

***PRELIMINARY 1996 VALUATION RESULTS  
CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM***

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**ANALYSIS OF RESULTS**

- System membership has decreased slightly over last year (less than 1%). The total membership is 83,426 versus 84,209 last year. A slight increase in inactive membership (261 net new inactives) was offset by a decrease of 1,044 active members.
- Total annual valuation compensation is up 2.6% over last year. Average compensation on a total group basis grew from \$41,552 last year to \$43,429 this year (4.5% growth). The increases in compensation, however, were consistent with our actuarial salary growth assumption.
- Asset performance was very favorable for FY95-96. On a market value basis, the performance was about 14.4%. On a smoothed basis, the approximate rate of return was 10.7%. This favorable performance results in an asset gain of \$91.5 million.
- Normal cost percentages for all groups increased from the prior years' percentages. The average normal cost percentage is 8.75%, compared to 8.43% last year. The increase in normal cost percentages is a result of the aging of the active membership. The normal cost for FY97-98 is \$228 million. This represents a 6% increase over the normal cost for FY96-97 (\$217 million).
- Total System Liabilities are now at \$8,335 billion compared to \$7.838 billion last year. \$367 million of the \$497 million change is due to a growth in active liability, the remaining \$130 million is represents inactive members.
- The reconciliation of the unfunded liability yields an asset gain of \$91.5 million and a liability loss of \$25.6 million. This liability loss is very small - it represents only 0.3% of the liabilities. The attached gain/loss report shows the breakdown of the liability loss by source.
- The <sup>Actuarial</sup> Employer contribution before reflecting the SEBAC agreement is \$568 million. Because SEBAC limits the past service cost to \$164 million and the Memorandum of Agreement reduces the contribution (due to asset smoothing) by \$19 million, the contribution after SEBAC is \$374 million.

Several tables and graphs make up the remainder of this report.

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*I. Summary of Active Membership Data*

	<u>7/1/95</u>	<u>7/1/96</u>	<u>Percent Change</u>
<i>Number of Members</i>			
Tier I Hazardous Duty	1,891	1,845	-2.4%
Tier I Plan B	17,103	16,353	-4.4%
Tier I Plan C	1,249	1,139	-8.8%
Tier II Hazardous Duty	7,206	7,201	-0.1%
Tier II Others	<u>28,524</u>	<u>28,391</u>	-0.5%
Total	55,973	54,929	-1.9%
<i>Total Annual Compensation (Millions)</i>			
Tier I Hazardous Duty	106.3	107.9	+1.5%
Tier I Plan B	873.5	882.8	+1.1%
Tier I Plan C	56.1	53.9	-3.9%
Tier II Hazardous Duty	300.2	305.9	+1.9%
Tier II Others	<u>989.7</u>	<u>1,035.0</u>	+4.6%
Total	2,325.8	2,385.5	+2.6%
<i>Average Compensation</i>			
Tier I Hazardous Duty	56,204	58,496	4.1%
Tier I Plan B	51,074	53,985	5.7%
Tier I Plan C	44,903	47,333	5.4%
Tier II Hazardous Duty	41,663	42,476	2.0%
Tier II Others	34,696	36,456	5.1%
Total	41,552	43,429	4.5%
<i>Average Age</i>			
Tier I Hazardous Duty	44.0	44.9	
Tier I Plan B	47.6	48.3	
Tier I Plan C	52.2	52.7	
Tier II Hazardous Duty	35.3	36.1	
Tier II Others	40.0	40.7	
Total	42.1	42.7	
<i>Average Service</i>			
Tier I Hazardous Duty	16.5	17.3	
Tier I Plan B	18.8	19.7	
Tier I Plan C	19.1	20.0	
Tier II Hazardous Duty	4.8	5.7	
Tier II Others	6.2	6.9	
Total	10.5	11.1	

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*II. Summary of Retired Membership Data*

	7/1/95	7/1/96	Percent Change
<b><u>Retirees</u></b>			
Number	27,570	27,835	265 1.0
Total Annual Benefit (000s)	\$395,879	\$418,069	5.6
Average Annual Benefit	14,359	15,020	4.6
<b><u>Terminated Vested</u></b>			
Number	666 22	662	(0.6)
	<u>688</u>	26	

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*III. Investment Information*

<u>Investments as of 7/1/96</u>	<u>Market Value</u>	<u>Cost Value</u>	<u>MV %</u>
Cash	\$ (2,465,590.35)	\$ (2,465,590.35)	-0.05%
Accrued Interest	0.00	0.00	0.00%
Cash Reserve Account	118,899,879.85	118,899,879.85	2.27%
Mutual Fixed Income Fund	1,390,517,986.36	1,266,407,775.71	26.56%
Mutual Equity Fund	2,170,464,101.96	951,553,214.13	41.46%
Residential Mortgage Fund	0.00	0.00	0.00%
Real Estate Fund	384,538,835.89	577,300,034.10	7.34%
International Stock Fund	822,041,408.30	545,636,898.89	15.70%
International Bond Fund	0.00	0.00	0.00%
Commercial Mortgage Fund	174,131,758.38	178,922,213.24	3.33%
Venture Capital Fund	114,255,664.67	83,474,879.05	2.18%
Connecticut Programs Fund	<u>63,234,671.65</u>	<u>67,468,748.39</u>	<u>1.21%</u>
Total Investments	5,238,084,307.06	3,789,663,643.36	100.05%
Total incl Cash & Accrued Interest	5,235,618,716.71	3,787,198,053.01	100.00%

*Selling?*

*Sold?  
Reason +  
Investment  
Land Mark*

Income & Expense 7/95 - 7/96

Value @ 7/1/95	4,624,722,527.59	3,546,686,320.37
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Contributions

State	254,415,971.00	254,415,971.00
Federal	80,696,000.00	80,696,000.00
Employee	<u>35,919,817.34</u>	<u>35,919,817.34</u>
Total	371,031,788.34	371,031,788.34

Investment Income

Interest & Dividends	208,411,319.90	208,411,319.90
Prior Year Adjustments	239,416.10	239,416.10
Net Realized Gains	84,290,358.14	84,290,358.14
Change in Unrealized Gains	<u>370,384,456.48</u>	
Total	663,325,550.62	292,941,094.14

Disbursements

Benefit Payments	420,089,992.92	420,089,992.92
Employee Refunds	3,208,829.39	3,208,829.39
Expenses	<u>162,327.53</u>	<u>162,327.53</u>
Total	423,461,149.84	423,461,149.84

Value @ 7/1/96	5,235,618,716.71	3,787,198,053.01
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*IV. Development of Asset Gain/Loss*

	<u>Market Value</u>	<u>Actuarial Value</u>
Balance @ 7/1/95	\$4,624,722,528	\$4,209,235,826
+ interest	393,101,415	357,785,045
+ contributions	385,273,844	385,273,844
- benefit payments	<u>439,547,148</u>	<u>439,547,148</u>
Expected Balance @ 6/30/96	4,963,550,639	4,512,747,567
Actual Balance @ 6/30/96	5,235,618,717	4,604,227,717
Expected Interest (net)	391,095,145	355,778,775
Actual Interest net of expenses	663,163,223	447,258,925
Gain/(Loss)	272,068,078	91,480,150
Rate of Return @ 6/30/96	14.42%	10.69%
Rate of Return @ 6/30/95	13.10%	8.42%
Change	1.32%	2.27%

91.4

M.V. 5,236,000,000  
 (631) unrecognized gain  
 A.V. 4,604,000,000

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*VI. System Liabilities*

	1995	1996
(1) Liability for Active Members		
(a) Tier I Hazardous Duty	\$ 416,460,701	\$ 455,400,759
(b) Tier I Plan B	2,225,891,582	2,419,432,593
(c) Tier I Plan C	164,221,428	167,599,957
(d) Tier II Hazardous Duty	260,974,143	310,271,003
(e) Tier II All Others	<u>471,017,720</u>	<u>552,717,393</u>
(f) Total Liability for Active Members	3,538,565,574	3,905,421,705
(2) Liability for Deferred Vested Members	40,208,864	42,444,194
(3) Liability for Retired Members	4,259,436,367	4,387,226,413
(4) Total System Liability	7,838,210,805	8,335,092,312

*Case  
Agree*



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*VII. Reconciliation of Unfunded Actuarial Liability*

Unfunded Actuarial Liability 7/1/95	\$3,628,974,979
• Interest on beginning UAL	308,462,873
• Employer Normal Cost for FY95-96	235,549,105
• Interest on Employer Normal Cost	9,041,552
• FY 95-96 Employer Contribution actually made	(371,031,788)
• Interest on Employer contribution for FY95-96	(14,242,056)
• Asset (gain)/loss	(91,480,150)
• Liability (gain)/loss (balancing item)	25,590,233
Actual Unfunded Actuarial Liability 7/1/96	3,730,864,748

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**VIII. System Contributions**

(1)	Total System Liability	\$8,335,092,312	
(2)	Actuarial Value of Assets	4,604,227,717	
(3)	Unfunded Actuarial Liability as of July 1, 1996	3,730,864,595	
(4)	Projected Unfunded Actuarial Liability as of June 30, 1997	3,908,442,656	
(5)	Past Service Cost	339,469,497	<i>75 years</i>
(6)	Employer Normal Cost	228,165,426	+
(7)	Total System Contribution (before SEBAC)	567,634,923	
(8)	Past Service Cost per SEBAC	164,150,000	+
(9)	Memorandum of Agreement (Asset Smoothing)	(18,669,796)	+
(10)	Total System Contribution (after SEBAC): (6)+(8)+(9)	373,645,630	=

$$\frac{533,523,000}{(666,900,000 - 133,377,000)} =$$

*Funding Factor*  
4.4935%

*Prior*

$$\frac{415,486,702}{FF} = 18,669,796$$

$$FF = 4.4935\%$$

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*IX. Summary of Assumptions*

*Interest Rate:* 8 1/2%

*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

*Mortality:* 1983 Group Annuitant Mortality Male and Female Tables.

*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% for hazardous duty employees.

<u>Age</u>	<u>Years of Participation</u>			
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3+</u>
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

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*X. Summary of Assumptions (Continue)*

**Retirement:**

One year select and ultimate rates separately for hazardous and non-hazardous duty employees.

<i>Age</i>	<i>Hazardous</i>		<i>Non-Hazardous</i>	
	<i>0</i>	<i>1+</i>	<i>0</i>	<i>1+</i>
47	40	30	0	0
50	40	30	0	0
55	60	30	20	0
60	80	50	20	15
62	100	100	40	40
65	100	100	80	60
70	100	100	100	100

**Disability:**

The current table of rates increased by a factor of 1.2 for hazardous duty employees and decreased by a factor of .5 for non-hazardous duty employees.

<i>Age</i>	<i>Hazardous Duty</i>	<i>All Others</i>
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

**Disabled Mortality:**

50% of 1965 Railroad Retirement Board Disabled Mortality Table.