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November 13, 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 Municipal Employees 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, EA, FCA, MAAA
Principal and Consulting Actuary

JG/KC

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Cavanaugh Macdonald
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CONNECTICUT MUNICIPAL EMPLOYEES RETIREMENT SYSTEM

ROLL FORWARD ACTUARIAL VALUATION REPORT PREPARED AS OF JUNE 30, 2015

www.CavMacConsulting.com

November 13, 2015

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

Members of the Commission:

Connecticut General Statutes Section 7-113 governs the operation of the Connecticut Municipal Employees Retirement System (MERS). At the direction of the Commission, the actuary provides a roll forward valuation of the Retirement System as an informational update to the projected required employer contribution amount from the 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 2.41%, 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 show that it could be expected that the required employer rate for the 2017 fiscal year would be slightly more than the rate determined in the last actuarial valuation of the System. **However, for purposes of actual employer contribution rates, we recommend that the municipalities use the same contribution rates as determined in the June 30, 2014 actuarial valuation.**

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 cost method. Gains and losses are reflected in the unfunded accrued liability which is being amortized as a level dollar within a 24-year period. This period is based on the funding policy of MERS that amortizes the unfunded accrued liability over a declining period of years, starting with 30 years as of July 1, 2009.

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.

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,

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

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

JG/KC

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CONNECTICUT MUNICIPAL EMPLOYEES 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 2014 biennial valuation are summarized below. **The rates provided under the roll forward results are for information purposes only. It is recommended that the same employer contribution rates for the fiscal year ending June 30, 2016 be used for the fiscal year ending June 30, 2017.**

Valuation Date	June 30, 2015 Roll Forward Valuation (for Information Purposes Only)	June 30, 2014
Number of active members		8,477
Annual compensation		$ 485,744,690
Retired members and beneficiaries:		
Number		6,511
Annual allowances		$ 122,738,974
Assets:		
Market Value	$ 2,208,131,038	$ 2,218,690,951
Actuarial Value	$ 2,330,421,317	$ 2,196,158,332
Funded Ratio	87.8%	87.8%
Unfunded Accrued Liability	$ 323,966,671	$ 304,681,183
Present Value of Remaining Prior Service Amortization Payment	$ 108,643,389	$ 100,205,138
Net Unfunded Accrued Liability	$ 215,323,282	$ 204,470,045
For Fiscal Year Ending	**Informational Only**	**June 30, 2016 & 2017**
Employer Contribution Rates:		
General Employees		
With Social Security	11.56%	11.38%
Without Social Security	11.13%	10.91%
Police and Fire		
With Social Security	17.06%	16.73%
Without Social Security	15.12%	14.98%

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, 2015, the total market value of assets amounted to $2,208,131,038 as reported by the Comptroller's Office. After the final audit of last year's market value of assets, the June 30, 2014 market value of assets was adjusted from $2,218,690,951 to $2,163,518,857. This increase in the market value of assets from last year to this year represents an investment return of 2.41% 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 $3,112,448 of receivables. The actuarial value of assets used for the current valuation was $2,330,421,317. Schedule A shows the development of the actuarial value of assets as of June 30, 2015.

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, 2014 valuation for the 2016/2017 fiscal year. Again, these rates are those developed in the 2014 valuation and we do not recommend any changes due to the roll forward of the valuation results. Also, the contribution rates below do not include the annual prior service amortization payments that are applicable to the 2016-2017 fiscal year.

	2016-2017 Fiscal Year		
Contribution for	**Employer Normal Cost Rate**	**Amortization of Net Unfunded Accrued Liability**	**Total Employer Contribution Rate**
General Employees:			
With Social Security	7.74%	3.64%	11.38%
Without Social Security	8.08%	2.83%	10.91%
Police and Fire:			
With Social Security	11.18%	5.55%	16.73%
Without Social Security	10.23%	4.75%	14.98%

SECTION IV – ACCOUNTING INFORMATION

1. Governmental Accounting Standards Board (GASB) has issued Statement No. 67 which replaces Statement 25 for plan years beginning after June 15, 2013. The information required under GASB 67 will be issued in a separate report. The following information is provided for informational purposes and for disclosure in the financial statements of the employer under GASB 27. One such item is the schedule of funding progress as shown below.

SCHEDULE OF FUNDING PROGRESS
(Dollar amounts in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - EAN (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	$1,662,583	$1,880,664	$218,081	88.4%	$422,122	51.7%
6/30/2011*	1,753,331	1,985,268	231,937	88.3	422,000	55.0
6/30/2012	1,828,762	2,150,812	322,050	85.0	458,658	70.2
6/30/2013*	1,983,863	2,267,216	283,353	87.5	479,000	59.2
6/30/2014	2,196,158	2,500,839	304,681	87.8	485,745	62.7
6/30/2015*	2,330,421	2,654,388	323,967	87.8	508,000	63.8

*Roll forward valuation.
All figures prior to 6/30/2013 were reported by the prior actuarial firm.

2. 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 (roll forward from 6/30/2014)
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar, closed
Remaining amortization period	24 years
Asset valuation method	5-year smoothed actuarial value
Actuarial assumptions:	
Investment rate of return*	8.00%
Projected salary increases*	4.25% - 11.00%
Cost-of-living adjustments	2.5% for those retiring on or after 1/1/2002; for retirements prior to 1/1/2002, 2.5% up to age 65, 3.25% afterwards.
*Includes inflation at	3.25%

SCHEDULE A

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

		June 30, 2015	June 30, 2014
(1)	Actuarial Value Beginning of Year*	$2,196,158,332	$1,983,863,177
(2)	Market Value End of Year	2,208,131,038	2,218,690,951
(3)	Market Value Beginning of Year Audit Adjustment to Market Value Beginning of Year Final Market Value Beginning of Year	2,218,690,951 (55,172,094) 2,163,518,857	1,941,651,187 0 1,941,651,187
(4)	Cash Flow		
	(a) Contributions	121,956,602	168,784,445
	(b) Disbursements	(132,396,132)	(122,675,843)
	(c) Receivables & Year End Transfers	3,112,448	15,348,534
	(d) Net: (4)(a) + (4)(b) + (4)(c)	(7,327,082)	61,457,136
(5)	Investment Income		
	(a) Market Total: (2) – (3) – (4)(d)	51,939,263	215,582,628
	(b) Assumed Rate	8.00%	8.00%
	(c) Amount for Immediate Recognition: [(1) x (5)(b)] + [{(4)(a) + (4)(b)} x (5)(b) x 0.5]	175,275,085	160,553,398
(6)	Expected Actuarial Value End of Year: (1) + (4)(a) + (4)(b) + (5)(c)	2,360,993,887	2,190,525,177
(7)	Phased-In Recognition of Investment Income		
	(a) Difference between Market & Expected Actuarial Value	(152,862,849)	28,165,774
	(b) 20% of Difference: (7)(a) x 0.2	(30,572,570)	5,633,155
(8)	Preliminary Actuarial Value End of Year: (6) + (7)(b)	2,330,421,317	2,196,158,332
(9)	Final Actuarial Value End of Year Using 20% Corridor: Greater of [(8) and .8 x (2)], but no more than 1.2 x (2)	2,330,421,317	2,196,158,332
(10)	Difference Between Market & Actuarial Values: (2) – (9)	$(122,290,279)	$22,532,619
(11)	Rate of Return on Preliminary Actuarial Value	6.60%	8.28%

* Before corridor constraints, if applicable.

SCHEDULE B

SUMMARY OF RECEIPTS AND DISBURSEMENTS
(Market Value)

	YEAR ENDING	
Receipts for the Year	June 30, 2015	June 30, 2014
Contributions:		
Members	$ 22,548,855	$ 18,998,238
Employer/Transfers	99,407,747	149,786,207
Subtotal	$ 121,956,602	$ 168,784,445
Amount Receivable	3,112,448	15,348,534
Investment Earnings (net of expenses)	51,939,263	215,582,628
TOTAL	$177,008,313	$ 399,715,607
Disbursements for the Year		
Benefit Payments	$ 131,504,666	$ 121,721,228
Refunds to Members	891,466	954,615
TOTAL	$ 132,396,132	$ 122,675,843
Excess of Receipts over Disbursements	$ 44,612,181	$ 277,039,764
Reconciliation of Asset Balances		
Asset Balance as of the Beginning of Year	$ 2,218,690,951	$ 1,941,651,187
Audit Adjustment to Beginning of Year Asset Balance	(55,172,094)	0
Final Asset Balance as of the Beginning of Year	$ 2,163,518,857	$ 1,941,651,187
Excess of Receipts over Disbursements	44,612,181	277,039,764
Asset Balance as of the End of Year	$ 2,208,131,038	$ 2,218,690,951
Rate of Return	2.41%	10.97%

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: Representative values of assumed annual rates of salary increase are as follows:

Age	General Employees	Firemen & Policemen	Base (Economy)	General Employees	Firemen & Policemen
20	7.50%	7.50%	3.50%	11.00%	11.00%
25	5.50%	7.50%	3.50%	9.00%	11.00%
30	4.50%	3.50%	3.50%	8.00%	7.00%
35	3.50%	2.50%	3.50%	7.00%	6.00%
40	2.50%	1.50%	3.50%	6.00%	5.00%
45	2.50%	1.00%	3.50%	6.00%	4.50%
50	2.00%	0.75%	3.50%	5.50%	4.25%
55	1.00%	0.75%	3.50%	4.50%	4.25%
60	0.75%	0.75%	3.50%	4.25%	4.25%
65	0.75%		3.50%	4.25%	
70	0.75%		3.50%	4.25%	

COST OF LIVING ADJUSTMENTS: Annually compounded increases are applied to disabled and non-disabled retirement benefits and vary based upon member age and date of retirement. For members that retired prior to January 1, 2002, increases of 3.25% are assumed for those who have reached age 65 and (effective January 1, 2002) increases of 2.50% are assumed for those who have not yet reached age 65. For members that retire after December 31, 2001, increases of 2.50% are assumed, regardless of age.

SOCIAL SECURITY WAGE BASE INCREASES: 3.50% per annum.

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

GENERAL EMPLOYEES

Age	Withdrawal and Vesting - Male	Withdrawal and Vesting - Female	Non-Service Related Disability*	Death	Service Retirement
20	18.00%	20.00%	0.02%	0.01%	
25	18.00	20.00	0.02	0.01	
30	12.00	15.00	0.03	0.01	
35	10.00	12.00	0.04	0.02	
40	7.50	10.00	0.05	0.02	
45	5.00	7.50	0.07	0.03	15.00%
50	5.00	5.00	0.12	0.05	15.00
55	5.00	5.00	0.44	0.08	7.00
60	5.00	5.00	0.86	0.12	10.00
65	5.00	5.00	1.84	0.20	20.00
70	5.00	5.00	2.99	0.31	15.00
75					100.00

POLICEMEN AND FIREMEN

Age	Withdrawal and Vesting	Service Related Disability*	Death	Service Retirement
20	7.00%	0.11%	0.01%	
25	7.00	0.14	0.01	
30	5.00	0.15	0.01	
35	4.00	0.22	0.02	
40	2.00	0.32	0.02	
45	1.00	0.49	0.03	25.00%
50	0.00	1.11	0.05	20.00
55	0.00	3.03	0.08	12.00
60	0.00	6.88	0.12	20.00
65				100.00

*Service related disability rates for General Employees and Non-Service related disability rates for Policemen and Firemen are assumed to be zero at all ages.

DEATHS AFTER RETIREMENT: The RP2000 Mortality Table for Annuitants and Non-Annuitants (set forward one year for males and set back one year 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	0.114%	0.065%	65	1.441%	0.862%
45	0.162	0.103	70	2.457	1.486
50	0.245	0.155	75	4.217	2.546
55	0.420	0.242	80	7.204	4.151
60	0.768	0.444	85	12.280	6.952

For disabled retirees, the same table is used, adjusted with the male table set forward five years and the female table set forward one year.

ASSET METHOD: Actuarial Value, as developed in Schedule B. The actuarial value of assets recognizes 20% of any difference between actual and expected investment income (gain/loss) in the valuation year and 20% of any previous years' unrecognized investment gains/losses. 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

The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement, disability or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future interest earnings rate (currently 8.00%). The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to active members is added to the present value of the expected future payments to current benefit recipients to obtain the present value of all expected benefits payable to the present group of members and survivors.

The employer contributions required to support the benefits of MERS are determined following a level funding approach, and consist of a normal contribution and an 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 accrued liability is determined by subtracting the current assets and the present value of prospective employer normal contributions and member contributions from the present value of expected benefits to be paid from the MERS. The accrued liability contribution amortizes the balance of the unfunded accrued liability over a period of years from the valuation date.

SCHEDULE E

SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS

MEMBERSHIP

Municipalities may designate which departments (including elective officers if so specified) are to be covered under the Municipal Employees Retirement System (MERS). This designation may be the result of collective bargaining. Only employees covered under the State Teachers Retirement System may not be included. There are no minimum age or service requirements. Membership is mandatory for all regular full time employees of participating departments except Police and Fire hired after age 60.

DEFINITIONS

Average Final Compensation — Average of the three highest paid years of service.

Normal Form of Benefit — Life Annuity

Year's Breakpoint — With respect to the calendar year in which a member terminates service, $10,700 increased by 6.0% each year after 1982, rounded to the nearest multiple of $100. For 2013, the breakpoint is $65,300.

BENEFITS

Service Retirement Allowance

Condition for Allowance — Age 55 and 5 years of continuous service, or 15 years of active aggregate service, or 25 years of aggregate service. Compulsory retirement at age 65 for police and fire members.

Amount of Allowance — For members not covered by Social Security: 2% of average final compensation times years of service.

For members covered by Social Security: 1½% of the average final compensation not in excess of the year's breakpoint plus 2% of average final compensation in excess of the year's breakpoint, times years of service.

The maximum benefit is 100% of average final compensation and the minimum benefit is $1,000 annually. Both the minimum and the maximum include Workers Compensation and Social Security benefits.

If any member covered by Social Security retires before age 62, his/her benefit until he/she reaches age 62 or receives a Social Security disability award is computed as if he/she were not under Social Security.

Non-Service Connected Disability Retirement Allowance

Condition for Allowance	10 years of service and permanently and totally disabled from engaging in any gainful employment in the service of the Municipality.
Amount of Allowance	Calculated as a service retirement allowance based on compensation and service to the date of the disability.

Service Connected Disability

Condition for Allowance	Totally and permanently disabled from eng engaging in any gainful employment in the service of the Municipality provided such disabili6ty has arisen out of and in the course of his/her employment with the Municipality. Disability due to hypertension or heart disease, in the case of firemen and policemen, is presumed to have been suffered in the line of duty.
Amount of Allowance	Calculated as a service retirement allowance based on compensation and service to the date of the disability with a minimum benefit (including Worker's Compensation benefits) of 50% of compensation at the time of the disability.

Vesting Retirement Allowance

Condition for Allowance	5 years of continuous or 15 years of active aggregate service.
Amount of Allowance	Calculated as a service retirement allowance on the basis of average final compensation and service to the date of termination. Deferred to normal retirement age, or an actuarially reduced allowance may begin at time of separation.

Death Benefit

Condition for Benefit	Eligible for service, disability retirement, or vesting allowance, and married for at least 12 months preceding death.
Amount of Benefit	Computed on the basis of the member's average final compensation and creditable service at date of death, payable to the spouse. Benefit is equal to 50% of the average of the life annuity allowance and the reduced 50% joint and survivor allowance.

Return of Deductions

Upon the withdrawal of a member the amount of his accumulated deductions is payable to him/her on demand, with 5% interest from July 1, 1983.

Optional Benefits

Prior to retirement, a member may elect to covert his retirement allowance into a benefit of equivalent actuarial value in accordance with one of the optional forms described below.

1. A reduced retirement allowance payable during his life with the provision that after his death the reduced allowance will be continued for lift to the beneficiary designated by him at the time of his retirement, or

2. A reduced retirement allowance payable during his life with the provision that after his death the reduced allowance of one-half of his reduced allowance will be continued for life to the beneficiary designated by him as the time of his retirement.

3. A reduced retirement allowance payable during his life with a guarantee of 120 or 240 monthly payments to the member or his designated beneficiary.

Cost-of-Living Adjustments

For those retired prior to January 1, 2002

i. The benefits of disabled retirees, service retirees who have reached age 65, and beneficiaries of deceased retirees who would have reached age 65 are adjusted each July1. The difference between the actual annual yield of the actuarial value of assets on a calendar year basis to a 6% yield is calculated. This difference is the adjustment applied the following July1. The minimum adjustment is 3% and the maximum is 5%.

ii. The benefits for all others on the roll are adjusted on January 1, 2002 and on each subsequent July 1. The amount of each adjustment is 2.5%.

For those retiring on or after January 1, 2002, benefits are adjusted each July 1. The adjustment is 60% of the annual increase in CPI up to 6%, plus 75% of the annual increase in CPI in excess of 6%. The minimum annual COLA is 2.5%, the maximum is 6%.

CONTRIBUTIONS

By Members	For members not covered by Social Security 5% of compensation. For members covered by Social security 2¼% of compensation up to the Social Security taxable wage base plus 5% of compensation, if any, in excess of such base.
By Municipalities	Participating Municipalities make annual contributions consisting of a normal cost contribution, a contribution for the amortization of the net unfunded accrued liability and a prior service amortization payment which covers the liabilities of the System not met by member contributions.