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CONSULTING, LLC

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October 12, 2015

Ms. Brenda Halpin, Director  
State of Connecticut  
Office of the State Comptroller  
Retirement Services Division  
55 Elm Street  
Hartford, CT 06106

Dear Brenda:

Enclosed is the "Connecticut Judges, Family Support Magistrates, and Compensation Commissioners Retirement System Roll Forward Actuarial Valuation Report prepared as of June 30, 2015".

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, 2015**





# Cavanaugh Macdonald

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October 12, 2015

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, 2015. The investment performance for the fiscal year ending June 30, 2015 was unfavorable. The fund returned 2.56%, which is lower than the 8.00% that is assumed. We have not performed a reconciliation of census data or development of liabilities as of June 30, 2015. We use roll forward techniques from the June 30, 2014 biennial valuation to best estimate what payroll and liabilities will be as of June 30, 2015. 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 unfavorable investment experience show that it could be expected that the required employer rate would be slightly more 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 an 16-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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Members of the Commission  
October 12, 2015  
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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 undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Sincerely yours,

A handwritten signature in blue ink, appearing to read 'John J. Garrett', with a stylized, cursive script.

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

A handwritten signature in blue ink, appearing to read 'Edward J. Koebel', with a stylized, cursive script.

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, 2015**

**SECTION I - SUMMARY OF PRINCIPAL RESULTS**

1. For convenience of reference, the principal results of the 2015 roll forward valuation and the two fiscal year's Annual Required Employer Contributions as determined in the 2014 biennial valuation are summarized below:

Valuation Date	June 30, 2015 Roll Forward Valuation	June 30, 2015 Projected from 2014 Valuation	June 30, 2014
Number of active members			212
Annual compensation			\$ 33,386,014
Retired members and beneficiaries:			
Number			250
Annual allowances			\$ 22,505,636
Deferred Vested Members:			
Number			4
Annual allowances			\$ 267,965
Assets:			
Market Value	\$ 189,542,306	\$ 198,320,974	\$ 187,780,001
Actuarial Value	\$ 202,083,490	\$ 202,607,486	\$ 190,150,039
Unfunded actuarial accrued liability	\$ 154,675,320	\$ 154,151,324	\$ 153,717,765
Amortization period (years)	16	16	17
Funded Ratio	56.6%	56.8%	55.3%
<b>For Fiscal Year Ending</b>	<b>June 30, 2017</b>	<b>June 30, 2017</b>	<b>June 30, 2016</b>
Actuarially Determined Employer Contribution (ADEC):			
Normal	\$ 6,794,886	\$ 6,794,886	\$ 6,486,764
Accrued liability	<u>12,410,645</u>	<u>12,368,601</u>	<u>11,771,943</u>
Total	\$ 19,205,531	\$ 19,163,487	\$ 18,258,707
Actuarially Determined Employer Contribution (ADEC) Rates:			
Normal	19.43%	19.43%	19.43%
Accrued liability	<u>35.49%</u>	<u>35.37%</u>	<u>35.26%</u>
Total	54.92%	54.80%	54.69%



- 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**

- As of June 30, 2015, the total market value of assets amounted to \$189,542,306 as reported by the Comptroller's Office compared to \$187,780,001 as of June 30, 2014. This represents an investment return of 2.56% for the fiscal year (which may be compared to the assumed investment return of 8.00%). The market value of assets as of June 30, 2015 includes \$7,618 of receivables. The actuarial value of assets used for the current valuation was \$202,083,490. Schedule A shows the development of the actuarial value of assets as of June 30, 2015.
- 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, 2014 valuation for the 2016/2017 fiscal year.

Contribution for	Contribution Amount	Contribution Rate
A. Employer Normal Cost	\$6,794,886	19.43%
B. Unfunded Actuarial Accrued Liabilities (16 year level percent of payroll amortization)	\$12,368,601	35.37%
C. Total (A. + B.)	\$19,163,487	54.80%



**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.

- The schedule of funding progress is shown below.

**SCHEDULE OF FUNDING PROGRESS\***

<u>Actuarial Valuation Date</u>	<u>Actuarial Value of Assets (a)</u>	<u>Actuarial Accrued Liability (AAL) - PUC (b)</u>	<u>Unfunded AAL (UAAL) (b - a)</u>	<u>Funded Ratio (a / b)</u>	<u>Covered Payroll (c)</u>	<u>UAAL as a Percentage of Covered Payroll ((b - a) / c)</u>
6/30/2007	\$182,392,291	\$261,215,588	\$78,823,297	69.8%	\$33,756,727	233.5%
6/30/2008	191,718,630	267,015,883	75,297,253	71.8	33,982,381	221.6
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

\*All figures prior to 6/30/2010 were reported by the prior actuarial firm.

\*\*Roll forward valuation.

- The following shows the schedule of employer contributions.

<u>Fiscal Year Ending June 30</u>	<u>Valuation Date Ending June 30</u>	<u>Actuarially Determined Employer Contribution</u>	<u>Actual Contribution</u>	<u>Percentage Contributed</u>
2012	2010	\$ 15,095,489	\$ 15,095,489	100.0%
2013	2010	16,005,904	16,005,904	100.0
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	N/A	N/A
2017	2014	19,163,487	N/A	N/A





3. The information presented in the required supplementary schedules was determined as part of the actuarial valuation at June 30, 2015. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2015
Actuarial cost method	Projected Unit Credit
Amortization method	Level percent of payroll, closed
Remaining amortization period	16 years
Asset valuation method	5-year smoothed actuarial value
Actuarial assumptions:	
Investment rate of return*	8.00%
Projected salary increases*	4.75%
Cost-of-living adjustments	2.30% - 4.75%
*Includes inflation at	3.75%



**SCHEDULE A**

**DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS**

	June 30, 2015	June 30, 2014
(1) Actuarial Value Beginning of Year*	\$190,150,039	\$177,320,690
(2) Market Value End of Year	189,542,306	187,780,001
(3) Market Value Beginning of Year	187,780,001	168,353,246
(4) Cash Flow		
(a) Contributions	19,522,374	17,939,066
(b) Disbursements	<u>(22,540,620)</u>	<u>(21,668,299)</u>
(c) Net: (4)(a) + (4)(b)	(3,018,246)	(3,729,233)
(5) Investment Income		
(a) Market Total: (2) – (3) – (4)(c)	4,772,933	23,155,988
(b) Assumed Rate	8.00%	8.00%
(c) Amount for Immediate Recognition: [(1) x (5)(b)] + (4)(c) x (5)(b) x 0.490092	15,091,273	14,039,356
(d) Amount for Phased-In Recognition: (5)(a) – (5)(c)	(10,318,340)	9,116,632
(6) Phased-In Recognition of Investment Income		
(a) Current Year: (5)(d) x 0.20	(2,063,668)	1,823,326
(b) First Prior Year	1,823,326	200,664
(c) Second Prior Year	200,664	(2,548,361)
(d) Third Prior Year	(2,548,361)	2,440,845
(e) Fourth Prior Year	<u>2,440,845</u>	<u>602,752</u>
(f) Total Recognized Investment Gain	(147,194)	2,519,226
(7) Preliminary Actuarial Value End of Year: (1) + (4)(c) + (5)(c) + (6)(f)	202,083,490	190,150,039
(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)	202,083,490	190,150,039
(9) Difference Between Market & Actuarial Values: (2) – (8)	\$(12,541,184)	\$(2,370,038)
(10) Rate of Return on Preliminary Actuarial Value	7.92%	9.44%

\* Before corridor constraints, if applicable.



**SCHEDULE B**

**SUMMARY OF RECEIPTS AND DISBURSEMENTS  
(Market Value)**

	YEAR ENDING	
	June 30, 2015	June 30, 2014
<u>Receipts for the Year</u>		
Contributions:		
Members	\$ 1,791,243	\$ 1,640,578
Employer	<u>17,731,131</u>	<u>16,298,488</u>
Subtotal	\$ 19,522,374	\$ 17,939,066
Investment Earnings	<u>4,780,551</u>	<u>23,155,988</u>
TOTAL	\$ 24,302,925	\$ 41,095,054
<u>Disbursements for the Year</u>		
Benefit Payments	\$ 22,540,620	\$ 21,668,299
Refunds to Members	<u>0</u>	<u>0</u>
TOTAL	\$ 22,540,620	\$ 21,668,299
<u>Excess of Receipts over Disbursements</u>	\$ 1,762,305	\$ 19,426,755
<u>Reconciliation of Asset Balances</u>		
Asset Balance as of the Beginning of Year	\$ 187,780,001	\$ 168,353,246
Excess of Receipts over Disbursements	<u>1,762,305</u>	<u>19,426,755</u>
Asset Balance as of the End of Year	\$ 189,542,306	\$ 187,780,001
Rate of Return	2.56%	13.91%



**SCHEDULE C**

**OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS**

Adopted or reaffirmed by the Commission for the June 30, 2012 and later valuations.

**VALUATION INTEREST RATE:** 8.00% per annum, compounded annually, net of expenses.

**SALARY INCREASES:** 4.75% at all ages.

**COST OF LIVING ADJUSTMENTS:**

Group	Rate
Hired prior to January 1, 1981 and retired prior to October 2, 2011	4.75%
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:** 4.75% 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 RP2000 Mortality Table for Annuitants and Non-Annuitants projected with Scale AA 15 years for men (set back 2 years) and 25 years for women (set back 1 year) 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	.086%	.044%	65	0.810%	0.760%
45	.107	.069	70	1.425	1.311
50	.142	.101	75	2.460	2.083
55	.219	.198	80	4.483	3.482
60	.414	.392	85	8.075	5.981

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

55% (men) and 80% (women) of the RP-2000 Disability Mortality Table 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:** Projected Unit Credit 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**

The valuation is prepared on a projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently 8.00%), of each member's expected benefits at retirement or death is determined, based on age, service and sex. 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 Projected Unit Credit cost method is used to develop employer contributions. The employer contributions required to support the benefits of the System consist of a normal contribution and an unfunded actuarial accrued liability contribution.

The Actuarial Accrued Liability is determined as the present value of benefits accrued to the valuation date, where the accrued benefit for each active member is the pro-rata portion (based on service to the valuation date) of the projected benefit payable at termination, death, disability or retirement. The Actuarial Accrued Liability for deferred vested and inactive members is the present value as of the valuation date of their remaining benefit payments.

The normal contribution is determined as the present value of the portion of the projected benefit attributable to the year following the valuation date.

The Unfunded Actuarial Accrued Liability is determined by subtracting the Actuarial Value of Assets from the Actuarial Accrued Liability.



**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.