ACTUARIAL VALUATION

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

AT JUNE 30, 2004

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM TABLE OF CONTENTS

SECTION

| - | Letter of Transmittal |
|----|-----------------------|
| Ι | Executive Summary |
| П | SERS Assets |
| Ш | SERS Liabilities |
| IV | SERS Contributions |
| V | GASB Information |

APPENDICES

in the second

| Α | Summary Statistics on SERS Membership |
|---|---------------------------------------|
| В | Summary of Plan Provisions |
| С | Actuarial Method and Assumptions |
| D | Actuarial Surplus Test |

MILLIMAN USA



A THE R

A MILLIMAN GLOBAL FIRM

Consultants and Actuaries

80 Lamberton Road Windsor, CT 06095-2126 Tel +1 860 687.2110 Fax +1 860 687.2111 www.milliman.com

November 16, 2004

State of Connecticut State Employees Retirement Commission 55 Elm Street Hartford, CT 06106

Re: Connecticut State Employees Retirement System June 30, 2004 Actuarial Valuation

Members of the Commission:

At your request, we have made an actuarial valuation of the Connecticut State Employees Retirement System (SERS) as of June 30, 2004. The results of the valuation are contained in the following report.

Section I contains an Executive Summary in which we present the principal results of this valuation. Details regarding SERS assets, liabilities, and costs are found in Sections II, III, and IV, respectively. Section V contains the disclosure information required by GASB #25. The Appendices contain information regarding SERS membership, an outline of the benefit provisions, a description of the actuarial methods and assumptions employed in this valuation, and details on the Actuarial Surplus as of June 30, 2004.

As developed in Section IV, the actuarially determined contribution for the fiscal year beginning July 1, 2005 is \$623,062,748. For the fiscal year beginning July 1, 2006, the actuarially determined contribution is \$663,926,351.

Respectfully submitted,

althead Seturat

Althea A. Schwartz, F.S.A. Principal and Consulting Actuary

aas/ras 10 CSE2004MainVal&ReportFinal2004

Rebecca A. Sielman, F.S.A. Principal and Consulting Actuary

Section I

A DESCRIPTION OF A DESC

EXECUTIVE SUMMARY

We have performed an actuarial valuation of the Connecticut State Employees Retirement System as of June 30, 2004 to determine the contributions for the Fiscal Years beginning July 1, 2005 and July 1, 2006. The results of this valuation, along with supporting data, are set forth in the following report. Appendix B describes the principal provisions of the System upon which the valuation is based.

In preparing this report, we relied on employee census data and financial information as of the valuation date, furnished by the State of Connecticut. We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have found them to be reasonably consistent and comparable with data used for other purposes. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete and our calculations may need to be revised. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

The calculations reported herein have been made on a basis consistent with our understanding of the Connecticut General Statutes with guidance from the Retirement Commission. Additional determinations may be needed for purposes other than meeting funding requirements, such as judging benefit security at plan termination or meeting employer accounting requirements. On the basis of the foregoing, we hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices based on the actuarial methods and assumptions adopted by the System. Differences between our projections and actual amounts depend on the extent to which future experience conforms to the assumptions made for this analysis. Actual amounts will differ from projected amounts to the extent that actual experience deviates from expected experience.

We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

This report may not be used for purposes other than those listed on the following page without Milliman's prior written consent. If this report is distributed to other parties, we request that it be copied in its entirety, including this section.

MILLIMAN INC.

hla [[

Althea A. Schwartz, F.S.A. ⁽/ Principal and Consulting Actuary

November 16, 2004

Rebecca A. Sielman, F.S.A. Principal and Consulting Actuary

PURPOSE OF REPORT

This report presents the results of the June 30, 2004 actuarial valuation of the Connecticut State Employees Retirement System (SERS). The primary purposes for performing the valuation are:

- to determine the Employer contribution for the Fiscal Year beginning July 1, 2005;
- to determine the Employer contribution for the Fiscal Year beginning July 1, 2006;
- to disclose asset and liability measures as of June 30, 2004; and
- to analyze and report on trends in SERS contributions, assets and liabilities over the past several years.

ORGANIZATION OF THE EXECUTIVE SUMMARY

Starting with the June 30, 1998 valuation, complete actuarial valuations are performed only every other year. Membership and asset information was collected as of July 1, 2003 and has been shown where appropriate in this report for informational purposes.

The executive summary contains the following information:

- *Major Findings...* shows graphically, key results for several years.
- Discussion of Results... highlights the major events influencing this valuation.
- *Principal Results...* Contains a summary of comparative statistics for the current and prior valuations.

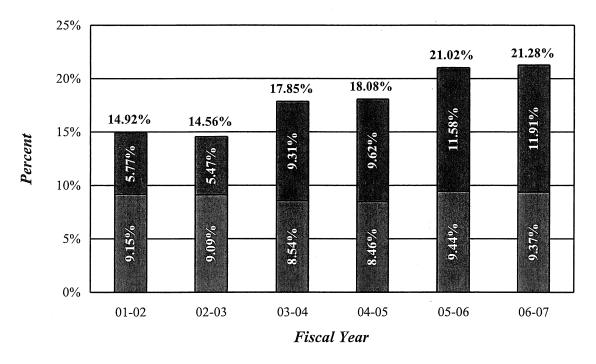
SPECIAL NOTE

-

This valuation reflects the market value of assets as of June 30, 2004 reported to us by the State Treasurer on November 5, 2004. It is our understanding that these amounts are estimates and may be subject to further refinement. Any changes should be minor and will be reflected in the next valuation.

MAJOR FINDINGS

The major findings of this valuation are summarized and compared in the following charts:

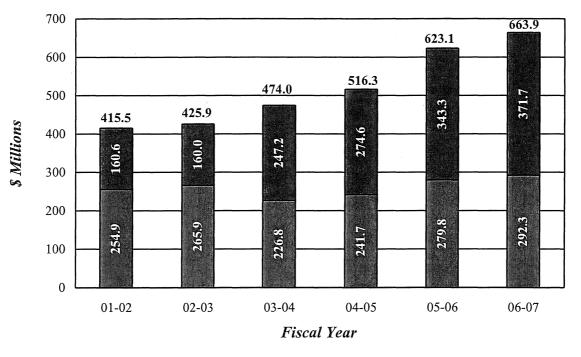


Employer Contribution Rate

Normal Cost Amortization of Unfunded Liability

The bar graph depicts the Employer's contribution rates. The normal cost rates have grown due to the aging of the membership and the return to active service in Tiers I and II for a number of former members. The amortization payment continues to grow due to the growth in the Unfunded Actuarial Liability.

MAJOR FINDINGS

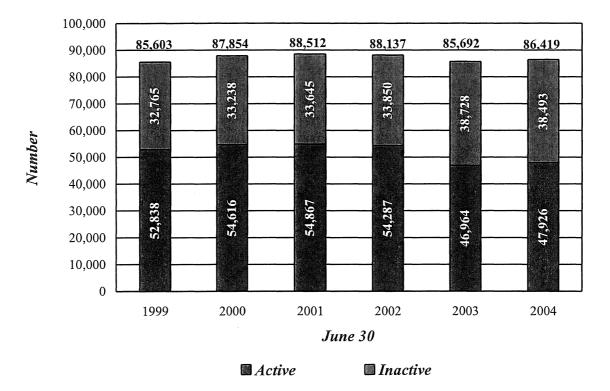


Employer Contribution

Normal Cost Amortization of Unfunded Liability

The dollar amount of the Employer's contribution equals the contribution rate shown on the prior table multiplied by the projected payroll. The Normal Cost contribution has remained relatively steady with increases reflecting payroll growth. The amortization component has grown considerably reflecting the growth in the System's Unfunded Actuarial Liability.

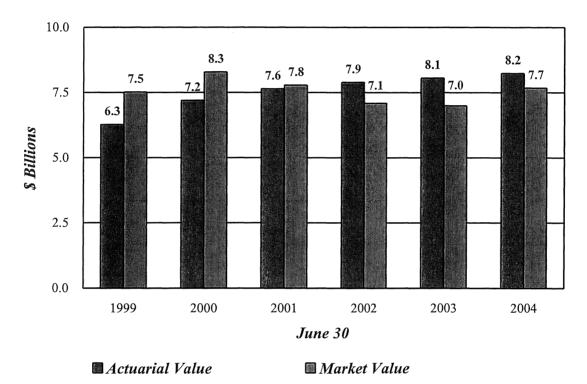
MAJOR FINDINGS



Membership

The total number of members has remained relatively steady over the period shown above. However, the composition of the membership has changed significantly. For the years from 1999 through 2002, 62% of the membership was active; now, as a result of the 2003 ERIP, many more members are retired and only 55% of the membership is active. Between 2003 and 2004, the active membership grew by 962 members. Normally, we would expect new members to enter Tier IIA. During the past year, however, over half of the net growth in active membership represents members who were inactive last year and have now returned to active service in Tiers I and II.

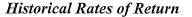
MAJOR FINDINGS

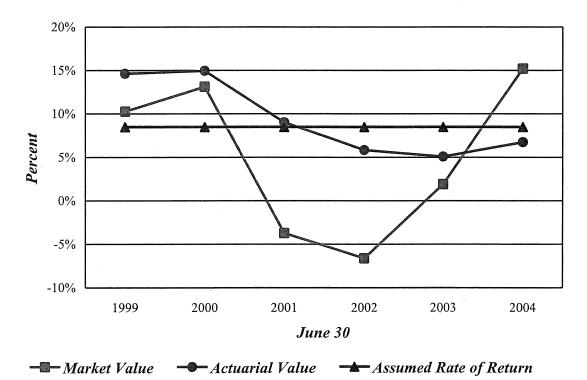


FY04 was a good year. The market value grew from \$7.0 billion to \$7.7 billion. This is welcome news after 3 years of sub-par performance. Contributions during the past year were \$517 million; benefit payments totaled \$869 million. The actuarial value remained steady at \$8.2 billion, compared to \$8.1 billion last year.

SERS Assets

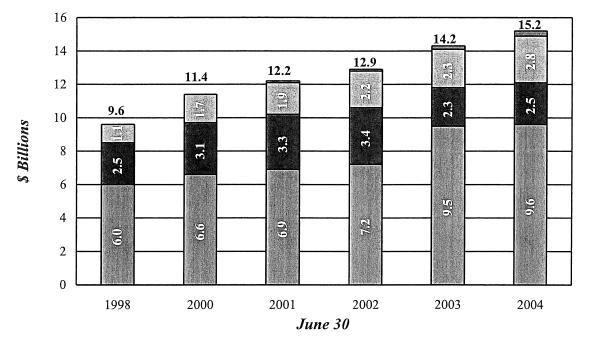
MAJOR FINDINGS





This graph shows the historical rates of return on a market value basis, the impact of 'smoothing' (the rates shown on an actuarial value basis), and the 'benchmark' (our assumed rate of return). During FY04, the rate of return on a Market Value basis was 15.2%. The corresponding rate of return on an Actuarial Value basis was 6.7%, reflecting the gradual recognition of losses in prior years. This graph demonstrates that our smoothing technique works well in dampening market volatility.

MAJOR FINDINGS



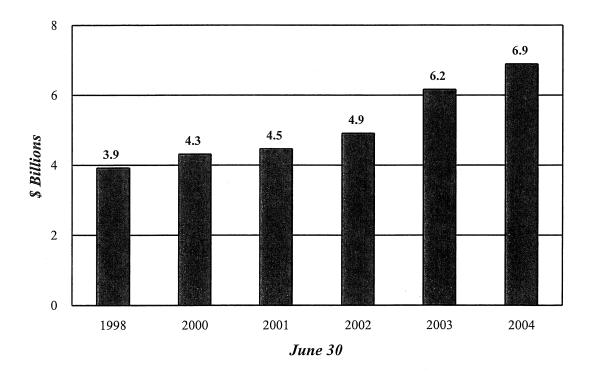
Actuarial Liabilities

Inactives Tier I Actives Tier II Actives Tier IIA Actives

This graph shows the Actuarial Liability by group. No value is shown above for 1999 since a complete actuarial valuation was not performed as of that date. The 2003 Early Retirement Incentive Program caused a noticeable shift of Actuarial Liability from Active to Inactive. The inactive liability remained largely unchanged from last year. However, the active liability grew for all Tiers. During the past year, we observed that more members in Tiers I and II remained employed (instead of retiring) than anticipated by our actuarial assumptions. Also, a significant number of members were rehired into Tiers I and II after being inactive members the prior year.

MAJOR FINDINGS

Source and

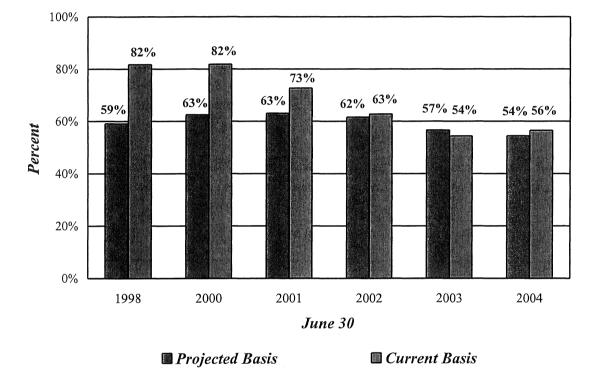


Unfunded Liabilities

Unfunded actuarial liabilities have increased with this valuation. We expect some increase as a normal outgrowth of the method of paying off this liability: a number of years of increase followed by a gradual decline. The unfunded liabilities grew from 2003 to 2004 due to modest asset and liability losses.

No value is shown above for 1999 since a complete actuarial valuation was not performed as of that date.

MAJOR FINDINGS



Funded Ratios

The System's Funded Ratio tracks the relationship between the System's assets and liabilities. The Employer's contribution is based on projected liabilities (the Actuarial Liability) and smoothed assets (the Actuarial Value of Assets); the **Funded Ratio - Projected Basis** tracks these amounts.

The Funded Ratio - Current Basis looks at the SERS liability for benefits already earned (the Present Value of Accrued Benefits) compared to the assets currently available (the Market Value of Assets). This ratio indicates the System's ability to fund current benefits.

No value is shown above for 1999 since a complete actuarial valuation was not performed as of that date.

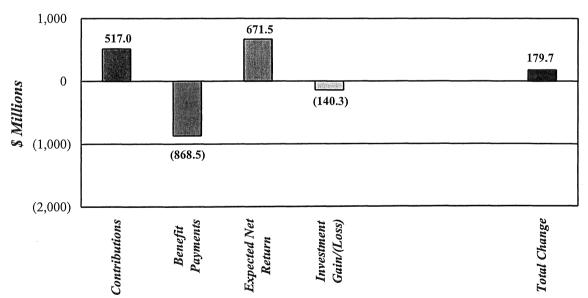
DISCUSSION OF RESULTS

In this section of the Executive Summary, we will discuss the significant events impacting the June 30, 2004 actuarial valuation.

I. Investment Experience

The investment performance was strong during the past year. The actual return was 15.22% on a market value basis compared to 1.91% for the prior fiscal year. On a smoothed actuarial basis, the rate was 6.74% compared to 5.08% for the prior valuation, reflecting continuing recognition of market losses from the low returns from the prior three years. The assumed rate is 8.50%.

Between July 1, 2003 and June 30, 2004, the actuarial value of assets (measured on a five year smoothing basis) increased by \$179.7 million. This change was attributable to the following:



Change in Assets

The expected total return on investments shown above is based on an assumed rate of return of 8.50%. However, the recognized investment earnings of \$531.2 million over the year resulted in an actuarial loss of \$140.3 million. More details on SERS assets are presented in Section II of this report.

DISCUSSION OF RESULTS

II. Membership

System membership has changed modestly over the past year:

| | Active | Deferred Vested | Retired | Disabled | Benefic. | Total Members |
|------------------------|---------|--------------------|---------|----------|----------|------------------|
| Count on June 30, 2003 | 46,964 | 1,677 | 30,842 | 2,850 | 3,359 | 85,692 |
| Left System | (2,414) | (30) | (977) | (110) | (164) | (3,695) |
| Terminated Vested | (66) | 66 | 0 | 0 | 0 | 0 |
| Retired | (209) | (148) | 369 | (12) | 0 | 0 |
| Disabled | (153) | 0 | (2) | 155 | 0 | 0 |
| Died w/beneficiary | (4) | 0 | (2) | 0 | 6 | 0 |
| Rehired | 82 | (78) | (4) | 0 | 0 | 0 |
| New | 3,726 | 257 | 119 | 55 | 265 | 4,422 |
| Count on June 30, 2004 | 47,926 | 1,744 | 30,345 | 2,938 | 3,466 | 86,419 |

As expected, we have seen a shift in the active population from the closed Tier I and Tier II groups, with new employees entering the new Tier IIA group:

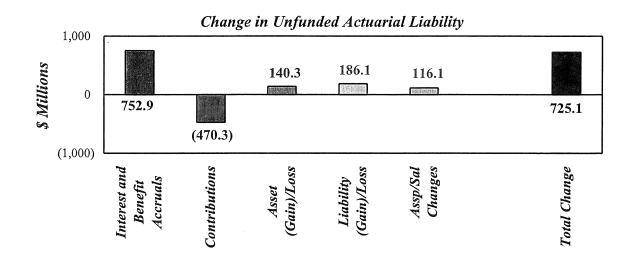
| | Tier I | Tier II | Tier IIA | Total |
|-------------------------------|--------|---------|----------|--------|
| <i>Count on June 30, 2002</i> | 12,639 | 28,096 | 13,552 | 54,287 |
| percentage of total | 23% | 52% | 25% | |
| <i>Count on June 30, 2003</i> | 8,561 | 25,819 | 12,584 | 46,964 |
| percentage of total | 18% | 55% | 27% | |
| Count on June 30, 2004 | 8,404 | 25,126 | 14,396 | 47,926 |
| percentage of total | 18% | 52% | 30% | |

More information on SERS membership can be found in Appendix A.

DISCUSSION OF RESULTS

III. Unfunded Actuarial Liability

The unfunded actuarial liability is the shortfall between SERS projected liabilities and assets. Since July 1, 2003, the unfunded actuarial liability increased from \$6.2 billion to \$6.9 billion. Each year the unfunded liability increases because of interest and expected benefit accruals and decreases by contributions made to the fund. Asset and liability gains and losses also impact the unfunded liability, as do plan changes and experience. The following chart shows the development of the unfunded actuarial liability from 2003 to 2004:



The liability loss of \$186.1 million over the past year is modest (1.2%) when compared to the total SERS liability of \$15,128.5 million. It is attributable to the difference between actual and expected experience with respect to the number of retirements, employment terminations, disabilities and deaths. Salary increases and new employees also contribute to experience gains and losses. During FY04, the liability loss was a combination of small factors, including modest salary losses, additional liability due to the return to work of members who were inactive the prior year, and mortality losses (inactive members living longer than expected).

DISCUSSION OF RESULTS

IV. Changes in Actuarial Methods and Assumptions

Connecticut General Statutes mandate that the System's experience be studied every five years to examine the continued appropriateness of the actuarial assumptions (refer to Appendix C of this report for a summary of the actuarial assumptions). In 2004 we performed such a study of the System's experience covering the period 1999 - 2003. As a result of this study, we have confirmed that, for the most part, the actuarial methods and assumptions used to determine the System's funded status and contribution requirements are still valid. There are two changes that the Actuarial Subcommittee of the Retirement Commission has adopted:

• Salary projection procedure. The experience study confirmed that the current salary growth assumptions remain appropriate for projecting future System liabilities. However, there is a procedural change that has been made concerning the method of projecting salary growth during the first year following the valuation date. Under the prior procedure, each year the Retirement Division supplied us with the average 'across the board' general wage increase that was effective as of the valuation date. This rate was used in place of the actuarial assumptions with respect to salary growth rates (refer to Appendix C of this report for details of the salary growth rate according to the actuarial assumptions is 5.5%. If the Retirement Division supplied us with a rate of 3%, that rate would have been used to project the member's salary in the first year following the valuation date, and the appropriate actuarial assumptions would have been used for all subsequent years.

While the prior procedure did reflect the known economic environment on the valuation date, it tended to understate the impact of merit and promotions on individual member salary increases. The Actuarial Subcommittee of the Retirement Commission recommended changing this procedure to use the actuarial salary growth assumptions to project salaries for all years in the future, not just years after the first year. This change increased the Actuarial Liability by \$115.7 million.

• Disability Rates. The observed rates of service-related disabilities in the 1999 – 2003 study period were higher than the assumptions that had been developed by the 1999 experience study. The Actuarial Subcommittee of the Retirement Commission recommended increasing the rates of service-related disabilities. Overall, it is still unlikely for members to suffer a service-related disability, so the cost impact of this change is very small. This change increased the Actuarial Liability by \$0.4 million.

MILLIMAN USA

DISCUSSION OF RESULTS

V. SERS Contributions

The primary purpose of our actuarial valuation is to take the asset and membership information discussed on the previous pages, apply our actuarial methods and assumptions, and determine a contribution amount that will continue the System on a sound funding basis. The resulting contributions for the two fiscal years in the coming biennial budget cycle are:

| | Fiscal Year | |
|--|---------------------|---------------------|
| | July 1, 2005 | July 1, 2006 |
| (\$ millions) | to June 30, 2006 | to June 30, 2007 |
| Employer Normal Cost | \$279.8 | \$292.3 |
| Net Amortization Payment Towards Unfunded Actuarial Liability | 343.3 | 371.7 |
| Total Employer Cost | 623.1 | 663.9 |
| Total Employer Cost as a Percent of Payroll | 21.02% | 21.28% |

More details on the development of the contributions can be found in Section IV.

| PRINCIPAL RESULTS | - · · | Interim - | |
|--|---------------|---------------|--------------------|
| | June 30, 2002 | June 30, 2003 | June 30, 2004 |
| SERS Membership | - | | |
| Active Membership | | | |
| Number of Active Members | 54,287 | 46,964 | 47,926 |
| Payroll (\$millions) | \$2,852.1 | \$2,654.3 | \$2,816.7 |
| Average Pay | 52,539 | 56,517 | 58,772 |
| Inactive Membership | | | |
| Number of Inactive Members | 33,850 | 38,728 | 38,493 |
| Annual Retired Members' Benefits (\$ millions) | \$655.1 | \$836.8 | \$880.8 |
| Average Annual Retired Members' Benefits | 20,248 | 22,584 | 23,967 |
| Assets and Liabilities (\$ millions) | - | | |
| Assets | | | |
| Market Value | \$7,088.9 | \$6,991.6 | \$7,677.2 |
| Actuarial Value | 7,893.7 | 8,058.6 | 8,238.3 |
| Liabilities | | ст., | |
| Active Members | 5,633.5 | 4,721.5 | 5,536.9 |
| Inactive Members | 7,172.6 | 9,502.3 | 9,591.6 |
| Total Actuarial Liability | 12,806.1 | 14,223.8 | 15,128.5 |
| Unfunded Actuarial Liability | 4,912.4 | 6,165.2 | 6,890.3 |
| Employer Contributions | - | | |
| | Recertified | | |
| First fiscal year in budget cycle | FY 2003-04 | | FY 2005-06 |
| Normal Cost | \$226,779,359 | | \$279,753,428 |
| Amortization Payment of Unfunded Liability | 247,218,753 | | <u>343,309,320</u> |
| Total Employer Contribution | 473,998,112 | | 623,062,748 |
| Total Contribution as a Percent of Payroll | 17.85% | | 21.02% |
| Second fiscal year in budget cycle | FY 2004-05 | | FY 2006-07 |
| Normal Cost | \$241,707,452 | | \$292,275,360 |
| Amortization Payment of Unfunded Liability | 274,590,716 | | 371,650,991 |
| Total Employer Contribution | 516,298,168 | | 663,926,351 |
| Total Contribution as a Percent of Payroll | 18.08% | | 21.28% |

SECTION II

SERS ASSETS

In this section we present the values assigned to the assets held by SERS. These assets are valued on two different bases: the Actuarial Value and the Market Value.

Actuarial Value of Assets

For purposes of determining ongoing costs, the recognition of gains and losses is spread over five years. The resulting value is called the Actuarial Value of Assets and is further adjusted as necessary so that the final actuarial value is within 20% (plus or minus) of the market value of assets.

Market Value of Assets

The Market Value of Assets represents the "snapshot" or "cash-out" value of SERS assets as of the valuation date. In addition, the Market Value of Assets provides a reference point to compare to current accrued liabilities.

The following tables present information regarding the actuarial and market values of SERS assets as of June 30, 2004.

| <u>Table</u> | <u>Contents</u> |
|--------------|---|
| II-1 | Market Value - Summary of Fund Transactions |
| П-2 | Market Value - Breakdown on Valuation Date |
| II-3 | Development of Actuarial Value of Assets |
| П-4 | Development of Asset Gain/(Loss) |
| II-5 | Projection of Assets to Next Two Fiscal Years |

<u>ТАВLЕ П-1</u>

Market Value of Assets Summary of Fund Transactions

1 HONE

and the second

and the second second

| | July 1, 2002 to June 30, 2003 | July 1, 2003 to June 30, 2004 |
|-----------------------------------|-------------------------------------|-------------------------------------|
| Market Value as of July 1 | \$7,088,897,412 | \$6,991,626,215 |
| Contributions | | |
| State | 325,908,490 | 366,730,112 |
| Federal | 95,543,241 | 103,602,832 |
| Employee | 50,953,367 | 46,638,051 |
| Total | 472,405,098 | 516,970,995 |
| Investment Income Net of Expenses | | |
| Interest & Dividends | 319,466,083 | 312,679,182 |
| Realized Gains | 9,032,165 | 50,784,080 |
| Change in Unrealized Gains | (194,985,176) | 674,046,383 |
| Expenses | (310,622) | (334,860) |
| Total | 133,202,450 | 1,037,174,785 |
| Disbursements | | |
| Benefit Payments | 696,803,446 | 862,862,535 |
| Employee Refunds | 6,075,299 | 5,675,645 |
| Total | 702,878,745 | 868,538,180 |
| Market Value as of June 30 | 6,991,626,215 | 7,677,233,815 |
| Approximate Net Rate of Return | 1.91% | 15.22% |

TABLE II-2

Market Value of Assets Breakdown on June 30, 2004

The following is the Market Value of the State Employees Retirement Fund assets as reported to us by the Retirement Division:

| | Amount | % of Total |
|--|----------------|------------|
| Cash | (\$32,381,869) | -0.42% |
| Accrued Interest | 0 | 0.00% |
| Investments: | | |
| Cash Reserve Account | 136,247,492 | 1.77% |
| Mutual Fixed Income Fund | 2,242,969,642 | 29.22% |
| Mutual Equity Fund | 2,945,734,038 | 38.37% |
| Real Estate Fund | 141,844,062 | 1.85% |
| International Stock Fund | 1,543,017,014 | 20.10% |
| Commercial Mortgage Fund | 13,984,612 | 0.18% |
| Venture Capital Fund | 685,818,824 | 8.93% |
| Total Market Value as of June 30, 2004 | 7,677,233,815 | 100.00% |

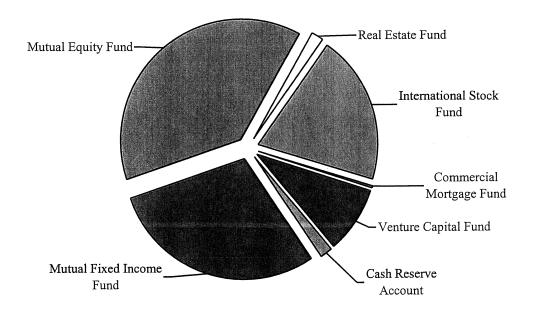


TABLE II-3

Development of Actuarial Value of Assets

| | Market Value | Actuarial Value |
|---|-----------------|-----------------|
| 1. Value on July 1, 2003 | \$6,991,626,215 | \$8,058,586,633 |
| 2. Contributions during 2003-04 | 516,970,995 | 516,970,995 |
| 3. Benefit Payments during 2003-04 | 868,538,180 | 868,538,180 |
| 4. Expected Income on (1) through (3)* | 580,793,322 | 671,484,957 |
| 5. Expected Value on June 30, 2004: (1) + (2) - (3) + (4) | 7,220,852,352 | 8,378,504,405 |
| 6. Market Value on June 30, 2004 | 7,677,233,815 | N/A |
| 7. Market - Actuarial Value on June 30, 2004 | N/A | (701,270,590) |
| 8. Preliminary Actuarial Value: $(5) + 20\%$ of (7) | N/A | 8,238,250,287 |
| 9. Final Value on June 30, 2004:(8) within +/- 20% of Market Value | | 8,238,250,287 |

* Interest on benefits and contributions is credited on a monthly basis.

1

TABLE II-4

Development of Asset Gain/(Loss)

| | Market Value | Actuarial Value |
|--|-----------------|-----------------|
| 1. Value on July 1, 2003 | \$6,991,626,215 | \$8,058,586,633 |
| 2. Contributions during 2003-04 | 516,970,995 | 516,970,995 |
| 3. Benefit Payments during 2003-04 | 868,538,180 | 868,538,180 |
| 4. Expected Income on (1) through (3)* | 580,793,322 | 671,484,957 |
| 5. Expected Value on June 30, 2004: (1) + (2) - (3) + (4) | 7,220,852,352 | 8,378,504,405 |
| 6. Actual Value on June 30, 2004 | 7,677,233,815 | 8,238,250,287 |
| 7. Actual Income | 1,037,174,785 | 531,230,839 |
| 8. Asset Gain/(Loss): (7) - (4) | 456,381,463 | (140,254,118) |
| 9. Approximate Rate of Return as of June 30, 2004 | 15.22% | 6.74% |
| 10. Approximate Rate of Return as of June 30, 2003 | 1.91% | 5.08% |
| 11. Change | 13.31% | 1.66% |

* Interest on benefits and contributions is credited on a monthly basis.

13

1

<u>TABLE II-5</u>

Projection of Assets to Next Two Fiscal Years

| | Market Value | Actuarial Value |
|---|-----------------|-----------------|
| 1. Value on June 30, 2004 | \$7,677,233,815 | \$8,238,250,287 |
| 2. Expected Contributions during 2004-05 | 564,955,462 | 564,955,462 |
| 3. Expected Benefit Payments during 2004-05 | 894,177,665 | 894,177,665 |
| 4. Expected Income on (1) through (3)* | 639,927,679 | 687,614,079 |
| 5. Expected Value on June 30, 2005: (1) + (2) - (3) + (4) | 7,987,939,291 | 8,596,642,163 |
| 6. Market - Actuarial Value on June 30, 2005 | N/A | (608,702,872) |
| 7. Preliminary Actuarial Value: (5) + 20% of (6) | N/A | 8,474,901,589 |
| 8. Final Value on June 30, 2005:(7) within +/- 20% of Market Value | 7,987,939,291 | 8,474,901,589 |
| 9. Expected Contributions during 2005-06 | 676,004,178 | 676,004,178 |
| 10. Expected Benefit Payments during 2005-06 | 936,723,891 | 936,723,891 |
| 11. Expected Income on (8) through (10)* | 668,967,114 | 710,358,909 |
| 12. Expected Value on June 30, 2006: (8)+(9)-(10)+(11) | 8,396,186,692 | 8,924,540,785 |
| 13. Market - Actuarial Value on June 30, 2006 | N/A | (528,354,093) |
| 14. Preliminary Actuarial Value: (12) + 20% of (13) | N/A | 8,818,869,966 |
| 15. Final Value on June 30, 2006:(14) within +/- 20% of Market Value | 8,396,186,692 | 8,818,869,966 |

* Interest on benefits and contributions is credited on a monthly basis.

Section III

1

11-1

l

are

-

1

il__

SERS LIABILITIES

In this section we present values assigned to the liabilities of SERS and then compare these liabilities to SERS assets.

The actuarial funding method used to determine SERS costs is based on the Projected Unit Credit method. A more detailed description of this method can be found in Appendix C.

| Table | <u>Contents</u> |
|-------|--|
| Ш-1 | SERS Liabilities on Valuation Date |
| III-2 | Projection of Liabilities to Next Two Fiscal Years |

11

1

11

. U. J

TABLE III-1

SERS Liabilities on Valuation Date

| | June 30, 2002 | June 30, 2003 | June 30, 2004 |
|---------------------------|----------------|----------------|----------------|
| Tier I Actives | | | |
| Hazardous Duty | \$397,745,951 | \$233,659,790 | \$251,928,889 |
| Plan B | 2,809,912,639 | 1,925,959,031 | 2,130,582,344 |
| Plan C | 151,860,367 | 92,457,238 | 98,687,446 |
| Total | 3,359,518,957 | 2,252,076,059 | 2,481,198,679 |
| Tier II Actives | | | |
| Hazardous Duty | 849,417,103 | 984,187,088 | 1,217,383,750 |
| All Others | 1,305,025,543 | 1,317,824,234 | 1,570,061,334 |
| Total | 2,154,442,646 | 2,302,011,322 | 2,787,445,084 |
| Tier IIA Actives | | | |
| Hazardous Duty | 46,392,204 | 68,123,495 | 104,714,816 |
| All Others | 73,129,987 | 99,320,544 | 163,543,862 |
| Total | 119,522,191 | 167,444,039 | 268,258,678 |
| Total Actives | 5,633,483,794 | 4,721,531,420 | 5,536,902,441 |
| Retirees | | | |
| Pre-1980 | 413,936,953 | 381,547,332 | 358,855,480 |
| 1980-1997 Fixed COLA | 5,542,842,696 | 5,420,741,946 | 5,404,795,189 |
| 1997+ Variable COLA | 1,073,364,890 | 3,464,704,680 | 3,646,211,236 |
| Total | 7,030,144,539 | 9,266,993,958 | 9,409,861,905 |
| Deferred Vesteds | 142,487,141 | 235,261,026 | 181,737,771 |
| Total Actuarial Liability | 12,806,115,474 | 14,223,786,404 | 15,128,502,117 |
| | | | |

TTE

匾

TABLE III-2

Projection of Liabilities to Next Two Fiscal Years

| | June 30, 2005 | June 30, 2006 |
|---------------------------|----------------|----------------|
| Tier I Actives | | |
| Hazardous Duty | \$212,017,785 | \$178,820,886 |
| Plan B | 2,178,476,961 | 2,240,259,179 |
| Plan C | 92,820,027 | 92,700,422 |
| Total | 2,483,314,773 | 2,511,780,487 |
| Tier II Actives | | |
| Hazardous Duty | 1,366,193,418 | 1,500,061,303 |
| All Others | 1,662,003,273 | 1,764,566,817 |
| Total | 3,028,196,691 | 3,264,628,120 |
| Tier IIA Actives | | |
| Hazardous Duty | 137,689,080 | 179,639,804 |
| All Others | 212,995,382 | 275,769,203 |
| Total | 350,684,462 | 455,409,007 |
| Total Actives | 5,862,195,926 | 6,231,817,614 |
| Retirees | | |
| Pre-1980 | 333,414,955 | 308,357,507 |
| 1980-1997 Fixed COLA | 5,308,482,486 | 5,201,697,883 |
| 1997+ Variable COLA | 4,100,541,687 | 4,550,350,529 |
| Total | 9,742,439,128 | 10,060,405,919 |
| Deferred Vesteds | 213,042,381 | 246,271,718 |
| Total Actuarial Liability | 15,817,677,435 | 16,538,495,251 |

BURD.

Section IV

SERS CONTRIBUTIONS

and the second

, ite

Contraction in the second second

In this section we present the contributions required of the Employer in the upcoming fiscal year. Due to the timing of both the actuarial valuation process and the Employer's budget cycle, valuation results must be projected to the following two fiscal years in the biennial budget cycle in order to determine the Employer's required contribution.

In the following pages we present information on SERS contributions as follows:

| <u>Table</u> | Contents |
|--------------|--|
| IV-1 | Projected Unit Credit Normal Cost on the Valuation Date |
| IV-2 | Projection of Normal Cost to Next Two Fiscal Years |
| IV-3 | Projected Unit Credit Total Costs for First Fiscal Year |
| IV-4 | Projected Unit Credit Total Costs for Second Fiscal Year |

TABLE IV-1

Projected Unit Credit Normal Cost on Valuation Date (Net of Employee Contributions)

| | June 30, 2002 | June 30, 2004 |
|--|---------------|---------------|
| rmal Cost in Dollars | | |
| Tier I Hazardous Duty | \$11,827,124 | \$6,665,023 |
| Tier I Plan B | 89,685,678 | 66,148,624 |
| Tier I Plan C | 3,481,022 | 2,190,295 |
| Tier II Hazardous Duty | 53,684,716 | 67,328,781 |
| Tier II All Others | 88,045,807 | 95,407,488 |
| Tier IIA Hazardous Duty | 7,239,892 | 11,861,400 |
| Tier IIA All Others | 9,341,772 | 18,290,237 |
| Total | 263,306,011 | 267,891,848 |
| rmal Cost as a Percent of Payroll | | |
| Tier I Hazardous Duty | 17.10% | 16.23% |
| Tier I Plan B | 12.21% | 12.19% |
| Tier I Plan C | 9.42% | 9.35% |
| | 14.45% | 16.15% |
| Tier II Hazardous Duty | 14.4070 | |
| Tier II Hazardous Duty Tier II All Others | 7.77% | 8.46% |
| * | | |
| Tier II All Others | 7.77% | 8.46% |

TABLE IV-2

Projection of Normal Cost to Next Two Fiscal Years

| | June 30, 2005 | June 30, 2006 |
|-----------------------------------|--------------------|----------------|
| rmal Cost in Dollars | | |
| Tier I Hazardous Duty | \$5,493,822 | \$4,551,701 |
| Tier I Plan B | 66,536,943 | 66,668,964 |
| Tier I Plan C | 2,165,005 | 2,131,313 |
| Tier II Hazardous Duty | 70,800,706 | 73,682,645 |
| Tier II All Others | <u>9</u> 6,175,053 | 96,906,446 |
| Tier IIA Hazardous Duty | 14,640,262 | 17,862,245 |
| Tier IIA All Others | 23,941,637 | 30,472,046 |
| Total | 279,753,428 | 292,275,360 |
| rmal Cost as a Percent of Payroll | | |
| Tier I Hazardous Duty | 16.17% | 16.09% |
| Tier I Plan B | 12.68% | 13.08% |
| Tier I Plan C | 10.19% | 10.59% |
| Tier II Hazardous Duty | 16.64% | 17.14% |
| Tier II All Others | 8.74% | 8.98% |
| Ther II All Others | | 8.23% |
| Tier IIA Hazardous Duty | 8.00% | 8.237 |
| | 8.00% 3.54% | 8.237 3.649 |

15 MADIO

TABLE IV-3

Projected Unit Credit Total Costs For Fiscal Year 2005-06

| 1. | Actuarial Liability as of June 30, 2005 | \$15,817,677,435 |
|-----|---|------------------|
| 2. | Actuarial Value of Assets as of June 30, 2005 | 8,474,901,589 |
| 3. | Unfunded Actuarial Liability as of June 30, 2005: (1) - (2) | 7,342,775,846 |
| 4. | Amortization Period | 27 Years |
| 5. | Amortization Payment Towards Unfunded Actuarial Liability | 421,328,884 |
| 6. | SEBAC IV Asset Adjustment Amortization Payment | (32,340,640) |
| 7. | SEBAC V Asset Adjustment Amortization Payment | (45,678,924) |
| 8. | Net Amortization Payment: $(5) + (6) + (7)$ | 343,309,320 |
| 9. | Employer Normal Cost (Net of Employee Contributions) | 279,753,428 |
| 10. | Total Employer Cost for Fiscal Year 2005-06: $(8) + (9)$ | 623,062,748 |
| 11. | Projected Payroll | 2,964,728,306 |
| 12. | Total Employer Cost Percent: (10)/(11) | 21.02% |

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM SERS CONTRIBUTIONS

the state of the

TABLE IV-4

Projected Unit Credit Total Costs For Fiscal Year 2006-07

| 1. | Actuarial Liability as of June 30, 2006 | \$16,538,495,251 |
|-----|---|------------------|
| 2. | Actuarial Value of Assets as of June 30, 2006 | 8,818,869,966 |
| 3. | Unfunded Actuarial Liability as of June 30, 2006: (1) - (2) | 7,719,625,285 |
| 4. | Amortization Period | 26 Years |
| 5. | Amortization Payment Towards Unfunded Actuarial Liability | 453,571,533 |
| 6. | SEBAC IV Asset Adjustment Amortization Payment | (33,957,672) |
| 7. | SEBAC V Asset Adjustment Amortization Payment | (47,962,870) |
| 8. | Net Amortization Payment: $(5) + (6) + (7)$ | 371,650,991 |
| 9. | Employer Normal Cost | 292,275,360 |
| 10. | Total Employer Cost for Fiscal Year 2006-07: $(8) + (9)$ | 663,926,351 |
| 11. | Projected Payroll | 3,120,753,973 |
| 12. | Total Employer Cost Percent: (10)/(11) | 21.28% |

SECTION V

SUPPLY

Construction of the second

and the second

1

. .

GASB INFORMATION

Government Accounting Standards Board Statement No. 25 requires that SERS disclose certain information on an annual basis regarding the funding of SERS. In this section we present this information. Additional information regarding SERS Assets, a Summary of Plan Provisions and the Actuarial Method and Assumptions can be found in Section II and Appendices B and C, respectively.

The following tables present the information required by GASB #25:

| <u>Table</u> | Contents |
|--------------|---|
| V-1 | Statement of Plan Net Assets |
| V-2 | Statement of Changes in Plan Net Assets |
| V-3 | Schedule of Funding Progress |
| V-4 | Schedule of Employer Contributions |
| V-5 | Summary of Membership |
| | |

Background Information

The Connecticut State Employee Retirement System was created by the State of Connecticut to provide defined benefit pensions to its employees. SERS is described in Chapter 66, State Employees Retirement Act, in Sections 5-152 to 5-192 of Title 5 of the General Statutes of Connecticut.

The Employer's funding policy has been to contribute each year an amount equal to the normal cost plus an amount representing amortization of the unfunded actuarial liability over thirty years (ending June 30, 2022), less amounts reimbursed by the Federal Government. Pursuant to a collectively bargained agreement, as of June 30, 1992, the unfunded actuarial liability will be amortized over forty years (ending June 30, 2032). Per negotiations the past service payment is determined as a level percent of payroll. The actuarial assumptions used to calculate the figures reported herein are the same as those used to calculate the contribution level.

and the second

TABLE V-1

Statement of Plan Net Assets

| | June 30, 2003 | June 30, 2004 | |
|---|------------------|--------------------|--|
| Cash | \$ 4,446,866.28 | \$ (32,381,869.23) | |
| Accrued Interest | 0.00 | 0.00 | |
| Cash Reserve Account | 288,463,958.94 | 136,247,491.50 | |
| Mutual Fixed Income Fund | 2,515,112,878.96 | 2,242,969,641.86 | |
| Mutual Equity Fund | 2,498,015,184.79 | 2,945,734,038.24 | |
| Real Estate Fund | 163,879,606.49 | 141,844,062.01 | |
| International Stock Fund | 784,016,289.50 | 1,543,017,014.31 | |
| Commercial Mortgage Fund | 27,766,990.77 | 13,984,612.44 | |
| Venture Capital Fund | 709,924,439.66 | 685,818,824.23 | |
| Total Assets | 6,991,626,215.39 | 7,677,233,815.36 | |
| Liabilities | 0.00 | 0.00 | |
| Net assets held in trust for pension benefits | 6,991,626,215.39 | 7,677,233,815.36 | |

TABLE V-2

Statement of Changes in Plan Net Assets

| | July 1, 2002 to June 30, 2003 | July 1, 2003 to June 30, 2004 |
|---|-------------------------------------|-------------------------------------|
| Additions | | |
| Contributions | | |
| State | \$325,908,490 | \$366,730,112 |
| Federal | 95,543,241 | 103,602,832 |
| Employee | 50,953,367 | 46,638,051 |
| Total Net Contributions | 472,405,098 | 516,970,995 |
| Net Investment Income | | |
| Interest & Dividends | 319,466,083 | 312,679,182 |
| Net Appreciation/(Depreciation) | (185,953,011) | 724,830,463 |
| Expenses | (310,622) | (334,860) |
| Total Investment Income | 133,202,450 | 1,037,174,785 |
| Total Additions | 605,607,548 | 1,554,145,780 |
| Deductions | | |
| Benefit Payments | 696,803,446 | 862,862,535 |
| Employee Refunds | 6,075,299 | 5,675,645 |
| Total Deductions | 702,878,745 | 868,538,180 |
| Net Increase | (97,271,197) | 685,607,600 |
| Net assets held in trust for pension benefits | | |
| Beginning of year | 7,088,897,412 | 6,991,626,215 |
| End of year | 6,991,626,215 | 7,677,233,815 |

. | |

اند ل

_0 J

T

TABLE V-3

Schedule of Funding Progress

| | (1) | (2) | (3) | (4) | (5) | (6) UAAL as a |
|--------------------------------|---------------------------------|---|-------------------------------------|------------------------------|--------------------|---|
| Actuarial Valuation Date | Actuarial Value of Assets | Actuarial Accrued Liability (AAL) | Unfunded AAL (UAAL) (2) - (1) | Funded Ratio (1) / (2) | Covered Payroll | Percentage of Covered Payroll [(2) - (1)] / (5) |
| June 30, 1991 | \$3,207,958,056 | \$5,982,687,195 | \$2,774,729,139 | 53.62% | \$1,956,585,318 | 141.81% |
| June 30, 1992 | 3,425,886,181 | 6,668,685,334 | 3,242,799,153 | 51.37% | 1,931,381,254 | 167.90% |
| June 30, 1993 | 3,696,176,885 | 7,189,740,494 | 3,493,563,609 | 51.41% | 2,144,793,466 | 162.89% |
| June 30, 1994 | 3,944,521,448 | 7,329,181,184 | 3,384,659,736 | 53.82% | 2,155,860,555 | 157.00% |
| June 30, 1995 | 4,209,235,826 | 7,838,210,805 | 3,628,974,979 | 53.70% | 2,325,787,000 | 156.03% |
| June 30, 1996 | 4,604,227,717 | 8,138,610,053 | 3,534,382,336 | 56.57% | 2,385,532,750 | 148.16% |
| June 30, 1997 | 5,130,967,057 | 8,833,202,804 | 3,702,235,747 | 58.09% | 2,225,185,096 | 166.38% |
| June 30, 1998 | 5,669,865,527 | 9,592,407,736 | 3,922,542,209 | 59.11% | 2,338,957,445 | 167.70% |
| June 30, 2000 | 7,196,039,538 | 11,512,154,892 | 4,316,115,354 | 62.51% | 2,651,892,121 | 162.76% |
| June 30, 2001 | 7,638,853,783 | 12,105,366,407 | 4,466,512,624 | 63.10% | 2,784,495,788 | 160.41% |
| June 30, 2002 | 7,893,683,977 | 12,806,115,474 | 4,912,431,497 | 61.64% | 2,852,165,564 | 172.24% |
| June 30, 2003 | 8,058,586,633 | 14,223,786,404 | 6,165,199,771 | 56.66% | 2,654,252,370 | 232.28% |
| June 30, 2004 | 8,238,250,287 | 15,128,502,117 | 6,890,251,830 | 54.46% | 2,816,729,277 | 244.62% |

No values are shown above for June 30, 1999 since an actuarial valuation was not performed as of that date.

MILLIMAN USA

V-3

TABLE V-4

U

1

L.I

Schedule of Employer Contributions

| Fiscal Year Ending June 30 | Annual Required Contribution | Actual Contribution | Percent Funded |
|----------------------------------|------------------------------------|------------------------|-------------------|
| 1991 | \$398,016,908 | \$263,818,607 | 66.28% |
| 1992 | 431,236,846 | 250,324,285 | 58.05% |
| 1993 | 444,243,379 | 290,827,685 | 65.47% |
| 1994 | 310,206,351 | 310,206,351 | 100.00% |
| 1995 | 351,773,796 | 290,801,000 | 82.67% |
| 1996 | 335,111,972 | 335,111,971 | 100.00% |
| 1997 | 349,230,712 | 348,920,134 | <u>99.91%</u> |
| 1998 | 334,846,361 | 334,513,820 | 99.90% |
| 1999 | 315,561,785 | 315,561,785 | 100.00% |
| 2000 | 342,760,331 | 342,760,330 | 100.00% |
| 2001 | 354,208,031 | 375,623,183 | 106.05% |
| 2002 | 415,492,599 | 415,492,599 | 100.00% |
| 2003 | 425,902,474 | 421,451,731 | 98.95% |
| 2004 | 473,998,112 | 470,332,944 | 99.23% |

TABLE V-5

Summary of Membership

| | June 30, 2002 | June 30, 2003 | June 30, 2004 |
|--|---------------|---------------|---------------|
| Current Employees with Vested Benefits | | | |
| Tier I, Hazardous Duty | 930 | 533 | 499 |
| Tier I, Plan B | 10,764 | 7,405 | 7,293 |
| Tier I, Plan C | 594 | 368 | 351 |
| Tier II, Hazardous Duty | 6,472 | 6,336 | 6,207 |
| Tier II, Other | 20,606 | 18,710 | 18,111 |
| Tier IIA, Hazardous Duty | 163 | 619 | 1,155 |
| Tier IIA, Other | 904 | 2,614 | 4,659 |
| Total | 40,433 | 36,585 | 38,275 |
| Current Employees Not Yet Vested | | | |
| Tier I, Hazardous Duty | 30 | 15 | 12 |
| Tier I, Plan B | 309 | 228 | 235 |
| Tier I, Plan C | 12 | 12 | 14 |
| Tier II, Hazardous Duty | 136 | 101 | 103 |
| Tier II, Other | 882 | 672 | 705 |
| Tier IIA, Hazardous Duty | 2,299 | 1,872 | 1,672 |
| Tier IIA, Other | 10,186 | 7,479 | 6,910 |
| Total | 13,854 | 10,379 | 9,651 |
| Total Current Employees | 54,287 | 46,964 | 47,926 |
| Former Employees Currently Receiving B | enefits | | |
| Retired Pre-1980 | 4,931 | 4,512 | 4,111 |
| Retired 1980-1997, Fixed COLA | 23,687 | 23,211 | 22,688 |
| Retired 1997+, Variable COLA | 3,736 | 9,328 | 9,950 |
| Total | 32,354 | 37,051 | 36,749 |
| Former Employees Entitled to | | | |
| Future Benefits | 1,496 | 1,677 | 1,744 |
| Total Former Employees | 33,850 | 38,728 | 38,493 |
| Total Members | 88,137 | 85,692 | 86,419 |

discont

أسبيها

1

liz:

<u>Appendix A</u>

- The second sec

1

18.1

SUMMARY STATISTICS ON SERS MEMBERSHIP

| <u>Table</u> | Contents |
|--------------|--|
| A-1 | Summary of Active Membership Data |
| A-2 | Detail of Active Membership Data by Plan |
| A-3 | Summary of Inactive Membership Data |
| A-4 | Reconciliation of Changes in Membership |
| A-5 | Analysis by Age and Service - Tier I - Hazardous Duty |
| A-6 | Analysis by Age and Service - Tier I - Plan B |
| A-7 | Analysis by Age and Service - Tier I - Plan C |
| A-8 | Analysis by Age and Service - Tier II - Hazardous Duty |
| A-9 | Analysis by Age and Service - Tier II - All Others |
| A-10 | Analysis by Age and Service - Tier IIA- Hazardous Duty |
| A-11 | Analysis by Age and Service - Tier IIA- All Others |
| A-12 | Analysis of Retired Members by Current Age |

TABLE A-1

Summary of Active Membership Data

We received data on a total of 48,005 eligible active members for our June 30, 2004 valuation. Of the active records submitted to us, 79 (0.2%) were rejected due to missing or invalid dates of birth and/or hire. Cost calculations were not revised to reflect these records. The following analysis compares this data with prior years' data.

| | June 30, 2002 | June 30, 2003 | June 30, 2004 |
|------------------------------|---------------|---------------|---------------|
| Total Employees | 54,287 | 46,964 | 47,926 |
| Total Earnings (\$ millions) | \$2,852.1 | \$2,654.3 | \$2,816.7 |
| Average Earnings | 52,539 | 56,517 | 58,772 |

Earnings figures as of July 1 are actual amounts paid during the previous July 1 to June 30 period; new entrant earnings are annualized.

These figures are broken down by Plan on the following page.

100

100

(FS

190

13

1.050

國

TABLE A-2a

Detail of Active Membership Data by Plan

| | June 30, 2002 | June 30, 2003 | June 30, 2004 |
|---|---------------|---------------|---------------|
| Number of Members | | | |
| Tier I Hazardous Duty | 960 | 548 | 511 |
| Tier I Plan B | 11,073 | 7,633 | 7,528 |
| Tier I Plan C | 606 | 380 | 365 |
| Tier II Hazardous Duty | 6,608 | 6,437 | 6,310 |
| Tier II Others | 21,488 | 19,382 | 18,816 |
| Tier IIA Hazardous Duty | 2,462 | 2,491 | 2,827 |
| Tier IIA Others | 11,090 | 10,093 | 11,569 |
| Total | 54,287 | 46,964 | 47,926 |
| Total Annual Compensation (\$ Millions) | | | |
| Tier I Hazardous Duty | \$69.1 | \$40.4 | \$41.1 |
| Tier I Plan B | 734.3 | 527.2 | 542.8 |
| Tier I Plan C | 37.0 | 23.9 | 23.4 |
| Tier II Hazardous Duty | 371.5 | 391.4 | 416.9 |
| Tier II Others | 1,132.7 | 1,097.2 | 1,127.7 |
| Tier IIA Hazardous Duty | 104.5 | 127.2 | 153.3 |
| Tier IIA Others | 403.0 | 447.0 | 511.5 |
| Total | 2,852.1 | 2,654.3 | 2,816.7 |
| Average Compensation | | | |
| Tier I Hazardous Duty | \$72,043 | \$73,777 | \$80,344 |
| Tier I Plan B | 66,313 | 69,065 | 72,106 |
| Tier I Plan C | 61,003 | 62,784 | 64,167 |
| Tier II Hazardous Duty | 56,230 | 60,806 | 66,075 |
| Tier II Others | 52,712 | 56,607 | 59,932 |
| Tier IIA Hazardous Duty | 42,462 | 51,069 | 54,218 |
| Tier IIA Others | 36,336 | 44,289 | 44,217 |
| Total | 52,539 | 56,517 | 58,772 |

A-2a

TABLE A-2b

Detail of Active Membership Data by Plan

| Average Age Tier I Hazardous Duty Tier I Plan B | ane 30, 2002 48.9 51.4 | <i>June 30, 2003</i> 48.8 | June 30, 2004 |
|---|------------------------------|------------------------------|---------------|
| Tier I Hazardous Duty Tier I Plan B | | 48.8 | 40.7 |
| Tier I Plan B | | 48.8 | 40.7 |
| | 51.4 | | 49.7 |
| Tim I Dim C | | 50.3 | 51.2 |
| Tier I Plan C | 54.1 | 52.7 | 53.3 |
| Tier II Hazardous Duty | 41.1 | 41.9 | 42.8 |
| Tier II Others | 45.7 | 45.8 | 46.7 |
| Tier IIA Hazardous Duty | 34.5 | 35.2 | 35.9 |
| Tier IIA Others | 39.0 | 40.0 | 40.4 |
| Total | 44.6 | 44.3 | 44.8 |
| Average Service | | | |
| Tier I Hazardous Duty | 21.6 | 21.6 | 22.8 |
| Tier I Plan B | 24.0 | 23.9 | 24.7 |
| Tier I Plan C | 24.9 | 24.8 | 25.5 |
| Tier II Hazardous Duty | 11.1 | 12.1 | 13.0 |
| Tier II Others | 12.3 | 13.0 | 13.9 |
| Tier IIA Hazardous Duty | 2.5 | 3.3 | 3.8 |
| Tier IIA Others | 2.4 | 3.1 | 3.4 |
| Total | 12.4 | 12.2 | 12.5 |

1

D

DE

TABLE A-3

Summary of Inactive Membership Data

| | June 30, 2002 | June 30, 2003 | June 30, 2004 |
|---------------------------------|---------------|---------------|---------------|
| Retired Pre-1980 | | | |
| Number | 4,931 | 4,512 | 4,111 |
| Total Annual Benefits (\$ 000s) | \$61,327 | \$57,783 | \$56,582 |
| Average Annual Benefit | 12,437 | 12,807 | 13,764 |
| Retired 1980-1997, Fixed COLA | | | |
| Number | 23,687 | 23,211 | 22,688 |
| Total Annual Benefits (\$ 000s) | \$510,754 | \$516,404 | \$536,741 |
| Average Annual Benefit | 21,563 | 22,248 | 23,657 |
| Retired 1997+, Variable COLA | | | |
| Number | 3,736 | 9,328 | 9,950 |
| Total Annual Benefits (\$ 000s) | \$83,020 | \$262,582 | \$287,448 |
| Average Annual Benefit | 22,222 | 28,150 | 28,889 |
| Total Retired Members | | | |
| Number | 32,354 | 37,051 | 36,749 |
| Total Annual Benefits (\$ 000s) | \$655,101 | \$836,768 | \$880,771 |
| Average Annual Benefit | 20,248 | 22,584 | 23,967 |
| Terminated Vested Members | | | |
| Number | 1,496 | 1,677 | 1,744 |
| Total Annual Benefits (\$ 000s) | \$16,644 | \$24,481 | \$23,197 |
| Average Annual Benefit | 11,126 | 14,598 | 13,301 |

0

11

bad

1

i i

1

TABLE A-4

Reconciliation of Changes in Membership

| | Active Members | Deferred Vested Members | Retired Members | Disabled Members | Beneficiaries | Total Members |
|------------------------------|-------------------|-------------------------------|--------------------|---------------------|---------------|------------------|
| Count as of July 1, 2003 | 46,964 | 1,677 | 30,842 | 2,850 | 3,359 | 85,692 |
| Changed status within System | | | | | | |
| to active status | 82 | (78) | (4) | 0 | 0 | 0 |
| to deferred vested status | (66) | 66 | 0 | 0 | 0 | 0 |
| to retired status | (209) | (148) | 369 | (12) | 0 | 0 |
| to disabled status | (153) | 0 | (2) | 155 | 0 | 0 |
| to beneficiary status | (4) | 0 | (2) | 0 | 6 | 0 |
| Left System | (2,414) | (30) | (977) | (110) | (164) | (3,695) |
| Entered System | 3,726 | 257 | 119 | 55 | 265 | 4,422 |
| Count as of June 30, 2004 | 47,926 | 1,744 | 30,345 | 2,938 | 3,466 | 86,419 |

TABLE A-5

Analysis of Active Members by Age and Service - Tier I Hazardous Duty

| | | | | Numb | er of Members | | | | | |
|---------------|--------|---------|----------|----------|---------------|----------|----------|----------|---------|-----------|
| Age \ Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years |
| Under 20 | · 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 to 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 to 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 to 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 to 39 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| 40 to 44 | 0 | 1 | 2 | 9 | 58 | 4 | 0 | 0 | 0 | 74 |
| 45 to 49 | 1 | 4 | 10 | 9 | 130 | 47 | 1 | 0 | 0 | 202 |
| 50 to 54 | 2 | 3 | 7. | 5 | 55 | 59 | 19 | 1 | 0 | 151 |
| 55 to 59 | 0 | 0 | 4 | 3 | 18 | 17 | 11 | 1 | 0 | 54 |
| 60 to 64 | 0 | 1 | 2 | 0 | 7 | 10 | 1 | 1 | 0 | 22 |
| 65 & Up | 0 | 0 | 2 | 1 | 0 | 3 | 0 | 0 | 1 | 7 |
| Totals | 3 | 9 | 27 | 27 | 269 | 140 | 32 | 3 | 1 | 511 |
| | | | | · | rage Salaries | | | | | |
| Age Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years |
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 to 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 to 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30 to 34 | 0. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 to 39 | 0 | 0 | 0 | 0 | 55,444 | 0 | 0 | 0 | 0 | 55,444 |
| 40 to 44 | 0 | 78,847 | 91,606 | 74,977 | 80,621 | 64,975 | 0 | 0 | 0 | 79,362 |
| 45 to 49 | 58,845 | 71,972 | 70,245 | 79,541 | 80,116 | 82,549 | 67,524 | 0 | 0 | 79,839 |
| 50 to 54 | 91,994 | 67,155 | 67,419 | 79,455 | 79,792 | 78,547 | 87,187 | 102,048 | 0 | 79,709 |
| 55 to 59 | 0 | 0 | 65,637 | 68,942 | 70,418 | 73,046 | 90,060 | 80,411 | 0 | 74,996 |
| 60 to 64 | 0 | 105,064 | 52,073 | 0 | 51,070 | 75,067 | 104,759 | 64,046 | 0 | 67,553 |
| 65 & Up | 0 | 0 | 55,447 | 71,839 | 0 | 101,805 | 0 | 0 | 85,204 | 81,907 |
| Totals | 80,944 | 74,807 | 67,970 | 76,541 | 78,662 | 79,085 | 88,110 | 82,168 | 85,204 | 80,344 |

MILLIMAN USA

A-5

TABLE A-6

Analysis of Active Members by Age and Service - Tier I Plan B

| Number of Members | | | | | | | | | | | |
|-------------------|--------|---------|----------|----------|----------|----------|----------|----------|---------|-----------|--|
| Age Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years | |
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20 to 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 25 to 29 | 0 | 0 | 0 | 0 | · 0 | 0 | 0 | 0 | 0 | 0 | |
| 30 to 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 35 to 39 | 1 | 0 | 1 | 1 | 12 | 0 | 0 | 0 | 0 | 15 | |
| 40 to 44 | 14 | 17 | 17 | 23 | 556 | 80 | 0 | 0 | 0 | 707 | |
| 45 to 49 | 34 | 43 | 54 | 82 | 1,029 | 931 | 66 | 0 | 0 | 2,239 | |
| 50 to 54 | 36 | 52 | 83 | 87 | 705 | 1,304 | 522 | 26 | 0 | 2,815 | |
| 55 to 59 | 6 | 22 | 26 | 31 | 294 | 419 | 291 | 69 | 2 | 1,160 | |
| 60 to 64 | 3 | 5 | 7 | 14 | 117 | 111 | 95 | 64 | 12 | 428 | |
| 65 & Up | 0 | 2 | 1 | 3 | 29 | 40 | 20 | 48 | 21 | 164 | |
| Totals | 94 | 141 | 189 | 241 | 2,742 | 2,885 | 994 | 207 | 35 | 7,528 | |

| Average Salaries | | | | | | | | | | | |
|------------------|---------|---------|----------|----------|----------|----------|----------|----------|---------|-----------|--|
| Age Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years | |
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20 to 24 | 0 | · 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 25 to 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 30 to 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 35 to 39 | 55,181 | 0 | 40,113 | 49,905 | 52,461 | 0 | 0 | 0 | 0 | 51,649 | |
| 40 to 44 | 50,604 | 58,026 | 57,935 | 58,080 | 60,085 | 57,012 | 0 | 0 | 0 | 59,383 | |
| 45 to 49 | 50,031 | 56,186 | 59,379 | 65,780 | 65,831 | 63,789 | 61,554 | 0 | 0 | 64,273 | |
| 50 to 54 | 76,623 | 70,387 | 60,401 | 68,482 | 69,919 | 73,608 | 73,075 | 66,999 | 0 | 71,955 | |
| 55 to 59 | 75,452 | 72,584 | 67,710 | 75,402 | 70,739 | 82,403 | 83,831 | 83,108 | 61,100 | 79,072 | |
| 60 to 64 | 113,880 | 52,673 | 74,398 | 68,201 | 62,394 | 76,603 | 91,894 | 110,245 | 100,448 | 81,483 | |
| 65 & Up | 0 | 97,353 | 66,615 | 103,908 | 79,136 | 82,928 | 107,216 | 104,615 | 109,051 | 95,372 | |
| Totals | 64,016 | 64,663 | 61,337 | 67,808 | 66,179 | 71,501 | 77,944 | 94,462 | 103,361 | 72,106 | |

TABLE A-7

Analysis of Active Members by Age and Service - Tier I Plan C

| Number of Members | | | | | | | | | | | |
|-------------------|--------|---------|----------|----------|----------|----------|----------|----------|---------|-----------|--|
| Age Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years | |
| Under 20 | 0 | 0 | 0 | 0. | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20 to 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 25 to 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 30 to 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 35 to 39 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | |
| 40 to 44 | 0 | 1 | 0 | 0 | 14 | 4 | 0 | 0 | 0 | 19 | |
| 45 to 49 | 3 | 2 | 1 | 3 | 39 | 42 | 5 | 0 | 0 | 95 | |
| 50 to 54 | 1 | 2 | 1 | 3 | 25 | 65 | 27 | 2 | 0 | 126 | |
| 55 to 59 | 1 | 1 | 0 | 2 | 23 | 16 | 9 | 5 | 0 | 57 | |
| 60 to 64 | 1 | 1 | 1 | 1 | 5 | 16 | 7 | 7 | 0 | 39 | |
| 65 & Up | 0 | 1 | 0 | 1 | 7 | . 3 | 5 | 7 | 3 | 27 | |
| Totals | 6 | 8 | 3 | 10 | 115 | 146 | 53 | 21 | 3 | 365 | |

| Average Salaries | | | | | | | | | | | |
|------------------|--------|---------|----------|----------|----------|----------|----------|----------|---------|-----------|--|
| Age \ Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years | |
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20 to 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 25 to 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 30 to 34 | . 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 35 to 39 | 0 | 0 | 0 | 0 | 63,250 | . 0 | 0 | 0 | 0 | 63,250 | |
| 40 to 44 | 0 | 91,772 | 0 | 0 | 54,922 | 47,562 | 0 | 0 | 0 | 55,312 | |
| 45 to 49 | 54,888 | 46,280 | 16,763 | 56,978 | 64,038 | 57,571 | 64,199 | 0 | 0 | 59,804 | |
| 50 to 54 | 37,913 | 61,613 | 56,412 | 54,601 | 61,343 | 62,354 | 57,413 | 44,071 | 0 | 60,367 | |
| 55 to 59 | 49,869 | 39,699 | 0 | 67,084 | 58,986 | 64,800 | 59,958 | 55,783 | 0 | 60,276 | |
| 60 to 64 | 62,186 | 67,427 | 85,999 | 209,018 | 53,447 | 67,040 | 87,101 | 77,176 | 0 | 74,729 | |
| 65 & Up | 0 | 97,637 | 0 | 44,562 | 80,244 | 43,142 | 73,002 | 85,041 | 106,559 | 78,270 | |
| Totals | 52,439 | 64,040 | 53,058 | 72,249 | 61,844 | 60,960 | 63,877 | 71,551 | 106,559 | 64,167 | |

TABLE A-8

Analysis of Active Members by Age and Service - Tier II Hazardous Duty

| Number of Members | | | | | | | | | | | |
|-------------------|--------|---------|----------|----------|----------|----------|----------|----------|---------|-----------|--|
| Age \ Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years | |
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20 to 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 25 to 29 | 5 | 24 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | |
| 30 to 34 | 24 | 286 | 407 | 5 | 0 | 0 | 0 | 0 | 0 | 722 | |
| 35 to 39 | 23 | 226 | 1,055 | 383 | 5 | 0 | 0 | 0 | · 0 | 1,692 | |
| 40 to 44 | 28 | 149 | 670 | 733 | 68 | 0 | 0 | 0 | 0 | 1,648 | |
| 45 to 49 | 8 | 98 | 419 | 412 | 69 | 1 | 0 | 0 | 0 | 1,007 | |
| 50 to 54 | 10 | 71 | 260 | 209 | 54 | 7 | 0 | 0 | 0 | 611 | |
| 55 to 59 | 4 | 47 | 184 | 140 | 44 | 0 | 1 | 1 | 0 | 421 | |
| 60 to 64 | 1 | 10 | 66 | 51 | 14 | 0 | 1 | 2 | 0 | 145 | |
| 65 & Up | 1 | 5 | 11 | 11 | 6 | 0 | 0 | .0 | 0 | 34 | |
| Totals | 104 | 916 | 3,073 | 1,944 | 260 | 8 | 2 | 3 | 0 | 6,310 | |

| Average Salaries | | | | | | | | | | | |
|------------------|--------|---------|----------|----------|----------|----------|----------|----------|---------|-----------|--|
| Age \ Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years | |
| Under 20 | 0 | 0 | 0 | 0 | 0 | - 0 | 0 | 0 | 0 | 0 | |
| 20 to 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 25 to 29 | 44,993 | 49,688 | 53,141 | 0 | 0 | 0 | 0 | 0 | 0 | 49,020 | |
| 30 to 34 | 51,919 | 58,320 | 60,699 | 59,795 | 0 | 0 | 0 | 0 | 0 | 59,458 | |
| 35 to 39 | 55,527 | 59,717 | 61,740 | 69,255 | 70,778 | 0 | 0 | 0 | 0 | 63,113 | |
| 40 to 44 | 50,790 | 60,183 | 62,329 | 71,559 | 71,133 | 0 | 0 | 0 | 0 | 66,407 | |
| 45 to 49 | 77,362 | 61,664 | 61,873 | 69,877 | 73,730 | 82,637 | 0 | 0 | 0 | 66,083 | |
| 50 to 54 | 66,139 | 58,985 | 64,689 | 68,888 | 66,989 | 61,334 | 0 | 0 | 0 | 65,651 | |
| 55 to 59 | 57,310 | 62,751 | 63,520 | 67,416 | 72,575 | 0 | 125,393 | 134,779 | 0 | 65,933 | |
| 60 to 64 | 44,081 | 60,039 | 64,107 | 68,310 | 69,673 | 0 | 64,918 | 82,912 | 0 | 65,969 | |
| 65 & Up | 15,017 | 65,057 | 71,981 | 75,896 | 64,795 | 0 | 0 | 0 | 0 | 69,286 | |
| Totals | 55,182 | 59,434 | 62,189 | 70,072 | 70,974 | 63,997 | 95,156 | 100,201 | 0 | 66,075 | |

TABLE A-9

Analysis of Active Members by Age and Service - Tier II All Others

| Number of Members | | | | | | | | | | | |
|-------------------|--------|---------|----------|----------|----------|----------|----------|----------|---------|-----------|--|
| Age Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years | |
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20 to 24 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| 25 to 29 | 26 | 44 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 78 | |
| 30 to 34 | 78 | 447 | 418 | 39 | 0 | 0 | 0 | 0 | 0 | 982 | |
| 35 to 39 | 117 | 545 | 1,197 | 1,146 | 51 | 0 | 0 | 0 | . 0 | 3,056 | |
| 40 to 44 | 144 | 484 | 1,131 | 2,118 | 365 | 3 | 0 | 0 | 0 | 4,245 | |
| 45 to 49 | 120 | 422 | 841 | 1,743 | 378 | 6 | 0 | 0 | 0 | 3,510 | |
| 50 to 54 | 117 | 375 | 853 | 1,393 | 339 | 16 | 20 | 1 | 0 | 3,114 | |
| 55 to 59 | 67 | 253 | 692 | 1,025 | 294 | 20 | 29 | 17 | 0 | 2,397 | |
| 60 to 64 | 30 | 158 | 334 | 422 | 102 | 7 | 6 | 4 | 0 | 1,063 | |
| 65 & Up | 11 | 56 | 127 | 138 | 33 | 1 | 4 | 0 | 0 | 370 | |
| Totals | 711 | 2,784 | 5,601 | 8,024 | 1,562 | 53 | 59 | 22 | 0 | 18,816 | |

| Average Salaries | | | | | | | | | | | |
|------------------|--------|---------|----------|----------|----------|----------|----------|----------|---------|-----------|--|
| Age Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years | |
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20 to 24 | 23,930 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23,930 | |
| 25 to 29 | 51,133 | 39,878 | 38,554 | 0 | 0 | 0 | 0 | 0 | 0 | 43,494 | |
| 30 to 34 | 50,260 | 53,624 | 52,057 | 49,358 | 0 | 0 | 0 | 0 | 0 | 52,520 | |
| 35 to 39 | 48,984 | 54,721 | 56,800 | 53,989 | 52,966 | 0 | 0 | 0 | 0 | 55,012 | |
| 40 to 44 | 55,085 | 52,290 | 58,455 | 60,387 | 60,785 | 63,918 | 0 | 0 | 0 | 58,806 | |
| 45 to 49 | 49,892 | 54,263 | 57,706 | 61,456 | 66,996 | 73,727 | 0 | 0 | 0 | 59,915 | |
| 50 to 54 | 52,255 | 56,300 | 59,426 | 62,257 | 65,728 | 80,014 | 59,403 | 79,373 | 0 | 60,845 | |
| 55 to 59 | 53,127 | 55,005 | 58,991 | 61,280 | 68,720 | 66,202 | 82,308 | 76,285 | 0 | 61,043 | |
| 60 to 64 | 45,437 | 50,078 | 57,962 | 59,966 | 70,090 | 68,764 | 71,130 | 71,886 | 0 | 58,594 | |
| 65 & Up | 32,869 | 48,532 | 52,928 | 58,074 | 55,120 | 55,031 | 72,809 | 0 | 0 | 54,002 | |
| Totals | 51,086 | 53,669 | 57,542 | 60,028 | 65,087 | 71,222 | 72,763 | 75,626 | 0 | 59,932 | |

TABLE A-10

Analysis of Active Members by Age and Service - Tier IIA Hazardous Duty

| Number of Members | | | | | | | | | | | |
|-------------------|--------|---------|----------|----------|----------|----------|----------|----------|---------|-----------|--|
| Age Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years | |
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20 to 24 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | |
| 25 to 29 | 476 | 162 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 638 | |
| 30 to 34 | 438 | 385 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 827 | |
| 35 to 39 | 320 | 253 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 578 | |
| 40 to 44 | 161 | 139 | 1 | 0 | 0 | . 0 | 0 | 0 | 0 | 301 | |
| 45 to 49 | 110 | 89 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 202 | |
| 50 to 54 | 66 | 53 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 121 | |
| 55 to 59 | 35 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 69 | |
| 60 to 64 | 20 | 15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | |
| 65 & Up | 9 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 14 | |
| Totals | 1,676 | 1,134 | 14 | 0 | 1 | 2 | 0 | 0 | 0 | 2,827 | |

| | Average Salaries | | | | | | | | | | | |
|---------------|------------------|---------|----------|----------|----------|----------|----------|----------|---------|-----------|--|--|
| Age Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years | | |
| Under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 20 to 24 | 36,591 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36,591 | | |
| 25 to 29 | 49,230 | 51,856 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49,897 | | |
| 30 to 34 | 48,200 | 54,795 | 59,825 | 0 | 0 | 0 | 0 | 0 | . 0 | 51,326 | | |
| 35 to 39 | 50,841 | 53,831 | 55,738 | 0 | 0 | 0 | 0 | 0 | 0 | 52,192 | | |
| 40 to 44 | 53,640 | 55,149 | 56,433 | 0 | 0 | 0 | 0 | . 0 | 0 | 54,346 | | |
| 45 to 49 | 54,332 | 58,179 | 66,748 | 0 | 64,698 | 66,778 | 0 | 0 | 0 | 56,201 | | |
| 50 to 54 | 54,320 | 56,141 | 76,831 | 0 | 0 | 0 | 0 | 0 | 0 | 55,490 | | |
| 55 to 59 | 57,786 | 60,849 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 59,295 | | |
| 60 to 64 | 50,873 | 65,885 | 56,126 | 0 | 0 | 0 | 0 | 0 | 0 | 57,274 | | |
| 65 & Up | 57,898 | 51,762 | 0 | 0 | 0 | 155,620 | 0 | 0 | 0 | 63,125 | | |
| Totals | 50,163 | 54,850 | 60,783 | 0 | 64,698 | 111,199 | 0 | 0 | 0 | 54,218 | | |

. . .

MILLIMAN USA

đ

<u>TABLE A-11</u>

Analysis of Active Members by Age and Service - Tier IIA All Others

| | Number of Members | | | | | | | | | |
|---------------|-------------------|---------|----------|----------|----------|----------|----------|----------|---------|-----------|
| Age \ Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years |
| Under 20 | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 119 |
| 20 to 24 | 557 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 568 |
| 25 to 29 | 1,152 | 404 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1,559 |
| 30 to 34 | 1,028 | 817 | 3 | 1 | . 0 | 0 | 0 | 0 | 0 | 1,849 |
| 35 to 39 | 945 | 741 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1,688 |
| 40 to 44 | 950 | 714 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 1,670 |
| 45 to 49 | 804 | 672 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 1,481 |
| 50 to 54 | 645 | 492 | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 1,144 |
| 55 to 59 | 471 | 390 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 869 |
| 60 to 64 | 183 | 230 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 415 |
| 65 & Up | 78 | 127 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 207 |
| Totals | 6,932 | 4,598 | 26 | 8 | 4 | 1 | 0 | 0 | 0 | 11,569 |

| | | | | Ave | rage Salaries | | | | | |
|---------------|--------|---------|----------|----------|---------------|----------|----------|----------|---------|-----------|
| Age Service | 0 to 5 | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 & Up | All Years |
| Under 20 | 16,422 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16,422 |
| 20 to 24 | 25,826 | 32,084 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25,947 |
| 25 to 29 | 37,252 | 44,891 | 39,506 | 0 | 0 | 0 | 0 | 0 | 0 | 39,236 |
| 30 to 34 | 40,729 | 47,379 | 47,942 | 46,634 | 0 | 0 | 0 | 0 | 0 | 43,682 |
| 35 to 39 | 40,255 | 46,765 | 55,321 | 27,493 | 0 | 0 | 0 | 0 | 0 - | 43,114 |
| 40 to 44 | 41,174 | 47,327 | 35,387 | 16,496 | 60,642 | 0 | 0 | 0 | 0 | 43,788 |
| 45 to 49 | 44,753 | 49,296 | 34,966 | 9,656 | 3,214 | 68,895 | 0 | 0 | 0 | 46,765 |
| 50 to 54 | 44,571 | 49,958 | 76,984 | 52,676 | 22,068 | 0 | 0 | 0 | 0 | 46,969 |
| 55 to 59 | 41,552 | 48,380 | 60,636 | 66,349 | 0 | 0 | 0 | 0 | 0 | 44,805 |
| 60 to 64 | 42,161 | 46,170 | 70,980 | 0 | 0 | 0 | 0 | 0 | 0 | 44,522 |
| 65 & Up | 33,166 | 37,836 | 38,709 | 38,679 | 0 | 0 | 0 | 0 | 0 | 36,085 |
| Totals | 39,366 | 47,334 | 53,137 | 40,542 | 26,998 | 68,895 | 0 | 0 | 0 | 44,217 |

<u>TABLE A-12</u>

Analysis of Retired Members and Beneficiaries by Current Age

| | Number of Members | | | | | Average Benefit Paid in FY04 | | | | | |
|-----------|-------------------|----------------------|-----------------------------------|-------------------|-------|------------------------------|----------------------|--------------------------|-------------------|--------|--|
| Current | Service | Service Connected | Non - Service Connected | Hazardous Duty | | Service | Service Connected | Non-Service Connected | Hazardous Duty | | |
| Age | Retirement | Disability | Disability | Retirement | Other | Retirement | Disability | Disability | Retirement | Other | |
| Under 40 | 0 | 167 | 63 | 28 | 172 | 0 | 24,464 | 20,821 | 35,647 | 12,167 | |
| 40 to 44 | 2 | 167 | 122 | 223 | 89 | 30,406 | 23,006 | 24,157 | 39,332 | 17,135 | |
| 45 to 49 | 111 | 169 | 178 | 458 | 144 | 30,873 | 23,156 | 23,543 | 41,345 | 20,996 | |
| 50 to 54 | 2,639 | 198 | 283 | 579 | 667 | 34,866 | 22,085 | 26,917 | 42,978 | 14,510 | |
| 55 to 59 | 3,756 | 197 | 232 | 483 | 933 | 30,913 | 20,882 | 24,191 | 43,128 | 14,212 | |
| 60 to 64 | 4,065 | 166 | 196 | 342 | 800 | 27,233 | 18,600 | 19,186 | 37,987 | 11,949 | |
| 65 to 69 | 4,041 | 131 | 172 | 277 | 849 | 24,305 | 14,421 | 16,962 | 33,596 | 11,283 | |
| 70 to 74 | 4,226 | 83 | 114 | 175 | 745 | 21,026 | 11,834 | 12,445 | 30,573 | 11,478 | |
| 75 to 79 | 3,395 | 44 | 61 | 103 | 688 | 18,205 | 9,510 | 10,017 | 27,236 | 12,490 | |
| 80 to 84 | 2,003 | 16 | 40 | 26 | 467 | 15,369 | 7,735 | 11,534 | 23,911 | 10,460 | |
| 85 to 89 | 874 | 9 | 10 | 5 | 207 | 14,073 | 12,721 | 13,036 | 16,849 | 11,102 | |
| 90 to 94 | 248 | 1 | 7 | 1 | 61 | 13,481 | 8,002 | 8,104 | 45,119 | 11,233 | |
| 95 and up | 28 | 1 | 2 | 0 | 10 | 16,853 | 8,951 | 8,016 | 0 | 10,670 | |
| Totals | 25,388 | 1,349 | 1,480 | 2,700 | 5,832 | 24,346 | 19,985 | 20,981 | 39,120 | 12,661 | |

APPENDIX B

SUMMARY OF PLAN PROVISIONS

barran I

This summary of plan provisions is based on our understanding of the benefits as described by the Connecticut General Statutes, summary plan descriptions, and the Connecticut State Employees Retirement System. It is intended only to describe the essential features of the plan. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself. To the extent that this summary does not accurately reflect the plan provisions, then the results of this valuation may not be accurate.

1. Membership

<u>*Tier I [Sec. 5-160]:*</u> Each state employee appointed to classified service shall become a member on the first day of the pay period following permanent appointment.

Each officer elected by the people and each appointee of such officer exempt from classified service may elect to become a member, effective on the first day of the pay period following receipt of such election.

Each other state employee exempt from classified service shall become a member on the first day of the pay period following six months of employment.

Except as noted below, employees hired prior to July 1, 1984 could elect (no later than January 2, 1984) to be covered under either Plan B or Plan C. Employees under contracts with Union Independent and CSEA unions hired prior to October 1, 1982 had until October 1, 1984 to make such election.

<u>Tier II [Sec. 5-192e]</u>: Tier II consists of employees first joining the retirement system on or after July 1, 1984 plus employees hired between July 1, 1982 and January 1, 1984 who elected Tier II. Each state employee becomes a member on the first day of employment.

<u>*Tier IIA:*</u> Tier IIA consists of employees first joining the retirement system on or after July 1, 1997.

2. Normal Retirement Eligibility

Tier I - Hazardous Duty [Sec. 5-173]: 20 years of credited service.

<u>Tier I - Plans B and C [Sec. 5-162]</u>: The earliest of age 55 with 25 years of service, age 65 with 10 years of service, or age 70 with 5 years of service.

<u>Tier II [Sec. 5-1921] and Tier IIA:</u> The earliest of age 62 with 10 years of vesting service (effective July 1, 1992), age 60 with 25 years of vesting service, age 70 with 5 years of vesting service, or age 62 with 5 years of actual state service for terminations on or after July 1, 1997. Hazardous duty members may retire after 20 years.

3. Normal Retirement Benefit

<u>Final Average Earnings</u>: The average salary of the three highest paid years of service. Commencing January 1, 1986, no one year's earnings can be greater than 130% of the average of the preceding two years in calculating the Final Average Earnings.

<u>*Tier I - Hazardous Duty [Sec. 5-173]:*</u> 50% of Final Average Earnings plus 2% for each year of service in excess of 20.

<u>Tier I Plan B [Sec. 5-162]</u>: Same as Plan C up to age 65; thereafter 1% of Final Average Earnings up to \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 times years of service. At age 70, greater of 1.25% of Final Average Earnings up to \$4,800 plus 2.5% of Final Average Earnings in excess of \$4,800 times years of service (maximum 20 years) or 1.0% of Final Average Earnings up to \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 plus 2% of Final Average Earnings up to \$4,800 plus 2% of Final Average Earnings up to \$4,800 plus 2% of Final Average Earnings up to \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 plus 2% of Final Average Earnings in excess of \$4,800 times years of service. Minimum benefit with 25 years is \$833.34 per month.

<u>Tier I Plan C [Sec. 5-162]</u>: 2% of Final Average Earnings times years of service. At age 70, greater of 2.5% of Final Average Earnings time years of service (maximum 20 years) or 2.0% of Final Average Earnings times years of service. Minimum benefit with 25 years is \$833.34 per month.

<u>Tier II Hazardous Duty Members [Sec. 5-192n] and Tier IIA</u>: 2.5% of Final Average Earnings times up to 20 years of service plus 2% of Final Average Earnings times years of service in excess of 20 years, if any. Minimum benefit with 25 years is \$360 per month.

<u>Tier II All Other [Sec. 5-1921] and Tier IIA</u>: $1\frac{1}{3}\%$ of Final Average Earnings plus $\frac{1}{2}\%$ of Final Average Earnings in excess of the year's breakpoint*, times up to 35 years of service from October 1, 1982 plus $1\frac{5}{8}\%$ of Final Average Earnings times years of service in excess of 35 years, if any. Minimum benefit with 25 years is \$360 per month.

* \$10,700 increased by 6% each year after 1982, rounded to the nearest \$100, but not greater than Social Security Covered Compensation.

4. <u>Early Retirement</u>

Tier I - Hazardous Duty: None.

<u>*Tier I [Sec. 5-162]:*</u> Age 55 with 10 years of service; benefit is Normal Retirement Benefit reduced for retirement prior to age 65 with less than 25 years of service.

<u>Tier II [Sec. 5-192m] and Tier IIA</u>: Age 55 with 10 years of vesting service; benefit is Normal Retirement Benefit reduced ¼% (effective July 1, 1991) for each month prior to age 60 if at least 25 years of service or age 62 if at least 10 but less than 25 years of service. Minimum benefit with 25 years of service is \$360 per month.

5. <u>Deferred Retirement</u>

<u>Tier I [Sec. 5-162]</u>: May be deferred but not beyond age 70.

<u>Tier II [Sec. 5-1921] and Tier IIA:</u> May be deferred but not beyond age 70. Benefit is based on salary and service to actual retirement.

6. Vesting

<u>Tier I [Sec. 5-166]</u>: Ten years of service; benefit is payable at Normal Retirement Age or an early retirement benefit is payable at age 55; in addition employees are always fully vested in their own contributions (after January 1, 1983, Tier I contributions with 5% interest from January 1, 1982).

Tier I - Hazardous Duty [Sec. 5-173(f)]: As above.

<u>Tier II [Sec. 5-1920] and Tier IIA</u>: Effective July 1, 1997, 5 years of actual state service, 10 years of vesting service, or age 70 with 5 years of service; benefit is payable at Normal Retirement Age or an early retirement benefit is payable at age 55. In addition employees are always fully vested in their own contributions with 5% interest.

7. <u>Member Contributions</u>

| <u> Tier I - Hazardous Duty [Sec. 5-161]</u> | 4% of earnings up to the Social Security Taxable Wage Base plus 5% of earnings above that level. |
|--|--|
| <u>Tier I - Plan B [Sec. 5-161]</u> | 2% of earnings up to the Social Security Taxable Wage Base plus 5% of earnings above that level. |
| <u> Tier I - Plan C [Sec. 5-161]</u> | 5% of earnings. |
| <u> Tier II - All Other [Sec. 5-192u]</u> | None. |
| <u> Tier II - Hazardous Duty [Sec. 5-192u]</u> | 4% of earnings. |
| <u> Tier I – All other</u> | 2% of earnings. |
| <u> Tier IIA – Hazardous Duty</u> | 5% of earnings. |

8. <u>Cost of Living</u>

[Sec. 5-162b, 5-162d]: Annual adjustment each July 1 of up to 5% for retirements prior to July 1, 1980; 3% for retirements after July 1, 1980. For members (or beneficiaries) not covered by Social Security and age 62 and over, the maximum increase is 6%. If an actuarial surplus (as defined in the law) exists, the Commission may further increase retired benefits.

For employees retiring after June 30, 1999, the annual adjustment will be 60% of the increase in the CPI up to 6% and 75% of the increase in the CPI over 6%. This adjustment will be no less than 2.5% and no greater than 6%. Employees retiring between July 1, 1997 and June 30, 1999 made an irrevocable choice between this formula and a fixed 3% annual adjustment.

<u>*Tier IIA:*</u> An employee must have at least ten years of actual state service or directly make the transition into retirement in order to be eligible for annual adjustments.

9. Death Benefits

<u>*Tier I - State Police [Sec. 5-146]:*</u> Survivor benefits to spouse of \$670 per month plus \$300 to a surviving dependent child (or \$700 to surviving dependent children).

<u>Tier I [Sec. 5-165a]</u>: If eligible for early or normal retirement, spouse benefit is equal to 50% of the average of the Life Benefit and the 50% Joint & Survivor Benefit the member would have received. If not eligible to retire but 25 years of service, the same benefit calculated as though age 55 using service and earnings at death.

MILLIMAN USA

B-4

ę

[Sec. 5-168]: If not eligible for retirement, return of contributions (after October 1, 1982, Tier I, with interest from January 1, 1982 at 5%).

<u>Tier II [Sec. 5-192r] and Tier IIA:</u> If eligible for early or normal retirement, spouse benefit is equal to 50% of the member's benefit under a 50% Joint & Survivor Annuity. If not eligible to retire but 25 years of service, the same benefit calculated as though age 55 using service and earnings at death. If not eligible for retirement, return of contributions with 5% interest.

Tiers I [Sec. 5-144], II [Sec. 5-192t] and IIA: If death is due to employment, a spouse with dependent children under 18 will be paid \$100,000 in 10 annual installments while living and not remarried; also \$50 per month per child under age 18. If no children under age 18, spouse [or dependent parent(s), if no spouse] will be paid \$50,000 in not less than 10 annual installments.

10. Disability Benefits

774

<u>Tier I [Sec. 5-142, 5-169, 5-173]</u>: For non-service disabilities occurring prior to age 60 with at least 5 years of service, benefit is 3% of Final Average Earnings times years of service; maximum benefit is $1^2/_3$ % of Final Average Earnings times years of service projected to age 65. If disability occurs prior to age 60 and is due to service, benefit is $1^2/_3$ % of Salary times years of service projected to age 65 (maximum 30 years) and is payable regardless of length of service. Exception: State Police benefit is equal to the normal retirement benefit if more than 20 years of service. State Police receive an additional benefit of \$360 per month plus \$300 to spouse plus \$300 to a surviving dependent child (or \$700 to surviving dependent children).

If in-service disability occurs after the member is eligible for a non-service disability, the member receives the greater of the in-service and non-service disability benefits.

<u>Tier II [5-192p] and Tier IIA</u>: Prior to age 65 and due to service or with at least 10 years of service, benefit is 1¹/₃% of Final Average Earnings plus ¹/₂% of Final Average Earnings in excess of the year's breakpoint, times service projected to age 65 (maximum 30 years) or service to Date of Disability if greater.

<u>Tier I, II, and IIA</u>: Maximum disability benefit is the lesser of 100% of salary less Workers Compensation, Social Security and non-rehabilitation earnings, or 80% of salary less Workers Compensation and Social Security. Social Security is primary plus family.

Minimum disability benefit including Workers Compensation and Social Security is 60% of salary.

11. Optional Forms of Payment

50% or 100% Joint and Survivor (Normal Form if married at least 12 months). Ten years certain and life. Twenty years certain and life. Life (Normal Form if not married at least 12 months).

12. <u>Part-Time Employment</u>

[Sec. 5-162g & Sec. 5-192k]: Service is treated as if full-time for eligibility. If member is consistently part-time for all periods, service is treated as if full-time. If member has a varying schedule or some part-time and some full-time service, service and salary are proportionately adjusted.

APPENDIX C

1

(PD

ر الا ا

ACTUARIAL METHOD AND ASSUMPTIONS

A. Funding Method

The actuarial valuation method used is the *Projected Unit Credit Cost Method*. Recommended annual contributions until the actuarial liability is completely funded will consist of two pieces: Normal Cost plus a payment towards the Unfunded Actuarial Liability.

The *Actuarial Liability* is determined directly as the present value of benefits accrued to date, where the accrued benefits for each Member is the pro-rata portion (based on service to date) of the *projected* benefit payable at death, disability, retirement or termination. The Normal Cost is then similarly determined as the present value of the portion of the *projected* benefit attributable to the current year.

The Actuarial Value of Assets is determined by first projecting the Actuarial Value forward from the beginning of the prior fiscal year based on the actual cash flow during the fiscal year and the assumed interest rate. The difference between this expected actuarial value and the actual market value is recognized over a five year period, subject to the Actuarial Value remaining within +/- 20% of the Market Value.

The Unfunded Actuarial Liability is the Actuarial Liability less the Actuarial Value of Assets.

C-1

B. Projection Method

Due to the timing of both the actuarial valuation process and the Employer's budget cycle, valuation results must be projected to the following two fiscal years in the biennial budget cycle in order to determine the Employer's required contribution. The projection from June 30, 2004 to June 30, 2005 is performed as follows:

- The actuarial assumptions are used to project changes in the membership from June 30, 2004 to June 30, 2005. A demographic profile of new members is constructed based on the demographic profile of Tier IIA employees hired in the 2003-2004 fiscal year, such that the total active member population remains constant in number and the total payroll increases according to the payroll growth assumption. From this constructed hypothetical population, the projected Normal Cost and projected Actuarial Liability as of June 30, 2005 is determined.
- The Market Value of Assets is similarly projected forward from June 30, 2004 to June 30, 2005, and is used to determine the projected Actuarial Value of Assets as of June 30, 2005.
- The Unfunded Actuarial Liability as of June 30, 2005 is then determined as the difference between the Actuarial Liability and Actuarial Value of Assets projected to that date. This amount is amortized over the 27 years remaining in the amortization schedule, with the amortization payment calculated on a level percent of payroll basis.
- The Normal Cost and Past Service Amortization payment amounts are adjusted to reflect payment in twelve equal installments at the end of each month.
- Per bargaining agreements known as SEBAC IV and SEBAC V, the amortization payment is reduced to reflect asset adjustments that were made effective June 30, 1995 and June 30, 1996, respectively, whereby the difference between the Market Value of Assets and the Actuarial Value of Assets as of those dates was amortized in the same fashion and over the same number of years as the Unfunded Actuarial Liability. As of June 30, 2005 the outstanding balances of the asset adjustments are \$563,621,629 and \$796,076,679, respectively.

The methodology described above is repeated in order to project costs to June 30, 2006 for the second year in the biennial budget cycle.

C.. Actuarial Assumptions

| Interest Rate | 8.50% | | | | |
|---------------------|---|---|--|--|--|
| Payroll Growth Rate | 5.00% | | | | |
| Salary Scale | Years of Service | <u>Rate</u> | | | |
| | 0 | 15.00 | | | |
| | 1 | 15.00 | | | |
| | 2 | 10.00 | | | |
| | 3 | 7.00 | | | |
| | 4 | 6.50 | | | |
| | 5 | 6.00 | | | |
| | 10 | 5.50 | | | |
| | 15 | 4.25 | | | |
| | 20 | 4.25 | | | |
| | 25 | 4.25 | | | |
| COLA | <u>Group</u> | <u>Rate</u> | | | |
| | Pre July 1, 1980 Retirees | 3.75 | | | |
| | 1980 – 1997 Retirees | 3.00 | | | |
| | Post July 1, 1997 Retirees | 2.75 | | | |
| Healthy Mortality | 1994 Group Annuity Mortality | Table. | | | |
| | | sumed to be married with an average age 12; female spouses an ager than male spouses. | | | |
| | 20% of pre-retirement deaths a | re assumed to be service related. | | | |
| | State Police are assumed to employees. | comprise 50% of Tier I Hazardou | | | |
| Disabled Mortality | 80% of PBGC Disabled Mortality with Soc. Security for Males | | | | |
| | 60% of DRGC Disabled Mortali | ity with Soc. Security for Females | | | |

(A

LAI

. 0

Turnover

Ten year select and ultimate rates as shown below for non-hazardous employees; the same table with rates multiplied by a factor of 40% for hazardous employees.

| | | | | | Years | of Servic | ce | | |
|----|------------|------------|------------|-----------------|------------|--------------|----------------|------------|--|
| | | Age | <u>0-1</u> | <u>2</u> | <u>3-4</u> | <u>5</u> | <u>6-9</u> | <u>10+</u> | |
| | | 20 | 40 | 30 | 20 | 15 | 5 5 | 5.0 | |
| | | 25 | 30 | 20 | 10 | 8 | 5 | 5.0 | |
| | | 30 | 25 | 20 | 10 | 8 | 5 | 4.2 | |
| | | 35 | 25 | 20 | 10 | 8 | 5 | 3.0 | |
| | | 40 | 25 | 20 | 10 | 8 | 5 | 2.6 | |
| | | 45 | 25 | 20 | 10 | 8 | 5 | 2.0 | |
| | | 50 | 25 | 20 | 10 | 8 | 5 | 1.2 | |
| | | 55 | 25 | 20 | 10 | 8 | 5 | 0.0 | |
| | | 60 | 25 | 20 | 10 | 8 | 5 | 0.0 | |
| nt | | <u>Age</u> | | First Y | ear Elig | <u>gible</u> | <u>All Oth</u> | her Ages | |
| | | Thru 44 | | | 25 | | | 15 | |
| | snc | 45-48 | | | 25 | | | 20 | |
| | Hazardous | 49-53 | | | 10 | | | 20 | |
| | 020 | 54-55 | | | 10 | | | 25 | |
| | Н | 56-59 | | | 10 | | | 40 | |
| | | 60-69 | | | 25 | | | 40 | |
| | | 70 | | | 100 | | 1 | 00 | |
| | | | | <u>First Ye</u> | ear Elig | <u>gible</u> | <u>All Oth</u> | ier Ages | |
| | | | | Reduced | Unre | educed | | | |
| | | Age | | <u>Benefits</u> | Ben | efits * | | | |
| | | 55 | | 17.5 | 1 | 5.0 | | 12.5 | |
| | | 56-60 | | 15.0 | 1 | 5.0 | | 12.5 | |
| | All Others | 61 | | 25.0 | 2 | 5.0 | | 15.0 | |
| | Эth | 62 | | 40.0 | 3 | 0.0 | | 30.0 | |
| | пс | 63 | | 35.0 | 3 | 5.0 | | 25.0 | |
| | Ŕ | 64 | | 45.0 | 4 | 5.0 | | 25.0 | |
| | (| 65 | | 65.0 | 6 | 5.0 | | 40.0 | |
| | | 66-69 | | 60.0 | 6 | 5.0 | | 40.0 | |
| | | 70 | | 100.0 | 10 | 0.0 | 1 | 0.00 | |
| | | | | | | | | | |

* These rates also apply for Tier I Plan B and Tier I Plan C members upon attainment of age 60 with at least 10 years of service.

Retiremen

C-4

In-service Hazardous - 0.11% at all ages (prior year 0.07%) All Others - 0.03% at all ages (prior year 0.02%)

Non-service 25% of United Auto Workers Disability Table

To take into account State Police supplemental benefits and the offsets for Workers Compensation, social security, and non-rehabilitation earnings, the following minimum and maximum benefits (as a percent of salary) are valued:

| | <u>Minimum</u> | <u>Maximum</u> |
|---------------------|----------------|----------------|
| Tier I State Police | 60% | 80% |
| All other members | 40% | 60% |

Member Data Processing

Disability

Service for active members is based on the continuous date of hire reported to us and is adjusted to reflect any periods of purchased service that are reported to us. For purposes of Tier II and IIA vesting and retirement eligibility, we have reflected the five year requirement (which applies to actual state service) rather than the ten year requirement (which applies to vesting service).

Active members who are on a leave of absence or out on Workers Compensation are not reported to us. We have not included an additional liability for such members who may have accrued benefits and may resume employment in the future.

Terminated vested members are reported to us only if they have made an application for benefits to the Retirement Division. We have not included an additional liability for members who have terminated with a vested benefit who may apply for benefits in the future.

For terminated vested members for whom a benefit was not provided, we have estimated benefits based on their date of hire and termination and the average salaries of active members in the prior valuation.

For retired Tier I Plan B members who are not yet age 65, we are supplied with the current benefit amount; we assume that the benefit will be reduced on average by \$750 per year at age 65.

Beneficiaries of retired members receiving contingent annuities are assumed to be the opposite gender of the retired member; females are assumed to be three years younger than males.

C-5

<u>Appendix D</u>

Ĵ

J

Ĵ

J

Ĵ

.

.97

.

:Ø

רשו

(F

10

ACTUARIAL SURPLUS TEST

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM ACTUARIAL SURPLUS TEST AS OF JUNE 30, 2004

·

<u>APPENDIX D</u>

Actuarial Surplus Test as of June 30, 2004

Section 5-162(h) of the General Statutes of Connecticut provides that the Retirement Commission may grant additional cost of living adjustments for retired employees if an actuarial surplus exists. An actuarial surplus is deemed to exist if three criteria are met:

I. Investment Income: The actual rate of return for the Fiscal Year ending on the determination date must exceed the actuarial interest rate assumption.

| Market Value of Assets on June 30, 2003 (A) | \$6,991,626,215 |
|--|-----------------|
| Market Value of Assets on June 30, 2004 (B) | 7,677,233,815 |
| Investment Income for FY 2003-04 (I) | 1,037,174,785 |
| Actual Rate of Return for FY 2003-04: 2I / (A + B - I) | 15.22% |
| Actuarial Interest Rate Assumption | 8.50% |

Actual return of 15.22% is more than assumed 8.50%, so the first criterion is met.

II. Assets Versus Liabilities: Market value of assets must exceed 50% of specified

| Market Value of Assets on June 30, 2004 | \$7,677,233,815 |
|---|-----------------|
| Specified Liabilities on June 30, 2004 | |
| Liability for Retired Members | 9,409,861,905 |
| Liability for Terminated Vested Members | 181,737,771 |
| Active Member Contributions with Interest | 525,822,065 |
| Total | 10,117,421,741 |
| 50% of Specified Liabilities | 5,058,710,871 |

Market Value exceeds 50% of specified liabilities, so the second criterion is met.

III. Unfunded Liability: Actual unfunded liability must be less than the projected unfunded liability five years from the determination date.

| Actual Unfunded Liability on June 30, 2004 | \$6,890,251,830 |
|--|-----------------|
| Projected Unfunded Liability on June 30, 2009 (see page D-2) | 2,815,812,000 |

Actual Unfunded Liability is not less than Projected Unfunded Liability so the third criterion is not met and there is no actuarial surplus.

MILLIMAN USA

D-1

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM ACTUARIAL SURPLUS TEST AS OF JUNE 30, 2004

APPENDIX D

Actuarial Surplus Test as of June 30, 2004 - Projection of Unfunded Liability

Section 5-162-h(b)(2) of the General Statutes of Connecticut specifies the means of calculating the Projected Unfunded Liability used in the third criterion of the Actuarial Surplus Test. The projection reflects the actual unfunded liability as of December 31, 1983 adjusted for changes in actuarial assumptions and cost methods through the determination date. No provision is made in the Statute for reflecting the impact of plan changes. The projection below reflects the following changes: data correction (June 30, 1987); change in actuarial assumptions (June 30, 1987); change in actuarial cost method (June 30, 1988); change in actuarial assumptions - interest rate only (June 30, 1989); change in actuarial cost method - amortization period only (June 30, 1992); change in actuarial assumptions (June 30, 1993); change in actuarial cost method - level percent amortization (June 30, 1997); change in actuarial methods and assumptions (June 30, 2000); change in actuarial assumptions (June 30, 2004).

| | (\$000) June 30 Unfunded | | (\$000) June 30 Unfunded | | (\$000) June 30 Unfunded |
|------|--------------------------------|------|--------------------------------|------|--------------------------------|
| Year | Liability | Year | Liability | Year | Liability |
| 1007 | | 0000 | | 0010 | MA 051 005 |
| 1987 | \$2,524,556 | 2002 | \$2,360,589 | 2017 | \$3,051,885 |
| 1988 | 1,954,257 | 2003 | 2,429,273 | 2018 | 3,036,354 |
| 1989 | 1,432,333 | 2004 | 2,502,591 | 2019 | 3,005,755 |
| 1990 | 1,939,758 | 2005 | 2,569,504 | 2020 | 2,958,121 |
| 1991 | 1,930,524 | 2006 | 2,634,814 | 2021 | 2,891,282 |
| 1992 | 1,920,505 | 2007 | 2,698,021 | 2022 | 2,802,848 |
| 1993 | 1,794,192 | 2008 | 2,758,563 | 2023 | 2,690,187 |
| 1994 | 1,787,586 | 2009 | 2,815,812 | 2024 | 2,550,405 |
| 1995 | 1,780,419 | 2010 | 2,869,064 | 2025 | 2,380,319 |
| 1996 | 1,772,643 | 2011 | 2,917,539 | 2026 | 2,176,432 |
| 1997 | 1,764,205 | 2012 | 2,960,364 | 2027 | 1,934,904 |
| 1998 | 1,835,087 | 2013 | 2,996,571 | 2028 | 1,651,520 |
| 1999 | 1,907,249 | 2014 | 3,025,084 | 2029 | 1,321,656 |
| 2000 | 2,222,296 | 2015 | 3,044,712 | 2030 | 940,241 |
| 2001 | 2,291,494 | 2016 | 3,054,133 | 2031 | 501,719 |
| | | | | 2032 | 0 |

MILLIMAN USA

D-2