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November 10, 2017

Mr. John Herrington, Director
State of Connecticut
Office of the State Comptroller
Retirement Services Division
55 Elm Street
Hartford, CT 06106

Dear John :

Enclosed is the "Connecticut State Employees Retirement System Roll Forward Actuarial Valuation Report prepared as of June 30, 2017".

Please let us know if there are any questions concerning the report.

Sincerely yours,

John J. Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

JJG/EJK:kc

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3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144
Phone (678) 388-1700 • Fax (678) 388-1730
www.CavMacConsulting.com
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Cavanaugh Macdonald
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CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM

ROLL FORWARD ACTUARIAL VALUATION REPORT PREPARED AS OF JUNE 30, 2017

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November 10, 2017

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

Members of the Commission:

Connecticut General Statutes Section 5-155a governs the operation of the Connecticut State Employees Retirement System (SERS). At the direction of the Commission, the actuary provides a roll forward valuation of the Retirement System as an informational update to our projected required employer contribution amount from our most recent biennial actuarial valuation. It is not recommended that the results of a roll forward valuation be used as the basis of adjusting the scheduled contribution requirements but rather as information as to the expected condition of the System at the end of the interim fiscal year.

This report provides the results of the roll forward actuarial valuation of the Retirement System prepared as of June 30, 2017. The investment performance for the fiscal year ending June 30, 2017 was favorable. The fund returned 13.82%, which is higher than the 6.90% that is assumed. We have not performed a reconciliation of census data or development of liabilities as of June 30, 2017. We use roll forward techniques from the June 30, 2016 biennial valuation to best estimate what payroll and liabilities will be as of June 30, 2017. Therefore, the only actual experience incorporated in the results of a roll forward valuation is the investment return for the plan year. The roll forward results reflecting this favorable investment experience show that it could be expected that the required employer rate would be slightly less than the rate determined in the latest actuarial valuation of the System.

The actuarial assumptions recommended by the actuary and adopted by the Commission are reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System. The funding objective of the plan is that contribution rates over time will remain level as a percent of payroll. The valuation method used is the entry age normal method.

In accordance with the MOU agreement dated December 8, 2016, the UAAL as of June 30, 2016 was allocated into two bases. This first base is the portion of the current UAAL attributable to the plan as of 1984 (called the Statutory UAAL base) and the second base is the remainder of the UAAL (called the Transitional UAAL base). The Statutory UAAL base is amortized over the closed 40-year period beginning 1992 while the Transitional UAAL base is amortized over a closed 30-year period beginning in 2016. Amortization payments determined in this valuation are expected to be contributed in the biennium beginning July 1, 2018.

This is to certify that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

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Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the System. Use of these computations for purposes other than meeting these requirements may not be appropriate.

The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely yours,

John J. Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

JJG/EJK:kc

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CONNECTICUT STATE EMPLOYEES RETIREMENT SYSTEM
ROLL FORWARD VALUATION REPORT
PREPARED AS OF JUNE 30, 2017

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the 2017 roll forward valuation and the two fiscal year's Actuarially Determined Employer Contributions (ADECs) as determined in the 2016 biennial valuation are summarized below:

Valuation Date	June 30, 2017 Roll Forward Valuation	June 30, 2017 Projected from 2016 Valuation	June 30, 2016
Number of active members			50,019
Annual compensation			$ 3,720,751,429
Retired members and beneficiaries:			
Number			48,191
Annual allowances			$ 1,745,785,103
Deferred Vested Members:			
Number			1,412
Annual allowances			$ 20,316,080
Assets:			
Market Value	$ 11,929,236,420	$ 11,330,765,708	$ 10,636,702,645
Actuarial Value	$ 12,593,751,330	$ 12,508,835,156	$ 11,922,965,860
Unfunded actuarial accrued liability	$ 20,483,858,607	$ 20,568,774,781	$ 20,387,369,150
Single Equivalent Amortization period (years)	24.6	24.6	25.2
Funded Ratio based on Actuarial Assets	38.1%	37.8%	36.9%
Funded Ratio based on Market Assets	36.1%	34.3%	32.9%
Actuarially Determined Employer Contribution (ADEC):			
For Fiscal Year Ending June 30, 2018	$ 1,443,110,000	$ 1,443,110,000	$ 1,443,110,000
For Fiscal Year Ending June 30, 2019	$ 1,568,886,000	$ 1,574,537,000	$ 1,574,537,000

2. Schedule A of this report presents the development of the actuarial value of assets. Schedule C details the actuarial assumptions and methods employed. Schedule E gives a summary of the benefit and contribution provisions of the plan.

SECTION II - ASSETS

1. As of June 30, 2017, the total market value of assets amounted to $11,929,236,420 as reported by the Comptroller's Office compared to $10,636,702,645 as of June 30, 2016. This represents an investment return of 13.82% for the fiscal year (which may be compared to the assumed investment return of 6.90%). The market value of assets as of June 30, 2017 includes $14,976,110 of receivables. The actuarial value of assets used for the current valuation was $12,593,751,330. Schedule A shows the development of the actuarial value of assets as of June 30, 2017.

2. Schedule B shows receipts and disbursements of the System for the two years preceding the valuation date and a reconciliation of the fund balances at market value.

SECTION III – CONTRIBUTIONS PAYABLE BY EMPLOYER

The following table shows the amount and rate of contribution payable by the employer as determined from the June 30, 2016 valuation for the 2018/2019 fiscal year and 2018/2019 fiscal year.

Contribution for	Fiscal Year Ending June 30,2018	Fiscal Year Ending June 30, 2019
A. Employer Normal Cost	$262,733,000	$245,705,000
B. Unfunded Actuarial Accrued Liabilities	$1,180,377,000	$1,328,832,000
C. Total (A. + B.)	$1,443,110,000	$1,574,537,000

SECTION IV – ACCOUNTING INFORMATION

Governmental Accounting Standards Board (GASB) has issued Statements No. 67 and 68 which replaces Statement No. 25 and 27 for plan years beginning after June 15, 2013. The information required under the new GASB Statements will be in separate reports. The following information is provided for informational purposes only.

1. The schedule of funding progress is shown below.

SCHEDULE OF FUNDING PROGRESS
(Dollar amounts in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b – a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b – a) / c)
6/30/2012	$9,744,986	$23,018,752	$13,273,766	42.3%	$3,354,682	395.7%
6/30/2013*	9,784,500	23,768,191	13,983,691	41.2	3,139,010	445.5
6/30/2014	10,584,795	25,505,610	14,920,815	41.5	3,487,577	427.8
6/30/2015*	11,375,781	26,255,513	14,879,732	43.3	3,592,204	414.2
6/30/2016	11,922,966	32,310,335	20,387,369	36.9	3,720,751	547.9
6/30/2017*	12,593,751	33,077,609	20,483,858	38.1	3,850,978	531.9

*Roll forward valuation.

2. The following shows the schedule of employer contributions (all dollar amounts are in thousands).

Fiscal Year Ending June 30	Valuation Date Ending June 30	Actuarially Determined Employer Contribution	Actual Contribution	Percentage Contributed
2014	2012	$ 1,268,935	$ 1,268,890	100.0%
2015	2012	1,379,189	1,371,651	99.5
2016	2014	1,514,467	1,501,805	99.2
2017	2014	1,569,142	1,542,298	98.3
2018	2016	1,443,110	N/A	N/A
2019	2016	1,574,537	N/A	N/A

3. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2017. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2017
Actuarial cost method	Entry Age Normal
Amortization method	Level percent of payroll, closed 5 year phase into level dollar
Remaining amortization period	24.6 years
Asset valuation method	5-year smoothed actuarial value
Actuarial assumptions:	
Investment rate of return*	6.90%
Projected salary increases*	3.50% - 19.50%
Cost-of-living adjustments	1.95% - 3.25%
Social Security Wage Base	3.50%
*Includes inflation at	2.50%

SCHEDULE A

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

			June 30, 2017	June 30, 2016
(1)	Actuarial Value Beginning of Year*		$11,922,965,860	$11,389,603,128
(2)	Market Value End of Year**		11,929,236,420	10,636,702,645
(3)	Market Value Beginning of Year		10,636,702,645	10,737,492,074
(4)	Cash Flow			
	(a)	Contributions**	1,689,831,551	1,652,823,497
	(b)	Disbursements	(1,855,686,907)	(1,736,278,654)
	(c)	Net: (4)(a) + (4)(b)	(165,855,356)	(83,455,157)
(5)	Investment Income			
	(a)	Market Total: (2) – (3) – (4)(c)	1,458,389,131	(17,334,272)
	(b)	Assumed Rate	6.90%	8.00%
	(c)	Amount for Immediate Recognition: [(1) x (5)(b)] + [(4)(c) less Receivable**] x (5)(b) x 0.5	816,445,959	907,190,445
	(d)	Amount for Phased-In Recognition: (5)(a) – (5)(c)	641,943,172	(924,524,717)
(6)	Phased-In Recognition of Investment Income			
	(a)	Current Year: (5)(d) x 0.20	128,388,634	(184,904,943)
	(b)	First Prior Year	(184,904,943)	(97,094,920)
	(c)	Second Prior Year	(97,094,920)	132,860,369
	(d)	Third Prior Year	132,860,369	40,945,727
	(e)	Fourth Prior Year	40,945,727	(182,178,789)
	(f)	Total Recognized Investment Gain	20,194,867	(290,372,556)
(7)	Preliminary Actuarial Value End of Year: (1) + (4)(c) + (5)(c) + (6)(f)		12,593,751,330	11,922,965,860
(8)	Final Actuarial Value End of Year Using 20% Corridor: Greater of [(7) and .8 x (2)], but no more than 1.2 x (2)		12,593,751,330	11,922,965,860
(9)	Difference Between Market & Actuarial Values: (2) – (8)		$(664,514,910)	$(1,286,263,215)
(10)	Rate of Return on Preliminary Actuarial Value		6.94%	5.30%

* Before corridor constraints, if applicable.
** Includes receivables of: $14,976,110 at 6/30/2017 and $15,989,968 at 6/30/2016.

SCHEDULE B

SUMMARY OF RECEIPTS AND DISBURSEMENTS
(Market Value)

	YEAR ENDING	
Receipts for the Year	June 30, 2017	June 30, 2016
Contributions:		
Members	$ 132,557,554	$ 135,028,539
State	1,253,898,621	1,218,966,824
Federal (Net of Transfers)	288,399,266	282,838,166
Subtotal	$ 1,674,855,441	$ 1,636,833,529
Amount Receivable	14,976,110	15,989,968
Investment Earnings (net of expenses)	1,458,389,131	(17,334,272)
TOTAL	$ 3,148,220,682	$ 1,635,489,225
Disbursements for the Year		
Benefit Payments	$ 1,845,261,975	$ 1,729,181,426
Refunds to Members	5,551,507	4,036,909
Expenses	4,873,425	3,060,319
TOTAL	$ 1,855,686,907	$ 1,736,278,654
Excess of Receipts over Disbursements	$ 1,292,533,775	$ (100,789,429)
Reconciliation of Asset Balances		
Asset Balance as of the Beginning of Year	$ 10,636,702,645	$ 10,737,492,074
Excess of Receipts over Disbursements	1,292,533,775	(100,789,429)
Asset Balance as of the End of Year	$ 11,929,236,420	$ 10,636,702,645
Rate of Return	13.82%	(0.16)%

SCHEDULE C

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

Adopted or reaffirmed by the Commission for the June 30, 2016 and later valuations.

VALUATION INTEREST RATE: 6.90% per annum, compounded annually, net of expenses.

SALARY INCREASES: From the Framework Document between the State and SEBAC, we have assumed the rate of wage inflation is 0.00% for fiscal years ending June 30, 2017, 2018 and 2019 for each active member. In addition, we have reduced the rate of increase by one half due to promotion and merit over this same three-year period. Once this three-year period is complete, the assumptions for salary increases are as follows:

Years of Service	Rate*
0	9.50%
1	19.50%
2	9.50%
3	5.75%
4	5.50%
5	5.25%
6	5.00%
7	5.00%
8	5.00%
9	5.00%
10	4.50%
11	4.50%
12	4.50%
13	4.50%
14	4.50%
15+	3.50%

*includes Wage Inflation of 3.50%

COST OF LIVING ADJUSTMENTS (COLA):

Group	Rate
Pre July 1, 1980 Retirees	3.25%
July 1, 1980 – June 30, 1997 Retirees	3.00%
July 1, 1997 – October 1, 2011 Retirees	2.60%
Post October 1, 2011 Retirees	2.25%
Post July 1, 2022 Retirees	1.95%

We have also assumed a COLA moratorium for those retiring on or after July 1, 2022 for the first 30 months of retirement. We assume the first COLA received is increased by 0.15% to reflect the possible additional COLA in the event the annualized rate of increase in the CPI-W is greater than 5.5% during the first 18 months of retirement.

SOCIAL SECURITY WAGE BASE INCREASES: 3.50% per annum.

PAYROLL GROWTH ASSUMPTION: 3.50% per annum.

SEPARATIONS BEFORE SERVICE RETIREMENT: Representative values of the assumed annual rates of separation before service retirement are as follows:

WITHDRAWAL

Annual Rates of Withdrawal								
	Years of Service							
Age	0	1	2	3	4	5	6-9	10+
Hazardous Males								
20	6.00%	3.00%	6.00%	3.00%	2.75%	2.00%	1.25%	1.25%
25	6.00	3.00	6.00	3.00	2.75	2.00	1.25	1.25
30	6.00	3.00	4.00	3.00	2.75	2.00	1.25	1.25
35	6.00	3.00	4.00	3.00	2.00	2.00	1.25	1.25
40	8.75	3.00	4.00	3.50	2.00	2.50	1.25	1.25
45	8.75	4.00	4.00	3.50	2.00	2.50	1.25	1.25
50	8.75	5.50	4.00	3.50	2.00	2.50	1.25	1.25
55+	8.75	6.00	4.00	3.50	2.00	2.50	1.25	1.25
Hazardous Females								
20	10.00%	10.00%	5.00%	2.50%	3.00%	3.50%	2.50%	1.25%
25	10.00	10.00	5.00	2.50	3.00	3.50	2.50	1.25
30	12.00	6.00	5.00	2.50	3.00	3.50	2.50	1.25
35	12.00	5.00	6.00	2.50	4.00	3.50	2.50	1.25
40	12.00	5.00	6.00	2.00	4.00	3.50	2.50	1.25
45	12.00	5.00	5.00	2.00	4.00	3.50	2.50	1.25
50	12.00	8.00	5.00	2.00	4.00	3.50	2.50	1.25
55+	12.00	8.00	5.00	2.00	4.00	3.50	2.50	1.25
Nonhazardous Males								
20	45.0%	40.0%	40.0%	20.0%	20.0%	10.0%	6.0%	5.0%
25	30.0	28.0	19.0	10.0	7.0	10.0	6.0	5.0
30	22.0	20.0	14.0	9.0	6.0	7.0	4.5	5.0
35	20.0	15.0	14.0	8.0	6.0	4.0	4.0	3.0
40	20.0	15.0	10.0	8.0	6.0	4.0	4.0	2.5
45	22.0	12.0	10.0	8.0	6.0	4.0	4.0	2.0
50	22.0	12.0	10.0	8.0	5.0	4.0	4.0	2.0
55+	25.0	19.0	10.0	8.0	4.0	4.0	3.5	2.0
Nonhazardous Females								
20	45.0%	45.0%	45.0%	20.0%	8.0%	10.0%	6.0%	4.0%
25	25.0	23.0	15.0	12.0	8.0	10.0	6.0	4.0
30	20.0	19.0	12.0	9.0	7.0	6.0	5.0	4.0
35	18.0	13.0	11.0	8.0	6.0	5.0	4.0	3.0
40	18.0	13.0	10.0	8.0	5.5	4.0	3.5	2.5
45	18.0	13.0	10.0	6.0	5.5	4.0	3.0	2.5
50	18.0	13.0	10.0	6.0	5.5	4.0	3.0	2.0
55+	18.0	13.0	10.0	6.0	5.5	4.0	3.0	2.0

DISABILITY

Annual Rates of Disability		
Age	**Hazardous**	**Non-Hazardous**
30	0.05%	0.04%
35	0.12	0.05
40	0.18	0.10
45	0.35	0.12
50	0.40	0.20
55	0.50	0.40
60	0.65	0.50
65	0.80	0.60
70	1.35	0.60

RETIREMENT: The assumed annual rates of retirement are shown below.

Annual Rates of Retirement			
Hazardous			
Age	Tier I, II & IIA		Tier III
	First Year Eligible	All Years After	
40	50%	50%	20%
41	30	40	20
42	30	35	20
43	30	30	20
44	30	25	20
45	40	25	20
46	40	25	20
47	40	25	20
48	40	15	20
49	40	15	20
50	40	20	20
51	40	20	20
52	40	20	20
53	40	25	20
54	40	25	20
55	40	25	20
56	40	25	20
57	40	15	20
58	40	25	20
59	40	20	20
60-64	50	30	20
65-69	50	50	20
70-79	100	30	20
80	100	100	100

Annual Rates of Retirement									
Nonhazardous									
Age	Tier I			Tier II & IIA			Tier III		
	Early	First Year	Other Years	Early	First Year	Other Years	Early	First Year	Other Years
55	6.0%	28.0%		4.5%					
56	6.0	10.0	15.0%	4.0					
57	6.0	10.0	12.5	4.0					
58	6.0	10.0	10.0	4.0			5.0%		
59	6.0	10.0	10.0	4.0			7.0		
60		12.5	12.5	4.0	13.5%		9.0		
61		15.0	12.5	4.0	15.0	13.0%	10.0		
62		10.0	20.0		15.0	24.0	12.0		
63		35.0	15.0		15.0	15.0	12.0	32.0%	
64		45.0	10.0		15.0	15.0	12.0	30.0	30.0%
65		65.0	15.0		25.0	15.0		28.0	25.0
66		65.0	20.0		25.0	21.0		25.0	35.0
67		65.0	22.0		25.0	24.0		25.0	35.0
68		65.0	15.0		25.0	18.0		25.0	35.0
69		65.0	15.0		25.0	18.0		25.0	30.0
70		100.0	15.0		50.0	20.0		50.0	30.0
71		100.0	15.0		50.0	24.0		50.0	30.0
72		100.0	15.0		50.0	22.0		50.0	30.0
73		100.0	15.0		50.0	22.0		50.0	30.0
74		100.0	15.0		50.0	22.0		50.0	30.0
75		100.0	15.0		100.0	22.0		100.0	30.0
76		100.0	15.0		100.0	25.0		100.0	30.0
77		100.0	15.0		100.0	22.0		100.0	30.0
78		100.0	15.0		100.0	25.0		100.0	30.0
79		100.0	15.0		100.0	22.0		100.0	30.0
80		100.0	100.0		100.0	100.0		100.0	100.0

We have assumed that the assumed rate of retirement will increase by 20% of the current assumed rates in the year before July 1, 2022 to reflect the potential behavior of future eligible members to avoid the July 1, 2022 COLA change and moratorium.

DEATHS AFTER RETIREMENT: The RP-2014 White Collar Mortality Table projected to 2020 by Scale BB at 100% for males and 95% for females is used for the period after retirement and for dependent beneficiaries. Representative values of the assumed annual rates of mortality are as follows:

Age	Males	Females	Age	Males	Females
40	0.043%	0.031%	65	0.705%	0.579%
45	0.067	0.052	70	1.133	0.933
50	0.272	0.194	75	1.943	1.553
55	0.384	0.250	80	3.407	2.688
60	0.501	0.348	85	6.247	4.826

In our opinion, the projection of the mortality rates with Scale BB provide a sufficient margin in the assumed rates of mortality to allow for additional improvement in mortality experience.

The RP-2014 Disabled Retiree Mortality Table at 65% for males and 85% for females is used for the period after disability.

ASSET METHOD: Actuarial Value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected value of assets, based on the assumed valuation rate of return. The amount recognized each year is 1/5 of the difference between market value and expected actuarial value. In addition, the actuarial value of assets cannot be less than 80% or more than 120% of the market value of assets.

VALUATION METHOD: Entry Age Normal cost method. See Schedule D for a brief description of this method.

IMPACT OF LONGLEY DECISION: Benefits for members retiring from service on or after the *Longley* decision date are assumed to increase by 0.084% as a result of the revised treatment of longevity pay. Retroactive application of *Longley* has been reflected in this valuation to the extent impacted retiree benefits have been recalculated.

SPOUSES: For members who have elected spouse coverage, husbands are assumed to be three years older than their wives.

PERCENT MARRIED: 80% of active members are assumed to be married with an average of two children who are on average age 12.

OTHER ASSUMPTIONS:

- 20% of Pre-Retirement deaths are assumed to be service related,
- 50% of Tier I Hazardous Employees are assumed to be State Police,
- To take into account State Police Supplemental Benefits and the offset of Workers Compensation, Social Security, and Non-Rehabilitation Earnings, the following minimum and maximum benefits as a percent of salary are assumed for disability benefits:

	Minimum	Maximum
Tier I State Police	60%	80%
All Other Members	40%	60%

SCHEDULE D

ACTUARIAL COST METHOD

The valuation is prepared on projected benefit basis, under which the present value of each member's expected benefits at retirement or death is determined, based on age, service and sex and using the interest rate assumed to be earned in the future (6.90% per annum). The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. Future salary increases are also anticipated. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members, beneficiaries and members entitled to deferred vested benefits to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.

The employer contributions required to support the benefits of SERS are determined following a level funding approach, and consist of a normal cost contribution and an unfunded actuarial accrued liability contribution. The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made for pension benefits to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.

The unfunded actuarial accrued liability is determined by subtracting the actuarial value of assets from the actuarial accrued liability. The UAAL is amortized according to the MOU between the State and SEBAC which established separate UAAL bases. Each base is rolled forward to the beginning of the fiscal year for which the amortization payment is applicable. The amortization amounts are adjusted with interest to the middle of the applicable fiscal year. The employer required contribution amount is the sum of the normal cost contribution and the UAAL amortization payment.

SCHEDULE E

SUMMARY OF MAIN SYSTEM PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

The Connecticut State Employees Retirement System (CT SERS) is a defined benefit pension plan established by the Connecticut General Assembly for the purpose of providing retirement allowances and other benefits for State employees in Connecticut, and their survivors and other beneficiaries.

Eligibility Requirements

Tier I	All State Employees, Elected Officials and their Appointees hired prior to July 1, 1984. Those employees hired between July 1, 1982 and January 1, 1984 could elect to move to Tier II.
Tier II	All State Employees, Elected Officials and their Appointees hired on or after July 1, 1984.
Tier IIA	All State Employees, Elected Officials and their Appointees hired on or after July 1, 1997.
Tier III	All State Employees, Elected Officials and their Appointees hired on or after July 1, 2011.
Tier IV	All State Employees, Elected Officials and their Appointees hired on or after July 1, 2017.

Final Average Earnings (FAE)

Tier I, II, and IIA	Average Salary of the three highest paid years of service. Effective January 1, 1986, no one year's earnings can be greater than 130% of the average of the two preceding years in calculating the Final Average Earnings.
Tier III and IV	Average Salary of the five highest paid years of service. No one year's earnings can be greater than 130% of the average of the two preceding years in calculating the Final Average Earnings.

Normal Retirement Benefit

Eligibility

Tier I Hazardous – 20 years of credited service.

Tier I Plans B and C – Earliest of age 55 with 25 years of service, age 60 with 10 years of service, or age 70 with 5 years of service.

Tier II Hazardous – 20 years of credited service.

Tier II and IIA – For those who will be eligible for retirement on or before July 1, 2022, 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.

For those who will not be eligible for retirement on or before July 1, 2022, the earliest of age 65 with 10 years of vesting service, age 63 with 25 years of vesting service, age 70 with 5 years of vesting service.

Tier III Hazardous – Earlier of Age 50 and 20 years of benefit service or 25 years of benefit service.

Tier III and IV – Age 63 and 25 years of benefit service or Age 65 and 10 years of benefit service.

Tier IV Hazardous – 25 years of benefit service.

Benefit

Tier I Hazardous – 50% of FAE plus 2% for each year of service in excess of 20.

Tier I Plan B – 2% of FAE times years of service up to age 65. Thereafter, 1% of FAE up to $4,800, plus 2% of FAE in excess of $4,800 times years of service. At age 70, greater of 1.25% of FAE up to $4,800 plus 2.5% of FAE in excess of $4,800 times years of service (maximum 20 years) or 1.0% of FAE up to $4,800 plus 2% of FAE in excess of $4,800 times year of service. Minimum benefit with 25 years is $833.34 per month.

Tier I Plan C – 2% of FAE times years of service. At age 70, greater of 2.5% of FAE times years of service (maximum 20 years) or 2.0% of FAE times years of service. Minimum benefit with 25 years is $833.34 per month.

Tier II,IIA, III and IV Hazardous – 2.5% of FAE times years of service up to 20 years plus 2.0% of FAE times years of service in excess of 20 years, if any. Minimum benefit with 25 years is $360 per month.

Tier II, IIA and III All Others – 1.40% of FAE plus 0.433% of FAE in excess of year's breakpoint*, times years of service from October 1, 1982 up to 35 years plus 1.625% of FAE times years of service in excess of 35 years, if any. Minimum benefit with 25 years if $360 per month.

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

Tier IV All Others – 1.30% of FAE times years of service. Minimum benefit with 25 years if $360 per month.

Early Retirement Benefit

Eligibility

Hazardous – None.

Tier I – Age 55 with 10 years of service.

Tier II and IIA – Age 55 with 10 years of service.

Tier III and IV – Age 58 with 10 years of service.

Benefit

Tier I – Benefit is Normal Retirement Benefit reduced for retirement prior to age 60 with less than 25 years of service.

Tier II, IIA, III and IV – Benefit is Normal Retirement Benefit reduced 0.25% (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.

For those who retire on or after October 2, 2011 but prior to meeting the age and service requirements for a normal retirement, will be subject to a benefit reduced by 0.50% for each month prior to Normal Retirement.

Disability Retirement Benefit

Tier I

For non-service disabilities occurring prior to age 60 with at least 5 years of service, benefit is 3% of FAE times years of service; maximum benefit is 1.667% of FAE times year of service projected to age 65.

For service disabilities occurring prior to age 60, benefit is 1.667% of Salary times years of service projected to age 65 (maximum 30 years).

Exception: State Police benefit is equal to the normal retirement benefit if more than 20 years of service. State Police also receives an additional benefit of $360 per month plus $300 to spouse plus $300 to a surviving dependent child.

Tier II, IIA, III and IV

Prior to age 65 for service related disability or at any age with at least 10 years of service, benefit is 1.333% of FAE plus 0.50% of FAE in excess of the year's breakpoint, times service projected to age 65 (maximum 30 years).

Deferred Vested Retirement Benefit

Eligibility	*Tier I* - 10 years of service. *Tier II and IIA* – Effective July 1, 1997, 5 years of actual state service, 10 years of vesting service, or age 70 with 5 years of service. *Tier III and IV* – 10 years of benefit service.
Benefit	*Tier I* – Benefit is payable at Normal Retirement Age or an Early Retirement Benefit is payable at age 55. *Tier II and IIA* – Benefit is payable at Normal Retirement Age or an Early Retirement Benefit is payable at age 55. *Tier III and IV* – Benefit is payable at Normal Retirement Age or an Early Retirement Benefit is payable at age 58.

Pre-Retirement Spouse's Benefit

Tier I	State Police – Survivor benefits to spouse of $670 per month plus $300 to a surviving dependent child. If eligible for early or normal retirement, 50% of the average of the Life Benefit and the 50% Joint & Survivor Benefit the member would have received. If not eligible for retirement but with 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 (5% interest).
Tier II, IIA, III and IV	If eligible for early or normal retirement, 50% of the 50% Joint & Survivor Benefit the member would have received. If not eligible for retirement but with 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 (5% interest).
Tiers I, II, IIA, III and IV	If death is due to employment and there are dependent children under age 18, spouse will be paid $100,000 in 10 annual installments while living and not remarried. In addition, $50 per month will be paid to each child while under age 18. If death is due to employment and there are no dependent children under age 18, spouse will be paid $50,000 in not less than 10 annual installments.

Payment Options

50% or 100% Joint and Survivor (Normal Form if married).
Straight life annuity (Normal Form if not married).
10 or 20 year certain and life annuity.

Cost of Living Adjustments (COLA)

Annual adjustments each July 1 of up to 5% for retirements prior to July 1, 1980; 3% for retirements after July 1, 1980. For members (and beneficiaries) not covered by Social Security and age 62 and over, the maximum increase is 6%.

For employees retiring after June 30, 1999, the annual adjustment will be 60% of the increase in 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 the above formula and a fixed 3% annual adjustment.

An employee from Tier IIA must have at least 10 years of actual state service or directly make the transition into retirement in order to be eligible for annual adjustments.

For employees retiring on or after October 2, 2011, the minimum COLA shall be 2.0% and the maximum COLA shall be 7.5%.

For employees retiring on or after July 1, 2022, the annual rate of increase will be the CPI-W from 0.00% to 2.00%, plus 60% of the annual rate of increase in CPI-W from 3.33% to 6.00%, plus 75% of the annual rate of increase in CPI-W above 6.00%, with a cap on the COLA rate of 7.50%. In addition, a COLA moratorium for those retiring on or after July 1, 2022 will be on the first 30 months of retirement. If rate of increase in CPI-W exceeds an annualized rate of 5.5% during the initial 18 month period of receiving retirement benefits, the COLA provided beginning with the 31st monthly benefit includes an additional adjustment based on the annual COLA rate as determined above using the annualized rate over the 18 month period. The COLA rate applied would but reduced by 2.5% and then multiplied by 1.5 to reflect the 18 month period.

Member Contributions*

Tier I – Hazardous	4% of earnings up to Social Security Taxable Wage Base plus 5% of earnings above that level.
Tier I – Plan B	2% of earnings up to Social Security Taxable Wage Base plus 5% of earnings above that level.
Tier I – Plan C	5% of earnings.
Tier II – Hazardous	4% of earnings.
Tier II – All Others	None.
Tier IIA & III – Hazardous	5% of earnings.
Tier IIA & III – All Others	2% of earnings.
Tier IV – Hazardous	8% of earnings.
Tier IV – All Others	5% of earnings.

* Increased for anyone electing to maintain retirement eligibility. In addition, there will be an increase to all non-Tier IV members contribution rates by 1.5% of earnings effective July 1, 2017 and an additional 0.5% of earnings effective July 1, 2019. In years where asset losses require further increases in contributions, Tier IV employees' contributions may increase by half the necessary increase in rates (up to 2.0%). Finally, all Tier IV employees must contribute 1% to the Defined Contributions (DC) portion of the Hybrid Plan and may elect additional contribution of up to 3% of salary to the DC portion.

Hybrid Defined Benefit/Defined Contribution Plan for Employees of Higher Learning

Individuals hired on or after July 1, 2011 otherwise eligible for the Alternate Retirement Plan ("ARP") shall be eligible to be members of the new Hybrid Plan in addition to their existing choices. Individuals who are currently members of the ARP shall be eligible to join the Hybrid Plan on a one time option at the full actuarial cost. The Hybrid Plan shall have defined benefits identical to Tier II/IIA and Tier III for individuals hired on or after July 1, 2011, but shall require employee contributions 3% higher than the contribution required from the Applicable Tier II/IIA/III Plan. An employee shall have the option, upon leaving state service, of accepting the defined benefit amount, or electing to receive a return of his/her contributions to the Hybrid Plan, plus a 5% employer match, plus 4% interest ("cash out option"). In the event the employee elects the cash out option, he/she shall permanently waive any entitlement they may have to health insurance as a retired state employee unless they convert the cash out option to a periodic payment as would be required under the current ARP Plan.