | 226 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | 377 | 248 | 0 | 0 | 0 | 0 | 0 | 0 |

TABLE 15

PUBLIC EMPLOYEES RETIREMENT FUND

MEMBERSHIP CHANGES
(DOLLARS IN THOUSANDS)

JUNE 30, 1985

| A. ACTIVE MEMBERS | | <u>NUMBER</u> | <u>PAYROLL</u> |
|---|----------|---------------|-----------------------|
| 1. As of the Last Valuation Date | | 83,702 | \$1,225,625 |
| 2. New Entrants | | 13,683 | NA |
| 3. Total | | 97,385 | NA |
| 4. Separations from Active Service | | | |
| a. Refund of Contributions | (5,680) | | NA |
| b. Separation with Deferred Annuity | (45) | | NA |
| c. Separation with neither Refund nor Deferred Annuity | (3,355) | | NA |
| d. Disability | (120) | | NA |
| e. Death | (141) | | NA |
| f. Retirement with Service Annuity | (1,585) | | NA |
| 5. Total Separations | (10,926) | | NA |
| 6. Data Adjustments | (147) | | NA |
| | | | NA |
| 7. As of Current Valuation Date | 86,312 | | 1,337,535 |
| B. SERVICE RETIREMENT ANNUITANTS | | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | | 15,765 | \$64,421 |
| 2. New Entrants | | 1,449 | NA |
| 3. Total | | 17,214 | NA |
| 4. Terminations | | | |
| a. Deaths | (148) | | NA |
| b. Others | 0 | | NA |
| 5. Total Terminations | (148) | | NA |
| 6. Data Adjustments | 211 | | NA |
| | | | NA |
| 7. As of Current Valuation Date | 17,277 | | 79,759 |
| C. DISABLED ANNUITANTS | | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | | 638 | \$2,903 |
| 2. New Entrants | | 97 | NA |
| 3. Total | | 735 | NA |
| 4. Terminations | | | |
| a. Deaths | (33) | | NA |
| b. Others | 0 | | NA |
| 5. Total Terminations | (33) | | NA |
| 6. Data Adjustments | (48) | | NA |
| | | | NA |
| 7. As of Current Valuation Date | 654 | | 3,212 |

TABLE 15
(cont)

| D. SURVIVING SPOUSE ANNUITANTS | | |
|----------------------------------|---------------|-----------------------|
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 3,616 | \$8,544 |
| 2. New Entrants | 234 | NA |
| 3. Total | 3,850 | NA |
| 4. Terminations | | |
| a. Deaths | 0 | NA |
| b. Others | 0 | NA |
| 5. Total Terminations | 0 | NA |
| 6. Data Adjustments | (63) | NA |
| 7. As of Current Valuation Date | 3,787 | 9,650 |
| E. SURVIVING CHILDREN ANNUITANTS | | |
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 49 | \$197 |
| 2. New Entrants | 0 | NA |
| 3. Total | 49 | NA |
| 4. Terminations | | |
| a. Deaths | 0 | NA |
| b. Others | 0 | NA |
| 5. Total Terminations | 0 | NA |
| 6. Data Adjustments | 18 | NA |
| 7. As of Current Valuation Date | 67 | 270 |
| F. DEFERRED ANNUITANTS | | |
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 1,843 | NA |
| 2. New Entrants | 169 | NA |
| 3. Total | 2,012 | NA |
| 4. Terminations | | |
| a. Deaths | (7) | NA |
| b. Others | (224) | NA |
| 5. Total Terminations | (231) | NA |
| 6. Data Adjustments | 82 | NA |
| 7. As of Current Valuation Date | 1,863 | 2,093 |

PUBLIC EMPLOYEES RETIREMENT FUND

BASIC

REPORT HIGHLIGHTS
(DOLLARS IN THOUSANDS)

| | <u>06/30/84</u> <u>VALUATION</u> | <u>07/01/85</u> <u>VALUATION</u> |
|--|-------------------------------------|-------------------------------------|
| A. CONTRIBUTIONS (TABLE 11A) | | |
| 1. Statutory Contributions - Chapter 353 % of Payroll | 18.50% | 18.50% |
| 2. Required Contributions - Chapter 356 % of Payroll | 26.90% | 36.06% |
| 3. Sufficiency (Deficiency) (A1-A2) | -8.40% | -17.56% |
| B. FUNDING RATIOS | | |
| 1. Accrued Benefit Funding Ratio | | |
| a. Current Assets (Table 2) | NA | \$702,667 |
| b. Current Benefit Obligations (Table 8A) | NA | \$1,414,317 |
| c. Funding Ratio (a/b) | NA | 49.68% |
| 2. Accrued Liability Funding Ratio | | |
| a. Current Assets (Table 2) | \$682,897 | \$702,667 |
| b. Actuarial Accrued Liability (Table 9A) | \$1,359,869 | \$1,490,404 |
| c. Funding Ratio (a/b) | 50.22% | 47.15% |
| 3. Projected Benefit Funding Ratio (Table 8A) | | |
| a. Current and Expected Future Assets | \$857,865 | \$1,061,192 |
| b. Current and Expected Future Benefit Obligations | \$1,418,108 | \$1,596,516 |
| c. Funding Ratio (a/b) | 60.49% | 66.47% |
| C. PLAN PARTICIPANTS | | |
| 1. Active Members (Table 3A) | | |
| a. Number | 7,830 | 6,654 |
| b. Projected Annual Earnings | \$162,341 | \$154,747 |
| c. Average Annual Earnings (Actual \$) | \$20,733 | \$23,256 |
| d. Average Age | NA | 54.4 |
| e. Average Service | NA | 22.8 |
| 2. Others | | |
| a. Service Retirements (Table 4A) | 10,557 | 11,259 |
| b. Disability Retirements (Table 5A) | 348 | 336 |
| c. Survivors (Table 6A) | 3,440 | 3,566 |
| d. Deferred Retirements (Table 7A) | 718 | 728 |
| e. Terminated Other Non-vested (Table 7A) | NA | 8,956 |
| f. Total | 15,063 | 24,845 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 3A
BASIC

ACTIVE MEMBERS AS OF JUNE 30, 1985

| AGE | YEARS OF SERVICE | | | | | | | | TOTAL |
|-------|------------------|-----|-----|-------|-------|-------|-------|-----|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | |
| <25 | | | | | | | | | 0 |
| 25-29 | | | | | | | | | 0 |
| 30-34 | | | | 1 | 2 | | | | 3 |
| 35-39 | | | | 4 | 139 | 23 | | | 166 |
| 40-44 | | | | 5 | 322 | 235 | 17 | | 579 |
| 45-49 | | 1 | 1 | 7 | 402 | 410 | 224 | 21 | 1,066 |
| 50-54 | | 3 | 1 | 5 | 490 | 490 | 342 | 162 | 1,493 |
| 55-59 | | 2 | | 6 | 583 | 615 | 369 | 266 | 1,841 |
| 60-64 | | 1 | 1 | 2 | 416 | 456 | 207 | 148 | 1,231 |
| 65+ | | 2 | | 2 | 94 | 85 | 48 | 44 | 275 |
| TOTAL | 0 | 9 | 3 | 32 | 2,448 | 2,314 | 1,207 | 641 | 6,654 |

AVERAGE ANNUAL EARNINGS

| AGE | YEARS OF SERVICE | | | | | | | | ALL |
|-------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | |
| <25 | | | | | | | | | 0 |
| 25-29 | | | | | | | | | 0 |
| 30-34 | | | | 8,071 | 24,170 | | | | 18,803 |
| 35-39 | | | | 16,772 | 22,968 | 20,559 | | | 22,485 |
| 40-44 | | | | 16,481 | 25,730 | 25,002 | 26,198 | | 25,368 |
| 45-49 | | 1,242 | 23,783 | 25,344 | 21,922 | 25,794 | 25,096 | 26,438 | 24,172 |
| 50-54 | | 14,307 | 453 | 21,226 | 18,240 | 23,452 | 27,350 | 26,975 | 22,975 |
| 55-59 | | 7,852 | | 14,490 | 16,031 | 20,061 | 24,540 | 27,660 | 20,749 |
| 60-64 | | 15,000 | 18,436 | 10,438 | 15,079 | 19,636 | 23,125 | 27,336 | 19,589 |
| 65+ | | 13,638 | | 12,070 | 13,401 | 16,223 | 15,543 | 22,610 | 16,113 |
| ALL | 0 | 11,349 | 14,224 | 17,908 | 18,854 | 22,077 | 24,862 | 27,025 | 21,835 |

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

| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | TOTAL |
|----|-----|-----|-------|--------|--------|--------|--------|---------|
| 0 | 102 | 43 | 573 | 46,155 | 51,086 | 30,009 | 17,323 | 145,291 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 4A
BASIC

SERVICE RETIREMENTS AS OF JUNE 30, 1985

| AGE | YEARS RETIRED | | | | | | | TOTAL |
|-------|---------------|-------|-------|-------|-------|-------|-----|--------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | | | | | | | | 0 |
| 50-54 | 1 | 3 | | | | | | 4 |
| 55-59 | 182 | 203 | 1 | | | | | 386 |
| 60-64 | 323 | 1,082 | 62 | 1 | | | | 1,468 |
| 65-69 | 217 | 2,122 | 687 | 25 | | | 1 | 3,052 |
| 70-74 | 13 | 243 | 2,303 | 257 | 6 | | 1 | 2,823 |
| 75-79 | 2 | 21 | 253 | 1,325 | 105 | 1 | | 1,707 |
| 80-84 | | 11 | 37 | 288 | 588 | 45 | 1 | 970 |
| 85+ | | | 15 | 44 | 260 | 372 | 158 | 849 |
| TOTAL | 738 | 3,685 | 3,358 | 1,940 | 959 | 418 | 161 | 11,259 |

AVERAGE ANNUAL ANNUITY

| AGE | YEARS RETIRED | | | | | | | ALL |
|-------|---------------|--------|-------|-------|-------|-------|-------|--------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | | | | | | | | 0 |
| 50-54 | 8,683 | 6,674 | | | | | | 7,177 |
| 55-59 | 11,785 | 13,069 | 6,326 | | | | | 12,446 |
| 60-64 | 9,939 | 8,953 | 6,404 | 7,188 | | | | 9,061 |
| 65-69 | 7,530 | 6,432 | 7,029 | 6,386 | | | 5,522 | 6,644 |
| 70-74 | 4,326 | 5,803 | 5,232 | 6,282 | 2,979 | | 4,754 | 5,368 |
| 75-79 | 2,334 | 4,098 | 3,999 | 3,818 | 3,328 | 4,440 | | 3,817 |
| 80-84 | | 3,041 | 4,393 | 3,519 | 3,105 | 3,242 | 7,965 | 3,288 |
| 85+ | | | 3,877 | 3,083 | 3,076 | 3,267 | 3,194 | 3,196 |
| ALL | 9,564 | 7,473 | 5,514 | 4,118 | 3,121 | 3,267 | 3,248 | 5,860 |

| TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT | | | | | | | | |
|--|--------|--------|-------|-------|-------|-----|--------|--|
| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | TOTAL | |
| 7,059 | 27,537 | 18,515 | 7,989 | 2,993 | 1,366 | 523 | 65,982 | |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 5A
BASIC

DISABILITY RETIREMENTS AS OF JUNE 30, 1985

| AGE | YEARS DISABLED | | | | | | | TOTAL |
|-------|----------------|-----|-----|-------|-------|-------|-----|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | 4 | 5 | 7 | 2 | | | | 18 |
| 50-54 | 9 | 21 | 10 | 2 | | | | 42 |
| 55-59 | 9 | 38 | 36 | 2 | 1 | | | 86 |
| 60-64 | 6 | 79 | 70 | 27 | 4 | | | 186 |
| 65-69 | | 3 | 1 | | | | | 4 |
| 70-74 | | | | | | | | 0 |
| 75-79 | | | | | | | | 0 |
| 80-84 | | | | | | | | 0 |
| 85+ | | | | | | | | 0 |
| TOTAL | 28 | 146 | 124 | 33 | 5 | 0 | 0 | 336 |

AVERAGE ANNUAL BENEFIT

| AGE | YEARS DISABLED | | | | | | | ALL |
|-------|----------------|-------|--------|-------|-------|-------|-----|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | 11,625 | 8,660 | 4,096 | 3,941 | | | | 7,019 |
| 50-54 | 13,100 | 7,964 | 6,722 | 3,307 | | | | 8,547 |
| 55-59 | 8,544 | 8,402 | 7,271 | 4,075 | 4,005 | | | 7,792 |
| 60-64 | 8,545 | 8,186 | 7,772 | 3,446 | 2,399 | | | 7,229 |
| 65-69 | | 8,166 | 10,238 | | | | | 8,684 |
| 70-74 | | | | | | | | 0 |
| 75-79 | | | | | | | | 0 |
| 80-84 | | | | | | | | 0 |
| 85+ | | | | | | | | 0 |
| TOTAL | 10,449 | 8,226 | 7,354 | 3,506 | 2,720 | 0 | 0 | 7,544 |

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | TOTAL |
|-----|-------|-----|-------|-------|-------|-----|-------|
| 293 | 1,200 | 912 | 116 | 14 | 0 | 0 | 2,535 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 6A
BASIC

SURVIVORS AS OF JUNE 30, 1985

| AGE | YEARS SINCE DEATH | | | | | | | TOTAL |
|-------|-------------------|-----|-----|-------|-------|-------|-----|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | 10 | 37 | 52 | 20 | 14 | 7 | | 140 |
| 50-54 | 8 | 24 | 24 | 10 | 10 | 1 | | 77 |
| 55-59 | 12 | 66 | 47 | 35 | 17 | 15 | 3 | 195 |
| 60-64 | 9 | 103 | 98 | 50 | 40 | 21 | 7 | 328 |
| 65-69 | 13 | 92 | 178 | 90 | 79 | 36 | 15 | 503 |
| 70-74 | 16 | 53 | 128 | 152 | 104 | 61 | 29 | 543 |
| 75-79 | 8 | 74 | 109 | 131 | 143 | 91 | 23 | 579 |
| 80-84 | 13 | 72 | 93 | 111 | 117 | 129 | 32 | 567 |
| 85+ | 17 | 61 | 103 | 143 | 137 | 93 | 80 | 634 |
| TOTAL | 106 | 582 | 832 | 742 | 661 | 454 | 189 | 3,566 |

AVERAGE ANNUAL BENEFIT

| AGE | YEARS SINCE DEATH | | | | | | | ALL |
|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | 9,192 | 6,042 | 4,488 | 2,690 | 1,307 | 1,362 | | 4,503 |
| 50-54 | 10,079 | 5,769 | 4,519 | 2,516 | 1,861 | 1,486 | | 4,842 |
| 55-59 | 8,973 | 6,010 | 4,619 | 2,855 | 1,470 | 1,453 | 1,510 | 4,476 |
| 60-64 | 5,752 | 5,195 | 4,875 | 2,926 | 1,450 | 1,430 | 1,514 | 3,992 |
| 65-69 | 3,894 | 3,879 | 4,177 | 3,172 | 1,436 | 1,493 | 1,734 | 3,240 |
| 70-74 | 2,901 | 1,983 | 3,379 | 3,037 | 1,576 | 1,528 | 1,518 | 2,480 |
| 75-79 | 1,679 | 1,793 | 2,199 | 2,530 | 1,736 | 1,531 | 1,526 | 1,969 |
| 80-84 | 1,445 | 1,606 | 1,870 | 2,040 | 1,956 | 1,668 | 1,520 | 1,812 |
| 85+ | 1,805 | 1,585 | 1,684 | 1,581 | 1,717 | 1,715 | 1,690 | 1,667 |
| ALL | 4,641 | 3,609 | 3,365 | 2,502 | 1,679 | 1,594 | 1,609 | 2,632 |

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | TOTAL |
|-----|-------|-------|-------|-------|-------|-----|-------|
| 492 | 2,101 | 2,799 | 1,856 | 1,110 | 724 | 304 | 9,386 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 7A
BASIC

RECONCILIATION OF MEMBERS

| | <u>ACTIVES</u> | <u>TERMINATED</u> | |
|--------------------------------|----------------|--------------------------------|-----------------------------|
| | | <u>DEFERRED RETIREMENT</u> | <u>OTHER NON-VESTED</u> |
| A. On June 30, 1984 | 7,830 | 718 | NA |
| B. Additions | 25 | 66 | NA |
| C. Deletions: | | | |
| 1. Service Retirement | (835) | (102) | |
| 2. Disability | (45) | | |
| 3. Death | (24) | (3) | |
| 4. Terminated-Deferred | (9) | | |
| 5. Terminated-Refund | (28) | (21) | NA |
| 6. Terminated-Other Non-vested | (215) | | |
| 7. Returned as Active | | (1) | NA |
| D. Data Adjustments | (45) | 71 | NA |
| | Vested 6,642 | | |
| | Non-Vested 12 | | |
| E. Total on June 30, 1985 | 6,654 | 728 | 8,956 |

| | <u>RETIREMENT ANNUITANTS</u> | <u>RECIPIENTS</u> | |
|---------------------------|----------------------------------|-------------------|------------------|
| | | <u>DISABLED</u> | <u>SURVIVORS</u> |
| A. On June 30, 1984 | 10,557 | 348 | 3,440 |
| B. Additions | 745 | 35 | 193 |
| C. Deletions: | | | |
| 1. Service Retirement | | 0 | |
| 2. Death | (148) | (17) | 0 |
| 3. Annuity Expired | 0 | 0 | 0 |
| 4. Returned as Active | 0 | 0 | |
| D. Data Adjustments | 105 | (30) | (67) |
| E. Total on June 30, 1985 | 11,259 | 336 | 3,566 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 8A
BASIC

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1985

| | | | | |
|--|-------------------|---------------|--------------|-------------|
| A. CURRENT ASSETS (TABLE 2, K3) | | | | \$702,667 |
| B. EXPECTED FUTURE ASSETS | | | | |
| 1. Present Value of Expected Future Supplemental Contributions | | | | 252,413 |
| 2. Present Value of Future Normal Costs | | | | 106,112 |
| 3. Total Expected Future Assets | | | | 358,525 |
| C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS | | | | \$1,061,192 |
| D. CURRENT BENEFIT OBLIGATIONS | <u>Non-Vested</u> | <u>Vested</u> | <u>Total</u> | |
| 1. Benefit Recipients | | | | |
| a. Retirement Annuities | | \$669,437 | \$669,437 | |
| b. Disability Benefits | | 11,871 | 11,871 | |
| c. Surviving Spouse's Benefits | | 86,514 | 86,514 | |
| d. Surviving Children's Benefits | | 1,507 | 1,507 | |
| 2. Deferred Retirements with Future Augmentation | | 13,002 | 13,002 | |
| 3. Former Members without Vested Rights | | 6,121 | 6,121 | |
| 4. Active Members | | | | |
| a. Retirement Annuities | 90 | 471,307 | 471,397 | |
| b. Disability Benefits | 4 | 31,821 | 31,825 | |
| c. Survivors' Benefits | 29 | 50,395 | 50,424 | |
| d. Deferred Retirements | 8 | 64,562 | 64,570 | |
| e. Refund Liability Due to Death or Withdrawal | 3 | 7,646 | 7,649 | |
| 5. Total Current Benefit Obligations | \$134 | \$1,414,183 | \$1,414,317 | |
| E. EXPECTED FUTURE BENEFIT OBLIGATIONS | | | | \$182,199 |
| F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS | | | | \$1,596,516 |
| G. CURRENT UNFUNDED LIABILITY (D5-A) | | | | \$711,650 |
| H. CURRENT AND FUTURE UNFUNDED LIABILITY (F-C) | | | | \$535,324 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 9A
BASIC

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

JULY 1, 1985

| | 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 | \$620,220 | \$43,756 | \$576,464 |
| b. Disability Benefits | 40,098 | 4,623 | 35,475 |
| c. Survivors Benefits | 62,777 | 16,879 | 45,898 |
| d. Deferred Retirements | 75,822 | 20,212 | 55,610 |
| e. Refunds Due to Death or Withdrawal | 9,148 | 20,642 | (11,494) |
| f. Total | <u>\$808,065</u> | <u>\$106,112</u> | <u>\$701,953</u> |
| 2. Deferred Retirements with Future Augmentation | \$13,002 | | \$13,002 |
| 3. Former Members Without Vested Rights | 6,121 | | 6,121 |
| 4. Annuitants in MPRIF | 680,091 | | 680,091 |
| 5. Recipients Not in MPRIF | 89,237 | | 89,237 |
| 6. Total AAL | <u>\$1,596,516</u> | <u>\$106,112</u> | <u>\$1,490,404</u> |
| B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL) | | | |
| 1. AAL (A6) | | | \$1,490,404 |
| 2. Current Assets (Table 2, K3) | | | 702,667 |
| 3. UAAL (B1-B2) | | | <u>\$787,737</u> |
| C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE | | | |
| 1. Present Value of Future Payrolls to the Amortization Date of July 1, 2009 | | | \$3,048,513 |
| 2. Supplemental Contribution Rate (B3/C1) | | | 25.84% |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 10A
BASIC

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

YEAR ENDING JUNE 30, 1985

| | |
|--|-------------------------|
| A. UAAL AT BEGINNING OF YEAR | \$676,972 |
| B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING | |
| 1. Normal Cost and Expenses | \$11,319 |
| 2. Contribution | (29,041) |
| 3. Interest on A, B1, and B2 | 53,449 |
| 4. Total (B1+B2+B3) | <u>\$35,727</u> |
| C. EXPECTED UAAL AT END OF YEAR (A+B4) | \$712,699 |
| D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED | |
| 1. Salary Increases | (\$7,865) |
| 2. Investment Return | (6,436) |
| 3. MPRIF Mortality | 5,232 |
| 4. Mortality of Other Benefit Recipients | (1,751) |
| 5. Active Members' Turnover, Retirement, Mortality and Disability | 6,149 |
| 6. Other Items | 79,709 |
| 7. Total | <u>\$75,038</u> |
| E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D7) | \$787,737 |
| 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) | <u><u>\$787,737</u></u> |

PUBLIC EMPLOYEES RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

TABLE 11A
BASIC

JULY 1, 1985

| | <u>% OF PAYROLL</u> | <u>\$ AMOUNT</u> |
|--|--------------------------|----------------------------|
| A. STATUTORY CONTRIBUTIONS - CHAPTER 353 | | |
| 1. Employee Contributions | 8.00% | \$12,380 |
| 2. Employer Contributions | 10.50% | 16,248 |
| 3. Total | ----- 18.50% ===== | ----- \$28,628 ===== |
| B. REQUIRED CONTRIBUTIONS - CHAPTER 356 | | |
| 1. Normal Cost | | |
| a. Retirement Benefits | 4.07% | \$6,294 |
| b. Disability Benefits | 0.43% | 673 |
| c. Survivors | 1.57% | 2,437 |
| d. Deferred Retirement Benefits | 1.88% | 2,902 |
| e. Refunds Due to Death or Withdrawal | 1.92% | 2,970 |
| f. Total | ----- 9.87% ----- | ----- \$15,276 ----- |
| 2. Supplemental Contribution Amortization by July 1, 2009 of UAAL of \$787,737 | 25.84% | \$39,987 |
| 3. Allowance for Expenses | 0.35% | \$542 |
| 4. Total | ----- 36.06% | ----- \$55,805 |
| C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4) | -17.56% | (\$27,177) |

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$154,747

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 12A
BASIC

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

| <u>FISCAL YEAR</u> | <u>STATUTORY CONTRIBUTIONS</u> | <u>TRANSFERS TO MPRIF</u> | <u>OTHER DISBURSEMENTS</u> | <u>INVESTMENT RETURN</u> | <u>NON-MPRIF ASSETS YEAR END</u> |
|------------------------|------------------------------------|-----------------------------------|--------------------------------|------------------------------|--|
| 1985 | | | | | \$22,576 |
| 1986 | \$28,628 | \$25,002 | \$10,888 | \$1,516 | 16,830 |
| 1987 | 25,733 | 97,854 | 11,243 | (1,988) | (68,522) |
| 1988 | 24,321 | 27,863 | 11,593 | (6,087) | (89,744) |
| 1989 | 23,477 | 39,038 | 11,957 | (8,280) | (125,542) |
| 1990 | 22,495 | 46,636 | 12,328 | (11,502) | (173,513) |
| 1991 | 21,401 | 54,404 | 12,667 | (15,708) | (234,891) |
| 1992 | 20,081 | 65,923 | 12,958 | (21,143) | (314,834) |
| 1993 | 18,954 | 60,431 | 13,184 | (27,373) | (396,868) |
| 1994 | 17,613 | 70,371 | 13,413 | (34,396) | (497,435) |
| 1995 | 16,387 | 67,698 | 13,552 | (42,389) | (604,687) |
| 1996 | 15,166 | 69,665 | 13,713 | (51,103) | (724,002) |
| 1997 | 13,549 | 89,771 | 13,821 | (61,522) | (875,567) |
| 1998 | 12,034 | 87,005 | 13,746 | (73,594) | (1,037,878) |
| 1999 | 10,759 | 79,233 | 13,643 | (86,315) | (1,206,310) |
| 2000 | 9,577 | 76,265 | 13,549 | (99,714) | (1,386,261) |
| 2001 | 8,112 | 89,612 | 13,392 | (114,697) | (1,595,850) |
| 2002 | 6,760 | 87,034 | 13,046 | (131,401) | (1,820,571) |
| 2003 | 5,483 | 84,395 | 12,632 | (149,307) | (2,061,422) |
| 2004 | 4,411 | 73,999 | 12,147 | (168,183) | (2,311,340) |
| 2005 | 3,627 | 57,931 | 11,675 | (187,546) | (2,564,865) |
| 2006 | 2,921 | 55,419 | 11,260 | (207,740) | (2,836,363) |
| 2007 | 2,118 | 60,457 | 10,790 | (229,674) | (3,135,166) |
| 2008 | 1,515 | 49,959 | 10,204 | (253,159) | (3,446,973) |
| 2009 | 911 | 50,929 | 9,636 | (278,144) | (3,784,771) |
| 2010 | 501 | 38,173 | 7,584 | (304,592) | (4,134,619) |

PUBLIC EMPLOYEES RETIREMENT FUND

**TABLE 14A
BASIC**

SUMMARY OF PLAN PROVISIONS

| | |
|---------------------------|---|
| Eligibility | A public employee who is not covered under the Social Security Act. General exceptions are employees covered by other public funds and certain part-time employees. City managers and persons holding elective office may choose to become members. |
| Contributions | |
| Member | 8% of Salary. |
| Employer | 10.5% of Salary. |
| Allowable Service | Service during which member contributions were deducted. May also include certain leaves of absence, military service, and service prior to membership. |
| Salary | Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes lump sum payments at separation and Workers' Compensation benefits. |
| Average Salary | Average of the 5 highest successive years of Salary. |
| RETIREMENT | |
| Normal Retirement Benefit | |
| Eligibility | Age 65 and 10 years of Allowable Service. Age 62 and 30 years of Allowable Service. Rule of 90: Age plus Allowable Service totals 90. Rule of 85: Age 55 and age plus Allowable Service totals 85 and retirement prior to 1/1/87. |
| Amount | 2% of Average Salary for the first 10 years of Allowable Service and 2.5% of Average Salary for each subsequent year. |
| Early Retirement Benefit | |
| Eligibility | Age 55 and 10 years of Allowable Service. Any age with 30 years of Allowable Service. |
| Amount | Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with reduction of 0.25% for each month the member is under age 65 at time of retirement (age 62 if 30 years of Allowable Service). |

TABLE 14A
BASIC
(cont)

| | |
|---|--|
| Form of Payment | Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are: 50% or 100% joint and survivor 50% or 100% bounce back joint and survivor (option is cancelled if Member is pre-deceased by beneficiary) |
| Benefit Increases | Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). |
| DISABILITY | |
| Disability Benefit Eligibility | Total and permanent disability before age 65 with 5 years of Allowable Service if age 50 or older, or with 10 years of Allowable Service if younger than age 50. |
| Amount | Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before age 65. Supplemental benefit of \$5 per month for each year under age 65 at commencement of disability (maximum of \$50 per month). Benefit is reduced by Workers' Compensation. Payments stop at age 65, or earlier if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment. |
| Form of Payment | Same as for retirement. |
| Benefit Increases | Adjusted by PERA to provide same increase as MPRIF. |
| Retirement After Disability Eligibility | Age 65 with continued disability. |
| Amount | Any optional annuity continues. Otherwise the larger of the disability benefit paid before age 65 or the normal retirement benefit available at age 65, or an actuarially equivalent optional annuity. |
| Benefit Increases | Same as for retirement. |
| DEATH | |
| Surviving Spouse Benefit Eligibility | Active Member with 18 months of Allowable Service or Member receiving a disability benefit. |

TABLE 14A
BASIC
(cont)

| | |
|--|--|
| Amount | 50% of Salary averaged over last 6 months. Maximum family benefit is \$1,000 per month. Benefits paid until spouse's death but no payments while spouse is remarried. |
| | Surviving spouse optional annuity may be elected in lieu of this benefit. |
| Surviving Dependent Children's Benefit Eligibility | Active Member with 18 months of Allowable Service or Member receiving a disability benefit. |
| Amount | 10% of Salary averaged over last 6 months for each child. Family benefit minimum (including spouse's benefit) of 50% of Salary and maximum of \$1,000 per month. Benefits paid until child marries, dies, or attains age 18 (age 22 if full time student). |
| Surviving Spouse Optional Annuity Eligibility | Member or former Member who dies before retirement or disability benefits commence if age 55 with 10 years of Allowable Service or any age with 30 years of Allowable Service. |
| Amount | Survivor's payment of the 100% joint and survivor benefit the member could have elected if terminated. |
| Benefit Increases | Adjusted by PERA to provide same increase as MPRIF. |
| Refund of Contributions Eligibility | Member dies before receiving any retirement benefits and survivor benefits are not payable. |
| Amount | The excess of the Member's contributions with 5% interest over any disability or survivor benefits paid. |
| TERMINATION | |
| Refund of Contributions Eligibility | Termination of public service. |
| Amount | Member's contributions with 5% interest. A deferred annuity may be elected in lieu of a refund. |
| Deferred Benefit Eligibility | 10 years of Allowable Service. |

TABLE 14A
BASIC
(cont)

Amount

Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/71, 5% from 7/1/71 to 1/1/81, and 3% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 15A
BASIC

MEMBERSHIP CHANGES
(DOLLARS IN THOUSANDS)

JUNE 30, 1985

| | | <u>NUMBER</u> | <u>PAYROLL</u> |
|---|---------|---------------|-----------------------|
| A. ACTIVE MEMBERS | | | |
| 1. As of the Last Valuation Date | | 7,830 | \$162,341 |
| 2. New Entrants | | 25 | NA |
| 3. Total | | 7,855 | NA |
| 4. Separations from Active Service | | | |
| a. Refund of Contributions | (28) | | NA |
| b. Separation with Deferred Annuity | (9) | | NA |
| c. Separation with neither Refund nor Deferred Annuity | (215) | | NA |
| d. Disability | (45) | | NA |
| e. Death | (24) | | NA |
| f. Retirement with Service Annuity | (835) | | NA |
| 5. Total Separations | (1,156) | | NA |
| 6. Data Adjustments | (45) | | NA |
| 7. As of Current Valuation Date | | 6,654 | \$145,291 |
| B. SERVICE RETIREMENT ANNUITANTS | | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | | 10,557 | \$53,642 |
| 2. New Entrants | | 745 | NA |
| 3. Total | | 11,302 | NA |
| 4. Terminations | | | |
| a. Deaths | (148) | | NA |
| b. Others | 0 | | NA |
| 5. Total Terminations | (148) | | NA |
| 6. Data Adjustments | 105 | | NA |
| 7. As of Current Valuation Date | | 11,259 | \$65,982 |
| C. DISABLED ANNUITANTS | | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | | 348 | \$2,398 |
| 2. New Entrants | | 35 | NA |
| 3. Total | | 383 | NA |
| 4. Terminations | | | |
| a. Deaths | (17) | | NA |
| b. Others | 0 | | NA |
| 5. Total Terminations | (17) | | NA |
| 6. Data Adjustments | (30) | | NA |
| 7. As of Current Valuation Date | | 336 | \$2,535 |

TABLE 15A
BASIC
(cont)

| D. SURVIVING SPOUSE ANNUITANTS | | |
|----------------------------------|---------------|-----------------------|
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 3,391 | \$8,165 |
| 2. New Entrants | 193 | NA |
| 3. Total | 3,584 | NA |
| 4. Terminations | | |
| a. Deaths | 0 | NA |
| b. Others | 0 | NA |
| 5. Total Terminations | 0 | NA |
| 6. Data Adjustments | (85) | NA |
| 7. As of Current Valuation Date | 3,499 | \$9,116 |
| E. SURVIVING CHILDREN ANNUITANTS | | |
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 49 | \$197 |
| 2. New Entrants | 0 | NA |
| 3. Total | 49 | NA |
| 4. Terminations | | |
| a. Deaths | 0 | NA |
| b. Others | 0 | NA |
| 5. Total Terminations | 0 | NA |
| 6. Data Adjustments | 18 | NA |
| 7. As of Current Valuation Date | 67 | \$270 |
| F. DEFERRED ANNUITANTS | | |
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 718 | NA |
| 2. New Entrants | 66 | NA |
| 3. Total | 784 | NA |
| 4. Terminations | | |
| a. Deaths | (3) | NA |
| b. Others | (124) | NA |
| 5. Total Terminations | (127) | NA |
| 6. Data Adjustments | 71 | NA |
| 7. As of Current Valuation Date | 728 | \$1,364 |

PUBLIC EMPLOYEES RETIREMENT FUND

COORDINATED

REPORT HIGHLIGHTS
(DOLLARS IN THOUSANDS)

| | <u>06/30/84</u> <u>VALUATION</u> | <u>07/01/85</u> <u>VALUATION</u> |
|--|-------------------------------------|-------------------------------------|
| A. CONTRIBUTIONS (TABLE 11B) | | |
| 1. Statutory Contributions - Chapter 353 % of Payroll | 8.25% | 8.25% |
| 2. Required Contributions - Chapter 356 % of Payroll | 5.49% | 5.45% |
| 3. Sufficiency (Deficiency) (A1-A2) | 2.76% | 2.80% |
| B. FUNDING RATIOS | | |
| 1. Accrued Benefit Funding Ratio | | |
| a. Current Assets (Table 2) | NA | \$1,140,290 |
| b. Current Benefit Obligations (Table 8B) | NA | \$896,057 |
| c. Funding Ratio (a/b) | NA | 127.26% |
| 2. Accrued Liability Funding Ratio | | |
| a. Current Assets (Table 2) | \$916,777 | \$1,140,290 |
| b. Actuarial Accrued Liability (Table 9B) | \$868,492 | \$1,123,712 |
| c. Funding Ratio (a/b) | 105.56% | 101.48% |
| 3. Projected Benefit Funding Ratio (Table 8B) | | |
| a. Current and Expected Future Assets | \$1,545,310 | \$2,312,370 |
| b. Current and Expected Future Benefit Obligations | \$1,284,031 | \$1,613,223 |
| c. Funding Ratio (a/b) | 120.35% | 143.34% |
| C. PLAN PARTICIPANTS | | |
| 1. Active Members (Table 3B) | | |
| a. Number | 75,872 | 79,658 |
| b. Projected Annual Earnings | \$1,063,284 | \$1,269,164 |
| c. Average Annual Earnings (Actual \$) | \$14,014 | \$15,933 |
| d. Average Age | NA | 41.1 |
| e. Average Service | NA | 6.8 |
| 2. Others | | |
| a. Service Retirements (Table 4B) | 5,208 | 6,018 |
| b. Disability Retirements (Table 5B) | 290 | 318 |
| c. Survivors (Table 6B) | 225 | 288 |
| d. Deferred Retirements (Table 7B) | 1,125 | 1,135 |
| e. Terminated Other Non-vested (Table 7B) | NA | 30,030 |
| f. Total | 6,848 | 37,789 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 3B
COORDINATED

ACTIVE MEMBERS AS OF JUNE 30, 1985

| AGE | YEARS OF SERVICE | | | | | | | | TOTAL |
|-------|------------------|--------|--------|--------|-------|-------|-------|-----|--------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | |
| <25 | 1,968 | 2,757 | 297 | | | | | | 5,022 |
| 25-29 | 1,903 | 4,678 | 3,337 | 190 | | | | | 10,108 |
| 30-34 | 1,753 | 4,355 | 4,740 | 1,772 | 76 | | | | 12,696 |
| 35-39 | 1,674 | 3,974 | 4,095 | 2,430 | 608 | 6 | | | 12,787 |
| 40-44 | 1,422 | 3,071 | 3,367 | 1,941 | 847 | 58 | 1 | | 10,707 |
| 45-49 | 713 | 2,010 | 2,839 | 2,109 | 897 | 111 | 37 | 2 | 8,718 |
| 50-54 | 429 | 1,484 | 2,214 | 2,040 | 1,089 | 143 | 85 | 18 | 7,502 |
| 55-59 | 303 | 1,084 | 1,780 | 1,939 | 1,175 | 164 | 98 | 71 | 6,614 |
| 60-64 | 127 | 573 | 1,132 | 1,284 | 824 | 130 | 62 | 58 | 4,190 |
| 65+ | 53 | 241 | 428 | 372 | 177 | 19 | 11 | 13 | 1,314 |
| TOTAL | 10,345 | 24,227 | 24,229 | 14,077 | 5,693 | 631 | 294 | 162 | 79,658 |

AVERAGE ANNUAL EARNINGS

| AGE | YEARS OF SERVICE | | | | | | | | ALL |
|-------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | |
| <25 | 7,746 | 11,459 | 14,297 | | | | | | 10,172 |
| 25-29 | 9,610 | 14,447 | 16,662 | 17,085 | | | | | 14,317 |
| 30-34 | 9,193 | 15,079 | 19,272 | 19,873 | 20,690 | | | | 16,534 |
| 35-39 | 8,219 | 13,653 | 18,703 | 23,554 | 24,821 | 16,131 | | | 16,973 |
| 40-44 | 7,362 | 12,321 | 15,723 | 20,160 | 24,832 | 28,742 | 25,748 | | 15,233 |
| 45-49 | 7,786 | 11,921 | 14,138 | 16,001 | 20,926 | 29,320 | 30,198 | 23,671 | 14,520 |
| 50-54 | 7,637 | 11,393 | 13,866 | 15,068 | 18,395 | 31,097 | 32,276 | 26,411 | 14,572 |
| 55-59 | 7,606 | 10,829 | 13,682 | 15,216 | 17,458 | 25,041 | 29,401 | 35,373 | 14,804 |
| 60-64 | 6,424 | 9,581 | 12,852 | 14,655 | 17,120 | 23,807 | 25,847 | 29,501 | 14,364 |
| 65+ | 5,146 | 6,895 | 8,824 | 9,732 | 12,620 | 15,659 | 19,497 | 23,326 | 9,422 |
| ALL | 8,323 | 13,072 | 16,271 | 17,849 | 19,911 | 26,885 | 29,200 | 31,164 | 14,967 |

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

| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | TOTAL |
|--------|---------|---------|---------|---------|--------|-------|-------|-----------|
| 86,096 | 316,701 | 394,241 | 251,255 | 113,353 | 16,964 | 8,585 | 5,049 | 1,192,244 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 4B
COORDINATED

SERVICE RETIREMENTS AS OF JUNE 30, 1985

| AGE | YEARS RETIRED | | | | | | | TOTAL |
|-------|---------------|------------|------------|--------------|--------------|--------------|------------|-------|
| | <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | |
| <50 | | | | | | | | 0 |
| 50-54 | | | | | | | | 0 |
| 55-59 | 62 | 33 | | | | | | 95 |
| 60-64 | 294 | 582 | 7 | | | | | 883 |
| 65-69 | 238 | 1,836 | 233 | 3 | | | | 2,310 |
| 70-74 | 42 | 368 | 1,234 | 28 | | | | 1,672 |
| 75-79 | 4 | 60 | 156 | 491 | 4 | | | 715 |
| 80-84 | 1 | 9 | 18 | 134 | 125 | | | 287 |
| 85+ | | 1 | 6 | 10 | 37 | | 2 | 56 |
| TOTAL | 641 | 2,889 | 1,654 | 666 | 166 | 0 | 2 | 6,018 |

AVERAGE ANNUAL ANNUITY

| AGE | YEARS RETIRED | | | | | | | ALL |
|-------|---------------|------------|------------|--------------|--------------|--------------|------------|-------|
| | <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | |
| <50 | | | | | | | | 0 |
| 50-54 | | | | | | | | 0 |
| 55-59 | 3,788 | 5,166 | | | | | | 4,267 |
| 60-64 | 3,286 | 2,898 | 3,360 | | | | | 3,031 |
| 65-69 | 2,628 | 2,140 | 2,618 | 1,656 | | | | 2,238 |
| 70-74 | 1,752 | 1,557 | 2,277 | 4,203 | | | | 2,138 |
| 75-79 | 635 | 852 | 1,707 | 2,137 | 2,486 | | | 1,929 |
| 80-84 | 825 | 702 | 957 | 1,699 | 1,564 | | | 1,559 |
| 85+ | | 478 | 1,269 | 2,626 | 2,254 | | 3,408 | 2,224 |
| ALL | 2,969 | 2,221 | 2,258 | 2,141 | 1,740 | 0 | 3,408 | 2,289 |

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

| <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | <u>TOTAL</u> |
|--------------|------------|------------|--------------|--------------|--------------|------------|--------------|
| 1,903 | 6,417 | 3,735 | 1,426 | 289 | 0 | 7 | 13,777 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 5B
COORDINATED

DISABILITY RETIREMENTS AS OF JUNE 30, 1985

| AGE | YEARS DISABLED | | | | | | | TOTAL |
|-------|----------------|------------|------------|--------------|--------------|--------------|------------|-------|
| | <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | |
| <50 | 5 | 11 | 1 | | | | | 17 |
| 50-54 | 8 | 20 | 4 | 2 | | | | 34 |
| 55-59 | 18 | 51 | 22 | | 1 | | | 92 |
| 60-64 | 25 | 94 | 47 | 3 | 1 | | | 170 |
| 65-69 | 3 | 2 | | | | | | 5 |
| 70-74 | | | | | | | | 0 |
| 75-79 | | | | | | | | 0 |
| 80-84 | | | | | | | | 0 |
| 85+ | | | | | | | | 0 |
| TOTAL | 59 | 178 | 74 | 5 | 2 | 0 | 0 | 318 |

AVERAGE ANNUAL BENEFIT

| AGE | YEARS DISABLED | | | | | | | ALL |
|-------|----------------|------------|------------|--------------|--------------|--------------|------------|-------|
| | <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | |
| <50 | 2,878 | 2,306 | 739 | | | | | 2,382 |
| 50-54 | 2,489 | 2,063 | 1,978 | 1,549 | | | | 2,123 |
| 55-59 | 2,102 | 2,363 | 1,445 | | 1,553 | | | 2,084 |
| 60-64 | 2,681 | 2,135 | 1,919 | 797 | 583 | | | 2,123 |
| 65-69 | 2,010 | 2,974 | | | | | | 2,395 |
| 70-74 | | | | | | | | 0 |
| 75-79 | | | | | | | | 0 |
| 80-84 | | | | | | | | 0 |
| 85+ | | | | | | | | 0 |
| TOTAL | 2,461 | 2,212 | 1,765 | 1,098 | 1,068 | 0 | 0 | 2,130 |

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

| <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | <u>TOTAL</u> |
|--------------|------------|------------|--------------|--------------|--------------|------------|--------------|
| 145 | 394 | 131 | 5 | 2 | 0 | 0 | 677 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 6B
COORDINATED

SURVIVORS AS OF JUNE 30, 1985

| AGE | YEARS SINCE DEATH | | | | | | | TOTAL |
|-------|-------------------|-----|-----|-------|-------|-------|-----|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | 2 | 9 | 1 | | | | | 12 |
| 50-54 | 1 | 4 | 2 | | | | | 7 |
| 55-59 | 5 | 24 | 4 | 3 | | | | 36 |
| 60-64 | 3 | 31 | 15 | 1 | | | | 50 |
| 65-69 | 1 | 29 | 36 | 13 | | | | 79 |
| 70-74 | 1 | 5 | 29 | 20 | 3 | | | 58 |
| 75-79 | | 2 | 11 | 16 | 2 | | | 31 |
| 80-84 | | | 2 | 5 | 3 | | | 10 |
| 85+ | | | | | 4 | | 1 | 5 |
| TOTAL | 13 | 104 | 100 | 58 | 12 | 0 | 1 | 288 |

AVERAGE ANNUAL BENEFIT

| AGE | YEARS SINCE DEATH | | | | | | | ALL |
|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | 3,587 | 2,712 | 541 | | | | | 2,677 |
| 50-54 | 3,639 | 3,746 | 1,737 | | | | | 3,156 |
| 55-59 | 2,696 | 1,569 | 1,700 | 1,895 | | | | 1,767 |
| 60-64 | 1,381 | 1,914 | 1,256 | 1,015 | | | | 1,667 |
| 65-69 | 3,347 | 1,680 | 1,944 | 1,343 | | | | 1,766 |
| 70-74 | 2,730 | 795 | 1,812 | 1,880 | 2,336 | | | 1,791 |
| 75-79 | | 5,040 | 1,539 | 1,669 | 2,976 | | | 1,925 |
| 80-84 | | | 786 | 3,322 | 1,048 | | | 2,133 |
| 85+ | | | | | 1,743 | | 1,262 | 1,647 |
| ALL | 2,655 | 1,915 | 1,707 | 1,812 | 1,923 | 0 | 1,262 | 1,853 |

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | TOTAL |
|----|-----|-----|-------|-------|-------|-----|-------|
| 35 | 199 | 171 | 105 | 23 | 0 | 1 | 534 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 7B
COORDINATED

RECONCILIATION OF MEMBERS

| | <u>ACTIVES</u> | <u>TERMINATED</u> | |
|--------------------------------|----------------|--------------------------------|-----------------------------|
| | | <u>DEFERRED RETIREMENT</u> | <u>OTHER NON-VESTED</u> |
| A. On June 30, 1984 | 75,872 | 1,125 | NA |
| B. Additions | 13,658 | 103 | NA |
| C. Deletions: | | | |
| 1. Service Retirement | (750) | (49) | |
| 2. Disability | (75) | | |
| 3. Death | (117) | (4) | |
| 4. Terminated-Deferred | (36) | | |
| 5. Terminated-Refund | (5,652) | (51) | NA |
| 6. Terminated-Other Non-vested | (3,140) | | |
| 7. Returned as Active | | 0 | NA |
| D. Data Adjustments | (102) | 11 | NA |
| | Vested | 20,857 | |
| | Non-Vested | 58,801 | |
| E. Total on June 30, 1985 | 79,658 | 1,135 | 30,030 |

| | <u>RECIPIENTS</u> | | |
|---------------------------|----------------------------------|-----------------|------------------|
| | <u>RETIREMENT ANNUITANTS</u> | <u>DISABLED</u> | <u>SURVIVORS</u> |
| A. On June 30, 1984 | 5,208 | 290 | 225 |
| B. Additions | 704 | 62 | 41 |
| C. Deletions: | | | |
| 1. Service Retirement | | 0 | |
| 2. Death | 0 | (16) | 0 |
| 3. Annuity Expired | 0 | 0 | 0 |
| 4. Returned as Active | 0 | 0 | |
| D. Data Adjustments | 106 | (18) | 22 |
| E. Total on June 30, 1985 | 6,018 | 318 | 288 |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 8B
COORDINATEDACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1985

| | | | | |
|--|-------------------|---------------|--------------|-------------|
| A. CURRENT ASSETS (TABLE 2, K3) | | | | \$1,140,290 |
| B. EXPECTED FUTURE ASSETS | | | | |
| 1. Present Value of Expected Future Supplemental Contributions | | | | 682,569 |
| 2. Present Value of Future Normal Costs | | | | 489,511 |
| 3. Total Expected Future Assets | | | | 1,172,080 |
| C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS | | | | \$2,312,370 |
| D. CURRENT BENEFIT OBLIGATIONS | <u>Non-Vested</u> | <u>Vested</u> | <u>Total</u> | |
| 1. Benefit Recipients | | | | |
| a. Retirement Annuities | | \$141,072 | | \$141,072 |
| b. Disability Benefits | | 4,040 | | 4,040 |
| c. Surviving Spouse's Benefits | | 5,654 | | 5,654 |
| d. Surviving Children's Benefits | | 0 | | 0 |
| 2. Deferred Retirements with Future Augmentation | | 5,712 | | 5,712 |
| 3. Former Members without Vested Rights | | 9,806 | | 9,806 |
| 4. Active Members | | | | |
| a. Retirement Annuities | 101,345 | 313,648 | | 414,993 |
| b. Disability Benefits | 9,154 | 23,721 | | 32,875 |
| c. Survivors' Benefits | 7,346 | 26,705 | | 34,051 |
| d. Deferred Retirements | 67,446 | 100,411 | | 167,857 |
| e. Refund Liability Due to Death or Withdrawal | 55,211 | 24,786 | | 79,997 |
| 5. Total Current Benefit Obligations | \$240,502 | \$655,555 | | \$896,057 |
| E. EXPECTED FUTURE BENEFIT OBLIGATIONS | | | | \$717,166 |
| F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS | | | | \$1,613,223 |
| G. CURRENT UNFUNDED LIABILITY (D5-A) | | | | (\$244,233) |
| H. CURRENT AND FUTURE UNFUNDED LIABILITY (F-C) | | | | (\$699,147) |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 9B
COORDINATED

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

JULY 1, 1985

| | 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 | \$895,833 | \$254,697 | \$641,136 |
| b. Disability Benefits | 65,390 | 18,937 | 46,453 |
| c. Survivors Benefits | 70,920 | 18,937 | 51,983 |
| d. Deferred Retirements | 296,857 | 102,257 | 194,600 |
| e. Refunds Due to Death or Withdrawal | 117,940 | 94,683 | 23,257 |
| f. Total | <u>\$1,446,940</u> | <u>\$489,511</u> | <u>\$957,429</u> |
| 2. Deferred Retirements with Future Augmentation | \$5,712 | | \$5,712 |
| 3. Former Members Without Vested Rights | 9,806 | | 9,806 |
| 4. Annuitants in MPRIF | 142,285 | | 142,285 |
| 5. Recipients Not in MPRIF | 8,480 | | 8,480 |
| 6. Total AAL | <u>\$1,613,223</u> | <u>\$489,511</u> | <u>\$1,123,712</u> |
| B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL) | | | |
| 1. AAL (A6) | | | \$1,123,712 |
| 2. Current Assets (Table 2, K3) | | | 1,140,290 |
| 3. UAAL (B1-B2) | | | <u>(\$16,578)</u> |
| C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE | | | |
| 1. Present Value of Future Payrolls to the Amortization Date of July 1, 2009 | | | \$25,002,532 |
| 2. Supplemental Contribution Rate (B3/C1) | | | -0.07% |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 10B
COORDINATED

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

YEAR ENDING JUNE 30, 1985

| | |
|--|------------|
| A. UAAL AT BEGINNING OF YEAR | (\$48,285) |
| B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING | |
| 1. Normal Cost and Expenses | \$68,231 |
| 2. Contribution | (99,898) |
| 3. Interest on A, B1, and B2 | (5,129) |
| | ----- |
| 4. Total (B1+B2+B3) | (\$36,796) |
| | ----- |
| C. EXPECTED UAAL AT END OF YEAR (A+B4) | (\$85,081) |
| D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED | |
| 1. Salary Increases | \$28,742 |
| 2. Investment Return | (68,034) |
| 3. MPRIF Mortality | 1,094 |
| 4. Mortality of Other Benefit Recipients | (340) |
| 5. Active Members' Turnover, Retirement, Mortality and Disability | 23,265 |
| 6. Other Items | 83,776 |
| | ----- |
| 7. Total | \$68,503 |
| | ----- |
| E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D7) | (\$16,578) |
| 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) | (\$16,578) |
| | ===== |

PUBLIC EMPLOYEES RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

TABLE 11B
COORDINATED

JULY 1, 1985

| | <u>% OF PAYROLL</u> | <u>\$ AMOUNT</u> |
|---|-------------------------|-----------------------------|
| A. STATUTORY CONTRIBUTIONS - CHAPTER 353 | | |
| 1. Employee Contributions | 4.00% | \$50,767 |
| 2. Employer Contributions | 4.25% | 53,939 |
| 3. Total | ----- 8.25% ===== | ----- \$104,706 ===== |
| B. REQUIRED CONTRIBUTIONS - CHAPTER 356 | | |
| 1. Normal Cost | | |
| a. Retirement Benefits | 2.69% | \$34,158 |
| b. Disability Benefits | 0.20% | 2,514 |
| c. Survivors | 0.20% | 2,547 |
| d. Deferred Retirement Benefits | 1.08% | 13,690 |
| e. Refunds Due to Death or Withdrawal | 1.00% | 12,653 |
| f. Total | ----- 5.17% ----- | ----- \$65,562 ----- |
| 2. Supplemental Contribution Amortization by July 1, 2009 of UAAL of \$(16,578) | -0.07% | (\$888) |
| 3. Allowance for Expenses | 0.35% | \$4,442 |
| 4. Total | ----- 5.45% | ----- \$69,116 |
| C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4) | 2.80% | \$35,590 |

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$1,269,164

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 12B
COORDINATEDPROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

| <u>FISCAL YEAR</u> | <u>STATUTORY CONTRIBUTIONS</u> | <u>TRANSFERS TO MPRIF</u> | <u>OTHER DISBURSEMENTS</u> | <u>INVESTMENT RETURN</u> | <u>NON-MPRIF ASSETS YEAR END</u> |
|------------------------|------------------------------------|-----------------------------------|--------------------------------|------------------------------|--|
| 1985 | | | | | \$998,004 |
| 1986 | \$104,706 | \$4,818 | \$23,696 | \$82,888 | 1,157,084 |
| 1987 | 113,633 | 54,680 | 21,546 | 94,063 | 1,288,554 |
| 1988 | 122,395 | 22,720 | 20,567 | 106,249 | 1,473,911 |
| 1989 | 131,431 | 31,898 | 20,251 | 121,084 | 1,674,277 |
| 1990 | 141,093 | 40,460 | 20,103 | 137,163 | 1,891,970 |
| 1991 | 151,404 | 46,936 | 20,382 | 154,721 | 2,130,777 |
| 1992 | 162,454 | 52,735 | 21,071 | 174,008 | 2,393,433 |
| 1993 | 174,099 | 59,883 | 22,194 | 195,156 | 2,680,611 |
| 1994 | 186,562 | 68,358 | 23,720 | 218,228 | 2,993,323 |
| 1995 | 199,746 | 75,004 | 25,060 | 243,453 | 3,336,458 |
| 1996 | 213,749 | 81,761 | 26,860 | 271,122 | 3,712,708 |
| 1997 | 228,803 | 96,141 | 29,006 | 301,163 | 4,117,527 |
| 1998 | 244,744 | 99,130 | 31,441 | 333,969 | 4,565,669 |
| 1999 | 261,570 | 125,435 | 34,210 | 369,331 | 5,036,925 |
| 2000 | 279,411 | 129,394 | 36,854 | 407,481 | 5,557,569 |
| 2001 | 298,504 | 149,530 | 39,909 | 448,968 | 6,115,602 |
| 2002 | 318,744 | 160,181 | 43,239 | 493,861 | 6,724,787 |
| 2003 | 340,228 | 165,906 | 46,955 | 543,078 | 7,395,232 |
| 2004 | 362,980 | 216,348 | 50,992 | 595,444 | 8,086,316 |
| 2005 | 387,051 | 239,502 | 55,120 | 650,602 | 8,829,347 |
| 2006 | 412,629 | 255,080 | 59,617 | 710,265 | 9,637,544 |
| 2007 | 439,893 | 284,177 | 64,457 | 774,654 | 10,503,457 |
| 2008 | 468,817 | 300,137 | 69,677 | 844,237 | 11,446,697 |
| 2009 | 499,603 | 399,070 | 75,176 | 916,750 | 12,388,804 |
| 2010 | 532,286 | 425,201 | 80,597 | 992,164 | 13,407,456 |

PUBLIC EMPLOYEES RETIREMENT FUND

**TABLE 14B
COORDINATED**

SUMMARY OF PLAN PROVISIONS

| | |
|-------------------|---|
| Eligibility | A public employee who is covered under the Social Security Act. General exceptions are employees covered by other public funds and certain part-time employees. City managers and persons holding elective office may choose to become members. |
| Contributions | |
| Member | 4% of Salary. |
| Employer | 4.25% of Salary. |
| Allowable Service | Service during which member contributions were deducted. May also include certain leaves of absence, military service, and service prior to membership. |
| Salary | Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes lump sum payments at separation and Workers' Compensation benefits. |
| Average Salary | Average of the 5 highest successive years of Salary. |

RETIREMENT

Normal Retirement Benefit

Eligibility Age 65 and 10 years of Allowable Service.
 Age 62 and 30 years of Allowable Service.
 Rule of 90: Age plus Allowable Service totals 90.
 Rule of 85: Age 55 and age plus Allowable Service
 totals 85 and retirement prior to 1/1/87.

Amount 1% of Average Salary for the first 10 years of
 Allowable Service and 1.5% of Average Salary for each
 subsequent year.

Early Retirement Benefit

Eligibility Age 55 and 10 years of Allowable Service.
 Any age with 30 years of Allowable Service.

Amount Normal Retirement Benefit based on Allowable Service
 and Average Salary at retirement date with reduction
 of 0.25% for each month the member is under age 65 at
 time of retirement (age 62 if 30 years of Allowable
 Service).

TABLE 14B
COORDINATED
(cont)

| | |
|-----------------|---|
| Form of Payment | Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are: 50% or 100% joint and survivor 50% or 100% bounce back joint and survivor (option is cancelled if Member is pre-deceased by beneficiary). |
|-----------------|---|

| | |
|-------------------|--|
| Benefit Increases | Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). |
|-------------------|--|

DISABILITY

Disability Benefit
Eligibility

Total and permanent disability before age 65 with 5 years of Allowable Service if age 50 or older, or with 10 years of Allowable Service if younger than age 50.

Amount

Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before age 65. Benefit is reduced by Workers' Compensation.

Payments stop at age 65, or earlier if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment.

Form of Payment

Same as for retirement.

Benefit Increases

Adjusted by PERA to provide same increase as MPRIF.

Retirement After
Disability
Eligibility

Age 65 with continued disability.

Amount

Any optional annuity continues. Otherwise the larger of the disability benefit paid before age 65 or the normal retirement benefit available at age 65, or an actuarially equivalent optional annuity.

Benefit Increases

Same as for retirement.

DEATH

Surviving Spouse Optional
Annuity
Eligibility

Member or former Member who dies before retirement or disability benefits commence if age 55 with 10 years of Allowable Service or any age with 30 years of Allowable Service.

TABLE 14B
COORDINATED
(cont)

| | |
|-------------------------------------|--|
| Amount | Survivor's payment of the 100% joint and survivor benefit the member could have elected if terminated. |
| Benefit Increases | Adjusted by PERA to provide same increase as MPRIF. |
| Refund of Contributions Eligibility | Member dies before receiving any retirement benefits and survivor benefits are not payable. |
| Amount | The excess of the Member's contributions with 5% interest over any disability or survivor benefits paid. |
| TERMINATION | |
| Refund of Contributions Eligibility | Termination of public service. |
| Amount | Member's contributions with 5% interest. A deferred annuity may be elected in lieu of a refund. |
| Deferred Benefit Eligibility | 10 years of Allowable Service. |
| Amount | Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/71, 5% from 7/1/71 to 1/1/81, and 3% thereafter until the annuity begins. Amount is payable as a normal or early retirement. |

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 15B
COORDINATED

MEMBERSHIP CHANGES
(DOLLARS IN THOUSANDS)

JUNE 30, 1985

| A. ACTIVE MEMBERS | | <u>NUMBER</u> | <u>PAYROLL</u> |
|---|---------|---------------|-----------------------|
| 1. As of the Last Valuation Date | | 75,872 | \$1,063,284 |
| 2. New Entrants | | 13,658 | NA |
| 3. Total | | 89,530 | NA |
| | | | |
| 4. Separations from Active Service | | | |
| a. Refund of Contributions | (5,652) | | NA |
| b. Separation with Deferred Annuity | (36) | | NA |
| c. Separation with neither Refund nor Deferred Annuity | (3,140) | | NA |
| d. Disability | (75) | | NA |
| e. Death | (117) | | NA |
| f. Retirement with Service Annuity | (750) | | NA |
| 5. Total Separations | (9,770) | | NA |
| 6. Data Adjustments | (102) | | NA |
| | | | |
| 7. As of Current Valuation Date | 79,658 | | \$1,192,244 |
| | | | |
| B. SERVICE RETIREMENT ANNUITANTS | | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | | 5,208 | \$10,779 |
| 2. New Entrants | | 704 | NA |
| 3. Total | | 5,912 | NA |
| | | | |
| 4. Terminations | | | |
| a. Deaths | 0 | | NA |
| b. Others | 0 | | NA |
| 5. Total Terminations | 0 | | NA |
| 6. Data Adjustments | 106 | | NA |
| | | | |
| 7. As of Current Valuation Date | 6,018 | | \$13,777 |
| | | | |
| C. DISABLED ANNUITANTS | | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | | 290 | \$505 |
| 2. New Entrants | | 62 | NA |
| 3. Total | | 352 | NA |
| | | | |
| 4. Terminations | | | |
| a. Deaths | (16) | | NA |
| b. Others | 0 | | NA |
| 5. Total Terminations | (16) | | NA |
| 6. Data Adjustments | (18) | | NA |
| | | | |
| 7. As of Current Valuation Date | 318 | | \$677 |

TABLE 15B
COORDINATED
(cont)

| D. SURVIVING SPOUSE ANNUITANTS | | |
|----------------------------------|---------------|-----------------------|
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 225 | \$379 |
| 2. New Entrants | 41 | NA |
| 3. Total | 266 | NA |
| 4. Terminations | | |
| a. Deaths | 0 | NA |
| b. Others | 0 | NA |
| 5. Total Terminations | 0 | NA |
| 6. Data Adjustments | 22 | NA |
| 7. As of Current Valuation Date | 288 | \$534 |
| E. SURVIVING CHILDREN ANNUITANTS | | |
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 0 | \$0 |
| 2. New Entrants | 0 | NA |
| 3. Total | 0 | NA |
| 4. Terminations | | |
| a. Deaths | 0 | NA |
| b. Others | 0 | NA |
| 5. Total Terminations | 0 | NA |
| 6. Data Adjustments | 0 | NA |
| 7. As of Current Valuation Date | 0 | \$0 |
| F. DEFERRED ANNUITANTS | | |
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 1,125 | NA |
| 2. New Entrants | 103 | NA |
| 3. Total | 1,228 | NA |
| 4. Terminations | | |
| a. Deaths | (4) | NA |
| b. Others | (100) | NA |
| 5. Total Terminations | (104) | NA |
| 6. Data Adjustments | 11 | NA |
| 7. As of Current Valuation Date | 1,135 | \$729 |

PUBLIC EMPLOYEES POLICE AND FIRE FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1985

 **FILE COPY**

DEC 23 1985 LCP&R

December 2, 1985

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

RE: PUBLIC EMPLOYEES POLICE AND FIRE FUND


Gentlemen:

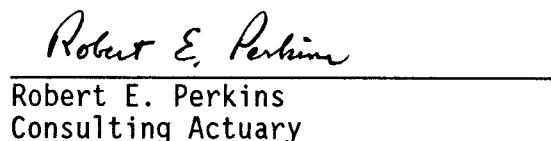
We have prepared an actuarial valuation of the Fund as of July 1, 1985 based on membership and financial data supplied by the Fund.

We certify that to the best of our knowledge and belief this actuarial valuation was performed in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on June 11, 1985.

Respectfully submitted,

THE WYATT COMPANY


Allan J. Grosh
Vice President


Robert E. Perkins
Consulting Actuary

PUBLIC EMPLOYEES POLICE AND FIRE FUND

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PUBLIC EMPLOYEES POLICE AND FIRE FUND

REPORT HIGHLIGHTS (DOLLARS IN THOUSANDS)

| | <u>06/30/84 VALUATION</u> | <u>07/01/85 VALUATION</u> |
|--|-------------------------------|-------------------------------|
| A. CONTRIBUTIONS (TABLE 11) | | |
| 1. Statutory Contributions - Chapter 353 % of Payroll | 20.00% | 20.00% |
| 2. Required Contributions - Chapter 356 % of Payroll | 16.92% | 18.32% |
| 3. Sufficiency (Deficiency) (A1-A2) | 3.08% | 1.68% |
| B. FUNDING RATIOS | | |
| 1. Accrued Benefit Funding Ratio | | |
| a. Current Assets (Table 1) | NA | \$338,400 |
| b. Current Benefit Obligations (Table 8) | NA | \$352,356 |
| c. Funding Ratio (a/b) | NA | 96.04% |
| 2. Accrued Liability Funding Ratio | | |
| a. Current Assets (Table 1) | \$279,757 | \$338,400 |
| b. Actuarial Accrued Liability (Table 9) | \$306,817 | \$382,998 |
| c. Funding Ratio (a/b) | 91.18% | 88.36% |
| 3. Projected Benefit Funding Ratio (Table 8) | | |
| a. Current and Expected Future Assets | \$579,925 | \$719,219 |
| b. Current and Expected Future Benefit Obligations | \$538,257 | \$673,023 |
| c. Funding Ratio (a/b) | 107.74% | 106.86% |
| C. PLAN PARTICIPANTS | | |
| 1. Active Members (Table 3) | | |
| a. Number | 4,744 | 4,928 |
| b. Projected Annual Earnings | \$117,881 | \$139,222 |
| c. Average Annual Earnings (Actual \$) | \$24,848 | \$28,251 |
| d. Average Age | NA | 37.2 |
| e. Average Service | NA | 9.4 |
| 2. Others | | |
| a. Service Retirements (Table 4) | 715 | 765 |
| b. Disability Retirements (Table 5) | 44 | 54 |
| c. Survivors (Table 6) | 242 | 279 |
| d. Deferred Retirements (Table 7) | 175 | 163 |
| e. Terminated Other Non-vested (Table 7) | NA | 350 |
| f. Total | 1,176 | 1,611 |

PUBLIC EMPLOYEES POLICE AND FIRE FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine the financial status of the Fund. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The statutory contributions for the PERA Police and Fire Fund continue to be sufficient. The margin of sufficiency has decreased from 3.08% in 1984 to 1.68% in 1985. According to this valuation a contribution rate of 18.32% is required to comply with Minnesota Law.

The financial status of the Fund can be measured by three different funding ratios:

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This ratio is based on recently published Governmental Accounting Standards Board proposals. This year's ratio is 96.04%. The corresponding ratio for the prior year was not calculated.

- o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used. For 1985 the ratio is 88.36%, which is a decrease from the 1984 value of 91.18%.
- o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This ratio exceeds 100% and verifies that the current statutory contributions are adequate.

The following table summarizes the impact of the benefit changes since the 1984 valuation:

| | <u>Before Changes</u> | <u>After Changes</u> |
|---------------------------------|-----------------------|----------------------|
| Required Contributions | 17.92% | 18.32% |
| Accrued Benefit Funding Ratio | 96.78% | 96.04% |
| Accrued Liability Funding Ratio | 89.45% | 88.36% |
| Projected Benefit Funding Ratio | 108.04% | 106.86% |

Asset Information

Beginning in 1984, changes in Section 356.215 of Minnesota Statutes require that the asset value used for actuarial purposes reflect a portion of the unrealized gains and losses. Only a portion of these gains and losses are considered because market values are typically volatile and could produce erratic changes in the contribution requirements from year to year.

) The calculation of assets for actuarial purposes begins with the reporting of Total Assets by the Fund (Table 1, line B). These Total Assets, reduced by any Amounts Currently Payable (line C), produce the Assets Available for Benefits (line D5), which is the starting value for determining the Actuarial Value of Assets.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F1 to F6. It combines the cost value and one-third of the difference between market value and cost value.

) 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.

Since this Fund participates in the Minnesota Post Retirement Investment Fund, referred to as MPRIF, the asset value shown on line A3 is initially calculated by the State Board of Investment(SBI), and is the expected amount of MPRIF participation assuming the Fund earns 5% interest. The actual amount is determined by calculating the liability based on annuitant information supplied by the Fund. If the actual liability is larger than expected, the difference is labelled a mortality loss and if smaller a gain.

) Investment performance by SBI above the 5% level is not shown in the assets but will be added in on January 1, 1986 when benefits will be increased for those annuitants who have been receiving payments for 18 months. Next year's

) valuation will include the 1986 benefit increase in determining the MPRIF value.

Membership Data

Tables 3 through 6 summarize statistical information on members by category. Active members are grouped by age and completed years of service in Table 3. The earnings shown for these members are for the prior fiscal year except in the case of new hires where earnings have been annualized.

The service retirements in Table 4 include not only those retiring from active status but also disabled members who have attained retirement age. Disabled members under retirement age are shown in Table 5. The survivors category (Table 6) includes spouses and children of deceased members.

)

Actuarial Balance Sheet

An actuarial balance sheet is required by Section 356.215, Subdivision 4f of Minnesota Law. This balance sheet (Table 8) establishes a method for evaluating both current and future levels of funding.

Current funding levels are evaluated by comparing Current Assets on line A to Current Benefit Obligations on line D5. The difference between the obligations and the assets is shown as Current Unfunded Liability on line G.

) The measurement of the Current Benefit Obligation is based on the Proposed Statement of Governmental Accounting Standards published by the Governmental Accounting Standards Board (GASB) in August 1985. This value is known as the

Actuarial Present Value of Credited Projected Benefits.

The first step in the GASB calculation for active members involves projecting salaries and service to determine future benefits payable under the plan and then discounting those projected benefits to the date of the valuation. The second step is to determine the discounted value of benefits for the non-active members. For those non-active members whose benefits have not commenced, the liability includes augmentation of benefits to date of commencement. The result of the first two steps is shown on line F, Total Current and Expected Future Benefit Obligations.

The third step is to determine the portion that represents Current Benefit Obligations. In the case of active members the Current Benefit Obligation is computed by attributing an equal benefit amount to each year of credited and expected future employee service. For all others, their entire liability is considered a Current Benefit Obligation.

Current and future funding levels are evaluated by comparing Current and Future Expected Assets on line C to Current and Expected Future Benefit Obligations on line F. The difference between the obligations and the assets is shown as the Current and Future Unfunded Liability on line H.

Since line F has already been calculated, the remaining step is to determine the Expected Future Assets. The statutory contribution rate in excess of the combined normal cost rate and expense rate is first calculated. The amount of assets for line B1 can be determined by projecting from the valuation date to the amortization date (the date for paying off all unfunded liabilities) on the

) assumption that total payroll is increasing at 6.5% annually and then discounted to the date of the valuation.

The Current Unfunded Liability, line G, is a measurement of the status of the funding to the date of the valuation. The Current and Future Unfunded Liability is a measurement of the adequacy of the current statutory contribution level.

Contribution Sufficiency

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal 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) shows similarities and differences. The similarity is that both approaches calculate the value of all future benefits the same way. This can be verified by comparing line F of Table 8 to line A6, column 1, of Table 9. The difference arises from the technique for allocating liabilities between 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.

) An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal 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. Prior to

) 1984 these payments were calculated to be a level dollar amount similar to a fixed interest rate mortgage. The method of funding was changed in 1984 to produce a series of payments that remain a constant percentage of payroll each year.

Under this new approach the payments will increase 6.5% each year since 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 begin to cover not only the interest but also repay a portion of the unfunded.

Projected Cash Flow

) Table 12 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Non-MPRIF Assets, which are the Current Assets reduced by the MPRIIF Reserves. Contributions are then added based on the present statutory rates for employers and employees. As members become eligible for payments from MPRIIF an amount of reserve is transferred to SBI. The other disbursements represent benefit payments made directly by the Fund.

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

) The amounts transferred to MPRIIF will be affected by the number of members who reach the assumed retirement age during a given year. The amount for 1987 is large because it includes those already over age 60 who are assumed to retire a year from the valuation date.

Plan Provisions

Two plan changes since the last valuation increased the Unfunded Actuarial Accrued Liability by \$4,703,000.

) The surviving spouse optional annuity was changed from the 50% to the 100% joint and survivor annuity the member could have elected. Another change was the improved duty disability benefit for years of service between 20 and 25.

TABLE 1

PUBLIC EMPLOYEES POLICE AND FIRE FUND

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1985

| | <u>MARKET VALUE</u> | <u>COST VALUE</u> |
|---|---------------------|-------------------|
| A. ASSETS | | |
| 1. Cash and Cash Equivalents | \$15,183 | \$15,183 |
| 2. Investments | | |
| a. Fixed Income | 73,332 | 71,603 |
| b. Equity | 175,502 | 155,665 |
| c. Real Estate | 15,279 | 13,630 |
| 3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF) | 74,286 | 74,286 |
| 4. Other | 639 | 639 |
| | ----- | ----- |
| B. TOTAL ASSETS | \$354,221 | \$331,006 |
| | ===== | ===== |
| C. AMOUNTS CURRENTLY PAYABLE | \$344 | \$344 |
| D. ASSETS AVAILABLE FOR BENEFITS | | |
| 1. Member Reserves | \$66,628 | \$66,628 |
| 2. Benefit Reserves | 212,963 | 189,748 |
| 3. MPRIF Reserves | 74,286 | 74,286 |
| 4. Non-MPRIF Reserves | 0 | 0 |
| | ----- | ----- |
| 5. Total Assets Available for Benefits | \$353,877 | \$330,662 |
| | ----- | ----- |
| E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS | \$354,221 | \$331,006 |
| | ===== | ===== |
| F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS | | |
| 1. Cost Value of Assets Available for Benefits (D5) | | \$330,662 |
| 2. Market Value (D5) | \$353,877 | |
| 3. Cost Value (D5) | 330,662 | |
| | ----- | |
| 4. Market Over Cost (F2-F3) | \$23,215 | |
| 5. 1/3 of Market Over Cost(F4)/3 | | 7,738 |
| | | ----- |
| 6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets") | | \$338,400 |
| | | ===== |

TABLE 2

PUBLIC EMPLOYEES POLICE AND FIRE FUND
CHANGES IN ASSETS AVAILABLE FOR BENEFITS
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

| | <u>MARKET VALUE</u> | <u>COST VALUE</u> |
|--|---------------------|-------------------|
| A. ASSETS AVAILABLE AT BEGINNING OF PERIOD | \$272,171 | \$283,231 |
| B. OPERATING REVENUES | | |
| 1. Member Contributions | \$10,530 | \$10,530 |
| 2. Employer Contributions | 15,747 | 15,747 |
| 3. Investment Income | 22,958 | 22,958 |
| 4. MPRIF Income | 6,988 | 6,988 |
| 5. Net Realized Gain (Loss) | 0 | 0 |
| 6. Other | 394 | 394 |
| 7. Net Change in Unrealized Gain (Loss) | 34,275 | 0 |
| | ----- | ----- |
| 8. Total Revenue | \$90,892 | \$56,617 |
| | ----- | ----- |
| C. OPERATING EXPENSES | | |
| 1. Service Retirements | \$6,451 | \$6,451 |
| 2. Disability Benefits | 427 | 427 |
| 3. Survivor Benefits | 738 | 738 |
| 4. Refunds | 1,032 | 1,032 |
| 5. Expenses | 613 | 613 |
| 6. Other | 0 | 0 |
| | ----- | ----- |
| 7. Total Disbursements | \$9,261 | \$9,261 |
| | ----- | ----- |
| D. OTHER CHANGES IN RESERVES | 75 | 75 |
| E. ASSETS AVAILABLE AT END OF PERIOD | \$353,877 | \$330,662 |
| | ===== | ===== |

TABLE 3

PUBLIC EMPLOYEES POLICE AND FIRE FUND

ACTIVE MEMBERS AS OF JUNE 30, 1985

| AGE | YEARS OF SERVICE | | | | | | | | TOTAL |
|-------|------------------|-------|-------|-------|-------|-------|-------|-----|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | |
| <25 | 111 | 187 | 2 | | | | | | 300 |
| 25-29 | 96 | 489 | 298 | 2 | | | | | 885 |
| 30-34 | 48 | 268 | 579 | 234 | 3 | | | | 1,132 |
| 35-39 | 24 | 150 | 293 | 445 | 101 | | | | 1,013 |
| 40-44 | 20 | 53 | 83 | 175 | 253 | 20 | | | 604 |
| 45-49 | 6 | 24 | 52 | 92 | 158 | 79 | 11 | | 422 |
| 50-54 | 4 | 19 | 25 | 54 | 93 | 81 | 36 | 6 | 318 |
| 55-59 | 1 | 11 | 18 | 26 | 37 | 32 | 25 | 21 | 171 |
| 60-64 | | 4 | 3 | 11 | 21 | 15 | 9 | 7 | 70 |
| 65+ | | | 1 | 3 | 3 | 4 | 1 | 1 | 13 |
| TOTAL | 310 | 1,205 | 1,354 | 1,042 | 669 | 231 | 82 | 35 | 4,928 |

AVERAGE ANNUAL EARNINGS

| AGE | YEARS OF SERVICE | | | | | | | | ALL |
|-------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | |
| <25 | 13,774 | 20,787 | 24,183 | | | | | | 18,215 |
| 25-29 | 16,594 | 23,667 | 26,400 | 28,467 | | | | | 23,831 |
| 30-34 | 16,676 | 24,923 | 27,854 | 27,871 | 27,668 | | | | 26,689 |
| 35-39 | 14,967 | 24,224 | 27,732 | 29,871 | 30,940 | | | | 28,170 |
| 40-44 | 8,262 | 18,616 | 27,016 | 29,020 | 31,265 | 34,387 | | | 28,262 |
| 45-49 | 19,879 | 12,692 | 24,259 | 28,518 | 30,579 | 32,698 | 31,558 | | 28,604 |
| 50-54 | 13,537 | 18,699 | 24,248 | 24,544 | 30,446 | 32,203 | 32,274 | 32,696 | 28,739 |
| 55-59 | 25,000 | 18,316 | 21,400 | 27,943 | 29,249 | 30,122 | 33,766 | 33,856 | 28,886 |
| 60-64 | | 27,708 | 23,405 | 26,193 | 25,567 | 25,403 | 29,707 | 28,958 | 26,531 |
| 65+ | | | 14,084 | 33,547 | 22,998 | 21,907 | 28,052 | 45,738 | 26,549 |
| ALL | 14,985 | 23,015 | 27,140 | 28,804 | 30,596 | 31,653 | 32,300 | 33,017 | 26,527 |

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

| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | TOTAL |
|-------|--------|--------|--------|--------|-------|-------|-------|---------|
| 4,645 | 27,733 | 36,747 | 30,014 | 20,469 | 7,312 | 2,649 | 1,156 | 130,725 |

TABLE 4

PUBLIC EMPLOYEES POLICE AND FIRE FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1985

| AGE | YEARS RETIRED | | | | | | | TOTAL |
|-------|---------------|-----|-----|-------|-------|-------|-----|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | | | | | | | | 0 |
| 50-54 | | | | | | | | 0 |
| 55-59 | 31 | 105 | | 1 | | | | 137 |
| 60-64 | 16 | 89 | 85 | | | | | 190 |
| 65-69 | 5 | 62 | 90 | 36 | | | | 193 |
| 70-74 | 2 | 7 | 75 | 40 | 3 | | | 127 |
| 75-79 | | 1 | 11 | 43 | 8 | | | 63 |
| 80-84 | | | | 8 | 25 | 5 | | 38 |
| 85+ | | | | 2 | 8 | 7 | | 17 |
| TOTAL | 54 | 264 | 261 | 130 | 44 | 12 | 0 | 765 |

AVERAGE ANNUAL ANNUITY

| AGE | YEARS RETIRED | | | | | | | ALL |
|-------|---------------|--------|-------|-------|-------|-------|-----|--------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | | | | | | | | 0 |
| 50-54 | | | | | | | | 0 |
| 55-59 | 11,745 | 12,302 | | 2,034 | | | | 12,101 |
| 60-64 | 9,719 | 9,627 | 9,176 | | | | | 9,433 |
| 65-69 | 5,782 | 7,118 | 9,500 | 5,894 | | | | 7,966 |
| 70-74 | 6,786 | 4,039 | 6,681 | 5,794 | 3,911 | | | 6,192 |
| 75-79 | | 1,114 | 4,915 | 5,132 | 4,160 | | | 4,907 |
| 80-84 | | | | 6,683 | 4,016 | 3,151 | | 4,464 |
| 85+ | | | | 4,508 | 4,808 | 3,893 | | 4,396 |
| ALL | 10,409 | 9,921 | 8,391 | 5,609 | 4,179 | 3,584 | 0 | 8,271 |

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | TOTAL |
|-----|-------|-------|-------|-------|-------|-----|-------|
| 562 | 2,619 | 2,190 | 729 | 184 | 43 | 0 | 6,327 |

TABLE 5

PUBLIC EMPLOYEES POLICE AND FIRE FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1985

| AGE | YEARS DISABLED | | | | | | | TOTAL |
|-------|----------------|------------|------------|--------------|--------------|--------------|------------|-------|
| | <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | |
| <50 | 5 | 14 | 11 | 1 | | | | 31 |
| 50-54 | 3 | 9 | 9 | 1 | | | | 22 |
| 55-59 | | | 1 | | | | | 1 |
| 60-64 | | | | | | | | 0 |
| 65-69 | | | | | | | | 0 |
| 70-74 | | | | | | | | 0 |
| 75-79 | | | | | | | | 0 |
| 80-84 | | | | | | | | 0 |
| 85+ | | | | | | | | 0 |
| TOTAL | 8 | 23 | 21 | 2 | 0 | 0 | 0 | 54 |

AVERAGE ANNUAL BENEFIT

| AGE | YEARS DISABLED | | | | | | | ALL |
|-------|----------------|------------|------------|--------------|--------------|--------------|------------|-------|
| | <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | |
| <50 | 12,442 | 8,666 | 8,899 | 4,036 | | | | 9,208 |
| 50-54 | 12,850 | 10,699 | 6,213 | 3,407 | | | | 8,826 |
| 55-59 | | | 7,993 | | | | | 7,993 |
| 60-64 | | | | | | | | 0 |
| 65-69 | | | | | | | | 0 |
| 70-74 | | | | | | | | 0 |
| 75-79 | | | | | | | | 0 |
| 80-84 | | | | | | | | 0 |
| 85+ | | | | | | | | 0 |
| TOTAL | 12,595 | 9,462 | 7,705 | 3,722 | 0 | 0 | 0 | 9,030 |

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

| <u><1</u> | <u>1-4</u> | <u>5-9</u> | <u>10-14</u> | <u>15-19</u> | <u>20-24</u> | <u>25+</u> | <u>TOTAL</u> |
|--------------|------------|------------|--------------|--------------|--------------|------------|--------------|
| 101 | 218 | 162 | 7 | 0 | 0 | 0 | 488 |

TABLE 6

PUBLIC EMPLOYEES POLICE AND FIRE FUND

SURVIVORS AS OF JUNE 30, 1985

| AGE | YEARS SINCE DEATH | | | | | | | TOTAL |
|-------|-------------------|-----|-----|-------|-------|-------|-----|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | 4 | 19 | 11 | 6 | 8 | | | 48 |
| 50-54 | 2 | 6 | 10 | 3 | 2 | | | 23 |
| 55-59 | 1 | 10 | 9 | 10 | 2 | 1 | | 33 |
| 60-64 | | 5 | 8 | 9 | 4 | | | 26 |
| 65-69 | 1 | 5 | 19 | 14 | 5 | 6 | | 50 |
| 70-74 | 1 | 2 | 8 | 9 | 9 | 2 | | 31 |
| 75-79 | 2 | 5 | 7 | 9 | 6 | 3 | | 32 |
| 80-84 | 1 | 3 | 5 | 6 | 2 | 1 | | 18 |
| 85+ | | 2 | 4 | 5 | 2 | 5 | | 18 |
| TOTAL | 12 | 57 | 81 | 71 | 40 | 18 | 0 | 279 |

AVERAGE ANNUAL BENEFIT

| AGE | YEARS SINCE DEATH | | | | | | | ALL |
|-------|-------------------|-------|-------|-------|-------|-------|-----|-------|
| | <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | |
| <50 | 7,336 | 7,744 | 5,800 | 4,762 | 1,258 | | | 5,811 |
| 50-54 | 9,509 | 8,092 | 4,775 | 2,500 | 2,607 | | | 5,566 |
| 55-59 | 296 | 6,683 | 4,698 | 3,153 | 1,497 | 2,838 | | 4,448 |
| 60-64 | | 5,671 | 5,594 | 4,316 | 1,792 | | | 4,581 |
| 65-69 | 1,776 | 5,647 | 4,146 | 4,358 | 1,464 | 1,421 | | 3,713 |
| 70-74 | 1,232 | 1,652 | 5,624 | 2,981 | 1,465 | 1,496 | | 2,985 |
| 75-79 | 1,879 | 2,174 | 2,228 | 1,924 | 1,629 | 1,478 | | 1,930 |
| 80-84 | 2,236 | 1,683 | 2,117 | 2,352 | 821 | 1,492 | | 1,951 |
| 85+ | | 1,953 | 1,854 | 1,924 | 1,950 | 2,311 | | 2,022 |
| ALL | 4,805 | 6,004 | 4,394 | 3,315 | 1,531 | 1,769 | 0 | 3,886 |

| TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH | | | | | | | |
|--|-----|-----|-------|-------|-------|-----|-------|
| <1 | 1-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25+ | TOTAL |
| 58 | 342 | 356 | 235 | 61 | 32 | 0 | 1,084 |

TABLE 7

PUBLIC EMPLOYEES POLICE AND FIRE FUND

RECONCILIATION OF MEMBERS

| | <u>ACTIVES</u> | <u>TERMINATED</u> | |
|--------------------------------|----------------|--------------------------------|-----------------------------|
| | | <u>DEFERRED RETIREMENT</u> | <u>OTHER NON-VESTED</u> |
| A. On June 30, 1984 | 4,744 | 175 | NA |
| B. Additions | 475 | 12 | NA |
| C. Deletions: | | | |
| 1. Service Retirement | (61) | (9) | |
| 2. Disability | (9) | | |
| 3. Death | (7) | (4) | |
| 4. Terminated-Deferred | (4) | | |
| 5. Terminated-Refund | (93) | (5) | |
| 6. Terminated-Other Non-vested | (112) | | |
| 7. Returned as Active | | (6) | NA |
| D. Data Adjustments | (5) | 0 | NA |
| | Vested | | |
| | Non-Vested | | |
| | 2,059 | | |
| | 2,869 | | |
| E. Total on June 30, 1985 | 4,928 | 163 | 350 |

| | <u>RECIPIENTS</u> | | |
|---------------------------|----------------------------------|-----------------|------------------|
| | <u>RETIREMENT ANNUITANTS</u> | <u>DISABLED</u> | <u>SURVIVORS</u> |
| A. On June 30, 1984 | 715 | 44 | 242 |
| B. Additions | 70 | 9 | 0 |
| C. Deletions: | | | |
| 1. Service Retirement | | 0 | |
| 2. Death | 0 | 0 | 0 |
| 3. Annuity Expired | 0 | 0 | 0 |
| 4. Returned as Active | 0 | 0 | |
| D. Data Adjustments | (20) | 1 | 37 |
| E. Total on June 30, 1985 | 765 | 54 | 279 |

TABLE 8

PUBLIC EMPLOYEES POLICE AND FIRE FUND

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1985

| | | | |
|--|-------------------|---------------|--------------|
| A. CURRENT ASSETS (TABLE 1, F6) | | | \$338,400 |
| B. EXPECTED FUTURE ASSETS | | | |
| 1. Present Value of Expected Future Supplemental Contributions | | | 90,794 |
| 2. Present Value of Future Normal Costs | | | 290,025 |
| 3. Total Expected Future Assets | | | 380,819 |
| C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS | | | \$719,219 |
| D. CURRENT BENEFIT OBLIGATIONS | <u>Non-Vested</u> | <u>Vested</u> | <u>Total</u> |
| 1. Benefit Recipients | | | |
| a. Retirement Annuities | | \$71,302 | \$71,302 |
| b. Disability Benefits | | 4,465 | 4,465 |
| c. Surviving Spouse's Benefits | | 12,445 | 12,445 |
| d. Surviving Children's Benefits | | 589 | 589 |
| 2. Deferred Retirements with Future Augmentation | | 3,353 | 3,353 |
| 3. Former Members without Vested Rights | | 1,369 | 1,369 |
| 4. Active Members | | | |
| a. Retirement Annuities | 27,663 | 139,210 | 166,873 |
| b. Disability Benefits | 5,246 | 15,908 | 21,154 |
| c. Survivors' Benefits | 6,426 | 16,179 | 22,605 |
| d. Deferred Retirements | 12,299 | 20,116 | 32,415 |
| e. Refund Liability Due to Death or Withdrawal | 8,766 | 7,020 | 15,786 |
| 5. Total Current Benefit Obligations | \$60,400 | \$291,956 | \$352,356 |
| E. EXPECTED FUTURE BENEFIT OBLIGATIONS | | | \$320,667 |
| F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS | | | \$673,023 |
| G. CURRENT UNFUNDED LIABILITY (D5-A) | | | \$13,956 |
| H. CURRENT AND FUTURE UNFUNDED LIABILITY (F-C) | | | (\$46,196) |

TABLE 9

PUBLIC EMPLOYEES POLICE AND FIRE FUND

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

JULY 1, 1985

| | 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 | \$400,148 | \$177,197 | \$222,951 |
| b. Disability Benefits | 45,553 | 23,245 | 22,308 |
| c. Survivors Benefits | 46,781 | 28,967 | 17,814 |
| d. Deferred Retirements | 58,471 | 35,225 | 23,246 |
| e. Refunds Due to Death or Withdrawal | 28,548 | 25,391 | 3,157 |
| f. Total | <u>\$579,501</u> | <u>\$290,025</u> | <u>\$289,476</u> |
| 2. Deferred Retirements with Future Augmentation | \$3,353 | | \$3,353 |
| 3. Former Members Without Vested Rights | 1,369 | | 1,369 |
| 4. Annuitants in MPRIF | 74,286 | | 74,286 |
| 5. Recipients Not in MPRIF | 14,514 | | 14,514 |
| 6. Total AAL | <u>\$673,023</u> | <u>\$290,025</u> | <u>\$382,998</u> |
| B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL) | | | |
| 1. AAL (A6) | | | \$382,998 |
| 2. Current Assets (Table 1,F6) | | | 338,400 |
| 3. UAAL (B1-B2) | | | <u>\$44,598</u> |
| C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE | | | |
| 1. Present Value of Future Payrolls to the Amortization Date of July 1, 2009 | | | \$2,742,677 |
| 2. Supplemental Contribution Rate (B3/C1) | | | 1.63% |

TABLE 10

PUBLIC EMPLOYEES POLICE AND FIRE FUND

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

YEAR ENDING JUNE 30, 1985

| | |
|--|-----------|
| A. UAAL AT BEGINNING OF YEAR | \$27,060 |
| B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING | |
| 1. Normal Cost and Expenses | \$20,845 |
| 2. Contribution | (26,277) |
| 3. Interest on A, B1, and B2 | 1,948 |
| | ----- |
| 4. Total (B1+B2+B3) | (\$3,484) |
| | ----- |
| C. EXPECTED UAAL AT END OF YEAR (A+B4) | \$23,576 |
| D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED | |
| 1. Salary Increases | \$9,012 |
| 2. Investment Return | (16,743) |
| 3. MPRIF Mortality | 126 |
| 4. Mortality of Other Benefit Recipients | 524 |
| 5. Active Members' Turnover, Retirement, Mortality and Disability | 42 |
| 6. Expenses and Other Items | 23,358 |
| | ----- |
| 7. Total | \$16,319 |
| | ----- |
| E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D7) | \$39,895 |
| F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS | \$4,703 |
| G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS | \$0 |
| | ----- |
| H. UAAL AT END OF YEAR (E+F+G) | \$44,598 |
| | ===== |

TABLE 11

PUBLIC EMPLOYEES POLICE AND FIRE FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

JULY 1, 1985

| | <u>% OF PAYROLL</u> | <u>\$ AMOUNT</u> |
|---|--------------------------|----------------------------|
| A. STATUTORY CONTRIBUTIONS - CHAPTER 353 | | |
| 1. Employee Contributions | 8.00% | \$11,138 |
| 2. Employer Contributions | 12.00% | 16,707 |
| 3. Total | ----- 20.00% ===== | ----- \$27,845 ===== |
| B. REQUIRED CONTRIBUTIONS - CHAPTER 356 | | |
| 1. Normal Cost | | |
| a. Retirement Benefits | 9.91% | \$13,784 |
| b. Disability Benefits | 1.30% | 1,812 |
| c. Survivors | 1.62% | 2,255 |
| d. Deferred Retirement Benefits | 1.97% | 2,742 |
| e. Refunds Due to Death or Withdrawal | 1.42% | 1,983 |
| f. Total | ----- 16.22% ----- | ----- \$22,576 ----- |
| 2. Supplemental Contribution Amortization by July 1, 2009 of UAAL of \$44,598 | 1.63% | \$2,269 |
| 3. Allowance for Expenses | 0.47% | \$654 |
| 4. Total | ----- 18.32% | ----- \$25,499 |
| C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) | | |
| (A3-B4) | 1.68% | \$2,346 |

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$139,222

TABLE 12

PUBLIC EMPLOYEES POLICE AND FIRE FUND

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

| <u>FISCAL YEAR</u> | <u>STATUTORY CONTRIBUTIONS</u> | <u>TRANSFERS TO MPRIF</u> | <u>OTHER DISBURSEMENTS</u> | <u>INVESTMENT RETURN</u> | <u>NON-MPRIF ASSETS YEAR END</u> |
|------------------------|------------------------------------|-----------------------------------|--------------------------------|------------------------------|--|
| 1985 | | | | | \$264,114 |
| 1986 | \$27,927 | \$3,349 | \$2,675 | \$22,005 | 308,022 |
| 1987 | \$29,737 | 18,144 | 2,899 | 24,990 | 341,706 |
| 1988 | \$31,665 | 7,548 | 3,092 | 28,177 | 390,908 |
| 1989 | \$33,635 | 5,255 | 3,281 | 32,277 | 448,284 |
| 1990 | \$35,821 | 7,906 | 3,475 | 36,840 | 509,564 |
| 1991 | \$38,149 | 10,331 | 3,712 | 41,729 | 575,399 |
| 1992 | \$40,629 | 11,529 | 3,970 | 47,037 | 647,566 |
| 1993 | \$43,270 | 19,361 | 4,328 | 52,589 | 719,736 |
| 1994 | \$46,082 | 19,670 | 4,683 | 58,448 | 799,913 |
| 1995 | \$49,078 | 20,846 | 5,098 | 64,918 | 887,965 |
| 1996 | \$52,268 | 21,241 | 5,644 | 72,053 | 985,401 |
| 1997 | \$55,665 | 22,537 | 6,080 | 79,914 | 1,092,363 |
| 1998 | \$59,283 | 33,084 | 6,576 | 88,174 | 1,200,160 |
| 1999 | \$63,137 | 37,593 | 7,174 | 96,748 | 1,315,278 |
| 2000 | \$67,241 | 43,489 | 7,808 | 105,860 | 1,437,082 |
| 2001 | \$71,611 | 47,004 | 8,479 | 115,612 | 1,568,822 |
| 2002 | \$76,266 | 50,626 | 9,175 | 126,164 | 1,711,451 |
| 2003 | \$81,224 | 71,763 | 9,774 | 136,904 | 1,848,042 |
| 2004 | \$86,503 | 69,220 | 10,477 | 148,116 | 2,002,964 |
| 2005 | \$92,126 | 81,876 | 11,178 | 160,200 | 2,162,236 |
| 2006 | \$98,114 | 92,137 | 11,925 | 172,741 | 2,329,029 |
| 2007 | \$104,491 | 109,385 | 12,742 | 185,617 | 2,497,010 |
| 2008 | \$111,283 | 150,339 | 13,488 | 197,659 | 2,642,125 |
| 2009 | \$118,517 | 137,565 | 14,281 | 210,037 | 2,818,833 |
| 2010 | \$126,220 | 157,803 | 14,700 | 223,655 | 2,996,205 |

TABLE 13

PUBLIC EMPLOYEES POLICE AND FIRE FUND
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

| | |
|-------------------------------------|---|
| Interest: | Pre-Retirement: 8% per annum Post-Retirement: 5% per annum |
| Salary Increases: | Reported salary for prior fiscal year, with new hires annualized, increased 6.5% to current fiscal year and 6.5% annually for each future year. |
| Mortality: | Pre-Retirement: Male - UP-1984 Unisex set forward 1 year Female - UP-1984 Unisex set back 4 years Post-Retirement: Male - Same as above Female - Same as above Post-Disability: Male - 1965 RRB rates Female - 1965 RRB rates |
| Retirement Age: | Age 60, or if over age 60, one year from the valuation date. In addition, 50% of employees are assumed to retire under the Rule of 85 when first eligible. |
| Separation: | Graded rates shown in rate table. |
| Disability: | Rates as shown in rate table. |
| Expenses: | Prior year expenses expressed as percentage of prior year payroll. (0.47% of payroll) |
| Return of Contributions: | All employees withdrawing after 10 years of service were assumed to leave their contributions on deposit and receive a deferred annuitant benefit. |
| Family Composition: | 85% of male members and 65% of female members are assumed to be married. Female is four years younger than male. Assume members have no children. |
| Social Security: | NA |
| Benefit Increases After Retirement: | Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions. |
| Special Consideration: | NA |

TABLE 13
(cont)

| | |
|--|---|
| Actuarial Cost Method: | Entry Age Normal Cost Method with normal costs expressed as a level percentage of earnings. 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. |
| Projected Cash Flow Method: | Cash flows for the non-MPRIF portion of the Fund were projected based on the current plan benefits, participant data, and actuarial assumptions. In addition, new entrants were assumed so that the total payroll would increase by 6.5% per annum. |

TABLE 13
(cont)

SEPARATIONS EXPRESSED AS THE
NUMBER OF OCCURRENCES PER 10,000

| Age | Death | | Withdrawal | | Disability | | Retirement | |
|-----|-------|--------|------------|--------|------------|--------|------------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female |
| 20 | 13 | 14 | 700 | 700 | 11 | 11 | 0 | 0 |
| 21 | 12 | 14 | 700 | 700 | 11 | 11 | 0 | 0 |
| 22 | 12 | 14 | 700 | 700 | 12 | 12 | 0 | 0 |
| 23 | 11 | 14 | 699 | 699 | 12 | 12 | 0 | 0 |
| 24 | 11 | 13 | 698 | 698 | 13 | 13 | 0 | 0 |
| 25 | 11 | 13 | 697 | 697 | 13 | 13 | 0 | 0 |
| 26 | 11 | 12 | 694 | 694 | 14 | 14 | 0 | 0 |
| 27 | 11 | 12 | 689 | 689 | 14 | 14 | 0 | 0 |
| 28 | 11 | 11 | 680 | 680 | 15 | 15 | 0 | 0 |
| 29 | 11 | 11 | 670 | 670 | 15 | 15 | 0 | 0 |
| 30 | 11 | 11 | 658 | 658 | 15 | 15 | 0 | 0 |
| 31 | 12 | 11 | 643 | 643 | 16 | 16 | 0 | 0 |
| 32 | 12 | 11 | 624 | 624 | 17 | 17 | 0 | 0 |
| 33 | 13 | 11 | 598 | 598 | 17 | 17 | 0 | 0 |
| 34 | 14 | 11 | 561 | 561 | 18 | 18 | 0 | 0 |
| 35 | 15 | 11 | 511 | 511 | 19 | 19 | 0 | 0 |
| 36 | 16 | 12 | 454 | 454 | 20 | 20 | 0 | 0 |
| 37 | 18 | 12 | 395 | 395 | 22 | 22 | 0 | 0 |
| 38 | 19 | 13 | 336 | 336 | 23 | 23 | 0 | 0 |
| 39 | 21 | 14 | 287 | 287 | 24 | 24 | 0 | 0 |
| 40 | 23 | 15 | 245 | 245 | 26 | 26 | 0 | 0 |
| 41 | 26 | 16 | 213 | 213 | 28 | 28 | 0 | 0 |
| 42 | 28 | 18 | 185 | 185 | 29 | 29 | 0 | 0 |
| 43 | 31 | 19 | 160 | 160 | 31 | 31 | 0 | 0 |
| 44 | 34 | 21 | 137 | 137 | 34 | 34 | 0 | 0 |
| 45 | 38 | 23 | 118 | 118 | 36 | 36 | 0 | 0 |
| 46 | 42 | 26 | 102 | 102 | 40 | 40 | 0 | 0 |
| 47 | 46 | 28 | 87 | 87 | 46 | 46 | 0 | 0 |
| 48 | 51 | 31 | 73 | 73 | 52 | 52 | 0 | 0 |
| 49 | 56 | 34 | 61 | 61 | 60 | 60 | 0 | 0 |
| 50 | 62 | 38 | 50 | 50 | 69 | 69 | 0 | 0 |
| 51 | 69 | 42 | 39 | 39 | 80 | 80 | 0 | 0 |
| 52 | 75 | 46 | 29 | 29 | 91 | 91 | 0 | 0 |
| 53 | 83 | 51 | 22 | 22 | 104 | 104 | 0 | 0 |
| 54 | 90 | 56 | 15 | 15 | 119 | 119 | 0 | 0 |

TABLE 13
(cont)

| Age | Death | | Withdrawal | | Disability | | Retirement | |
|-----|-------|--------|------------|--------|------------|--------|------------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female |
| 55 | 99 | 62 | 11 | 11 | 135 | 135 | 0 | 0 |
| 56 | 108 | 69 | 7 | 7 | 152 | 152 | 0 | 0 |
| 57 | 119 | 75 | 5 | 5 | 171 | 171 | 0 | 0 |
| 58 | 130 | 83 | 3 | 3 | 192 | 192 | 0 | 0 |
| 59 | 142 | 90 | 1 | 1 | 215 | 215 | 0 | 0 |
| 60 | 155 | 99 | 0 | 0 | 0 | 0 | 10,000 | 10,000 |
| 61 | 170 | 108 | 0 | 0 | 0 | 0 | 0 | 0 |
| 62 | 187 | 119 | 0 | 0 | 0 | 0 | 0 | 0 |
| 63 | 205 | 130 | 0 | 0 | 0 | 0 | 0 | 0 |
| 64 | 226 | 142 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65 | 248 | 155 | 0 | 0 | 0 | 0 | 0 | 0 |
| 66 | 272 | 170 | 0 | 0 | 0 | 0 | 0 | 0 |
| 67 | 296 | 187 | 0 | 0 | 0 | 0 | 0 | 0 |
| 68 | 321 | 205 | 0 | 0 | 0 | 0 | 0 | 0 |
| 69 | 347 | 226 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | 377 | 248 | 0 | 0 | 0 | 0 | 0 | 0 |

PUBLIC EMPLOYEES POLICE AND FIRE FUND

SUMMARY OF PLAN PROVISIONS

| | |
|---------------------------|--|
| Eligibility | All full time, and certain part time, police officers and fire fighters, who are not contributing to any other local retirement fund. |
| Contributions | |
| Member | 8% of Salary. |
| Employer | 12% of Salary plus \$82,904 from the University of Minnesota on 7/1/85, 7/1/86, and 7/1/87. |
| Allowable Service | Police and fire service during which member contributions were deducted. May also include certain leaves of absence, military service, and service prior membership. |
| Salary | Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes lump sum payments at separation and Workers' Compensation benefits. |
| Average Salary | Average of the 5 highest successive years of Salary. |
| RETIREMENT | |
| Normal Retirement Benefit | |
| Eligibility | Age 55 and 10 years of Allowable Service. |
| Amount | 2.5% of Average Salary for the first 25 years of Allowable Service and 2.0% of Average Salary for each subsequent year. |
| Form of Payment | Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are: 50% or 100% joint and survivor 50% or 100% bounce back joint and survivor (option is cancelled if Member is pre-deceased by beneficiary). |
| Benefit Increases | Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). |

TABLE 14
(cont)

DISABILITY

Duty Disability Benefit
Eligibility

Under age 55 and physically unfit to perform his duties as a police officer or fire fighter as a direct result of an act of duty.

Amount

50% of Average Salary plus 2.5% of Average Salary for each year in excess of 20, but not exceeding 25 years of Allowable Service plus 2.0% of Average Salary for each year in excess of 25 years of Allowable Service. Benefit is reduced by Workers' Compensation. Payments cease at age 55.

Normal Disability Benefit
Eligibility

Totally and permanently disabled before age 55 with 5 years of Allowable Service.

Amount

Normal Retirement Benefit based on Allowable Service (minimum of 10 years) and Average Salary at disability without reduction for commencement before age 55. Payments cease at age 55.

Form of Payment

Same as for retirement.

Benefit Increases

Adjusted by PERA to provide same increase as MPRIF.

Retirement Benefits
Eligibility

Age 55 with continued disability.

Amount

Any optional annuity continues. Otherwise the larger of the disability benefit paid before age 55 or the normal retirement benefit available at age 55, or an actuarially equivalent optional annuity.

Benefit Increases

Same as for retirement.

DEATH

Surviving Spouse Benefit
Eligibility

Active Member with surviving spouse.

Amount

30% of Salary averaged over last 6 months. Benefit paid until spouse's death but no payments while spouse is remarried.

Surviving Dependent
Child Benefit
Eligibility

Active Member with dependent child.

TABLE 14
(cont)

| | |
|-----------------------------------|--|
| Amount | 10% of Salary averaged over last 6 months for each child. Family benefit minimum (including spouse's benefit) of 30% of Salary and maximum of 50% of Salary. Benefits paid until child marries, dies, or attains age 18. |
| Surviving Spouse Optional Annuity | |
| Eligibility | Member who dies before termination if age 55 with 10 years of Allowable Service. |
| Amount | Survivor's payment of the 100% joint and survivor benefit the member could have elected if terminated. Alternatively, spouse may elect refund of deceased contributions with interest if there are no dependent children. |
| Benefit Increases | Adjusted by PERA to provide same increase as MPRIF. |
| TERMINATION | |
| Refund of Contributions | |
| Eligibility | Termination of public service. |
| Amount | Member's contributions with 5% interest compounded annually. A deferred annuity may be elected in lieu of a refund. |
| Deferred Annuity | |
| Eligibility | 10 years of Allowable Service. |
| Amount | Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/71, 5% from 7/1/71 to 1/1/81, and 3% thereafter until the annuity begins. Amount is payable as a normal or early retirement. |

TABLE 15

PUBLIC EMPLOYEES POLICE AND FIRE FUND

MEMBERSHIP CHANGES
(DOLLARS IN THOUSANDS)

JUNE 30, 1985

| A. ACTIVE MEMBERS | <u>NUMBER</u> | <u>PAYROLL</u> |
|---|---------------|-----------------------|
| 1. As of the Last Valuation Date | 4,744 | \$117,881 |
| 2. New Entrants | 475 | NA |
| 3. Total | 5,219 | NA |
| 4. Separations from Active Service | | |
| a. Refund of Contributions | (93) | NA |
| b. Separation with Deferred Annuity | (4) | NA |
| c. Separation with neither Refund nor Deferred Annuity | (112) | NA |
| d. Disability | (9) | NA |
| e. Death | (7) | NA |
| f. Retirement with Service Annuity | (61) | NA |
| 5. Total Separations | (286) | NA |
| 6. Data Adjustments | (5) | NA |
| 7. As of Current Valuation Date | 4,928 | \$130,725 |
| B. SERVICE RETIREMENT ANNUITANTS | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 715 | \$5,233 |
| 2. New Entrants | 70 | NA |
| 3. Total | 785 | NA |
| 4. Terminations | | |
| a. Deaths | 0 | NA |
| b. Others | 0 | NA |
| 5. Total Terminations | 0 | NA |
| 6. Data Adjustments | (20) | NA |
| 7. As of Current Valuation Date | 765 | \$6,327 |
| C. DISABLED ANNUITANTS | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 44 | \$369 |
| 2. New Entrants | 9 | NA |
| 3. Total | 53 | NA |
| 4. Terminations | | |
| a. Deaths | 0 | NA |
| b. Others | 0 | NA |
| 5. Total Terminations | 0 | NA |
| 6. Data Adjustments | 1 | NA |
| 7. As of Current Valuation Date | 54 | \$488 |

TABLE 15
(cont)

| D. SURVIVING SPOUSE ANNUITANTS | | |
|----------------------------------|---------------|-----------------------|
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 229 | \$926 |
| 2. New Entrants | 0 | NA |
| 3. Total | 229 | NA |
| 4. Terminations | | |
| a. Deaths | 0 | NA |
| b. Others | 0 | NA |
| 5. Total Terminations | 0 | NA |
| 6. Data Adjustments | 36 | NA |
| 7. As of Current Valuation Date | 265 | \$1,022 |
| E. SURVIVING CHILDREN ANNUITANTS | | |
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 13 | \$64 |
| 2. New Entrants | 0 | NA |
| 3. Total | 13 | NA |
| 4. Terminations | | |
| a. Deaths | 0 | NA |
| b. Others | 0 | NA |
| 5. Total Terminations | 0 | NA |
| 6. Data Adjustments | 1 | NA |
| 7. As of Current Valuation Date | 14 | \$62 |
| F. DEFERRED ANNUITANTS | | |
| | <u>NUMBER</u> | <u>ANNUAL ANNUITY</u> |
| 1. As of the Last Valuation Date | 175 | NA |
| 2. New Entrants | 12 | NA |
| 3. Total | 187 | NA |
| 4. Terminations | | |
| a. Deaths | (4) | NA |
| b. Others | (20) | NA |
| 5. Total Terminations | (24) | NA |
| 6. Data Adjustments | 0 | NA |
| 7. As of Current Valuation Date | 163 | \$293 |