

ACTUARIAL VALUATION
CONNECTICUT STATE EMPLOYEES
RETIREMENT SYSTEM

AT JUNE 30, 1994

**CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
ACTUARIAL VALUATION**

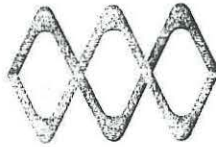
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November 10, 1994

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

Re: Connecticut State Employees Retirement System

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, 1994. 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 #5. 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, details on the Actuarial Surplus as of June 30, 1994, and Entry Age Normal Results.

As developed in Section IV, the actuarially determined contribution for the fiscal year beginning July 1, 1995, including Federal reimbursements, is \$501,108,629. In accordance with the provisions of a collectively negotiated agreement (SEBAC III), \$165,996,657 of this amount will not be paid.

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November 10, 1994

Re: Connecticut State Employees Retirement System

Page 2

In our opinion, this report fairly presents the financial and actuarial position of the Connecticut State Employees Retirement System at June 30, 1994. On the basis of the foregoing, we hereby certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices set forth by the American Academy of Actuaries.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

A handwritten signature in cursive script that reads "Althea Schwartz".

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

SECTION I

EXECUTIVE SUMMARY

SECTION I
EXECUTIVE SUMMARY

PURPOSE OF REPORT

This report presents the results of the June 30, 1994 actuarial valuation of the Connecticut State Employees Retirement System (SERS). The primary purposes for performing the valuation are:

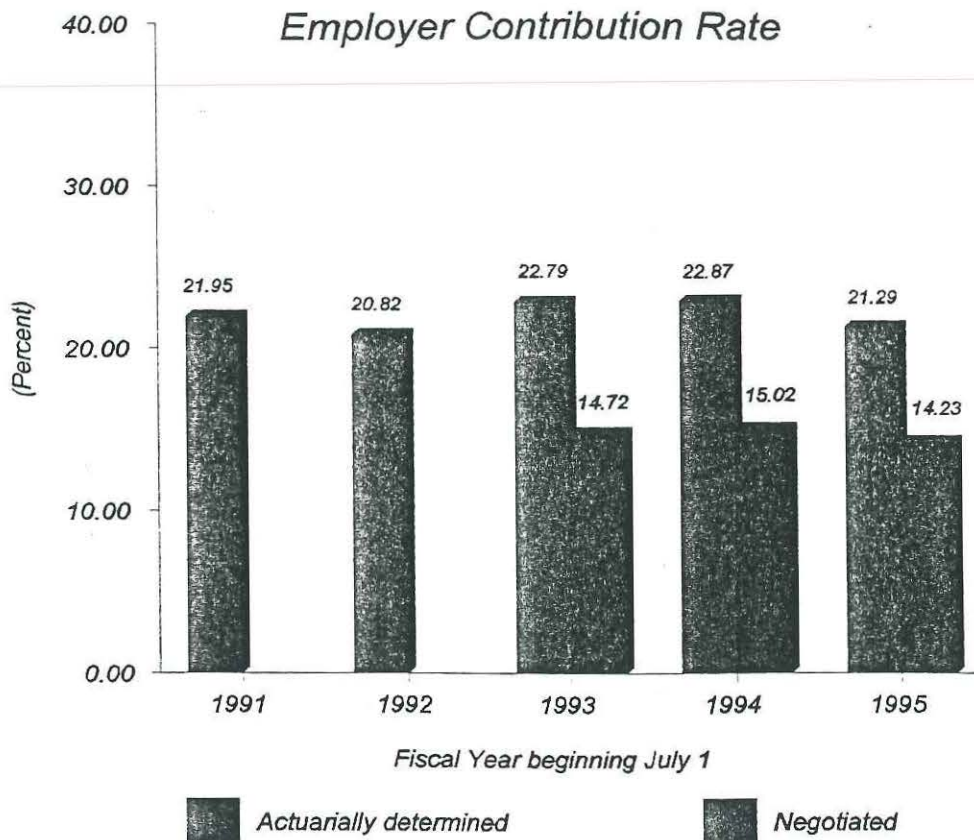
- to determine the contributions to be paid by the Employer for the Fiscal Year beginning July 1, 1995
- to disclose asset and liability measures as of June 30, 1994, and
- to analyze and report on trends in SERS contributions, assets, and liabilities over the past several years.

ORGANIZATION OF THE EXECUTIVE SUMMARY

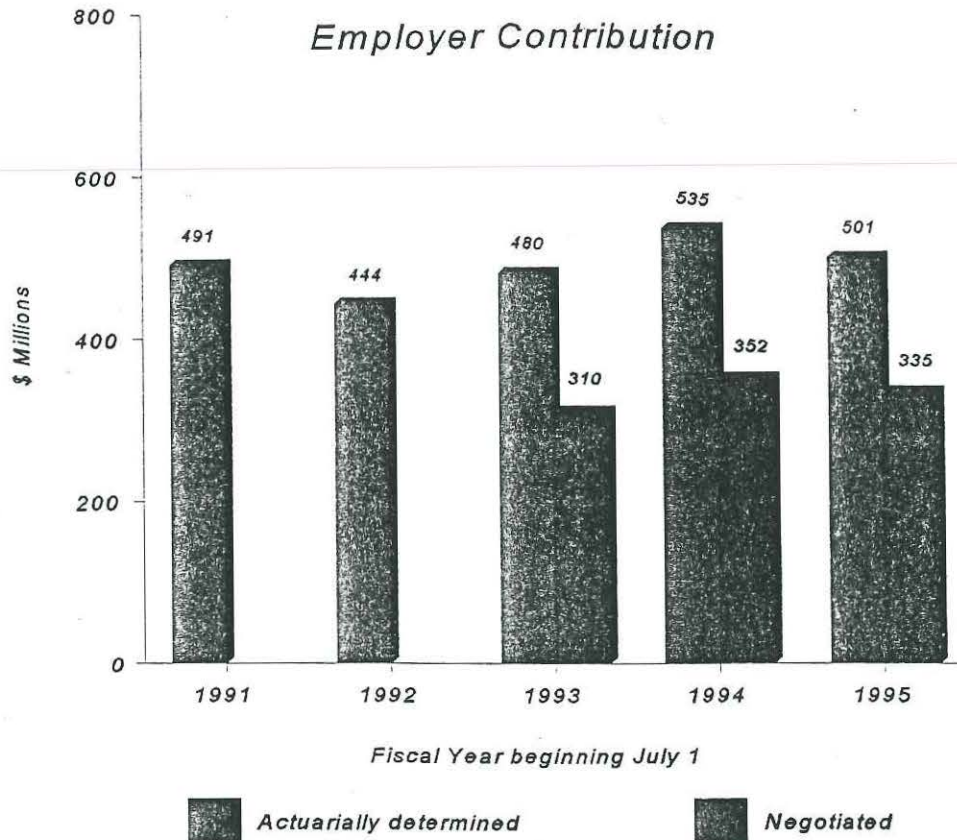
- ▶ *Major Findings...* shows graphically, key results for each of the last five actuarial valuations.
- ▶ *SERS Experience July 1, 1993 to June 30, 1994...* highlights the major events influencing this valuation.
- ▶ *SERS Contribution...* compares this year's contribution to last year's and analyzes the change.
- ▶ *Principal Results...* contains a summary of comparative statistics for the June 30, 1993 and the June 30, 1994 valuations.

MAJOR FINDINGS

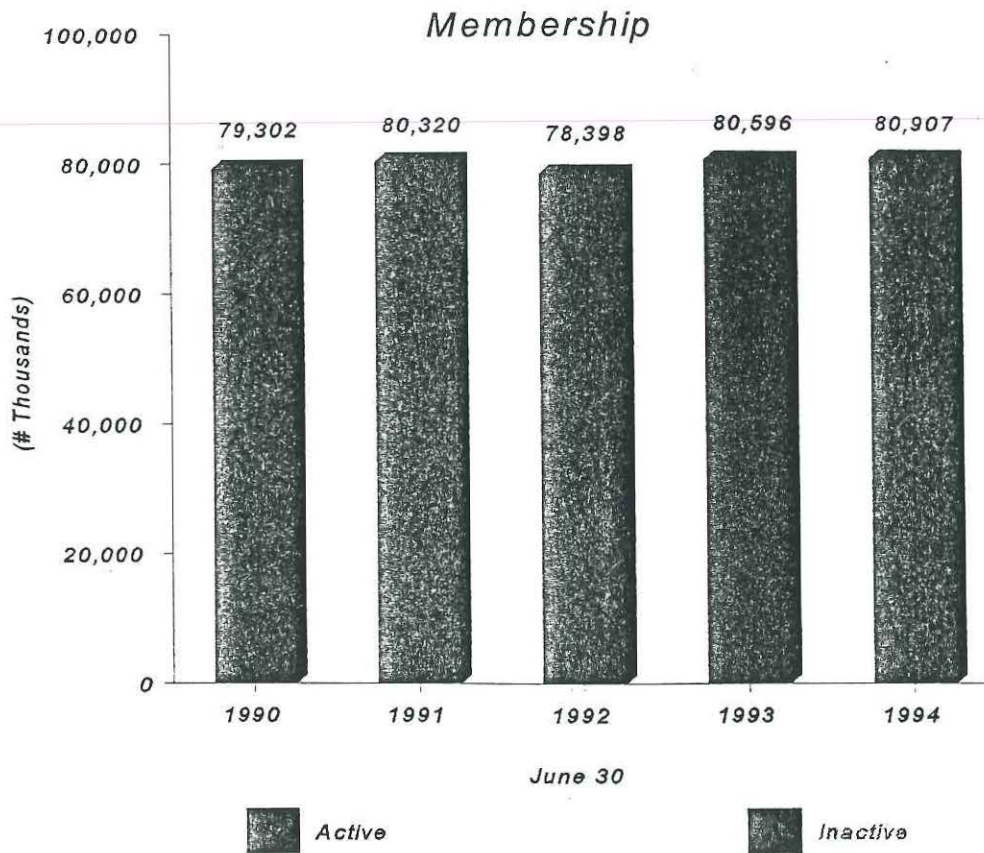
The major findings of the 1994 valuation are summarized and compared in the following charts:



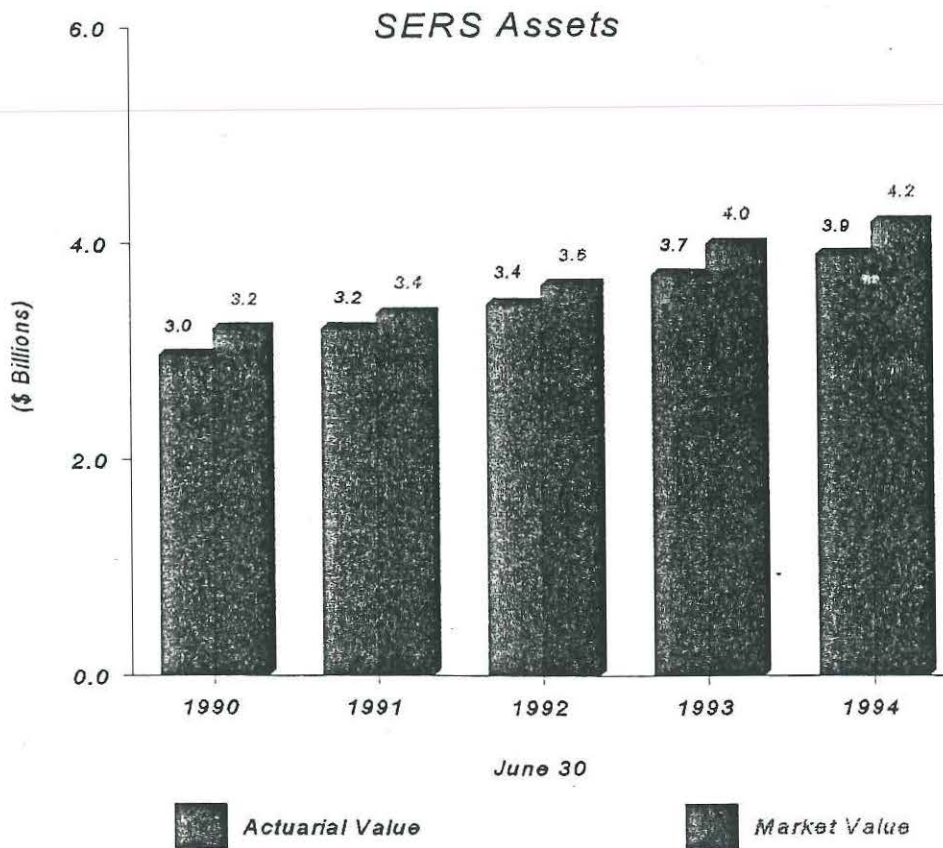
As actuarially determined, the employer's contribution rate has been relatively level; for 1995, the actuarially determined rate is lower than for prior years due to favorable experience. The bar graph set forth above depicts the actuarially determined employer's contribution and, since 1993, the rate reflecting negotiated changes (see page 7).



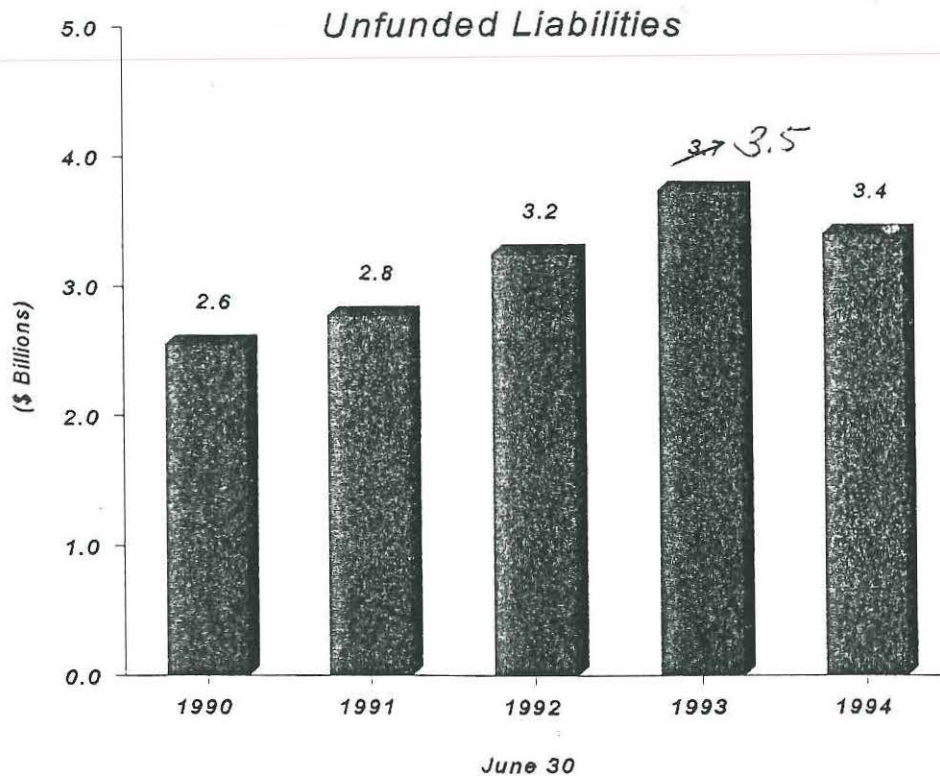
The dollar amount of the Employer's contribution equals the contribution rate shown on the prior table times the projected payroll. For 1995, the actuarially determined dollar amount went down due to favorable experience. The negotiated contribution amount represents the normal cost payment plus a specified past service payment.



SERS membership has remained stable. The active membership is slightly lower than 1993 levels and the inactive membership is slightly higher resulting in a very small net increase in membership.



The SERS's assets have grown as expected in recent years due to investment results and positive cashflow.



Unfunded actuarial liabilities, after increasing for several years, have decreased slightly this valuation. The major contributing factor is no negotiated pay increases as of July 1, 1994. Payroll has not increased as much as expected.

SERS EXPERIENCE JULY 1, 1993 TO JUNE 30, 1994

Overall, SERS experience was favorable during the valuation period. The normal cost as a percent of pay decreased from 9.45% to 8.36%. Since the increase in the pay base was negligible, the normal cost went down 11%, from \$221 million for FY 94-95 to \$197 million for FY 95-96.

The unfunded actuarial liability decreased this year from \$3.7 billion to \$3.4 billion due to favorable experience. Liability gains were offset to a small extent by lower than expected investment results.

The following circumstances also contributed to the results shown in this report:

- ▶ Two collective bargaining agreements negotiated between the State of Connecticut and the State Employees Bargaining Agent Coalition (SEBAC II and III) included several provisions with funding implications:
 - SEBAC III specifies a past service contribution of \$138.4 million instead of the actuarially determined amount of \$304.4 million.
 - The costs associated with the two recent retirement incentive programs, \$10.2 million, have been deemed to be included in the negotiated past service contribution.
- ▶ The 1991-1992 Early Retirement Incentive Program continues to impact the System; however, to a lesser degree than in past years. During the past year, fewer members retired than expected and the hiring to fill vacancies has tailed off.
- ▶ The investment performance was low as compared to the above average results in prior years. The actual return was 4.50% on a market value basis compared to 11.68% for the prior valuation. On a smoothed actuarial basis, the rate was 7.39% compared to 8.82% for the prior valuation. The assumed rate is 8.5%.
- ▶ Payroll remained level because there have been no negotiated pay raises effective July 1, 1994.
- ▶ Membership also remained level. An increase in inactive members was almost entirely offset by a decrease in active members.

Comparison of Results

The following pages detail the impact of the factors discussed above on the increase in SERS Assets and Unfunded Liabilities.

Assets

Between June 30, 1993 and June 30, 1994, the actuarial value of assets (measured on a five year smoothing basis) increased by \$248.3 million. This change was attributable to the following:

	<u>(\$million)</u>
Actuarial Value of Assets, 7/1/93	\$3,696.2
Change in Assets	
• Employer and Member Contributions	346.0
• Benefits Paid	(369.9)
• Expected Total Net Return on Investments	313.1
• Investment Gain/(Loss)	<u>(40.9)</u>
Total Changes	248.3
Actuarial Value of Assets, 7/1/94	\$3,944.5

The expected total return on investments shown above is based on an assumed rate of return of 8.5%. However, the effective investment return of \$272.2 million (an effective rate of 7.39% on the actuarial value of assets), results in an actuarial loss of \$40.9 million. More details on SERS assets are presented in Section II of this report.

Unfunded Liabilities

The unfunded actuarial liability decreased during the past year. Theoretically, 1) if future experience is exactly as assumed, 2) if the Employer makes the actuarially determined contribution, and 3) if there are no benefit improvements, then the unfunded actuarial liability decreases each year. This is because the unfunded actuarial liability is scheduled to be amortized on a level dollar basis over an ever decreasing number of years. In the absence of the SEBAC III agreement, the amortization period is 37 years for the Fiscal Year beginning July 1, 1995.

The following table shows the development of the unfunded actuarial liability from 1993 to 1994.

	<i>(\$ million)</i>
Unfunded Actuarial Liability, 7/1/93	\$3,493.6
Change in Liability	
• Interest and Expected Benefit Accruals	493.1
• Expected Contribution with Interest for FY 93-94	(498.8)
• Contribution Shortfall with Interest for FY 93-94	176.7
• Asset Losses	40.9
• Liability Gains	(320.8)
Total Changes	(108.9)
Unfunded Actuarial Liability, 7/1/94	3,384.7

The liability gain of \$320.8 million is attributable to the difference between actual and expected experience with respect to number of retirements, employment terminations, disabilities, deaths, salary increases, and new employees. We have made a detailed analysis of the experience to determine the particular amount each component contributed to the total liability gain. The results are discussed below:

*Components of the Liability Gain**Salary Gain**\$183.8 million*

There was a gain of \$183.8 million due to salary increases less than expected. For the 47,982 members who were active last year and also this year, the average salary went up less than 1% since there were no across-the-board increases granted on July 1, 1994. Our salary growth assumption varies by state service with a composite growth rate of 6.85%.

*Active Decrements**\$24.3 million*

The System experienced a net gain of \$24.3 million from active decrements. The gains and losses that fall under this heading represent the impact on the liability of members who were active employees last year but are not this year. These members fall into four categories - terminations, retirements, deaths, and disabilities. This gain is primarily attributable to more than twice as many terminations as expected.

*Other Active Sources of Gain/Loss**\$(32.3 million)*

The loss from other active sources was \$32.3 million. Included in this category are changes in the active data, movement between the plans, and the liability for new members who have credit for prior state service.

*Inactive Sources of Gain/Loss**\$(4.1 million)*

The loss to the System from inactive sources was \$4.1 million. This small inactive loss is a result of offsetting events:

- Losses occurred because there were 438 new retirees or beneficiaries who were not in our data for the prior valuation as either actives or inactive. These members were either out on Workers Compensation last year and have now retired from state service or are beneficiaries who could not be matched with a deceased participant due to inadequate employee identification numbers.
- Gains occurred because the cost of living adjustment was less than expected and there were data changes that had a favorable impact on the System.

*Coding Adjustments**\$149.1 million*

Implementation of the new hazardous duty withdrawal assumption, a by product of the experience study we performed last year, resulted in liability classifications that were not intended. Reworking this part of our valuation computer program results in lower normal cost percentages for the hazardous duty groups and in a liability gain for the System.

SERS CONTRIBUTIONS

SERS contributions projected to the Fiscal Year beginning July 1, 1995 are \$335.1 million. The table below compares the prior year's contribution to this year's and identifies the components of change.

	<i>(\$ Million)</i>
Contribution Actuarially Determined for FY 1994-95	\$535.3
• 1994-95 Contribution Shortfall	16.4
• Increase due to Payroll Growth and Changes in Membership Profile	4.5
• Asset Losses for 1993-94	3.8
• Liability Gains for 1993-94	(58.9)
Contribution before Negotiated Adjustments for FY 1995-96	501.1
• Negotiated Adjustment to Past Service Cost Payment in SEBAC III	(166.0)
Contribution for FY 1995-96	335.1

Actuarial Surplus

There is no actuarial surplus as defined in Section 5-162h(b) of the Statute.

In concluding this executive summary, we present on the following page comparative statistics and actuarial information on both the June 30, 1993 and June 30, 1994 valuations.

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
PRINCIPAL RESULTS

	<i>June 30, 1993</i>	<i>June 30, 1994</i>	<i>% Chg</i>
<i>SERS Membership</i>			
1. Active Membership			
- Number of Participants	53,537	53,502	(0.07)
- Payroll	\$2,144,793,466	\$2,155,860,555	0.52
- Average Pay	\$40,062	\$40,295	0.58
2. Inactive Membership			
- Number of Vested			
Deferred Members	660	654	(0.91)
- Number of Retired Members	26,399	26,751	1.33
- Annual Retired Members			
Benefits	\$355,144,727	\$373,087,478	5.05
- Average Annual Retired			
Member Benefit	\$13,453	\$13,946	3.66
<i>Assets and Liabilities</i>			
1. Assets			
- Market Value	3,994,950,545	4,150,379,946	3.89
- Actuarial Value	3,696,176,885	3,944,521,448	6.72
2. Liabilities			
- Retired and Deferred Vested	3,908,685,002	4,078,578,808	4.35
- Active Members	3,281,055,492	3,250,602,376	(0.93)
- Total Liability	7,189,740,494	7,329,181,184	1.94
- Unfunded Liability	3,493,563,609	3,384,659,736	(3.12)
<i>Employer Contributions</i>			
1. Contributions as a Percent of Projected Payroll			
- Normal Cost	9.45%	8.36%	(11.53)
- Unfunded Liability	5.57% ^(a)	5.87% ^(b)	5.57
- Total Contribution %	15.02%	14.23%	(5.26)
2. Contribution Dollars Projected to the following FY			
- Normal Cost	\$221,273,796	\$196,711,972	(11.10)
- Unfunded Liability	130,500,000 ^(a)	138,400,000 ^(b)	6.05
- Total Employer Contribution	351,773,796	335,111,972	(4.74)

(a) Reflects SEBAC III agreement to fund \$130,500,000 in Past Service Cost, including ERIP.

(b) Reflects SEBAC III agreement to fund \$138,400,000 in Past Service Cost, including ERIP.

SECTION II

SERS ASSETS

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 are 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

For certain accounting statement purposes, SERS assets are valued at current market rates. These values represent 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, 1994.

<u><i>Table</i></u>	<u><i>Contents</i></u>
II-1	Market Value - Summary of Fund Transactions
II-2	Market Value - Breakdown on June 30, 1994
II-3	Actuarial Value of Assets
II-4	Development of Asset Gain/Loss
II-5	Historical Summary (Actuarial and Market)

TABLE II-1

*Market Value of Assets
Summary of Fund Transactions*

Market Value as of July 1, 1993		\$3,994,950,545
<u>Contributions</u>		
State	\$248,445,351	
Federal	61,761,000	
Employee	<u>35,753,968</u>	
		\$ 345,960,319
<u>Investment Income</u>		
Interest and Dividends	\$168,332,639	
Realized Gains	10,676,524	
Change in Unrealized Gains	<u>620,866</u>	
		\$ 179,630,029
<u>Disbursements</u>		
Benefit Payments	\$367,640,043	
Employee Refunds	2,305,002	
Expenses	<u>215,902</u>	
		\$ 370,160,947
Market Value as of June 30, 1994		\$4,150,379,946
Rate of Return as of June 30, 1994		4.51%
Rate of Return as of June 30, 1993		<u>11.68%</u>
Change	Down	7.17%

TABLE II-2

*Market Value of Assets
Breakdown on June 30, 1994*

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

	<u>Amount</u>	<u>% of Total</u>
Cash	\$ (14,836,778)	(0.36)%
Accrued Interest	0	0.00%
Investments		
• Cash Reserve Account	151,097,744	3.64%
• Fixed Income	845,237,998	20.37%
• Equity	1,403,361,520	33.81%
• Mortgage	27,101,659	0.65%
• Real Estate	436,169,883	10.51%
• International Funds	1,044,245,683	25.16%
• Commercial Mortgage Fund	171,658,882	4.14%
• Venture Capital Fund	61,512,891	1.48%
• Connecticut Programs Fund	<u>24,830,464</u>	<u>0.60%</u>
	\$4,165,216,724	100.36%
 Total Market Value of Assets as of June 30, 1994	 \$4,150,379,946	 100.00%

TABLE II-3

Actuarial Value of Assets

<u>Ending</u>	<u>Realized Gains/Losses</u>	<u>Change in Unrealized Gains/Losses</u>	<u>Total Gains/Losses</u>
6-30-94	\$10,676,524	\$ 620,866	\$ 11,297,390
6-30-93	24,188,054	236,815,252	261,003,306
6-30-92	42,882,763	72,441,760	115,324,523
6-30-91	16,110,453	(45,666,489)	(29,556,036)

Actuarial Value of Assets as of June 30, 1994 is derived as follows:

1.	Market Value of Assets as of June 30, 1994:		\$4,150,379,946
2.	Five-Year Gains and Losses Not Yet Recognized:		
	80% of FY 94	\$ 9,037,912	
	60% of FY 93	156,601,984	
	40% of FY 92	46,129,809	
	20% of FY 91	<u>(5,911,207)</u>	
			\$ 205,858,498
3.	20% of (1)		830,075,989
4.	Actuarial Value of Assets as of June 30, 1994 (1)-(2), within (1) +/- (3)		\$3,944,521,448
	Rate of Return on Actuarial Value of Assets as of June 30, 1994		7.39%
	Rate of Return on Actuarial Value of Assets as of June 30, 1993		<u>8.82%</u>
	Change		Down 1.43%

TABLE II-4

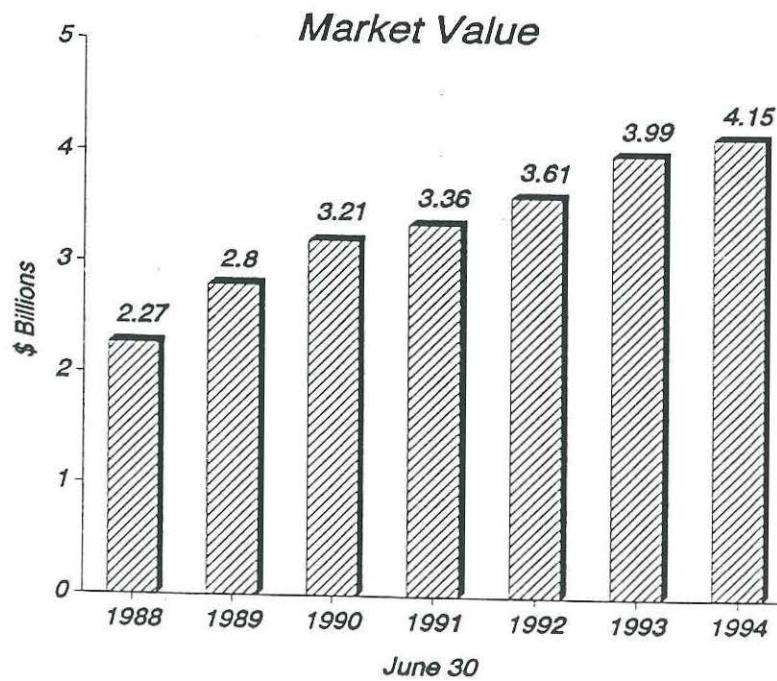
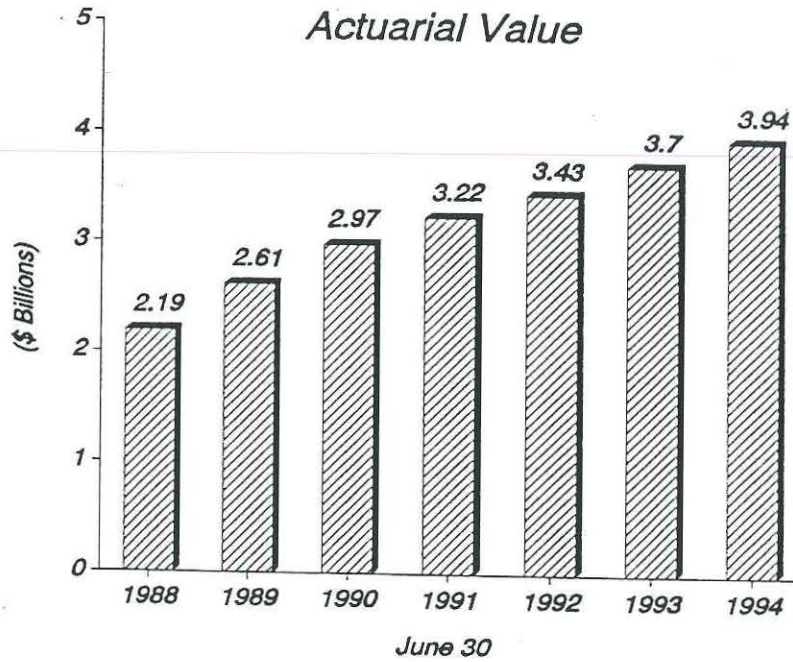
Development of Asset Gain/Loss

	<i>Market Value of Assets</i>	<i>Actuarial Value of Assets</i>
1. Value of Assets as of July 1, 1993	\$3,994,950,545	\$3,696,176,885
2. Contributions	345,960,319	345,960,319
3. Benefit Payments paid during 1993-94	369,945,045	369,945,045
4. Expected Net Investment Income at 8½% on (1) through (3)	338,650,142	313,254,381
5. Actual Investment Income	179,414,127	272,329,289
6. Expected Value of Assets as of June 30, 1994: (1)+(2)-(3)+(4)	4,309,615,961	3,985,446,540
7. Actual Value of Assets as of June 30, 1994: (1)+(2)-(3)+(5)	4,150,379,946	3,944,521,448
8. Asset Gain/(Loss): (7)-(6)	(159,236,015)	(40,925,092)
9. Approximate Effective Yield Represented by Actual Investment Income	4.51%	7.39%

Note: The rate shown here is a rough estimate of the return on plan assets used in the valuation. It assumes all transactions occur in the middle of the period. This rate may therefore not be the same as the yield earned on the plan's invested assets.

TABLE II-5

Historical Summary of System Assets



SECTION III

SERS LIABILITIES

SECTION III

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. This method is also used to determine the Projected Benefit Obligation (PBO) required by the Government Accounting Standards (GASB). A more detailed description of this method can be found in Appendix C.

The tables in this section present SERS liabilities as follows:

<i>Table</i>	<i>Contents</i>
III-1	SERS Liabilities
III-2	Active Liabilities by Tier and Plan
III-3	Historical Summary of Unfunded Actuarial Liabilities

TABLE III-1*SERS Liabilities*

	<u>June 30, 1993</u>	<u>June 30, 1994</u>
1. Liability for Retired Members	\$3,874,194,605	\$4,045,626,976
2. Liability for Deferred Vested Members	<u>34,490,397</u>	<u>32,951,832</u>
3. Total Inactive Liability	\$3,908,685,002	\$4,078,578,808
4. Active Members Actuarial Liability	<u>3,281,055,492</u>	<u>3,250,602,376</u>
5. Total SERS Actuarial Liability	<u>\$7,189,740,494</u>	<u>\$7,329,181,184</u>
6. Actuarial Value of Assets	3,696,176,885	3,944,521,448
7. Total SERS Unfunded Actuarial Liability	<u>\$3,493,563,609</u>	<u>\$3,384,659,736</u>

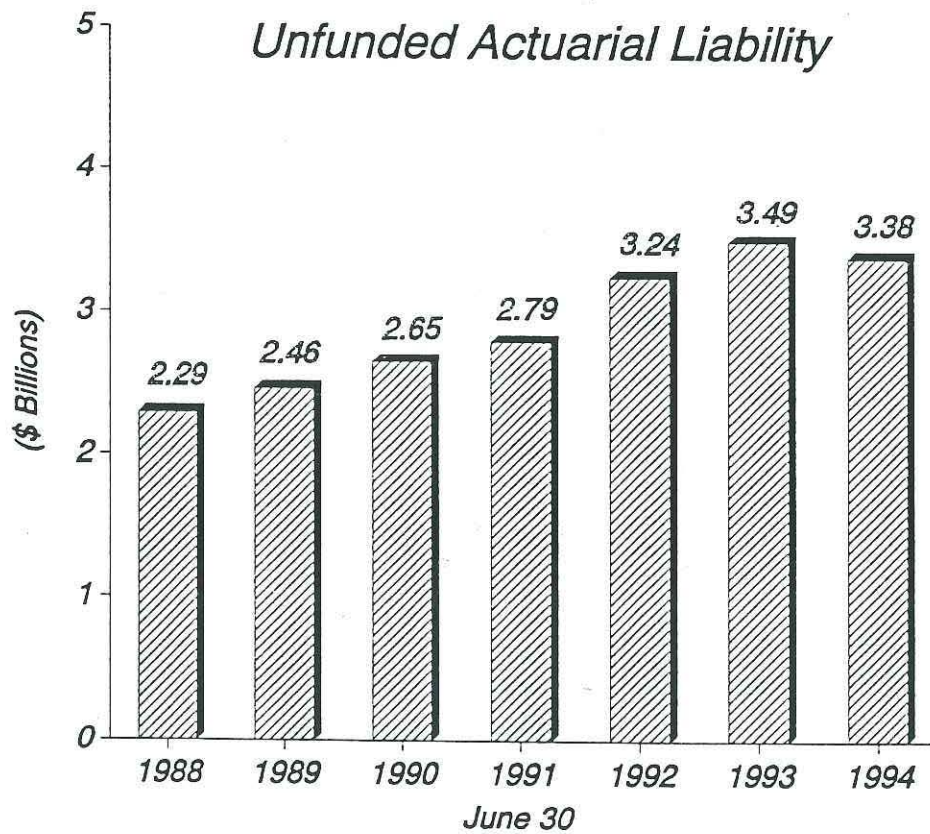
TABLE III-2

Active Liabilities by Tier and Plan

	ACTUARIAL LIABILITY	
	June 30, 1993	June 30, 1994
<hr/> <i>TIER I</i> <hr/>		
Hazardous Duty	\$ 496,581,970	\$ 407,704,392
Plan B	2,054,284,754	2,096,007,655
Plan C	<u>178,432,076</u>	<u>170,016,203</u>
<i>Total</i>	\$2,729,298,800	\$2,673,728,250
<hr/> <i>TIER II</i> <hr/>		
Hazardous Duty	\$ 218,645,203	\$ 196,238,302
All Others	<u>333,111,489</u>	<u>380,635,824</u>
<i>Total</i>	\$ 551,756,692	\$ 576,874,126
<hr/> <i>GRAND TOTAL</i> <hr/>	\$3,281,055,492	\$3,250,602,376

TABLE III-3

Historical Summary of
Unfunded Actuarial Liabilities



SECTION IV

SERS CONTRIBUTIONS

SECTION IV
SERS CONTRIBUTIONS

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 each June 30 must be projected to the following fiscal year in order to determine the Employer's required contribution.

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

<i><u>Table</u></i>	<i><u>Contents</u></i>
IV-1	Projected Unit Credit Normal Cost Projections
IV-2	Projected Unit Credit Unfunded Liability
IV-3	Projected Unit Credit Total Costs
IV-4	Comparison of Normal Cost Rates

TABLE IV-1

Projected Unit Credit Normal Cost Projections

	7-1-94 NORMAL COST	7-1-94 EARNINGS	NORMAL COST %	7-1-95 PROJECTED EARNINGS	7-1-95 NORMAL COST
TIER I					
1. Hazardous Duty	\$ 17,995,682	\$ 108,535,246	16.5805%	\$ 112,225,444	\$ 18,607,540
2. Plan B	86,109,290	877,617,325	9.8117%	907,456,314	89,036,891
3. Plan C	<u>5,868,490</u>	<u>60,650,546</u>	9.6759%	<u>62,712,665</u>	<u>6,068,015</u>
Total	\$109,973,462	\$1,046,803,117		\$1,082,394,423	\$113,712,446
TIER II					
1. Hazardous Duty	\$ 22,588,456	\$ 239,644,528	9.4258%	\$ 268,981,476	\$ 25,353,656
2. All Others	<u>49,978,362</u>	<u>869,412,910</u>	5.7485%	<u>1,002,798,461</u>	<u>57,645,870</u>
Total	\$ 72,566,818	\$1,109,057,438		\$1,271,779,937	\$ 82,999,526

SERS Normal Cost Projected to July 1, 1995: \$196,711,972

SERS Projected Earnings at July 1, 1995: \$2,354,174,360

SERS Projected Normal Cost % at July 1, 1995: 8.36%

TABLE IV-2

Projected Unit Credit Unfunded Liability

1. Unfunded Actuarial Liability as of July 1, 1994	\$3,384,659,736
2. One Year's Interest at 8½%	287,696,078
3. Employer Normal Cost (FY 1994-95)	221,273,796
4. Employee Normal Cost (Expected Employee Contributions)	33,241,131
5. Interest on Total Normal Cost [(3)+(4)]	9,769,555
6. State Payments	(290,012,796)
7. Expected Federal Payments	(61,761,000)
8. Expected Employee Contributions	(33,241,131)
9. Interest on Total Contributions [(6)+(7)+(8)]	<u>(14,778,798)</u>
10. Unfunded Actuarial Liability as of July 1, 1995	\$3,536,846,571

TABLE IV-3*Projected Unit Credit Total Costs*

1.	Unfunded Actuarial Liability as of July 1, 1995	\$3,536,846,571
2.	Amortization Period	37 Years
3.	Amortization Payment	304,396,657
4.	Employer Normal Cost	196,711,972
5.	Total Employer Cost for Fiscal Year beginning July 1, 1995: (3)+(4)	\$ 501,108,629
6.	Projected Payroll	2,354,174,360
7.	Total Employer Cost %: (5)/(6)	21.29%
8.	Amortization Payment to be paid per SEBAC Agreement	138,400,000
9.	Total Contribution per SEBAC Agreement: (4)+(8)	\$ 335,111,972
10.	Negotiated Employer Cost %: (9)/(6)	14.23%

TABLE IV-4

Comparison of Normal Cost Rates

	VALUATION DATE	
	JULY 1, 1993	JULY 1, 1994
TIER I		
Hazardous Duty	22.63%	16.58%
Plan B	9.58%	9.81%
Plan C	9.48%	9.68%
<i>Total</i>	10.96%	10.51%
TIER II		
Hazardous Duty	18.28%	9.43%
All Others	5.58%	5.75%
<i>Total</i>	8.07%	6.53%
GRAND TOTAL	9.45%	8.36%

SECTION V

GASB #5 ACCOUNTING INFORMATION

SECTION V

GASB #5 INFORMATION

Government Accounting Standards Board Statement No. 5, "Disclosure of Pension Information by Public Employee Retirement Systems and State and Local Government Employers", 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 for compliance with GASB #5:

<i><u>Table</u></i>	<i><u>Contents</u></i>
V-1	Summary of Membership
V-2	Standardized Measures
V-3	Historical Contribution Information
V-4	Historical Analysis of Funding Progress

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 to 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 accrued liability over thirty years (ending June 30, 2022), less amounts reimbursed by the Federal Government. Per SEBAC II Agreement, as of June 30, 1992, the unfunded actuarial accrued liability will be amortized over forty years (ending June 30, 2032). Per SEBAC III the past service payment would be at a specified amount for FY 93-94, FY 94-95, and FY 95-96 instead of the amortized amount discussed above. The actuarial assumptions used to calculate the figures reported herein are the same as those used to calculate the contribution level.

TABLE V-1*Summary Of Membership*

	<u>June 30, 1993</u>	<u>June 30, 1994</u>
Current employees:		
<u>Vested:</u>		
Hazardous Duty	3,558	2,178
Plan B	17,354	17,020
Plan C	1,464	1,342
Tier II	<u>1,835</u>	<u>3,404</u>
Total	24,211	23,944
<u>Not yet vested:</u>		
Hazardous Duty	3,481	5,644
Plan B	1,299	786
Plan C	95	45
Tier II	<u>24,451</u>	<u>23,083</u>
Total	29,326	29,558
Total current employees	53,537	53,502
Retirees and beneficiaries currently receiving benefits:	26,399	26,751
Terminated employees entitled to benefits but not yet receiving them:	660	654
Total Members	<u>80,596</u>	<u>80,907</u>

TABLE V-2

Standardized Measures

	<u>June 30, 1993</u>	<u>June 30, 1994</u>
<i>Pension Benefit Obligation</i>		
Retired Members	\$3,874,194,605	\$4,045,626,976
Terminated Vested Members	34,490,397	32,951,832
Active Members		
▶ Accumulated employee contributions with interest	307,701,362	334,066,488
▶ Employer-financed vested portion	2,566,474,394	2,462,341,453
▶ Employer-financed non-vested portion	<u>406,879,736</u>	<u>454,194,435</u>
▶ Total	\$3,281,055,492	\$3,250,602,376
Total SERS Obligation	<u>\$7,189,740,494</u>	<u>\$7,329,181,184</u>
<i>Market Value of Assets</i>	<u>3,194,789,949</u>	<u>4,150,379,946</u>
<i>Unfunded Pension Benefit Obligation</i>	\$3,994,950,545	\$3,178,801,238

TABLE V-3

Historical Contribution Information

	<u>FISCAL YEAR</u> <u>1989-1990</u>	<u>FISCAL YEAR</u> <u>1990-1991</u>	<u>FISCAL YEAR</u> <u>1991-1992</u>	<u>FISCAL YEAR</u> <u>1992-1993</u>	<u>FISCAL YEAR</u> <u>1993-1994</u>	<u>FISCAL YEAR</u> <u>1994-1995</u>	<u>FISCAL YEAR</u> <u>1995-1996</u>
Employer Normal Cost	\$137,531,541	\$179,549,626	\$180,005,022	\$191,019,008	\$188,906,351	\$221,273,796	\$196,711,972
Past Service Cost	<u>258,836,930</u>	<u>218,467,282</u>	<u>251,231,824^(b)</u>	<u>256,780,845^(b)</u>	<u>121,300,000^(c)</u>	<u>130,500,000^(c)</u>	<u>138,400,000^(c)</u>
Total Employer Cost	396,368,471	\$398,016,908 ^(a)	\$431,236,846	\$447,799,853	\$310,206,351	\$351,773,796	\$335,111,972
Total Employer Cost as a percent of payroll	23.07%	20.77%	21.95%	20.70%	14.72%	15.02%	14.23%
Employee Contributions	\$ 29,198,019	\$ 33,809,953	\$ 33,169,806	\$ 32,916,991	\$ 35,753,968	N/A	N/A
Employer Contributions	<u>288,368,471</u>	<u>263,818,607</u>	<u>250,324,285</u>	<u>290,827,685</u>	<u>310,206,351</u>	<u>N/A</u>	<u>N/A</u>
Total Contributions	\$317,566,490	\$297,628,560	\$283,494,091	\$323,744,676	\$345,960,319	N/A	N/A

- (a) Includes an additional contribution of \$10,241,000 (\$3,381,000 Normal Cost + \$6,860,000 Past Service Cost) needed to fund benefit improvements resulting from negotiations with the Employer Employees Bargaining Agent Coalition.
- (b) Includes \$11,858,652 payment of Retirement Incentive Bonus.
- (c) Per SEBAC Agreement.

TABLE V-4

*Historical Analysis of Funding Progress
(millions)*

FISCAL YEAR	(1) NET ASSETS AVAILABLE FOR BENEFITS*	(2) PENSION BENEFIT OBLIGATION	(3) PERCENTAGE FUNDED (1)/(2)	(4) UNFUNDED OBLIGATION (2) - (1)	(5) ANNUAL COVERED PAYROLL	(6) UNFUNDED OBLIGATION AS A % OF PAY (4)/(5)
1988 - 1989	\$2,273.2	\$4,550.7	50.0%	\$2,277.5	\$1,583.0	143.9%
1989 - 1990	2,798.9	5,071.5	55.2%	2,272.6	1,759.5	129.2%
1990 - 1991	3,212.8	5,624.7	57.1%	2,411.9	1,802.8	133.8%
1991 - 1992	3,361.6	6,009.7	55.9%	2,648.1	1,983.6	133.5%
1992 - 1993	3,606.0	6,668.7	54.1%	3,062.7	1,931.4	158.6%
1993 - 1994	3,995.0	7,189.7	55.6%	3,194.8	2,144.8	149.0%
1994 - 1995	4,150.4	7,329.2	56.6%	3,178.8	2,155.9	147.4%

* Market Value

APPENDIX A

SUMMARY STATISTICS ON SERS MEMBERSHIP

APPENDIX A

SUMMARY STATISTICS ON SERS MEMBERSHIP

<i>Table</i>	<i>Contents</i>
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	Analysis by Age and Service - Tier I - Hazardous Duty
A-5	Analysis by Age and Service - Tier I - Plan B
A-6	Analysis by Age and Service - Tier I - Plan C
A-7	Analysis by Age and Service - Tier II - Hazardous Duty
A-8	Analysis by Age and Service - Tier II - All Others
A-9	Analysis of Retired Members by Retirement Year
A-10	Analysis of Retired Members by Current Age

TABLE A-1

Summary of Active Membership Data

We received data on a total of 53,754 members, including employees of State Aided Institutions. Of the active records submitted to us, 252 (.47%) 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 the July 1, 1993 data (see Exhibit A-4 for distribution by age and service).

	7/1/93	7/1/94	Change	Percent Change
Total Employees	53,537	53,502	(35)	(0.1)%
Total Earnings (millions)	\$2,144.8	\$2,155.9	\$11.10	0.5%
Average Earnings	\$40,062	\$40,295	\$233	0.6%

Earnings figures as of July 1 are actual amounts paid during the previous July 1 to June 30 period, adjusted for negotiated increases and merit adjustments effective through and including July 1; new entrant earnings are annualized.

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

TABLE A-2

Detail of Active Membership Data by Plan

	7/1/93	7/1/94	Percent Change
<i>Number of Members</i>			
Tier I Hazardous Duty	2,135	1,967	(7.9)%
Tier I Plan B	18,653	17,806	(4.5)
Tier I Plan C	1,559	1,387	(11.0)
Tier II Hazardous Duty	4,904	5,855	19.4
Tier II Others	<u>26,286</u>	<u>26,487</u>	0.8
Total	53,537	53,502	(0.1)
<i>Total Annual Compensation (millions)</i>			
Tier I Hazardous Duty	\$ 117.3	\$ 108.5	(7.5)%
Tier I Plan B	920.1	877.6	(4.6)
Tier I Plan C	67.6	60.7	(10.2)
Tier II Hazardous Duty	203.3	239.6	17.9
Tier II Others	<u>836.5</u>	<u>869.4</u>	3.9
Total	2,144.8	2,155.9	0.5
<i>Average Compensation</i>			
Tier I Hazardous Duty	\$54,933	\$55,178	0.4%
Tier I Plan B	49,328	49,288	(0.1)
Tier I Plan C	43,362	43,728	0.8
Tier II Hazardous Duty	41,450	40,930	(1.3)
Tier II Others	31,824	32,824	3.1
Total	40,062	40,295	0.6
<i>Average Age</i>			
Tier I Hazardous Duty	43.0	43.5	
Tier I Plan B	46.4	47.1	
Tier I Plan C	52.2	52.6	
Tier II Hazardous Duty	34.2	34.7	
Tier II Others	38.9	39.5	
Total	41.6	42.0	
<i>Average Service</i>			
Tier I Hazardous Duty	15.4	16.0	
Tier I Plan B	17.0	18.0	
Tier I Plan C	17.4	18.3	
Tier II Hazardous Duty	3.9	3.9	
Tier II Others	5.3	5.8	
Total	10.0	10.4	

TABLE A-3

Summary of Inactive Membership Data

	7/1/93	7/1/94	Percent Change
<i>Retirees</i>			
Number	26,399	26,751	1.3%
Total Annual Benefit (000s)	\$355,145	\$373,087	5.1%
Average Annual Benefit	13,453	13,947	3.7%
<i>Terminated Vested</i>			
Number	660	654	(0.9)%

TABLE A-4

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

Age	Years of Service											All Years
	Under 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 & Up	
Under 20	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	2	18	92	3	0	0	0	0	0	0	0	115
35 to 39	6	51	280	149	8	0	0	0	0	0	0	494
40 to 44	12	27	153	245	130	2	0	0	0	0	0	569
45 to 49	6	19	81	123	166	46	2	0	0	0	0	443
50 to 54	3	6	39	48	59	40	12	0	0	0	0	207
55 to 59	0	7	30	19	19	10	6	3	0	0	0	94
60 to 64	0	0	13	14	8	1	0	0	0	0	0	36
65 & Up	0	0	1	6	1	1	0	0	0	0	0	9
Totals	29	128	689	607	391	100	20	3	0	0	0	1,967

Age	Average Salaries											All Years
	Under 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 & Up	
Under 20	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0	0
30 to 34	41,482	48,044	51,017	53,330	0	0	0	0	0	0	0	50,447
35 to 39	43,631	51,765	52,910	54,795	53,018	0	0	0	0	0	0	53,249
40 to 44	48,632	52,921	52,478	56,095	59,108	59,160	0	0	0	0	0	55,513
45 to 49	60,110	53,276	52,642	55,718	60,482	61,349	72,735	0	0	0	0	57,557
50 to 54	37,252	48,956	51,936	53,665	58,610	59,160	68,078	0	0	0	0	56,272
55 to 59	0	48,394	50,246	54,918	56,525	67,158	77,692	62,838	0	0	0	56,274
60 to 64	0	0	54,710	49,086	60,909	55,896	0	0	0	0	0	53,933
65 & Up	0	0	40,922	52,865	60,587	45,715	0	0	0	0	0	51,602
Totals	48,302	51,394	52,375	55,263	59,406	60,800	71,428	62,838	0	0	0	55,178

TABLE A-5

Analysis by Age and Service - Plan B - Active Members

Age	Years of Service											All Years	
	Under 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 & Up		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	5	3	22	0	0	0	0	0	0	0	0	0	30
30 to 34	19	35	694	90	0	0	0	0	0	0	0	0	838
35 to 39	54	120	1,271	1,093	70	0	0	0	0	0	0	0	2,608
40 to 44	67	130	972	1,715	746	58	0	0	0	0	0	0	3,688
45 to 49	53	94	764	1,161	1,122	631	48	0	0	0	0	0	3,873
50 to 54	36	82	589	823	701	808	444	42	0	0	0	0	3,525
55 to 59	16	43	375	492	353	369	194	57	2	0	0	0	1,901
60 to 64	6	16	213	297	192	139	87	39	6	0	0	0	995
65 & Up	4	5	77	82	58	68	21	23	9	1	0	0	348
Totals	260	528	4,977	5,753	3,242	2,073	794	161	17	1	0	0	17,806

Age	Average Salaries											All Years	
	Under 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 & Up		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	38,600	49,135	32,436	0	0	0	0	0	0	0	0	0	35,133
30 to 34	34,515	35,494	37,848	35,694	0	0	0	0	0	0	0	0	37,443
35 to 39	38,203	41,521	42,508	42,143	42,381	0	0	0	0	0	0	0	42,217
40 to 44	37,126	43,281	45,776	49,166	49,195	48,406	0	0	0	0	0	0	47,841
45 to 49	53,370	44,851	46,117	51,050	56,003	53,498	52,078	0	0	0	0	0	51,805
50 to 54	41,774	47,143	45,561	47,933	55,290	60,709	55,249	48,537	0	0	0	0	52,776
55 to 59	40,090	46,775	43,507	47,281	52,469	62,968	66,699	64,889	54,760	0	0	0	52,990
60 to 64	54,855	43,334	41,332	46,579	54,881	58,955	72,327	70,864	59,591	0	0	0	52,066
65 & Up	55,301	71,802	40,297	45,460	60,867	66,385	68,722	78,324	67,998	121,401	0	0	55,843
Totals	42,013	43,833	43,358	47,477	53,624	58,641	60,083	63,990	63,473	121,401	0	0	49,288

TABLE A-6

Analysis by Age and Service - Plan C - Active Members

Age	Years of Service											All Years	
	Under 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 & Up		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	2	0	0	0	0	0	0	0	0	0	2
30 to 34	1	0	18	4	0	0	0	0	0	0	0	0	23
35 to 39	2	4	48	52	7	0	0	0	0	0	0	0	113
40 to 44	2	6	39	85	38	5	0	0	0	0	0	0	175
45 to 49	1	6	49	54	63	37	0	0	0	0	0	0	210
50 to 54	4	2	51	72	56	45	10	0	0	0	0	0	240
55 to 59	3	6	58	86	44	31	13	4	1	0	0	0	246
60 to 64	0	7	62	89	52	32	6	8	3	0	0	0	259
65 & Up	1	0	23	33	26	24	4	2	2	2	2	2	119
Totals	14	31	350	475	286	174	33	14	6	2	2	2	1,387

Age	Average Salaries											All Years	
	Under 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 & Up		
Under 20	0	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	0	0	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	38,926	0	0	0	0	0	0	0	0	0	38,926
30 to 34	32,574	0	41,559	31,084	0	0	0	0	0	0	0	0	39,346
35 to 39	35,250	29,756	40,374	39,258	39,089	0	0	0	0	0	0	0	39,314
40 to 44	23,657	34,819	40,485	45,120	42,672	36,264	0	0	0	0	0	0	42,704
45 to 49	25,785	51,506	41,705	45,326	45,121	40,324	0	0	0	0	0	0	43,622
50 to 54	37,130	47,857	42,692	42,792	51,979	45,398	42,329	0	0	0	0	0	45,332
55 to 59	53,691	39,067	38,262	40,771	50,075	44,518	57,327	37,593	39,476	0	0	0	43,250
60 to 64	0	34,835	37,906	40,393	51,124	51,720	57,586	54,221	58,505	0	0	0	44,237
65 & Up	38,243	0	49,611	46,421	43,266	52,251	57,618	27,662	33,693	60,396	25,527	0	47,186
Totals	37,429	39,062	40,783	42,448	47,676	46,008	52,865	45,676	47,063	60,396	25,527	0	43,728

TABLE A-7

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

Age	Years of Service											All Years
	Under 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 & Up	
Under 20	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	375	11	0	0	0	0	0	0	0	0	0	386
25 to 29	1,019	468	14	0	0	0	0	0	0	0	0	1,501
30 to 34	690	798	83	0	0	0	0	0	0	0	0	1,571
35 to 39	410	479	77	4	0	0	0	0	0	0	0	970
40 to 44	278	240	61	5	2	0	0	0	0	0	0	586
45 to 49	173	188	55	2	2	0	0	0	0	0	0	420
50 to 54	94	90	25	1	2	3	1	0	0	0	0	216
55 to 59	51	59	13	2	0	0	0	0	0	0	0	125
60 to 64	22	31	10	1	0	0	0	0	0	0	0	64
65 & Up	6	6	3	1	0	0	0	0	0	0	0	16
Totals	3,118	2,370	341	16	6	3	1	0	0	0	0	5,855

Age	Average Salaries											All Years
	Under 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 & Up	
Under 20	0	0	0	0	0	0	0	0	0	0	0	0
20 to 24	29,508	32,692	0	0	0	0	0	0	0	0	0	29,599
25 to 29	35,915	43,588	42,246	0	0	0	0	0	0	0	0	38,366
30 to 34	38,275	46,899	46,691	0	0	0	0	0	0	0	0	43,100
35 to 39	37,975	47,100	45,439	51,393	0	0	0	0	0	0	0	43,129
40 to 44	36,533	45,802	48,625	58,760	55,363	0	0	0	0	0	0	41,842
45 to 49	36,453	45,842	50,632	58,013	65,447	0	0	0	0	0	0	42,753
50 to 54	37,360	47,134	47,485	37,178	45,614	48,951	56,434	0	0	0	0	42,929
55 to 59	38,102	52,570	43,577	70,134	0	0	0	0	0	0	0	46,013
60 to 64	38,035	49,633	50,434	28,801	0	0	0	0	0	0	0	45,446
65 & Up	27,265	47,920	57,985	52,838	0	0	0	0	0	0	0	42,369
Totals	36,100	46,213	47,356	54,655	55,474	48,951	56,434	0	0	0	0	40,930

TABLE A-8

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

Age	Years of Service											All Years	
	Under 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 & Up		
Under 20	107	0	0	0	0	0	0	0	0	0	0	0	107
20 to 24	976	91	0	0	0	0	0	0	0	0	0	0	1,067
25 to 29	1,997	1,807	93	0	0	0	0	0	0	0	0	0	3,897
30 to 34	1,616	3,036	551	11	0	0	0	0	0	0	0	0	5,214
35 to 39	1,255	2,362	535	28	1	0	0	0	0	0	0	0	4,181
40 to 44	1,215	1,950	504	48	28	3	0	0	0	0	0	0	3,748
45 to 49	1,013	1,735	485	35	54	26	1	0	0	0	0	0	3,349
50 to 54	652	1,187	305	20	26	16	3	0	0	0	0	0	2,209
55 to 59	355	805	225	15	12	5	1	0	0	0	0	0	1,418
60 to 64	204	471	148	13	9	5	0	0	0	0	0	0	850
65 & Up	86	238	113	7	1	1	0	1	0	0	0	0	447
Totals	9,476	13,682	2,959	177	131	56	5	1	0	0	0	0	26,487

Age	Average Salaries											All Years	
	Under 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 & Up		
Under 20	3,175	0	0	0	0	0	0	0	0	0	0	0	3,175
20 to 24	16,690	22,520	0	0	0	0	0	0	0	0	0	0	17,187
25 to 29	26,368	31,351	32,395	0	0	0	0	0	0	0	0	0	28,822
30 to 34	28,839	35,979	35,985	28,467	0	0	0	0	0	0	0	0	33,751
35 to 39	28,261	36,915	39,787	24,602	32,077	0	0	0	0	0	0	0	34,601
40 to 44	28,745	37,729	39,866	37,349	40,579	43,802	0	0	0	0	0	0	35,125
45 to 49	29,084	36,423	40,912	38,021	52,999	50,520	26,695	0	0	0	0	0	35,244
50 to 54	30,275	35,815	40,056	45,566	43,230	56,644	45,834	0	0	0	0	0	35,105
55 to 59	28,050	35,134	37,610	48,244	51,765	58,218	62,423	0	0	0	0	0	34,134
60 to 64	30,956	33,471	38,408	28,995	34,746	43,055	0	0	0	0	0	0	33,729
65 & Up	27,154	29,027	34,088	38,350	20,087	48,223	0	36,315	0	0	0	0	30,131
Totals	26,814	35,474	38,620	36,191	46,628	51,889	45,324	36,315	0	0	0	0	32,824

TABLE A-9
Analysis of Retired Members by Retirement Year

Retirement Year	NUMBER OF RETIREES					AVERAGE BENEFIT				
	Service Retirement	Service Connected Disability	Non-Service Connected Disability	Hazardous Duty Retirement	Other Retirement	Service Retirement	Service Connected Disability	Non-Service Connected Disability	Hazardous Duty Retirement	Other Retirement
pre-1965	310	34	48	14	152	7,816.71	5,797.79	5,833.73	8,715.47	6,494.76
1966	77	7	13	0	17	8,459.00	5,971.39	6,549.77	0.00	7,233.35
1967	78	3	12	0	21	6,828.48	4,677.76	7,463.33	0.00	6,668.26
1968	122	10	8	0	21	8,242.41	7,199.28	6,691.33	0.00	6,153.18
1969	183	12	15	2	41	8,438.11	7,520.93	8,199.64	11,100.06	7,980.40
1970	190	10	35	2	42	9,980.89	7,332.46	8,128.94	11,588.58	8,400.24
1971	285	14	46	6	47	11,275.40	8,740.65	7,896.81	13,863.40	8,562.45
1972	368	19	47	15	81	11,062.33	9,474.73	9,073.42	14,545.14	9,111.83
1973	439	24	48	21	71	11,274.36	11,721.34	9,455.46	16,409.38	8,215.98
1974	373	19	29	19	105	10,313.34	9,985.47	9,707.17	19,150.76	8,864.89
1975	620	40	47	17	103	10,947.20	10,407.96	8,748.71	18,950.45	7,864.51
1976	689	12	37	20	94	10,061.74	9,492.64	8,949.06	17,558.18	7,440.78
1977	536	9	22	11	90	9,461.69	7,832.47	8,359.90	17,241.12	7,147.13
1978	630	8	31	22	72	9,064.25	8,812.13	6,858.59	18,979.49	6,160.40
1979	1,200	10	32	40	97	9,683.38	10,317.23	7,444.89	18,897.82	6,637.18
1980	772	16	29	28	93	8,640.76	6,878.00	6,146.71	17,558.18	6,291.11
1981	630	23	26	49	57	9,320.54	8,294.00	6,751.63	16,985.08	8,954.93
1982	554	15	20	33	54	9,700.03	10,120.66	8,590.86	18,586.61	7,750.78
1983	566	13	33	40	86	11,207.52	10,480.08	9,677.42	19,719.09	8,284.96
1984	731	33	32	56	110	11,704.16	10,462.24	10,050.43	20,114.59	8,645.87
1985	828	32	34	65	134	12,570.00	10,519.02	11,669.15	21,757.97	9,525.92
1986	922	44	37	49	177	14,307.87	10,462.01	12,947.67	25,521.65	7,735.63
1987	905	35	43	78	204	15,058.56	12,651.75	10,630.79	24,644.80	8,822.13
1988	1,067	45	35	94	191	15,760.28	14,401.66	10,207.15	25,274.54	9,721.55
1989	3,057	48	34	253	349	16,610.13	17,443.37	11,712.72	30,096.36	12,120.28
1990	249	12	12	88	181	18,665.10	12,913.42	11,563.09	29,228.77	10,627.51
1991	564	10	35	86	236	22,475.15	15,583.02	16,385.59	33,822.43	13,059.38
1992	2,616	14	31	250	202	22,088.37	33,968.23	17,975.33	32,143.96	13,046.64
1993	309	7	29	78	162	10,503.96	52,279.54	14,080.13	26,469.11	12,024.31
1994	480	2	10	117	68	17,260.70	12,763.14	17,978.40	28,384.24	14,040.23

TABLE A-10

Analysis of Retired Members by Current Age

Current Age	NUMBER OF RETIREES					AVERAGE BENEFIT				
	Service Retirement	Service Connected Disability	Non-Service Connected Disability	Hazardous Duty Retirement	Other Retirement	Service Retirement	Service Connected Disability	Non-Service Connected Disability	Hazardous Duty Retirement	Other Retirement
Less than 40	2	15	7	0	137	10,821	29,025	7,367	0	12,280
40 to 44	0	28	23	39	68	0	20,100	11,376	27,784	16,869
45 to 49	2	60	47	214	138	17,979	14,915	16,013	29,398	15,277
50 to 54	39	76	67	310	177	20,945	13,850	15,207	30,965	14,990
55 to 59	1,414	88	111	301	472	23,620	12,882	11,938	27,050	11,063
60 to 64	2,799	97	143	270	620	19,444	10,979	10,586	26,205	9,093
65 to 69	4,517	81	146	226	500	14,988	8,401	7,954	21,800	7,759
70 to 74	4,458	61	144	121	420	12,581	6,801	7,387	18,933	8,295
75 to 79	3,450	37	81	46	338	10,553	8,314	7,992	17,086	7,405
80 to 84	2,167	22	75	17	251	9,996	8,883	8,800	12,416	8,099
85 to 89	1,038	13	45	8	149	9,807	8,927	7,398	16,389	7,851
90 to 94	355	2	18	1	71	8,679	7,356	6,451	6,857	7,812
95 to 99	93	0	3	0	12	5,667	0	4,626	0	5,934
100 and over	16	0	0	0	5	4,394	0	0	0	10,038
Final Totals	20,350	580	910	1,553	3,358	13,976	11,851	9,801	26,107	9,588

APPENDIX B

SUMMARY OF PLAN PROVISIONS

APPENDIX B

SUMMARY OF PLAN PROVISIONS

*CONNECTICUT STATE EMPLOYEES
RETIREMENT SYSTEM*

Established September 1, 1939

1. *Membership*

Tier I [Sec. 5-160]: 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 January 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.

Tier II [Sec. 5-192e]: Tier II consists of employees first joining the retirement system on or after January 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.

2. *Normal Retirement Eligibility*

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

Tier I - Plans B and C [Sec. 5-162]: Age 55 and 25 years of service, age 60 and 10 years of service, or age 70.

Tier II [Sec. 5-192l]: Age 62 and 10 years of service (effective July 1, 1992) or age 60 and 25 years of service or age 70 and 5 years of service, except hazardous duty members may retire after 20 years.

3. Normal Retirement Benefit

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

Tier I Plan B [Sec. 5-162]: 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, reduced for retirement prior to age 65 with less than 25 years. Minimum benefit with 25 years, \$300 per month.

Tier I Plan C [Sec. 5-162]: 2% of Final Average Earnings times years of service, reduced for retirement prior to age 65 with less than 25 years. Minimum with 25 years, \$300 per month.

Tier II Hazardous Duty Members [Sec. 5-192n]: 2½% 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 with 25 years, \$300 per month (or less if retirement before July 1, 1987).

Tier II All Other [Sec. 5-192l]: 1⅓% of Final Average Earnings plus ½% of Final Average Earnings in excess of the year's breakpoint*, times up to 35 years of service from October 1, 1982 plus 1⅝% of Final Average Earnings times years of service in excess of 35 years, if any. Minimum with 25 years, \$300 per month (or less if retirement before July 1, 1987).

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

4. Early Retirement

Tier I - Hazardous Duty: None.

Tier I [Sec. 5-162]: Age 55 and 10 years of service; Normal Retirement Benefit reduced actuarially for retirement prior to age 60.

Tier II [Sec. 5-192m]: Age 55 and 10 years of service; Normal Retirement Benefit reduced ¼% (effective July 1, 1991) for each month prior to age 65; Minimum benefit with 25 years, \$300 per month (or less if retirement prior to July 1, 1987).

5. Deferred Retirement

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

Tier II [Sec. 5-192l]: May be deferred but not beyond age 70. Benefit is based on salary and service to actual retirement.

6. Vesting

Tier I [Sec. 5-166]: Ten years of service; actuarially reduced benefit 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.

Tier II [Sec. 5-192o]: Ten years of service or age 70 and 5 years; benefit payable at Normal Retirement Age or early retirement benefit payable at age 55; minimum benefit with 25 years, payable after age 55, \$300 per month (or less if retirement before July 1, 1987).

7. Member Contributions

Tier I - Hazardous Duty [Sec. 5-161]: 4% of earnings up to Social Security Taxable Wage Base plus 5% above that level.

Tier I - Plan B [Sec. 5-161]: 2% of earnings up to Social Security Taxable Wage Base plus 5% above that level.

Tier I - Plan C [Sec. 5-161]: 5% of earnings.

Tier II - All Other [Sec. 5-192u]: None.

Tier II - Hazardous Duty [Sec. 5-192u]: 4% of earnings

8. Cost of Living

[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.

9. Death Benefits

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

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

[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%).

Tier II [Sec. 5-192r]: If eligible for early or normal retirement, spouse benefit equal to 50% of member's benefit under a 50% J&S. If not eligible to retire but 25 years, same benefit calculated as though age 55 using service and earnings at death.

[Sec. 5-192t]: If death is due to employment, a spouse with dependent children under 18 will be paid \$7,500 in not less than 60 installments while living and not remarried; also \$20 per month per child under 18. If no children under 18, spouse [or dependent parent(s), if no spouse] will be paid \$4,000 in not less than 60 installments.

10. Disability Benefits

Tier I [Sec. 5-142, 5-169, 5-173]: For non-service disabilities occurring prior to age 60 and after 5 years of service, benefit equals 3% times base salary times years of service (Maximum 1 $\frac{2}{3}$ % times service to 65). If disability occurs prior to age 60 and is due to service, benefit equals 1 $\frac{2}{3}$ % of salary times service projected to 65 (maximum 30 years) and is payable regardless of length of service. Exception: State Police benefit is accrued 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).

Maximum disability benefit is lesser of: 100% of salary less Workers Compensation and Social Security and less non-rehabilitation earnings, or 80% of salary less Workers Compensation and Social Security. Social Security is primary plus family.

Tier II [5-192p]: Prior to age 65 and due to service or after 10 years of service, benefit is 1 $\frac{1}{3}$ % of final average earnings, plus $\frac{1}{2}$ % of excess earnings times service projected to 65 (maximum 30 years of service to Date of Disability if greater than 30 years). Same maximum as Tier I.

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

11. Optional Forms of Payment

Tier I [Sec. 5-165]: 50% Qualified Joint and Survivor (Normal Form if married at least 12 months).

Tier II [Sec. 5-192q]: 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. Part-Time Employment

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

APPENDIX C

ACTUARIAL METHOD AND ASSUMPTIONS

APPENDIX C

ACTUARIAL METHOD AND ASSUMPTIONS

A. Funding Method

1. The actuarial valuation method used is the Projected Unit Credit Cost Method. Recommended annual contributions until the accrued liability is completely funded will consist of two pieces: Normal Cost plus a payment towards the Unfunded Accrued Liability.
 - a. The Accrued 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.
 - b. The Normal Cost is then similarly determined as the present value of the portion of the projected benefit attributable to the current year.
2. The Unfunded Accrued Liability is the Accrued Liability less Actuarial Value of Assets.
3. Since the valuation was done as of June 30, 1994, costs have been projected to July 1, 1995 in order to correspond to the fiscal year as follows:
 - a. Normal Costs were determined as a percentage of earnings, by Tier, as of July 1, 1994. Earnings were projected to July 1, 1995, separately for each Tier because of the shifting Tier populations, and the projected earnings were then multiplied by each Tier's normal cost factor.
 - b. The Unfunded Accrued Liability was determined as of June 30, 1994, and brought forward to June 30, 1995 by adding the Normal Cost plus interest and subtracting expected State and Federal contributions, also with interest. This amount was amortized over the 37 years specified in the SEBAC Agreement.
 - c. Normal Cost and Past Service Amortization payments were adjusted to reflect payment in twelve equal installments at the end of each month.

B. Actuarial Assumptions

Mortality: 1983 Group Annuity Mortality Table.

Service connected deaths are assumed to comprise 20% of total Death for Hazardous Duty employees and 0% for all other employees.

Investment Return:

Salary Scale: Varies by service as follows:

<u>Years</u>	<u>Rate</u>
0	14.00
1	12.00
2	10.00
3	9.00
4	8.20
5	7.50
10	5.45
15	4.45
20	3.75
25	3.25

Disability:

*Annual Rate of Disability
(Per 1,000 Lives)*

<u>Age</u>	<u>Hazardous Duty</u>	<u>All Others</u>
20	.90	.38
25	1.02	.43
30	1.16	.49
35	1.45	.61
40	2.04	.85
45	3.35	1.40
50	6.11	2.55
55	11.10	4.63
60	17.30	7.21

Service connected disabilities are assumed to comprise 50% of total Disability for Hazardous Duty employees and 20% for all other employees.

B. Actuarial Assumptions (cont'd)

*Social Security Wage
Base Increases:*

6½% compounded annually.

Retirement Ages:

Hazardous Duty Employees

<u>Age</u>	<u>First Year Eligible</u>	<u>Thereafter</u>
47	40%	30%
50	40	30
55	60	30
60	80	50
62	100	100
65	100	100
70	100	100

Non Hazardous Duty Employees

<u>Age</u>	<u>First Year Eligible</u>	<u>Thereafter</u>
47	0%	0%
50	0	0
55	20	0
60	20	15
62	40	40
65	80	60
70	100	100

*B. Actuarial Assumptions (cont'd)**Turnover:*

Three year select and ultimate rates as shown below for non-hazardous duty males; the same table with rates increased by a factor of 10% for females and decreased by a factor of 60% of hazardous duty employees.

<i>Age</i>	<i>Years of Participation</i>			
	<i>0</i>	<i>1</i>	<i>2</i>	<i>3+</i>
20	30	30	20	10
25	17	15	10	8
30	15	11	8	5
35	13	10	8	3
40	10	9	7	3
45	5	8	6	2
50	3	6	4	2
55	2	4	2	0
60	0	0	0	0

*Cost of Living
Increases:*

3% per year for retirees on or after July 1, 1980.
4½% per year for retirees prior to July 1, 1980.

Asset Valuation:

Adjusted market value: assets are written up (or down) by spreading recognition of gains and losses over five years, plus an additional write-up (or write-down) as necessary so that the final adjusted value is within 20% of market value.

APPENDIX D

ACTUARIAL SURPLUS TEST

APPENDIX D

ACTUARIAL SURPLUS TEST AS OF JUNE 30, 1994

Section 5-162h(b) 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: actual rate of return for the Fiscal Year ending June 30, 1994 must exceed the actuarial assumption of 8.5%.

A.	Market Value of Assets July 1, 1993	\$3,994,950,545
B.	Market Value of Assets June 30, 1994	4,150,379,946
I.	Investment Income for FY 93-94	179,630,029

$$\text{Actual Rate of Return for FY 93-94} = \frac{2I}{A+B-I} = 4.51\%$$

Actual Rate of Return of 4.51% is less than the assumption of 8.5%, so first criteria is not met.

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

A.	Market Value of Assets June 30, 1994	\$4,150,379,946
B.	Specified Liabilities June 30, 1994	
	Liability for Retired Members	4,045,626,976
	Liability for Terminated Vested Members	32,951,832
	Active Member Contributions	280,806,510
	Interest on Active Member Contributions	<u>78,470,905</u>
	Total	\$4,437,856,223
C.	50% of Specified Liabilities	\$2,218,928,112

Market Value of Assets exceeds 50% of Specified Liabilities, so second criteria is met.

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

A.	Actual Unfunded Liability June 30, 1994	\$3,384,659,736
B.	Projected Unfunded Liability June 30, 1999	1,745,116,000

Actual Unfunded Liability exceeds Projected Unfunded Liability so third criteria is not met and there is no actuarial surplus.

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 criteria 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. The following Projection 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).

Year	(000) June 30 Unfunded Liability	Year	(000) June 30 Unfunded Liability	Year	(000) June 30 Unfunded Liability
1984	2,155,459	2000	1,734,339	2016	1,364,443
1985	2,201,605	2001	1,722,646	2017	1,321,309
1986	2,206,090	2002	1,709,958	2018	1,274,507
1987	2,524,556	2003	1,696,191	2019	1,223,727
1988	1,954,257	2004	1,681,255	2020	1,168,632
1989	1,432,333	2005	1,665,050	2021	1,108,853
1990	1,939,758	2006	1,647,466	2022	1,043,992
1991	1,930,524	2007	1,628,388	2023	973,619
1992	1,920,505	2008	1,607,689	2024	897,265
1993	1,794,192	2009	1,585,229	2025	814,419
1994	1,787,586	2010	1,560,861	2026	724,533
1995	1,780,419	2011	1,534,422	2027	627,005
1996	1,772,643	2012	1,505,736	2028	521,188
1997	1,764,205	2013	1,474,610	2029	406,377
1998	1,755,050	2014	1,440,840	2030	281,377
1999	1,745,116	2015	1,404,198	2031	146,648

APPENDIX E

ENTRY AGE NORMAL VALUATION RESULTS

APPENDIX E

ENTRY AGE NORMAL VALUATION RESULTS

	<i>June 30, 1993</i>	<i>June 30, 1994</i>
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<i>A. Current Results</i>		
<hr/>		
1. Present Value of Future Benefits		
- Active Members	\$5,462,816,433	\$5,586,724,434
- Retired and Beneficiaries	3,874,194,605	4,045,626,976
- Deferred Vested Members	<u>34,490,397</u>	<u>32,951,832</u>
- Total Present Value	\$9,371,501,435	\$9,665,303,242
2. Present Value Future Normal Cost Contributions	1,611,942,903	1,816,861,532
3. Total Actuarial Liability: (1)-(2)	\$7,759,558,532	\$7,848,441,710
4. Actuarial Value of Assets	3,696,176,885	3,944,521,448
5. Unfunded Actuarial Liability: (3)-(4)	\$4,063,381,647	\$3,903,920,262
6. Total Normal Cost	174,565,782	193,590,656
7. Expected Employee Contributions	30,267,541	35,143,546
8. Employer Normal Cost: (6)-(7)	\$ 144,298,241	\$ 158,447,110
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<i>B. Projections to Following Year</i>		
<hr/>		
1. Employer Normal Cost	\$ 164,572,786	\$ 180,788,820
2. Unfunded Actuarial Liability	4,257,814,019	4,041,366,763
3. Past Service Cost	364,976,981	347,817,896
4. Total Cost: (1)+(3)	\$ 529,549,767	\$ 528,606,716
5. Total Cost as a Percent of Pay	22.62%	22.45%