**Minnesota State Retirement System**
**Legislators Retirement Fund**

***Actuarial Valuation and Review***
***as of July 1, 2007***

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*November 30, 2007*

*Mr. Dave Bergstrom*
*Minnesota State Retirement System*
*Legislators Retirement Fund*
*60 Empire Drive, Suite 300*
*St. Paul, Minnesota  55103-3000*

*Dear Mr. Bergstrom:*

*We are pleased to submit this Actuarial Valuation and Review as of July 1, 2007.  It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2008 and analyzes the preceding year's experience.*

*The census and financial  information on which our calculations were based was prepared by the Minnesota State Retirement System.  That assistance is gratefully acknowledged.  The actuarial calculations were completed under our supervision.*

*This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices.  To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate.  Further, in our opinion, the assumptions used in the valuation are consistent with those in the statute, and reasonably represent the experience of the plan.*

*Sincerely,*

*THE SEGAL COMPANY*

*By:*

| | | |
|---|---|---|
| *Thomas D. Levy, FSA, MAAA, EA* | *Andre Latia, FSA, MAAA, EA* | *Brad E. Ramirez, FSA, MAAA, EA* |
| *Senior Vice President and Chief Actuary* | *Senior Vice President and Consulting Actuary* | *Consulting Actuary* |

*cc:* *Legislative Commission on Pensions and Retirement (3 copies)*
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*Minnesota Department of Finance (2 copies)*

## SECTION 1

### VALUATION SUMMARY



## SECTION 2

### VALUATION RESULTS



## SECTION 3

### SUPPLEMENTAL INFORMATION



## SECTION 4

### REPORTING INFORMATION

## Purpose

This report has been prepared by The Segal Company to present a valuation of the Minnesota State Retirement System (Legislators Retirement Fund) as of July 1, 2007. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- Applicable Minnesota Statutes;
- The data as provided and confirmed by the MSRS staff;
- The benefit provisions of the Retirement Fund as administered by the Fund;
- The characteristics of covered active participants, inactive vested participants, retired participants and beneficiaries as of July 1, 2007, provided by the Fund;
- The assets of the Fund as of June 30, 2007, provided by the Fund;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions regarding employee terminations, retirement, death, etc.

**Significant Issues in Valuation Year**

The following key findings were the result of this actuarial valuation:

- The total dollar cost for the Fund increased (from $3.42 million to $4.27 million), and payroll decreased (from $3.08 million to $2.50 million). These changes created an increase in the percent of payroll costs.
- The statutory contribution rate under Chapter 3A is equal to 9.00% of payroll compared to the required contribution rate under Chapter 356 of 171.10% of payroll. Therefore, the contribution deficiency is 162.10% of payroll or $4,050,009. Each year there is a contribution deficiency leads to an increased deficiency in all future years. The FY2007 shortfall increased the required rate for FY2008 (and each succeeding year through FY 2021) by 12.21% of payroll.
- The Legislators Retirement Fund (Fund) is closed to new entrants, hence there are no future employer contributions expected to be made for the Fund.
- The report shows that the statutory funding rate is significantly less than the required rate. In the absence of exceptionally favorable future experience, this difference is expected to increase over time. We strongly recommend that this shortfall be addressed promptly, so that the funded position does not continue to deteriorate.
- There were no changes in plan provisions or actuarial assumptions since the prior valuation.
- The only change in actuarial cost methods since the prior valuation was a modification to the asset valuation method, effective with the July 1, 2007 valuation. Assets allocated to the Minnesota Post Retirement Investment Fund (MPRIF) must equal the Market Value of Assets on the valuation date. This change resulted in a decrease to the Actuarial Value of Assets and increase to the Unfunded Actuarial Accrued Liability of $2,496,472. The Supplemental Contribution increased by $228,611, which directly impacted the Contribution Deficiency, resulting in total deficiency of 162.10% of payroll.
- The funded ratio based on the actuarial value of assets under the new asset valuation method as of July 1, 2007 is 51.90% compared to 59.62% as of July 1, 2006. The funded ratio based on this calculation under the old asset valuation method would have decreased to 54.79% as of July 1, 2007; hence, the decrease in the funded ratio from 54.79% to 51.90% is entirely attributable to the asset valuation method change. This ratio is a measure of funding status, and its history is a measure of funding progress.

## Summary of Key Valuation Results

| | 2007* | 2006 |
|---|---|---|
| **Contributions (% of payroll) for plan year beginning July 1:** | | |
| Statutory – Chapter 3A | 9.00% | 9.00% |
| Required – Chapter 356 | 171.10% | 111.24% |
| Sufficiency/(Deficiency) | -162.10% | -102.24% |
| **Funding elements for plan year beginning July 1:** | | |
| Normal cost | $443,456 | $542,360 |
| Market value of assets | 44,869,002 | 48,503,723 |
| Actuarial value of assets (AVA) | 44,869,002 | 48,503,723 |
| Actuarial accrued liability (AAL) | 86,448,932 | 81,361,446 |
| Unfunded/(Overfunded) actuarial accrued liability | 41,579,930 | 32,857,723 |
| **Funded ratios:** | | |
| Accrued Benefit Funded Ratio | 52.27% | 60.21% |
| Current assets (AVA) | $44,869,002 | $48,503,723 |
| Current benefit obligations | 85,846,037 | 80,559,476 |
| Projected Benefit Funded Ratio | 52.81% | 60.65% |
| Current and expected future assets | $46,533,572 | $50,638,228 |
| Current and expected future benefit obligations (Present Value of Benefits) | 88,113,502 | 83,495,951 |
| **GASB 25/27 for plan year beginning July 1:** | | |
| Annual required employer contributions | $2,408,044 | $2,995,081 |
| Accrued Liability Funded Ratio (AVA/AAL) | 51.90% | 59.62% |
| Covered actual payroll | $2,379,503 | $2,893,797 |
| **Demographic data for plan year beginning July 1:** | | |
| Number of retired participants and beneficiaries | 340 | 319 |
| Number of vested terminated participants | 116 | 115 |
| Number of other non-vested terminated participants | 3 | 2 |
| Number of active participants | 54 | 76 |
| Total projected payroll | $2,498,478 | $3,078,466 |
| Average projected compensation | 46,268 | 40,506 |

* *The 2007 results reflect a change in the Asset Valuation Method, with MPRIF reserves equal to Market Value.*

## A. PARTICIPANT DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active participants, vested terminated participants, retired participants and beneficiaries.

This section presents a summary of significant statistical data on these participant groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A, B, and C.

*A historical perspective of how the participant population has changed over the past several valuations can be seen in this chart.*

**CHART 1**

**Participant Population: 2001 – 2007**

| Year Ended June 30 ** | Active Participants | Vested Terminated Participants* | Retired Participants and Beneficiaries | Ratio of Non-Actives to Actives |
|---|---|---|---|---|
| 2001 | 139 | 102 | 293 | 2.84 |
| 2002 | 134 | 97 | 297 | 2.94 |
| 2004 | 87 | 114 | 315 | 4.93 |
| 2005 | 78 | 118 | 321 | 5.63 |
| 2006 | 76 | 115 | 319 | 5.71 |
| 2007 | 54 | 116 | 340 | 8.44 |

* *Excludes terminated participants due a refund of employee contributions.*

** *An actuarial valuation was not completed as of July 1, 2003.*

### Active Participants

Plan costs are affected by the age, years of service and payroll of active participants. In this year's valuation, there were 54 active participants with an average age of 60.9, average service of 19.8 years and average projected compensation of $46,268. The 76 active participants in the prior valuation had an average age of 60.3, average service of 17.9 years and average projected compensation of $40,506.

### Inactive Participants

In this year's valuation, there were 116 participants with a vested right to a deferred or immediate vested benefit.

In addition there were 3 other non-vested terminated participants entitled to a return of their employee contributions.

*These graphs show a distribution of active participants by age and by years of service.*

**CHART 2**

**Distribution of Active Participants by Age as of June 30, 2007**

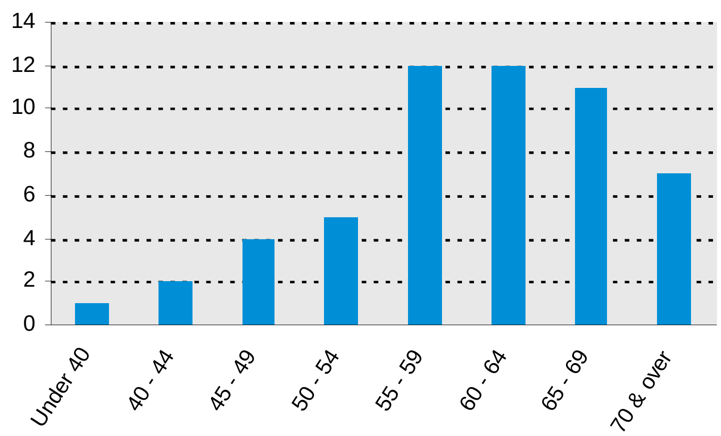
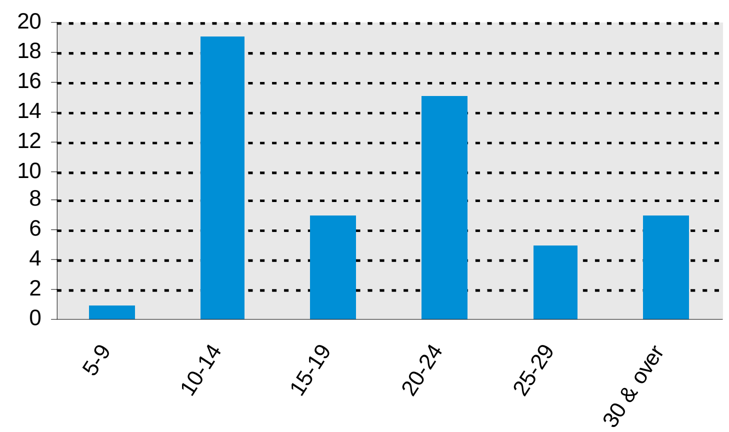



**CHART 3**

**Distribution of Active Participants by Years of Service as of June 30, 2007**



**Retired Participants and Beneficiaries**

As of June 30, 2007, 272 retired participants and 68 beneficiaries were receiving average monthly benefits of $1,624. For comparison, in the previous valuation, there were 256 retired participants and 63 beneficiaries receiving average monthly benefits of $1,601.

*These graphs show a distribution of the current retired participants and beneficiaries based on their monthly amount and age, by type of pension.*

**CHART 4**

**Distribution of Retired Participants and Beneficiaries by Type and by Monthly Amount as of June 30, 2007**

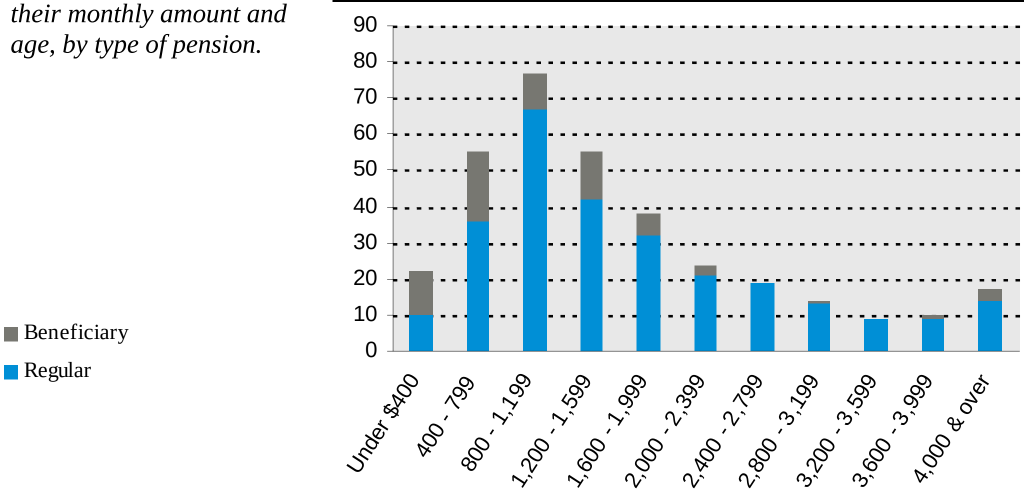
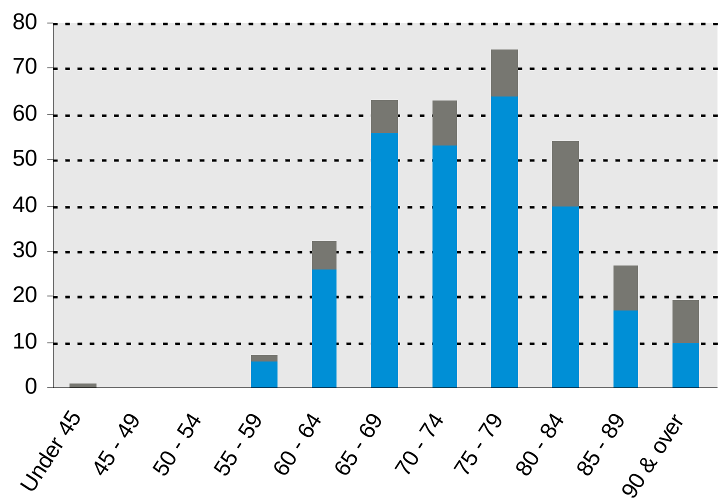



**CHART 5**

**Distribution of Retired Participants and Beneficiaries by Type and by Age as of June 30, 2007**



### B. FINANCIAL INFORMATION

The actuarial value of assets is equal to the market value of assets. The only assets of this plan are non-segregated member contributions. These assets are shown on an "as reported" basis. Asset smoothing would not be appropriate.

Effective with the July 1, 2007 valuation, the Asset Valuation Method was changed such that assets allocated to the Minnesota Post Retirement Investment Fund (MPRIF) must equal the Market Value of Assets on the valuation date. The following summarizes the determination of the Actuarial Value of Assets for the Year ended June 30, 2007, before and after this method change.

*The chart shows the determination of the actuarial value of assets as of the valuation date, before the asset valuation method change.*

**CHART 6A**

**Determination of Actuarial Value of Assets for Year Ended June 30, 2007 – Before Asset Valuation Method Change**

| | | |
|---|---|---|
| 1. | Actuarial value of assets (market value of assets) | $47,365,474 |
| 2. | Actuarial value as a percent of market value | 100.00% |

*The chart shows the determination of the actuarial value of assets as of the valuation date, after the asset valuation method change.*

**CHART 6B**

**Determination of Actuarial Value of Assets for Year Ended June 30, 2007 – After Asset Valuation Method Change**

| | | |
|---|---|---|
| 1. | Actuarial value of assets (market value of assets) | $44,869,002 |
| 2. | Actuarial value as a percent of market value | 100.00% |

## C. INFORMATION REQUIRED BY THE GASB

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to GASB is the historical comparison of the GASB required contribution to the actual contributions. This comparison demonstrates whether a plan is being funded in accordance with the GASB actuarially required contributions. Section 4, Exhibit III presents a schedule of this information for the Fund.

The other critical piece of information regarding the Fund's financial status is the funded ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the plan as calculated under GASB. High ratios indicate a well-funded plan with assets sufficient to pay most benefits. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

GASB requires that the actuarial value of assets be used to determine the funded ratio, as shown in Section 4, Exhibit IV.

## EXHIBIT A

### Table of Plan Coverage

| Category | Year Ended June 30 2007 | Year Ended June 30 2006 | Change From Prior Year |
|---|---|---|---|
| **Active participants in valuation:** | | | |
| Number | 54 | 76 | -28.9% |
| Average age | 60.9 | 60.3 | N/A |
| Average service | 19.8 | 17.9 | N/A |
| Total projected payroll* | $2,498,478 | $3,078,466 | -18.8% |
| Average projected payroll | 46,268 | 40,506 | 14.2% |
| Total active vested participants | 54 | 73 | -26.0% |
| **Vested terminated participants** | 116 | 115 | 0.9% |
| **Retired participants:** | | | |
| Number in pay status | 272 | 256 | 6.3% |
| Average age | 74.1 | 73.8 | N/A |
| Average monthly benefit | $1,738 | $1,722 | 0.9% |
| **Disabled participants** | 0 | 0 | 0.0% |
| **Beneficiaries:** | | | |
| Number in pay status | 68 | 63 | 7.9% |
| Average age | 78.0 | 77.9 | N/A |
| Average monthly benefit | $1,167 | $1,108 | 5.3% |
| **Other non-vested terminated participants** | 3 | 2 | N/A |

**Calculated as covered actual payroll, projected one year with salary scale.*

## EXHIBIT B

### Participants in Active Service as of June 30, 2007
### By Age, Years of Service, and Average Payroll

| | | Years of Service | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Age** | **Total** | **Under 5** | **5-9** | **10-14** | **15-19** | **20-24** | **25-29** | **30 & Over** |
| Under 40 | 1 | - - | - - | 1 | - - | - - | - - | - - |
| | 47,365 | - - | - - | 47,365 | - - | - - | - - | - - |
| 40 - 44 | 2 | - - | 1 | 1 | - - | - - | - - | - - |
| | 45,796 | - - | 44,882 | 46,709 | - - | - - | - - | - - |
| 45 - 49 | 4 | - - | - - | 3 | 1 | - - | - - | - - |
| | 46,762 | - - | - - | 46,795 | 46,661 | - - | - - | - - |
| 50 - 54 | 5 | - - | - - | 3 | 1 | 1 | - - | - - |
| | 45,457 | - - | - - | 46,373 | 46,709 | 41,455 | - - | - - |
| 55 - 59 | 12 | - - | - - | 4 | 2 | 4 | 2 | - - |
| | 46,395 | - - | - - | 46,564 | 46,685 | 46,414 | 45,731 | - - |
| 60 - 64 | 12 | - - | - - | 4 | 1 | 2 | 2 | 3 |
| | 46,504 | - - | - - | 46,673 | 46,661 | 45,877 | 46,433 | 46,693 |
| 65 - 69 | 11 | - - | - - | 2 | - - | 5 | 1 | 3 |
| | 46,637 | - - | - - | 46,540 | - - | 46,689 | 46,709 | 46,590 |
| 70 & Over | 7 | - - | - - | 1 | 2 | 3 | - - | 1 |
| | 45,343 | - - | - - | 46,709 | 44,288 | 45,234 | - - | 46,412 |
| Total | 54 | - - | 1 | 19 | 7 | 15 | 5 | 7 |
| | $46,268 | - - | $44,882 | $46,648 | $45,997 | $45,867 | $46,207 | $46,609 |

## EXHIBIT C

### Reconciliation of Participant Data

| | Active Participants | Vested Former Participants | Other Non-Vested Terminated Participants | Disableds | Retired Participants | Beneficiaries | Total |
|---|---|---|---|---|---|---|---|
| Number as of July 1, 2006 | 76 | 115 | 2 | - - | 256 | 63 | 512 |
| New participants | - - | - - | 1 | - - | - - | - - | 1 |
| Terminations – with vested rights | -12 | 12 | - - | - - | - - | - - | - - |
| Terminations – without vested rights | - - | - - | - - | - - | - - | - - | - - |
| Retirements | -9 | -11 | - - | - - | 20 | - - | - - |
| New disabilities | - - | - - | - - | - - | - - | - - | - - |
| Return to work | - - | - - | - - | - - | - - | - - | - - |
| Died with beneficiary | - - | - - | - - | - - | -7 | 7 | - - |
| Died without beneficiary | -1 | - - | - - | - - | -4 | -1 | -6 |
| Lump sum payoffs | - - | - - | -1 | - - | - - | - - | -1 |
| Rehired | - - | - - | - - | - - | - - | - - | - - |
| Certain period expired | - - | - - | - - | - - | - - | - - | - - |
| Data adjustments | - - | - - | 1 | - - | 7 | -1 | 7 |
| Active participants no longer accruing benefits | - - | - - | - - | - - | - - | - - | - - |
| Optional | - - | - - | - - | - - | - - | - - | - - |
| Number as of July 1, 2007 | 54 | 116 | 3 | - - | 272 | 68 | 513 |

## EXHIBIT D

### Summary Statement of Income and Expenses on a Market Value Basis for Year Ended June 30, 2007

| | Non-MPRIF Assets | MPRIF Reserve | Market Value |
|---|---|---|---|
| A. Assets available at beginning of period | $7,165,688 | $41,338,035 | $48,503,723 |
| B. Operating revenues: | | | |
| 1. Member contributions | $238,915 | - - | $238,915 |
| 2. Employer contributions | - - | - - | - - |
| 3. Contributions from other sources | 1,772,000 | - - | 1,772,000 |
| 4. MPRIF income | - - | $3,319,414 | 3,319,414 |
| 5. Net investment income | | | |
| (a) Interest and dividends | - - | - - | - - |
| (b) Net appreciation/(depreciation) | - - | - - | - - |
| (c) Investment expenses | - - | - - | - - |
| (d) Net subtotal | - - | - | - - |
| 6. Other | 11,121 | - - | 11,121 |
| 7. Total additions | $2,022,036 | $3,319,414 | $5,341,450 |
| C. Operating expenses: | | | |
| 1. Benefits | - - | $6,389,741 | $6,389,741 |
| 2. Refunds | $34,922 | - - | 34,922 |
| 3. Administrative expenses | 29,471 | - - | 29,471 |
| 4. Other | 25,565 | - - | 25,565 |
| 5. Total operating expenses | $89,958 | $6,389,741 | $6,479,699 |
| D. Other changes in reserves: | | | |
| 1. Annuities awarded | -$1,159,642 | $1,159,642 | - - |
| 2. Mortality gain/(loss) | -1,042,935 | 1,042,935 | - - |
| 3. Change in MPRIF Asset Valuation Method Change | - - | -2,496,472 | -2,496,472 |
| 4. Total other changes | -$2,202,577 | -$293,895 | -$2,496,472 |
| E. Assets available at end of period | $6,895,189 | $37,973,813 | $44,869,002 |

## EXHIBIT E

### Table of Financial Information for Year Ended June 30, 2007

| | Market Value | Cost Value |
|---|---|---|
| **Assets in trust** | | |
| Cash, equivalents, short-term securities: | - - | - - |
| Fixed income | - - | - - |
| Equity | - - | - - |
| Real estate | - - | - - |
| Equity in MPRIF* | $37,973,813 | $37,973,813 |
| Other | 7,959,597 | 7,959,597 |
| Total assets in trust | $45,933,410 | $45,933,410 |
| **Assets receivable** | $3,206 | $3,206 |
| **Total assets** | $45,936,616 | $45,936,616 |
| **Amounts currently payable** | -$1,067,614 | -$1,067,614 |
| **Assets available for benefits** | | |
| MPRIF reserves | $37,973,813 | $37,973,813 |
| Member reserves | 6,542,529 | 6,542,529 |
| Other non-MPRIF reserves | 352,660 | 2,849,132 |
| **Net Assets Available for Benefits** | $44,869,002 | $47,365,474 |
| **Net Assets at Market/Cost Value** | $44,869,002 | $47,365,474 |

**The Cost Value of the Equity in the MPRIF is stated as Market Value in the MPRIF. The actual liability of the MPRIF Reserve is $40,470,285.*

## EXHIBIT F

### Actuarial Value of Assets Calculation History of the Fund Through June 30, 2007

| Year Ended June 30** | Employer Contributions | Employee Contributions | Net Investment Return* | Change in Asset Method | Administrative Expenses | Benefit Payments | Actuarial Value of Assets at End of Year |
|---|---|---|---|---|---|---|---|
| 2002 | $4,135,000 | $458,000 | $3,611,000 | - - | $29,000 | $5,282,000 | $45,501,000 |
| 2004 | - - | 343,373 | 6,099,885 | - - | 22,949 | 5,766,150 | 46,155,159 |
| 2005 | - - | 383,512 | 4,952,709 | - - | 26,808 | 5,941,837 | 45,522,735 |
| 2006 | - - | 264,492 | 8,921,105 | - - | 32,745 | 6,171,864 | 48,503,723 |
| 2007 | - - | 238,915 | 5,076,970 | -$2,496,472 | 29,471 | 6,424,663 | 44,869,002 |

** Net Investment Return on an Actuarial Value of Assets basis and net of investment fees.*
***An actuarial valuation was not completed as of July 1, 2003.*

## EXHIBIT G

### Development of Unfunded/(Overfunded) Actuarial Accrued Liability for Year Ended June 30, 2007

| | |
|---|---|
| 1. Unfunded/(Overfunded) actuarial accrued liability as of the prior valuation date | $32,857,723 |
| 2. Changes due to passage of time and actuarial experience | 6,225,735 |
| 3. Changes due to Asset Valuation Method Change | 2,496,472 |
| 4. Unfunded/(Overfunded) actuarial accrued liability at end of year | $41,579,930 |

## EXHIBIT H
### Definitions of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

**Assumptions or Actuarial Assumptions:** The estimates on which the cost of the Fund is calculated including:

(a) Investment return — the rate of investment yield that the Fund will earn over the long-term future;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

**Normal Cost:** The amount of contributions required to fund the benefit allocated to the current year of service.

**Actuarial Accrued Liability For Actives:** The equivalent of the accumulated normal costs allocated to the years before the valuation date.

**Actuarial Accrued Liability For Pensioners:** The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

**Unfunded Actuarial Accrued Liability:** The extent to which the actuarial accrued liability of the Fund exceeds the assets of the Fund. There is a wide range of approaches to paying off the unfunded actuarial accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

**Amortization of the Unfunded Actuarial Accrued Liability:** Payments made over a period of years equal in value to the Fund's unfunded actuarial accrued liability.

**Investment Return:** The rate of earnings of the Fund from its investments, including interest, dividends and capital gain and loss adjustments, computed as a percentage of the average value of the fund. For actuarial purposes, the investment return reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next.

**Accrued Benefit Funded Ratio:** A current year funded status that measures the percent of benefits covered by Current Assets. This ratio is based on benefits earned to the valuation date (accrued service) and includes future salary increases to retirement. The liability for these benefits is defined as the Current Benefit Obligations. The Accrued Benefit Funded Ratio is calculated as the Actuarial Value of Assets (Current Assets) divided by the Current Benefit Obligations.

**Projected Benefit Funded Ratio:** A projected funded status that measures contribution sufficiency/deficiency, which is based on a present value of all plan benefits for the lifetime of all plan members. The liability for these benefits is defined as the Current and Expected Future Benefit Obligations, or Present Value of Benefits. The Current and Expected Future Assets are determined as the sum of the Actuarial Value of Assets (Current Assets), the Present Value of Expected Future Statutory Supplemental Contributions and the Present Value of Future Normal Costs. The Projected Benefit Funded Ratio is calculated as the Current and Expected Future Assets divided by the Current and Expected Future Benefit Obligations. If the ratio is equal to or more than 100%, there is a contribution sufficiency, and if it is less than 100% there is a contribution deficiency.

## EXHIBIT IA

### Summary of Actuarial Valuation Data

The valuation was made with respect to the following data supplied to us:

| | | | |
|---|---|---|---|
| 1. | Retired participants as of the valuation date (including 68 beneficiaries in pay status) | | 340 |
| 2. | Participants inactive during year ended June 30, 2007 with vested rights | | 116 |
| 3. | Participants active during the year ended June 30, 2007 | | 54 |
| | Fully vested | 54 | |
| | Not vested | - - | |
| 4. | Other non-vested terminated participants as of June 30, 2007 | | 3 |

## EXHIBIT IB

### Summary of Actuarial Valuation Results (Before Asset Valuation Method Change)

| | Actuarial Present Value of Projected Benefits | Actuarial Present Value of Future Normal Costs | Actuarial Accrued Liability |
|---|---|---|---|
| **A. Determination of Actuarial Accrued Liability** | | | |
| 1. Active participants: | | | |
| (a) Retirement benefits | $13,013,351 | $1,503,776 | $11,509,575 |
| (b) Disability benefits | - - | - - | - - |
| (c) Death benefits | 234,967 | 66,576 | 168,391 |
| (d) Withdrawal benefits | 4,616 | 94,218 | -89,602 |
| (e) Total | $13,252,934 | $1,664,570 | $11,588,364 |
| 2. Vested terminated participants | $21,654,090 | - - | $21,654,090 |
| 3. Other non-vested terminated participants | 26,683 | - - | 26,683 |
| 4. Annuitants in MPRIF | 40,470,285 | - - | 40,470,285 |
| 5. Annuitants not in MPRIF | 12,709,510 | - - | 12,709,510 |
| 6. Total | $88,113,502 | $1,664,570 | $86,448,932 |

| | |
|---|---|
| **B. Determination of Unfunded Actuarial Accrued Liability** | |
| 1. Actuarial Accrued Liability | $86,448,932 |
| 2. Actuarial Value of Assets | 47,365,474 |
| 3. Unfunded Actuarial Accrued Liability: (B.1) – (B.2) | $39,083,458 |

| | |
|---|---|
| **C. Determination of Supplemental Contribution Rate** | |
| 1. Present value of future payrolls through the amortization date of June 30, 2021 | $27,286,000 |
| 2. Supplemental contribution rate: (B.3) / (C.1) | 143.24% |

**EXHIBIT IC**

**Summary of Actuarial Valuation Results (After Asset Valuation Method Change)**

| | Actuarial Present Value of Projected Benefits | Actuarial Present Value of Future Normal Costs | Actuarial Accrued Liability |
|---|---|---|---|
| **A. Determination of Actuarial Accrued Liability** | | | |
| 1. Active participants: | | | |
| (a) Retirement benefits | $13,013,351 | $1,503,776 | $11,509,575 |
| (b) Disability benefits | - - | - - | - - |
| (c) Death benefits | 234,967 | 66,576 | 168,391 |
| (d) Withdrawal benefits | 4,616 | 94,218 | -89,602 |
| (e) Total | $13,252,934 | $1,664,570 | $11,588,364 |
| 2. Vested terminated participants | $21,654,090 | - - | $21,654,090 |
| 3. Other non-vested terminated participants | 26,683 | - - | 26,683 |
| 4. Annuitants in MPRIF | 40,470,285 | - - | 40,470,285 |
| 5. Annuitants not in MPRIF | 12,709,510 | - - | 12,709,510 |
| 6. Total | $88,113,502 | $1,664,570 | $86,448,932 |
| **B. Determination of Unfunded Actuarial Accrued Liability** | | | |
| 1. Actuarial Accrued Liability | | | $86,448,932 |
| 2. Actuarial Value of Assets | | | 44,869,002 |
| 3. Unfunded Actuarial Accrued Liability: (B.1) – (B.2) | | | $41,579,930 |
| **C. Determination of Supplemental Contribution Rate** | | | |
| 1. Present value of future payrolls through the amortization date of June 30, 2021 | | | $27,286,000 |
| 2. Supplemental contribution rate: (B.3) / (C.1) | | | 152.39% |

## EXHIBIT II
## Actuarial Balance Sheet

| | | | | |
|---|---|---|---|---|
| A. Current Assets | | | | $44,869,002 |
| B. Expected Future Assets | | | | |
| 1. Present Value of Expected Future Statutory Supplemental Contributions | | | | - - |
| 2. Present Value of Future Normal Costs | | | | $1,664,570 |
| 3. Total Expected Future Assets | | | | $1,664,570 |
| C. Total Current and Expected Future Assets | | | | $46,533,572 |
| D. Current Benefit Obligations | | **Non-Vested** | **Vested** | **Total** |
| 1. Benefit recipients: | | | | |
| (a) Retirement annuities | | - - | $45,614,983 | $45,614,983 |
| (b) Disability benefits | | - - | - - | - - |
| (c) Beneficiaries | | - - | 7,564,812 | 7,564,812 |
| 2. Vested terminated participants | | - - | 21,654,090 | 21,654,090 |
| 3. Other non-vested terminated participants | | - - | 26,683 | 26,683 |
| 4. Active participants | | - - | 10,985,469 | 10,985,469 |
| 5. Total Current Benefit Obligations | | - - | $85,846,037 | $85,846,037 |
| E. Expected Future Benefit Obligations | | | | $2,267,465 |
| F. Total Current and Expected Future Benefit Obligations - Present Value of Benefits: (D.5 + E) | | | | $88,113,502 |
| G. Current Unfunded Actuarial Liability (D.5 - A) | | | | $40,977,035 |
| H. Current and Future Unfunded Actuarial Liability (F - C) | | | | $41,579,930 |

## EXHIBIT III

### Supplementary Information Required by the GASB – Schedule of Employer Contributions

| Year Ended June 30 | Actuarially Required Contribution Rate (a) | Actual Covered Payroll (b) | Actual Member Contributions (c) | Annual Required Employer Contributions [(a) x (b)] – (c) = (d) | Actual Employer Contributions[(1)] (e) | Percentage Contributed (e) / (d) |
|---|---|---|---|---|---|---|
| 1991 | 32.62% | $7,078,000 | $637,000 | $1,672,000 | $1,889,000 | 112.98% |
| 1992 | 27.67% | 6,556,000 | 590,000 | 1,224,000 | 601,000 | 49.10% |
| 1993 | 30.49% | 7,322,000 | 659,000 | 1,573,000 | 2,284,000 | 145.20% |
| 1994 | 31.12% | 6,589,000 | 593,000 | 1,457,000 | 1,618,000 | 111.05% |
| 1995 | 38.34% | 7,056,000 | 635,000 | 2,070,000 | 2,938,000 | 141.93% |
| 1996 | 41.54% | 6,267,000 | 564,000 | 2,039,000 | 1,511,000 | 74.10% |
| 1997 | 43.96% | 7,767,000 | 699,000 | 2,715,000 | 3,176,000 | 116.98% |
| 1998 | 48.03% | 6,802,000 | 612,000 | 2,655,000 | 5,199,000 | 195.82% |
| 1999 | 47.19% | 7,490,000 | 674,000 | 2,861,000 | 2,091,000 | 73.09% |
| 2000 | 52.72% | 5,808,000 | 523,000 | 2,539,000 | 3,192,000 | 125.72% |
| 2001 | 47.26% | 5,858,000 | 527,000 | 2,241,000 | 5,039,000 | 224.85% |
| 2002 | 60.14% | 5,089,000 | 458,000 | 2,603,000 | 4,135,000 | 158.86% |
| 2003 | 63.12%[(2)] | - - | - - | - - | - - | - - |
| 2004 | 63.12%[(3)] | 3,815,256 | 343,373 | 2,064,817 | - - | - - |
| 2005 | 104.72% | 3,013,981 | 383,512 | 2,772,729 | - - | - - |
| 2006 | 112.64% | 2,893,797 | 264,492 | 2,995,081 | - - | - - |
| 2007 | 111.24% | 2,379,503 | 238,915 | 2,408,044 | - - | - - |
| 2008 | 171.10%[(4)] | | | | | |

(1) *Includes contributions from other sources (if applicable).*

(2) *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 61.36%.*

(3) *Actuarially Required Contribution Rate is equal to prior year's rate since an actuarial valuation was not completed as of July 1, 2003.*

(4) *Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 161.95%.*

## EXHIBIT IV

### Supplementary Information Required by the GASB – Schedule of Funding Progress

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Unfunded AAL (UAAL) (b) – (a) | Funded Ratio (a) / (b) | Actual Covered Payroll (Previous FY) (c) | UAAL as a Percentage of Covered Payroll [(b) – (a)] / (c) |
|---|---|---|---|---|---|---|
| 07/01/1991 | $14,694,000 | $30,403,000 | $15,709,000 | 48.33% | $7,078,000 | 221.94% |
| 07/01/1992 | 15,160,000 | 33,224,000 | 18,064,000 | 45.63% | 6,556,000 | 275.53% |
| 07/01/1993 | 17,169,000 | 36,801,000 | 19,632,000 | 46.65% | 7,322,000 | 268.12% |
| 07/01/1994 | 18,738,000 | 45,448,000 | 26,710,000 | 41.23% | 6,589,000 | 405.37% |
| 07/01/1995 | 21,213,000 | 50,255,000 | 29,042,000 | 42.21% | 7,056,000 | 411.59% |
| 07/01/1996 | 22,532,000 | 54,225,000 | 31,693,000 | 41.55% | 6,267,000 | 505.71% |
| 07/01/1997 | 25,678,000 | 60,055,000 | 34,377,000 | 42.76% | 7,767,000 | 442.60% |
| 07/01/1998 | 31,212,000 | 62,928,000 | 31,716,000 | 49.60% | 6,802,000 | 466.27% |
| 07/01/1999 | 33,474,000 | 66,418,000 | 32,944,000 | 50.40% | 7,490,000 | 439.84% |
| 07/01/2000 | 37,265,000 | 69,364,000 | 32,099,000 | 53.72% | 5,808,000 | 552.67% |
| 07/01/2001 | 42,608,000 | 75,072,000 | 32,464,000 | 56.76% | 5,858,000 | 554.18% |
| 07/01/2002 | 45,501,000 | 78,070,000 | 32,569,000 | 58.28% | 5,089,000 | 639.99% |
| 07/01/2003* | - - | - - | - - | - - | - - | - - |
| 07/01/2004 | 46,155,159 | 83,197,221 | 37,042,062 | 55.48% | 3,815,256 | 970.89% |
| 07/01/2005 | 45,522,735 | 81,836,478 | 36,313,743 | 55.63% | 3,013,981 | 1,204.84% |
| 07/01/2006 | 48,503,723 | 81,361,446 | 32,857,723 | 59.62% | 2,893,797 | 1,135.45% |
| 07/01/2007 | 44,869,002 | 86,448,932 | 41,579,930 | 51.90% | 2,379,503 | 1,747.42% |

* *An actuarial valuation was not completed as of July 1, 2003.*

## EXHIBIT VA

### Determination of Contribution Sufficiency (Before Asset Valuation Method Change)

| | | July 1, 2007 | |
|---|---|---|---|
| **A. Statutory Contributions – Chapter 3A** | | **Percent of Payroll** | **Dollar Amount** |
| 1. | Member Contributions | 9.00% | $224,863 |
| 2. | Employer Contributions | - - | - - |
| 3. | Total | 9.00% | $224,863 |
| **B. Required Contributions – Chapter 356** | | | |
| 1. | Normal Cost | | |
| | (a) Retirement Benefits | 15.96% | $398,873 |
| | (b) Disability Benefits | - - | - - |
| | (c) Survivors | 0.75% | 18,627 |
| | (d) Deferred Retirement Benefits | 1.04% | 25,956 |
| | (e) Total | 17.75% | $443,456 |
| 2. | Amortization of Supplemental Contribution UAAL | 143.24% | 3,578,820 |
| 3. | Allowance for Expenses | 0.96% | 23,985 |
| 4. | Total | 161.95% | $4,046,261 |
| **C. Contribution Sufficiency (Deficiency) (A.3 – B.4)** | | -152.95% | -$3,821,398 |
| **D. Projected annual payroll* for fiscal year beginning on the valuation date** | | | $2,498,478 |

** Calculated as covered actual payroll, projected one year with salary scale.*

## EXHIBIT VB

### Determination of Contribution Sufficiency (After Asset Valuation Method Change)

| | July 1, 2007 | |
|---|---|---|
| **A. Statutory Contributions – Chapter 3A** | **Percent of Payroll** | **Dollar Amount** |
| 1. Member Contributions | 9.00% | $224,863 |
| 2. Employer Contributions | - - | - - |
| 3. Total | 9.00% | $224,863 |
| **B. Required Contributions – Chapter 356** | | |
| 1. Normal Cost | | |
| (a) Retirement Benefits | 15.96% | $398,873 |
| (b) Disability Benefits | - - | - - |
| (c) Survivors | 0.75% | 18,627 |
| (d) Deferred Retirement Benefits | 1.04% | 25,956 |
| (e) Total | 17.75% | $443,456 |
| 2. Amortization of Supplemental Contribution UAAL | | |
| (a) Before asset valuation method change | 143.24% | 3,578,820 |
| (b) Cost impact due to asset valuation method change | 9.15% | 228,611 |
| 3. Allowance for Expenses | 0.96% | 23,985 |
| 4. Total | 171.10% | $4,274,872 |
| **C. Contribution Sufficiency (Deficiency) (A.3 – B.4)** | -162.10% | -$4,050,009 |
| **D. Projected annual payroll* for fiscal year beginning on the valuation date** | | $2,498,478 |

** Calculated as covered actual payroll, projected one year with salary scale.*

## EXHIBIT VI

## Supplementary Information Required by the GASB

| | |
|---|---|
| **Valuation date** | July 1, 2007 |
| **Actuarial cost method** | Entry Age Normal |
| **Amortization method** | Level percentage of payroll, assuming payroll increases at 5.00% per annum |
| **Remaining amortization period** | 14 years remaining as of July 1, 2007 |
| **Asset valuation method** | The actuarial value of assets is equal to the market value of assets. |
| **Actuarial assumptions:** | |
| Investment rate of return: | |
| Pre-retirement | 8.50% per annum |
| Post-retirement | 8.50% per annum (payment of earnings on retired reserves in excess of 6.00% accounted for by 6.00% post-retirement assumption) |
| **Plan membership:** | |
| Retired participants and beneficiaries receiving benefits | 340 |
| Terminated participants entitled to, but not yet receiving benefits | 116 |
| Other non-vested terminated participants | 3 |
| Active participants | 54 |
| Total | 513 |

## EXHIBIT VII

### Actuarial Assumptions and Actuarial Cost Method

| | | |
|---|---|---|
| **Net Investment Return:** | | |
| *Pre-Retirement:* | 8.50% per annum. | |
| *Post-Retirement:* | 8.50% per annum. | |
| **Benefit Increases After Retirement:** | Payment of earnings on retired reserves in excess of 6.00% accounted for by using a 6.00% post-retirement assumption. For those not yet in pay status, a 5.00% post-retirement interest rate is used to account for the one-time adjustment applicable at retirement. | |
| **Salary Increases:** | 5.00% annually. | |
| **Mortality Rates:** | | |
| *Healthy Pre-Retirement:* | Male: | 1983 Group Annuity Mortality Table for males set back four years. |
| | Female: | 1983 Group Annuity Mortality Table for females set back two years. |
| *Healthy Post-Retirement:* | Male: | 1983 Group Annuity Mortality Table for males. |
| | Female: | 1983 Group Annuity Mortality Table for females. |
| *Disabled:* | Male: | N/A |
| | Female: | N/A |
| **Retirement Age:** | Age 62 or if over age 62, one year from valuation date. | |

| | |
|---|---|
| **Withdrawal Rates:** | Rates based on years of service. |

| Year | House | Senate |
|---|---|---|
| 1 | 0.00% | 0.00% |
| 2 | 30.00 | 0.00 |
| 3 | 0.00 | 0.00 |
| 4 | 20.00 | 25.00 |
| 5 | 0.00 | 0.00 |
| 6 | 10.00 | 0.00 |
| 7 | 0.00 | 0.00 |
| 8 | 5.00 | 10.00 |

| | |
|---|---|
| **Disability:** | None. |
| **Allowance for Combined Service Annuity:** | Liabilities for active members are increased by 0.00% and liabilities for former members are increased by 30.00% to account for the effect of some participants having eligibility for a Combined Service Annuity. |
| **Expenses:** | Prior year administration expenses expressed as percentage of prior year projected payroll. |
| **Return of Contributions:** | All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit. |

| | |
|---|---|
| **Percent Married:** | 85.00% of members are assumed to be married. |
| **Age of Spouse:** | Females are assumed to be three years younger than males. |
| **Eligible Children:** | Each member may have two dependent children depending upon member's age. Assumed first child born at member's age 28 and second child is born at member's age 31. |
| **Actuarial Cost Method:** | Entry Age Normal Actuarial Cost Method. Entry Age is the age at the time the participant commenced employment. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are expressed as a level percentage of payroll, with Normal Cost determined as if the current benefit accrual rate had always been in effect. |
| **Asset Valuation Method:** | Since the only assets of the plan are MPRIF assets plus non-segregated member deposits identified as receivables of the Plan, all assets are valued on an "as reported" basis. |
| **Payment on the Unfunded Actuarial Accrued Liability:** | A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5.00% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll. |
| **Changes in Actuarial Assumptions and Actuarial Cost Methods:** | There have been no changes in the actuarial assumptions since the prior valuation.<br><br>The only change in actuarial cost methods since the last valuation was a modification to the asset valuation method, effective with the July 1, 2007 valuation. Assets allocated to the Minnesota Post Retirement Investment Fund (MPRIF) must equal the Market Value of Assets as of the valuation date. |

## EXHIBIT VIII

### Summary of Plan Provisions

This summary of provisions reflects the interpretation of applicable Statutes for purposes of preparing this valuation. This interpretation is not intended to create or rescind any benefit rights in conflict with any Minnesota Statutes.

| | |
|---|---|
| **Plan Year:** | July 1 through June 30 |
| **Eligibility:** | Members of the State Legislature elected to office before July 1, 1997 and who elect to retain coverage under this plan (i.e., do not elect Social Security coverage.) A member of PERA who is elected to the Legislature may elect to remain a member of PERA and receive credit under PERA for service as a legislator. |
| **Contributions:** | |
| *Member:* | 9.00% of salary. |
| *Employer:* | No specified statutory contribution rate. State must contribute an amount equal to the full annuity value at benefit commencement less accumulated member contributions. |
| **Service:** | Granted for the full term unless termination occurs before the end of the term. Service during all or part of four regular legislative sessions is deemed to be eight years of service. |
| **Salary:** | Compensation received for service as a member of the legislature. Salary includes the monthly compensation paid to a legislator and the per diem payments paid during a regular or special session. Salary does not include additional compensation attributable to a leadership position. |
| **Average Salary:** | Average of the five highest successive years of salary. |

**Retirement:**

*Normal Retirement Benefit:*

| | |
|---|---|
| *Age/Service Requirement:* | Age 62 and either six full years of service or service during all or part of four regular legislative sessions. For eligibility purposes, service does not include credit for time not served when a member does not serve a full term of office. |
| *Amount:* | A percentage of Average Salary for each year of service as follows:<br>Prior to January 1, 1979:<br>(a) 5.00% for the first eight years; and<br>(b) 2.50% for subsequent years<br>After December 31, 1978 and Before July 1, 1997:<br>(a) 2.50%<br>After June 30, 1979:<br>(a) 2.50% actuarially increased for 6.00% post-retirement factor |

*Early Retirement Benefit:*

| | |
|---|---|
| *Age/Service Requirement:* | Age 60 and either six full years of Service or Service during all or part of four regular legislative sessions. |
| *Amount:* | Normal retirement benefit based on service and Average Salary at retirement date assuming augmentation to age 62 at 3.00% per year and actuarial reduction for each month the member is under age 62. |
| *Form of Payment:* | Paid as a joint and survivor annuity to member, spouse and dependent children. Combined service annuitants with less than six years of Legislator service may elect 100.00% joint and survivor bounce back annuity, life annuity, or a term certain and life annuity on an actuarially equivalent basis. Automatic survivor benefits are provided outside of the Fund. |
| *Benefit Increases:* | Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). |

| | |
|---|---|
| **Disability:** | None. |

**Death:**

*<u>Surviving Spouse Benefit</u>:*

| | |
|---|---|
| *Age/Service Requirement:* | Death while active, or after termination if service requirements for a normal retirement benefit is met but payments have not begun. |
| *Amount:* | Survivor's payments of 50.00% of the retirement benefit of the member assuming the member had attained normal retirement age and had a minimum of eight years of service. Benefit is paid for life. A former member's benefit is augmented as a Deferred Annuity to date of death before determining the portion payable to the spouse. If the legislator was at least age 60 at death, the surviving spouse may elect an optional joint and survivor annuity. If a deferred benefit was not eligible to be in pay status before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%. |

*<u>Surviving Dependent Children's Benefit</u>:*

| | |
|---|---|
| *Age/Service Requirement:* | Same as spouse's benefit. |
| *Amount:* | Benefit for first child is 25.00% of the retirement benefit (computed as for surviving spouse) with 12.50% for each additional child. Maximum payable (including spouse) is 100.00% of the retirement benefit. Benefits cease when a child marries or attains age 18 (22 if a full-time student). |
| *Benefit Increases:* | Adjusted by MSRS to provide same increase as MPRIF. |

*<u>Refund of Contributions</u>:*

| | |
|---|---|
| *Age/Service Requirement:* | Member dies before receiving any retirement benefits and survivor benefits are not payable. |
| *Amount:* | Member's contributions without interest. |

**Termination:**

*<u>Refund of Contributions</u>:*

| | |
|---|---|
| *Age/Service Requirement:* | Termination of service. |

| | |
|---|---|
| *Amount:* | Member's contributions with 5.00% interest compounded annually if termination occurred before May 16, 1989 and 6.00% interest if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund. |
| *Deferred Benefit:* | |
| *Age/Service Requirement:* | Same service requirement as for normal retirement. |
| *Amount:* | Benefit computed under law in effect at termination and increased by the following annual percentage:<br>(a) 0.00% before July 1, 1973;<br>(b) 5.00% from July 1, 1973 to January 1, 1981; and<br>(c) 5.00% thereafter until the annuity begins.<br>For members who terminated prior to July 1, 1997 but were not eligible to commence their pensions before July 1, 1997, the benefit shall be increased to reflect the actuarial equivalent change in post-retirement interest rate from 5.00% to 6.00%. Amount is payable as a normal or early retirement. |
| **Changes in Plan Provisions:** | There have been no changes in the plan provisions since the prior valuation. |

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