

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS - 6/30/96 VALUATION

Overview

As we indicated in the preliminary valuation results, the total liability loss is \$25,590,233. This amount is the difference between the expected System liability as of July 1, 1996 and the actual liability:

Expected liability as of July 1, 1996	\$8,309,502,232
Actual liability as of July 1, 1996	8,335,092,465
Liability gain/(loss)	(25,590,233)
Liability gain/(loss) as a percentage of actual liability	-0.31%

The purpose of our gain/(loss) analysis is to break down the total gain/(loss) into its component pieces, in order to gain a better understanding of what has happened during the past year.

Discussion of Results

» 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 three categories - terminations and deaths, retirements, and disabilities. The following results show a small overall decremental gain for FY 95-96:

<i>Source</i>	<i>Number Expected to Decrement</i>	<i>Actual Number of Decrements</i>	<i>Active Decremental Gain/(Loss)</i>
Termination/Death	2,159	3,612	\$2,264,929
Retirement	1,164	774	270,633
Disability	115	58	(311,975)
Total	3,438	4,444	2,223,587

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS - 6/30/96 VALUATION

» **Active Decrements (continued)**

Terminations and Deaths are combined because the SERS database does not distinguish between members who terminate without a vested benefit, members who terminate with a vested benefit and withdraw their member contributions, and members who either die with no benefit or with return of member contributions. This makes it difficult to separate the impact of turnover rates being different than assumed rates from the impact of active mortality being different from assumed mortality.

The gain from termination arises because many more members terminated than expected, especially in Tier II where there is no return of member contributions. Of the 3,612 terminations and deaths, only 22 were among the terminated vested members reported to us and only 3 were known deaths. In addition to benefit forfeitures for vested terminations, we suspect that the termination gain also includes the impact of active members being out on Workers' Compensation as of the valuation date. Since we do not receive any data on these members, from a gain/(loss) point of view they are treated as terminations who have forfeited all benefits.

» **Other Active Sources of Gain/(Loss)**

There is a small salary loss of \$12,600,518. This is the additional liability for the 51,529 active members who were active last year (unchanged status). We compared the expected liability, based on the 6/30/95 salary increased by the assumed salary scale, to the actual liability, using the actual 6/30/96 salary. The resulting change in liability by group is shown below:

<i>Group</i>	<i>Liability using Expected Salaries</i>	<i>Liability using Actual Salaries</i>	<i>Salary Gain/(Loss)</i>
Tier I Hazardous Duty	\$452,450,242	\$453,534,204	(\$1,083,962)
Tier I Plan B	2,373,194,826	2,411,973,256	(38,778,430)
Tier I Plan C	165,171,806	166,216,716	(1,044,910)
Tier II Other	554,878,397	543,393,281	11,485,116
Tier II Hazardous Duty	323,201,378	306,379,710	16,821,668
Total	3,868,896,649	3,881,497,167	(12,600,518)

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS - 6/30/96 VALUATION

» *Other Active Sources of Gain/(Loss) (continued)*

The System experienced a loss because there were 3,400 new active members. Since our valuation does not assume there will be any new employees, new hires always result in a liability loss. Of these, 1,190 members had more than one year of service, which leads us to believe that they are rehires or members who were out on Workers' Compensation as of July 1, 1995 but who were returned to active status for the current valuation. We identified 316 as active members as of July 1, 1994 and 125 as active members on July 1, 1993. The liability for these 1,190 new members is \$19,484,197. There was also a loss of \$4,185,908 for the 2,202 new members who had less than one year of service. Finally, there were 8 new active members who were inactive members last year.

There was also a modest loss of \$13,733,687 from 'changes in data'. This catchall includes corrections to dates of birth and hire, the effect of inter-group transfers, the effect of service purchases, and increases different from our assumptions in the Taxable Wage Base and in the cap on annual compensation.

» *Inactive Sources of Gain/(Loss)*

There is a liability gain of \$166,743,536 arising from benefits being different from what we would expect based on our expected Cost of Living Adjustment. We expected a modest gain for members who retired before July 1, 1980, because the actual COLA (3.0%) was lower than our assumed COLA for this group (4.5%). However, the liability gain was greater than we expected, and a preliminary look at the data indicates that more than 10% of the retirees with unchanged status had substantial changes to their benefits (both up and down) that cannot be explained by COLAs. We are working to determine the cause of these changes.

There is also a liability gain of \$30,315,246 from 'changes in non-benefit data'. This is partly due to changes in classification from disabled to healthy, and in addition includes changes in date of birth, sex, beneficiary, form of payment, and so forth.

There are two liability gain/(loss) figures that go together - a gain of \$103,748,524 from 1,040 inactives who are no longer in the System, and a loss of \$65,830,663 from 452 new inactives who were not active last year. We found that the Social Security Numbers supplied in the data were not adequate to allow us to track inactive members who die and are survived by a beneficiary. In fact, only 1 member out of 28,497 shows up in this fashion as a death, clearly an unrealistic result. We have long suspected that a significant number of the 1,040 inactive members who 'left' the System in fact died with a beneficiary who then appears as a

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS - 6/30/96 VALUATION

» *Inactive Sources of Gain/(Loss) (continued)*

'new' inactive. In checking this suspicion, we identified 65 of these as members whose Social Security Numbers had digits transposed from last year's data and 57 who have the same employee number but different Social Security Numbers since last year. The remainder of the 'new' inactives do not match up either on Social Security Number or employee number with the inactives who left the System and have presumably died with no surviving beneficiary.

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS - 6/30/96 VALUATION

Development of Overall Gain/(Loss)

	<i>Actuarial Liability</i>	<i>Actuarial Value of Assets</i>	<i>Unfunded Actuarial Liability</i>
Balance at 7/1/95	\$7,838,210,805	\$4,209,235,826	\$3,628,974,979
interest	666,247,918	357,785,045	308,462,873
Total Normal Cost	235,549,105	0	235,549,105
interest (assuming monthly payment)	9,041,552	0	9,041,552
Contributions	0	371,031,788	(371,031,788)
interest (assuming monthly payment)	0	14,242,056	(14,242,056)
Benefit Payments	(423,298,822)	(423,298,822)	0
interest (assuming monthly payment)	(16,248,326)	(16,248,326)	0
Expected Balance at 7/1/96	8,309,502,232	4,512,747,567	3,796,754,665
Actual Balance at 7/1/96	8,335,092,465	4,604,227,717	3,730,864,748
Gain/(Loss)	(25,590,233)	91,480,150	65,889,917

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS - 6/30/96 VALUATION

Detail of Liability Changes

	<i>Active</i>	<i>Inactive</i>	<i>Total</i>
Expected Liability at 7/1/96	4,071,956,723	4,237,545,509	8,309,502,232
changes in data and status; transfers; purchases	13,733,687	(30,315,246)	(16,581,559)
COLA; benefit changes	0	(166,743,536)	(166,743,536)
salary growth	12,600,518	0	12,600,518
inactive to active status	254,430	(1,008,186)	(753,756)
inactives who left System	0	(103,748,524)	(103,748,524)
inactive expected release for decrements	0	213,539,909	213,539,909
new inactives from unknown	0	65,830,663	65,830,663
new actives with less than 1 year of service	4,185,908	0	4,185,908
new actives with more than 1 year of service	19,484,197	0	19,484,197
active expected release for decrements	32,622,945	0	32,622,945
active actual release for decrements	(249,416,703)	214,570,171	(34,846,532)
Total (Gain)/Loss	(166,535,018)	192,125,251	25,590,233
 Actual Liability at 7/1/96	 3,905,421,705	 4,429,670,760	 8,335,092,465

gains are ()

Note: for this exhibit, gains are "negative" because they reduce the liability.

- 3600 left active status vs 2100 expected younger members in tier II*
- lower retirements than expected no significant impact*
- 1,190 show up new with more than 1 year W.C. ? Transfers ?*

*373. T
162 PS*

21 IN

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS - 6/30/96 VALUATION

29,243 36% 35,730 24%

Reconciliation of Active Records

	Tier I Haz. Duty	Tier I Plan B	Tier I Plan C	Tier II Other	Tier II Haz. Duty	Total Active
Total Active Count from 7/1/95 Valuation	1,891	17,103	1,249	28,524	7,206	55,973

Count for those who left active status

Vested Termination	1	18	1	1	1	22
Retired	65	460	82	149	18	774
Death with surviving beneficiary	0	1	0	2	0	3
Disabled	8	37	5	7	1	58
Nonvested withdrawal, single death, ROC, etc.	29	316	26	2,880	336	3,587
Total left	103	832	114	3,039	356	4,444

Net transfers between groups

	40	(24)	(10)	(41)	35	0
--	----	------	------	------	----	---

Count for those who entered active status

New member with less than 1 year of service	0	15	1	1,976	210	2,202
New member with more than 1 year of service	15	88	12	969	106	1,190
Returned from inactive status	2	3	1	2	0	8
Total entered	17	106	14	2,947	316	3,400

Total Active Count from 7/1/96 Valuation

	1,845	16,353	1,139	28,391	7,201	54,929
--	-------	--------	-------	--------	-------	--------

Number Expected to Decrement

Withdrawal	21	324	16	1,413	277	2,051
Retirement	94	593	130	342	5	1,164
Death	4	44	4	48	8	108
Disability	8	42	4	44	17	115
Total	127	1,003	154	1,847	307	3,438

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS - 6/30/96 VALUATION

Reconciliation of Inactive Records

	Term Vested	Healthy Retired	Disabled Retired	Beneficiary	Total in Pay Status	Total Inactive
Total Inactive Count from 7/1/95 Valuation	666	23,989	1,487	2,094	27,570	28,236

Count for those who left inactive status

Out of System, reason unknown	27	843	74	96	1,013	1,040
Term. Vested to Healthy Retired	41	0	0	0	0	41
Healthy Retired to Beneficiary	0	1	0	0	1	1
Disabled Retired to Beneficiary	0	0	0	0	0	0
Health Retired to Disabled Retired	0	50	0	0	50	50
Disabled Retired to Healthy Retired	0	0	17	0	17	17
Returned to active status	4	4	0	0	4	8
Total left	72	898	91	96	1,085	1,157

Count for those who entered inactive status

Term. Vested to Healthy Retired	0	41	0	0	41	41
Healthy Retired to Beneficiary	0	0	0	1	1	1
Disabled Retired to Beneficiary	0	0	0	0	0	0
Health Retired to Disabled Retired	0	0	50	0	50	50
Disabled Retired to Healthy Retired	0	17	0	0	17	17
↗ New, not from active status	46	153	25	228	406	452
↘ New from active status	22	774	58	3	835	857
Total entered	68	985	133	232	1,350	1,418

Total Inactive Count from 7/1/96 Valuation

662	24,076	1,529	2,230	27,835	28,497
-----	--------	-------	-------	--------	--------

Identify no SSN 65 change in SSN

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS - 6/30/96 VALUATION

Details of Active Liability Changes

	Tier I Haz. Duty	Tier I Plan B	Tier I Plan C	Tier II Other	Tier II Haz. Duty	Total Active	Count
1. Expected Liability at 7/1/96						3,538,565,574	
Liability at 7/1/95						300,778,073	
interest						235,549,105	
Normal Cost at 7/1/95						9,041,552	
interest (assuming monthly payment)						0	
Expected Member Contributions						0	
interest (assuming monthly payment)						(11,977,581)	
Estimated Benefit Payments						4,071,956,723	
Total						55,973	
2. Expected Liability at 7/1/96 for those who left active status	30,303,141	150,088,091	18,177,669	38,161,495	12,686,307	249,416,703	(4,444)
3. Liab. at 7/1/96 for unchanged actives: '95 data; exp. salary, cap, TWB	440,484,504	2,370,230,184	165,972,415	557,567,972	320,907,890	3,855,162,965	51,529
<i>2-5, 4-5</i>							
4. Liab. at 7/1/96 for unchanged actives: '96 data; exp. salary; actual cap, TWB	452,450,242	2,373,194,828	165,171,805	554,878,398	323,201,379	3,868,896,652	51,529
<i>Parade salary base</i>							
5. Liab. at 7/1/96 for unchanged actives: '96 data; actual salary, cap, TWB	453,534,204	2,411,973,258	166,216,715	543,393,282	306,379,711	3,881,497,170	51,529
6. Liability at 7/1/96 for new actives: less than 1 year of service	0	123,793	1,885	2,933,144	1,127,086	4,185,908	2,202
more than 1 year of service	1,823,362	7,142,746	1,374,023	6,379,860	2,764,206	19,484,197	1,190
return from inactive status	43,193	192,796	7,334	11,107	0	254,430	8
<i>Agree could</i>							
<i>John Hayden</i>							
7. Total Liability at 7/1/96: (5) + (6)	455,400,759	2,419,432,593	167,599,957	552,717,393	310,271,003	3,905,421,705	
8. Total Change in Active Liability members who left active status = - (2) anticipated decrements = [(2)+(3)] - (1) data changes, cap, TWB, purchases, transfers = (4) - (3) salary growth = (5) - (4) new actives = (6) Total = (7) - (1)						(249,416,703)	
						32,622,945	
						13,733,687	
						12,600,518	
						23,924,535	
						(166,535,018)	
						54,929	

one less year to discount

CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

GAIN/(LOSS) ANALYSIS - 6/30/96 VALUATION

Details of Inactive Liability Changes

	Continuing Inactive	Left System	Left to Active	New from Active	New from Unknown	Total	Count
1. Expected Liability at 7/1/96						4,299,645,231	
Liability at 7/1/95						365,469,845	
interest						0	
Normal Cost at 7/1/95						0	
interest (assuming monthly payment)						0	
Expected Member Contributions						0	
interest (assuming monthly payment)						0	
Estimated Benefit Payments						(427,569,567)	
Total						4,237,545,509	28,236
2. Liab. at 7/1/96: '95 data, exp. COLA	4,346,328,708	103,748,524	1,008,186			4,451,085,418	
3. Liab. at 7/1/96: '96 data, exp. COLA, former status	4,318,389,178					4,318,389,178	
4. Liab. at 7/1/96: '96 data, exp. COLA, new status	4,316,013,462					4,316,013,462	
5. Liab. at 7/1/96 - '96 data, actual benefit	4,149,269,926			214,570,171	65,830,663	4,429,670,760	
6. Total Change in Inactive Liability						(103,748,524)	(1,040)
inactives who left system = - (2)						(1,008,186)	(8)
inactives who returned to active = - (2)						213,539,909	
inactive mortality = (2) - (1)						(27,939,530)	
data changes = (3) - (2) [excluding leavers]						(2,375,716)	
status changes = (4) - (3)						(166,743,536)	
COLA, benefit changes = (5) - (4) [excluding new]						214,570,171	857
new inactives from active status = (5)						65,830,663	452
new inactives from unknown = (5)						192,125,251	28,497

2000 benefit changes
\$3,000 118 releases