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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 Judges, Family Support Magistrates, and Compensation Commissioners 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, FCA, MAAA, EA
Principal and Consulting Actuary

JJG/EJK:kc

Enc.

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CONNECTICUT JUDGES, FAMILY SUPPORT MAGISTRATES, AND COMPENSATION COMMISSIONERS 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 Judges, Family Support Magistrates, and Compensation Commissioners Retirement System. 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 13.10%, which is greater 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 projected unit credit method. Gains and losses are reflected in the unfunded accrued liability which is being amortized as a level percent of payroll within a 14-year period. This period is based on the funding policy of SERS that amortizes the unfunded accrued liability over a declining period of years, starting with 40 years as of July 1, 1991.

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, FCA, MAAA, EA
Principal and Consulting Actuary

JJG/EJK:kc

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CONNECTICUT JUDGES, FAMILY SUPPORT MAGISTRATES, AND COMPENSATION COMMISSIONERS 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 Annual Required Employer Contributions 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			204
Annual compensation			$ 34,897,094
Retired members and beneficiaries:			
Number			250
Annual allowances			$ 23,173,136
Deferred Vested Members:			
Number			3
Annual allowances			$ 156,487
Assets:			
Market Value	$ 209,208,605	$ 200,604,276	$ 188,796,362
Actuarial Value	$ 219,362,890	$ 218,850,741	$ 209,860,326
Unfunded actuarial accrued liability	$ 229,835,881	$ 230,348,030	$ 223,742,554
Amortization period (years)	14	14	15
Funded Ratio based on Actuarial Assets	48.8%	48.7%	48.4%
Funded Ratio based on Actuarial Assets	46.6%	44.7%	43.5%
For Fiscal Year Ending	**June 30, 2019**	**June 30, 2019**	**June 30, 2018**
Actuarially Determined Employer Contribution (ADEC):			
Normal	$ 8,000,770	$ 8,000,770	$ 7,656,240
Accrued liability	19,383,517	19,426,710	17,801,670
Total	$ 27,384,287	$ 27,427,480	$ 25,457,910
Actuarially Determined Employer Contribution (ADEC) Rates:			
Normal	21.94%	21.94%	21.94%
Accrued liability	53.15%	53.27%	51.01%
Total	75.09%	75.21%	72.95%

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 $209,208,605 as reported by the Comptroller's Office compared to $188,796,362 as of June 30, 2016. This represents an investment return of 13.10% 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 $31,553 of receivables. The actuarial value of assets used for the current valuation was $219,362,890. 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.

Contribution for	Contribution Amount	Contribution Rate
A. Employer Normal Cost	$8,000,770	21.94%
B. Unfunded Actuarial Accrued Liabilities (15 year level percent of payroll amortization)	$19,426,710	53.27%
C. Total (A. + B.)	$27,427,480	75.21%

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

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)
6/30/2010	$179,739,926	$276,847,509	$97,107,583	64.9%	$31,601,530	307.3%
6/30/2012	174,672,426	319,520,146	144,847,720	54.7	30,308,176	477.9
6/30/2014	190,150,039	343,867,804	153,717,765	55.3	33,386,014	460.4
6/30/2015*	202,083,490	356,758,810	154,675,320	56.6	34,971,850	442.3
6/30/2016	209,860,326	433,602,880	223,742,554	48.4	34,897,094	641.1
6/30/2017*	219,362,890	449,198,771	229,835,881	48.8	36,467,463	630.2

*Roll forward valuation.

2. The following shows the schedule of employer contributions.

Fiscal Year Ending June 30	Valuation Date Ending June 30	Actuarially Determined Employer Contribution	Actual Contribution	Percentage Contributed
2014	2012	$ 16,298,488	$ 16,298,488	100.0%
2015	2012	17,731,131	17,731,131	100.0
2016	2014	18,258,707	18,258,707	100.0
2017	2014	19,163,487	19,163,487	100.0
2018	2016	25,457,910	N/A	N/A
2019	2016	27,383,492	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
Remaining amortization period	14 years
Asset valuation method	5-year smoothed actuarial value
Actuarial assumptions:	
Investment rate of return	6.90%
Projected salary increases	4.50%
Cost-of-living adjustments	2.30% - 4.75%

SCHEDULE A

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

			June 30, 2017	June 30, 2016
(1)	Actuarial Value Beginning of Year*		$209,860,326	$202,077,730
(2)	Market Value End of Year		209,208,605	188,796,362
(3)	Market Value Beginning of Year		188,796,362	189,542,306
(4)	Cash Flow			
	(a)	Contributions	20,852,679	20,090,047
	(b)	Disbursements	(24,898,762)	(22,993,890)
	(c)	Net: (4)(a) + (4)(b)	(4,046,083)	(2,903,843)
(5)	Investment Income			
	(a)	Market Total: (2) – (3) – (4)(c)	24,458,326	2,157,899
	(b)	Assumed Rate	6.90%	8.00%
	(c)	Amount for Immediate Recognition: [(1) x (5)(b)] + (4)(c) x (5)(b) x 0.491660	14,343,101	16,052,299
	(d)	Amount for Phased-In Recognition: (5)(a) – (5)(c)	10,115,225	(13,894,400)
(6)	Phased-In Recognition of Investment Income			
	(a)	Current Year: (5)(d) x 0.20	2,023,045	(2,778,880)
	(b)	First Prior Year	(2,778,880)	(2,062,609)
	(c)	Second Prior Year	(2,062,609)	1,823,326
	(d)	Third Prior Year	1,823,326	200,664
	(e)	Fourth Prior Year	200,664	(2,548,361)
	(f)	Total Recognized Investment Gain	(794,454)	(5,365,860)
(7)	Preliminary Actuarial Value End of Year: (1) + (4)(c) + (5)(c) + (6)(f)		219,362,890	209,860,326
(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)		219,362,890	209,860,326
(9)	Difference Between Market & Actuarial Values: (2) – (8)		$(10,154,285)	$(21,063,964)
(10)	Rate of Return on Preliminary Actuarial Value		6.52%	5.33%

* Before corridor constraints, if applicable.

SCHEDULE B

SUMMARY OF RECEIPTS AND DISBURSEMENTS
(Market Value)

	YEAR ENDING	
Receipts for the Year	June 30, 2017	June 30, 2016
Contributions:		
Members	$ 1,689,192	$ 1,831,340
Employer	19,163,487	18,258,707
Subtotal	$ 20,852,679	$ 20,090,047
Investment Earnings	24,458,326	2,157,899
TOTAL	$ 45,311,005	$ 22,247,946
Disbursements for the Year		
Benefit Payments	$ 24,887,362	$ 22,989,890
Refunds to Members	0	0
Administrative Expenses	11,400	4,000
TOTAL	$ 24,898,762	$ 22,993,890
Excess of Receipts over Disbursements	$ 20,412,243	$ (745,944)
Reconciliation of Asset Balances		
Asset Balance as of the Beginning of Year	$ 188,796,362	$ 189,542,306
Excess of Receipts over Disbursements	20,412,243	(745,944)
Asset Balance as of the End of Year	$ 209,208,605	$ 188,796,362
Rate of Return	13.10%	1.15%

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: 4.50% at all ages.

COST OF LIVING ADJUSTMENTS:

Group	Rate
Hired prior to January 1, 1981 and retired prior to October 2, 2011	4.50%
Hired on or after January 1, 1981 and retired prior to October 2, 2011	2.60%
Retired on or after October 2, 2011	2.30%
All surviving spouses of active or retired members	2.30%

PAYROLL GROWTH ASSUMPTION: 4.50% per annum.

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

WITHDRAWAL: None.

DISABILITY: 30% of 1975 Social Security Table

RETIREMENT: 50% are assumed to retire at later of age 65 and 10 years of service. The remaining actives are assumed to retire at age 70.

DEATHS AFTER RETIREMENT: The RP-2014 White Collar Mortality Table projected with Scale BB to 2020 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	Men	Women	Age	Men	Women
40	.043%	.031%	65	0.705%	0.579%
45	.067	.052	70	1.133	0.933
50	.272	.194	75	1.943	1.553
55	.384	.250	80	3.407	2.688
60	.501	.348	85	6.247	4.826

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

The RP-2014 Disability Retiree Mortality Table at 65% (males) and 85% (female) 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 E for a brief description of this method.

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.

SCHEDULE D

ACTUARIAL COST METHOD

1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 6.90%), of each active member's expected benefit at retirement or death is determined, based on his age, service, sex and compensation. 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 and beneficiaries and inactive members to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.

2. The employer contributions required to support the benefits of the System are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.

3. The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made 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.

4. The unfunded accrued liability is determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets held, from the present value of expected benefits to be paid from the System.

SCHEDULE E

SUMMARY OF MAIN SYSTEM PROVISIONS
AS INTERPRETED FOR VALUATION PURPOSES

The Connecticut Judges, Family Support Magistrates, and Compensation Commissioners Retirement System (CT JFSMCCRS) is a defined benefit pension plan established by the Connecticut General Assembly for the purpose of providing retirement allowances and other benefits for Judges, Family Support Magistrates, and Compensation Commissioners in Connecticut, and their survivors and other beneficiaries.

Eligibility Requirements

Any appointed Judge, Family Support Magistrate, or Compensation Commissioner of the State of Connecticut.

Final Average Compensation

For members hired prior to July 1, 2011, salary of office;
For members hired on or after July 1, 2011, Average annual salary for 5 years preceding retirement;

plus longevity payments based on service as follows:

Completed Years of Service	Annual Longevity as % of Compensation
0-9	0.0%
10-14	1.5%
15-19	3.0%
20-24	4.5%
25 or more	6.0%

Normal Retirement Benefit

Eligibility

For those who retire before July 1, 2022, the earliest of age 65 or 20 years of service or 30 years of total state service with at least 10 years as a Judge, Family Support Magistrate or Compensation Commissioner.

For those who retire on or after July 1, 2022, the earliest of age 65 with 10 years of vesting service, age 63 with 25 years of vesting service, or 30 years of vesting service.

Retirement is mandatory at age 70.

Benefit

66.67% of Final Average Compensation reduced for less than 10 years of service by a ratio of the number of years of completed service to the number of years of service which would have been completed at age 70, or 10 years, whichever is less.

Disability Retirement Benefit

Any member becoming permanently disabled is entitled to 66.67% of Final Average Compensation commencing upon determination of disability.

Death Benefit

The spouse of any member who was hired before January 1, 1981 and dies in active service or after retirement is entitled to 33.33% of the final compensation of the member at time of death commencing the first of the month after death.

The spouse of any member who was hired on or after January 1, 1981 and dies in active service is entitled to 33.33% of the final compensation of the member at time of death commencing the first of the month after death.

The spouse of any member who was hired on or after January 1, 1981 and who dies after retirement is entitled to 50% of the monthly benefit of the member at the time of death.

The spouse of any member who dies after leaving active service and before retirement is entitled to 50% of the benefit the member would have received upon retirement commencing when the member would have been eligible.

Deferred Vested Retirement Benefit

Eligibility

10 years of service.

Benefit

Members hired before 1981 who resign on or before October 1, 2011 – 50% of the retirement benefit at 10 years increasing to 100% after 15 years.

Members hired before 1981 who resign on or after October 2, 2011 – *100*% of the retirement benefit multiplied by the ratio of service at termination to projected service at the earliest retirement age (the earlier of age 65 or 20 years of service).

Members hired on or after January 1, 1981 – 100% of the retirement benefit multiplied by the ratio of service at termination to projected service at the earliest retirement age (the earlier of age 65 or 20 years of service).

Commencement

For members who resign on or before October 1, 2011 - Benefits shall commence upon the attainment of the earlier of age 65 or the attainment of 20 years of service (assuming the member had remained in service).

For members hired before 1981 who resign on or after October 2, 2011 – Benefits shall commence no earlier than at age 62.

For members hired on or after January 1, 1981 who resign on or after October 2, 2011 – Benefits shall commence no earlier than at age 65.

Cost of Living Adjustments

For members hired prior to 1981 and retire prior to October 2, 2011, benefits are increased in line with current compensation of an active member in the same position.

For members hired on or after January 1, 1981 and retire prior to October 2, 2011, benefits are increased in line with a cost of living index, not to exceed 3% per year.

For members retiring on or after October 2, 2011 and all surviving spouses, the annual adjustment will be 60% of the increase in CPI up to 6% and 75% of the increase in the CPI over 6%. The minimum COLA shall be 2.0% and the maximum COLA shall be 7.5%.

Member Contributions

Members contribute 5% of annual compensation. Upon withdrawal prior to benefit eligibility, contributions are refunded without interest.