Questions for MERS Actuarial 2018 RFP:

1. Section II A of the Scope of Services says that actuarial valuations are annual. The actuarial valuation reports on your website appear to be biennial valuations with roll forward valuations in alternate years. Please clarify if valuations are to be full valuations each year?

   This RFP calls for full valuations each year of the contract and represents a change in prior practice. Historically, full valuations were performed every other year.

2. Section V C g. i. asks for a breakdown of fees associated with implementation, reporting and ongoing administration. Can you clarify what services are included here?

   The required services include:

   - **Prepare Annual Actuarial Reports (CMERS and P&FSBF);**
   - **Actuarial Experience Studv Reports (CMERS and P&FSBF);**
   - **Prepare GASB 67 and 68 Reports;**
   - **Estimates of Costs Associated with CMERS Membership;**
   - **Attend Meetings; and**
   - **Complete Special Projects.**

3. What were the fees paid to the current actuary for the last four years for Retirement Commission services (split between regular and special projects) and Office of State Comptroller services?

   Total Fees = $62,621.40, all CMERS, no Comptroller fees.

4. Section V. C. g. iii. 2. requests a not to exceed cap for work performed for the Office of the State Comptroller for special projects, fiscal impact statements and routine consultations. We commonly quote a not to exceed fee as special items are requested. Is there a specific list of special projects, impact statements and consultations that the requested fee cap is to be based upon?

   It is expected that each vendor will provide a not to exceed amount for special projects, fiscal impact statements and routine consultations based on the hourly billing rates provided and the firms knowledge and experience when it comes to providing the aforementioned services. A not to exceed fee quote can be provided prior to initiating any requested services not contained in the scope of service.

5. Is the incumbent eligible to bid?

   Yes. The incumbent is eligible to submit a proposal.

6. What were the fees charged by the incumbent in each of the last 4 years, excluding special projects?

Total Fees = $62,621.40, all CMERS, no Comptroller fees.

7. Do the fees in response (2), above represent a substantially similar scope of work? If not, how has the scope changed?

   Yes.

8. Can the GASB 67/68 reports continue to be separate reports from the actuarial valuations (the requirement in Section II A (1) of the RFP implies the GASB information should be in the annual valuation report)?

   Yes. The GASB 67/68 reports shall continue to be separate reports, in addition to the annual full actuarial valuations.

9. Based on available reports on the website, it appears that the full valuation reports have not been performed every year in the recent past (sometimes no valuation is listed, sometimes a roll forward valuation is listed). Please confirm this historical process and please confirm that the RFP is requesting full annual valuations for both Systems for each of the 4 years of the contract. Note this is important in the development of the pricing as roll forward valuations are less expensive to prepare since they do not involve the collection of new census data.

   This RFP calls for full valuations each year of the contract and represents a change in prior practice. Historically, full valuations were performed every other year.

10. Section II A (4) refers to special projects to perform "statutorily required duties". While the State employees RFP had a statute reference we could look up, the MERS RFP does not contain such a reference. Can you tell us what these duties/projects are?

    The citations for the applicable statutes are as follows: Conn. Gen. Stat. §§ 7-439, 7-439b, 7-441, 7-442b, 7-443, 7-444, 7-450, 7-450a.

11. Section II A (6) requests a "per head" fee for initial valuations. Is a fixed fee per initial valuation acceptable (this is the more common arrangement among our clients that have need of such a service)?

    Yes. A fixed fee per initial valuation is acceptable.

12. Section 5 (g) of the rfp indicates that fees whether fixed of variable are considered as "not to exceed". In addition, the standard contract requests a maximum fee for the entire contract (Section 5, which must be filled in for the RFP response). Please explain how variable work is expected to be handled under these responses when the quantity of the work is currently unknown.

    It is expected that each vendor will provide a not to exceed amount for special projects, fiscal impact statements and routine consultations based on the hourly

billing rates provided and the firms knowledge and experience when it comes to providing the aforementioned services. A not to exceed fee quote can be provided prior to initiating any requested services not contained in the scope of service.

13. Have the June 30, 2017 valuations been completed (they are not listed with the earlier valuations)? If so, can you provide copies? Have the economic assumptions for the June 30, 2017 valuations been updated? Can you provide the actuary's analysis of the reasonability of the economic assumptions for the June 30, 2017 valuation?

    We refer to the copy of the Connecticut Municipal Employees Retirement System Roll Forward Actuarial Valuation Report prepared as of June 30, 2017 attached hereto as Exhibit 1, which incorporates an adjustment to the investment rate. The current actuary's analysis is still in progress.

14. Is the Office of the State Comptroller (OSC) open to accepting mutually-agreeable contract terms, which include some limitation of liability on the work performed by the contracting actuarial firm? Are there any statutory requirements regarding limitation of liability of which we should be aware?

    Please refer to the Office of the State Comptroller Contract and Conditions attached as Appendix A to the RFP. Any additional terms and conditions not contemplated in the attached contract are subject to negotiations with the contractor selected to perform the services described in the RFP.

15. Please provide a copy of the following documents/correspondences:
    2-1) Most recently effective plan documents, amendments, SPDs, and a summary of CBAs
    2-2) Most recent presentation materials discussing the valuation results
    2-3) Reports discussing results of the initial valuations for recently joined municipalities
    2-4) Any reports or other forms of communications discussing the results of special projects performed by the current actuary during the past four (4) years
    2-5) Sample benefit election packages, benefit statements, and 415 analyses
    2-6) Current actuarial services contract

    Given the short turnaround time to respond to questions from potential vendors, this process is limited to answering questions about the RFP itself or the RFP process. For additional information related to actuarial reports please go to the following webpage: <u>http://www.osc.ct.gov/rbsd/reports/index.html</u>.

16. Please confirm that (i) full valuations are performed in even-numbered years for MERS and in odd-number years for P&FSBF, and (ii) interim valuations are performed in other years using the census data from the prior year.

    This RFP calls for full valuations each year of the contract and represents a change in prior practice. Historically, full valuations were performed every other year.

17. How many in-person meetings has the current actuary attended each year in the past four (4) years?

    We do not maintain records identifying each in-person meeting attended in the past four years.

18. How many hours per year of consulting time were spent on labor relations and bargaining in each of the past four (4) years?

    We do not maintain records sufficient to isolate the number of hours or fees incurred on a project by project basis, and, therefore, reference the fees listed response to questions Nos. 29 and 36.

19. Please provide the actuarial fees, paid to the incumbent for each of the past four (4) years, broken down by key tasks listed in the RFP, including the incumbent's current billing rate schedule and the fee for the experience study. 6-1) If the fee information cannot be provided, please provide the total consulting hours spent by the incumbent each year in the past 4 years, in total and for each task listed in the RFP.

    2014 - $3,896.00
    2015 - $18,685.40
    2016 - $18,050.00
    2017 - $14,690.00

20. How many benefit calculations did you require Actuary's assistance with each year in the past four (4) years? Did the Actuary prepare the benefit packages, or did they only certify the benefit amounts?

    We do not maintain records sufficient to isolate the specific number of benefit calculations requiring Actuary assistance over the past 4 years. We are able, however, to determine that some of the assistance required the Actuaries to independently determine the benefit amount.

21. Are there any service concerns and/or limitations with the current actuarial firm?

    No. The current actuarial firm has fulfilled its obligations under the existing contract, which is set to expire June 30, 2017.

22. What are the biggest financial, administrative, or other challenges that the Comptroller and/or subcommittees face in managing the systems?

    The most prominent challenges in managing the CMERS system relate to the recent implementation of technical upgrades in the reporting of employer information and the challenges of incorporating the participating municipalities into our new system.

23. Please clarify and confirm the timing of the next Experience Study for each plan. 9-1) If available, please provide more recent experience study reports for MERS and P&FSBF. The latest reports available on the State Comptroller's website were prepared in 2009.

    The last experience study valuation was presented in June 2013, referring to plan year June 30, 2012. The next CMERS experience study is due by June 30, 2018.

24. Please provide three examples of special studies or other services of a non-routine nature provided by the current actuary during the past four (4) years, along with fee information for each example project.

    As previously stated, we do not maintain records sufficient to isolate the number of hours or fees incurred on a project by project basis. The following list, however, provides examples of some of the special studies or other services the current actuary has provided:

    - **Update actuarial/amortized cost of City of Bridgeport's transfer to MERS.**
    - **Analyze issues in connection with pending litigation regarding a participating municipality's attempt to leave MERS.**
    - **Analyze potential financial impact of proposed legislative change to create a new Tier for MERS new employees.**
    - **Communication with special auditor for GASB 68 reporting.**

25. Page 3 of the RFP document lists the selection criteria. Please provide weights assigned to each of the criteria, if available.

EVALUATION CRITERIA		WEIGHTING FACTOR
No. 1	Previous work experience on similar projects. Proposers will be evaluated on their past performance to include, but not limited to, failure to meet specifications, poor quality and late delivery.	**15**
No. 2	Proposer's understanding of the project's purpose and scope, as evidenced by the proposed approach and level of effort.	**15**
No. 3	Proposed cost.	**10**
No. 4	Availability and competence of Proposer's personnel.	**10**
No. 5	Conformity with specifications contained herein.	**10**
No. 6	Proposer's ability to keep the Commission informed of significant changes in the laws and regulations governing public pension plan administration.	**5**
No. 7	Demonstration of Proposer's commitment to affirmative action by full compliance with the regulations of the Commission on Human Rights and Opportunities.	**10**
No. 8	Possible and previous conflicts of interest (within the last ten years).	**10**
No. 9	Past (within the last ten years) and pending litigation involving the Proposer and pension plans or retirement systems.	**10**
No. 10	At the option of the Actuarial Subcommittee, Proposer's oral interview.	**5**

26. Page 18 of the RFP requires that the CHRO's Workforce Analysis Affirmative Action Report must be completed and submitted by the proposer. Such a form or report is not attached in the RFP and BizNet says our account is not authorized for the CHRO Affirmative Action Report page. We only found DAS-45 Form on BizNet. We tried sending an e-mail to the address listed in the RFP, but the mail was undeliverable and rejected by the State's mail system. Please advise if DAS-45 Form would be sufficient to fulfill this requirement.

    Below are the steps to access BizNet:

    1. **Go to biznet.ct.gov and log in with their BizNet accounts.**
    2. **Click the link for "Doing Business with the State".**
    3. **Click the link for "Company Info".**
    4. **Click the yellow link on the left hand side for "Click Here to Upload Documents".**
    5. **Click the link for "Required Company Documents".**
    6. **From the dropdown menu, scroll down to find "HR".**

    If you are still having difficulty, please contact either eva.orlinski@ct.gov or Marisol.rivera@ct.gov, and the phone number is (860)-713-5095.

27. What is the estimated budget for the services requested?

    There is no estimated budget for the services requested.

28. Are travel expenses reimbursable?

    Yes.

29. In order to assist us in gaining a clear understanding of the scope of the work, please provide the annual fee for actuarial services for the past five years.

    2014 - $3,896.00
    2015 - $18,685.40
    2016 - $18,050.00
    2017 - $14,690.00

30. Please provide the fee for the experience study most recently completed.

    CMERS = $35,000
    P&FSBF = $10,000

31. Please provide hourly rates for the past five years for each of the services outlined in the RFP.

    Consulting or Senior Actuary = $320-$396/hr

Managing Director = $300-$360/hr
Senior Consultant = $276-$320/hr
Actuary = $276-$320/hr
Consultant = $240-$276/hr
Senior Actuarial Analyst = $240-$276/hr
Actuarial Analyst = $180-240/hr
Other = $116/hr

32. Are there any specific areas of the actuarial valuation that the System would like the vendor to address?

    Not at this point. While we have not identified any specific areas at this point, there is always the possibility that the Retirement Commission may identify specific areas that may become part of a future special project.

33. The RFP provides in Section II.A.6. for the actuary to provide municipalities or other entities cost estimates for prospective or retrospective participation in CMERS and/or P&FSBF. Can you provide an example letter prepared in response to such a request.

    Please refer to the example letter attached hereto as Exhibit 2.

34. Has the Connecticut State Employees Retirement Commission been involved in litigation with a service provider in the last three years? If so, please provide a summary of the nature of the dispute.

    No.

35. Please provide a copy of the following:
    a. Latest projections performed for Pension
    b. Contract with the current actuary
    c. Most recent actuarial experience study
    d. Current Funding Policy
    e. Latest quarterly investment report for both the Defined Benefit Plan

    Given the short turnaround time to respond to questions from potential vendors, this process is limited to answering questions about the RFP itself or the RFP process. For additional information related to actuarial reports please go to the following webpage: http://www.osc.ct.gov/rbsd/reports/index.html.

36. What are the fixed fees billed in the last two years?

    2016 - $18,050.00
    2017 - $14,690.00

37. What special and/or out of scope services has been billed for in the last **two** years, in addition to the fixed fees? How many hours were billed for these services?

We do not maintain records sufficient to isolate fees on a project by project basis, and, therefore, reference the fees listed response to questions Nos. 29 and 36.

38. Are there any service concerns and/or limitations with the current actuary?

    No. The current actuarial firm has fulfilled its obligations under the existing contract.

39. How long has the current actuary been providing actuarial services?

    The current actuarial firm has been providing actuarial services for the Connecticut State Employees Retirement Commission from July 1, 2013 to present.

40. Would a non-governmental pension plan that's similar in size and complexity count toward meeting the minimum requirement?

    No.

41. Would an OPEB plan of a governmental entity that's similar in size and complexity count toward meeting the minimum requirement?

    No.

42. Our standard consulting agreement terms and conditions include some limitation on liability for mere negligence or from consequential damages.
    a. Is the State open to accepting mutually-agreeable contract terms, which include some limitation of liability on the work performed by the contracting actuarial firm?
    b. Also, are there any statutory requirements regarding limitation of liability of which we should be aware?

    Please refer to the Office of the State Comptroller Contract and Conditions attached as Appendix A to the RFP. Any additional terms and conditions not contemplated in the attached contract are subject to negotiations with the contractor selected to perform the services described in the RFP.

43. Have you ever sued or threatened to sue your actuarial services vendor? If yes, please provide the dates and circumstances of such suits.

    No.

EXHBIT 1

EXHBIT 2

EXHBIT 1

December 8, 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 Municipal 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

JG/KC

Enc.

S:\2017\Connecticut MERS\Pension\Valuations\CT MERS 2017 Roll Forward Valuation Report.doc

Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve

CONNECTICUT MUNICIPAL EMPLOYEES RETIREMENT SYSTEM

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

www.CavMacConsulting.com

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

December 8, 2017

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, 2017. The investment performance for the fiscal year ending June 30, 2017 was favorable. The fund returned 12.40%, which is higher than the 8.00% 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 show that it could be expected that the required employer rate for the 2019 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, 2016 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 22-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 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

Table of Contents

Section	Item	Page No.
I	Summary of Principal Results	1
II	Assets	2
III	Contributions Payable by Employers	3
IV	Accounting Information	4
Schedule		
A	Development of Actuarial Value of Assets	6
B	Summary of Receipts and Disbursements	7
C	Outline of Actuarial Assumptions and Methods	8
D	Actuarial Cost Method	11
E	Summary of Main Benefit and Contribution Provisions	12

Section I – Summary of Principal Results

1. For convenience of reference, the principal results of the 2017 roll forward valuation and the 2016 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, 2018 be used for the fiscal year ending June 30, 2019.**

Valuation Date	June 30, 2017 Roll Forward Valuation (for Information Purposes Only)	June 30, 2017 Projected from 2016 Valuation	June 30, 2016
Number of active members			9,373
Annual compensation			$ 566,237,211
Retired members and beneficiaries:			
Number			7,102
Annual allowances			$ 145,649,886
Assets:			
Market Value	$ 2,449,238,252	$ 2,352,506,726	$ 2,217,254,601
Actuarial Value	$ 2,568,537,836	$ 2,549,191,531	$ 2,445,484,582
Funded Ratio	86.1%	85.4%	86.1%
Unfunded Accrued Liability	$ 414,723,578	$ 434,069,883	$ 394,840,827
Present Value of Remaining Prior Service Amortization Payment	$ 103,291,927	$ 103,291,927	$ 100,944,360
Net Unfunded Accrued Liability	$ 311,431,651	$ 330,777,956	$ 293,896,467
For Fiscal Year Ending	**Informational Only**	**Informational Only**	**June 30, 2018 & 2019**
Employer Contribution Rates:			
General Employees			
With Social Security	12.01%	12.29%	11.74%
Without Social Security	12.37%	12.82%	12.15%
Police and Fire			
With Social Security	17.55%	17.86%	17.13%
Without Social Security	17.35%	17.62%	16.93%

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 $2,449,238,252 as reported by the Comptroller's Office. The June 30, 2016 market value of assets were $2,217,254,601. This increase in the market value of assets from last year to this year represents an investment return of 12.40% 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, 2017 includes $15,809,350 of receivables. The actuarial value of assets used for the current valuation was $2,568,537,836. 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. Again, these rates are those developed in the 2016 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 2018-2019 fiscal year.

	2018-2019 Fiscal Year		
Contribution for	Employer Normal Cost Rate	Amortization of Net Unfunded Accrued Liability	Total Employer Contribution Rate
General Employees:			
With Social Security	7.78%	3.96%	11.74%
Without Social Security	8.12%	4.03%	12.15%
Police and Fire:			
With Social Security	11.29%	5.84%	17.13%
Without Social Security	10.26%	6.67%	16.93%

Schedule IV – Accounting Information

1. Governmental Accounting Standards Board (GASB) has issued Statement No. 67 which replaced 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)
6/30/2012	$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
6/30/2016	2,445,485	2,840,325	394,840	86.1	566,237	69.7
6/30/2017*	2,568,538	2,983,261	414,723	86.1	592,000	70.1

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

Schedule IV – Accounting Information

2. 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 (roll forward from 6/30/2016)
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar, closed
Remaining amortization period	22 years
Asset valuation method	Smoothed market with 20% recognition of investment gains and losses
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.
Social Security Wage Base	3.50%
*Includes inflation at	3.25%

Schedule A – Development of Actuarial Value of Assets

			June 30, 2017	June 30, 2016
(1)	Actuarial Value Beginning of Year*		$2,445,484,582	$2,330,421,317
(2)	Market Value End of Year		2,449,238,252	2,217,254,601
(3)	Market Value Beginning of Year		2,217,254,601	2,208,131,038
(4)	Cash Flow			
	(a)	Contributions	99,089,944	118,156,647
	(b)	Disbursements	(155,407,220)	(144,230,118)
	(c)	Receivables & Year End Transfers	15,809,350	12,803,464
	(d)	Net: (4)(a) + (4)(b) + (4)(c)	(40,507,926)	(13,270,007)
(5)	Investment Income			
	(a)	Market Total: (2) – (3) – (4)(d)	272,491,577	22,393,570
	(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]	193,386,076	185,390,767
(6)	Expected Actuarial Value End of Year: (1) + (4)(a) + (4)(b) + (5)(c)		2,598,362,732	2,502,542,077
(7)	Phased-In Recognition of Investment Income			
	(a)	Difference between Market & Expected Actuarial Value	(149,124,480)	(285,287,476)
	(b)	20% of Difference: (7)(a) x 0.2	(29,824,896)	(57,057,495)
(8)	Preliminary Actuarial Value End of Year: (6) + (7)(b)		2,568,537,836	2,445,484,582
(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)		2,568,537,836	2,445,484,582
(10)	Difference Between Market & Actuarial Values: (2) – (9)		$(119,299,584)	$(228,229,981)
(11)	Rate of Return on Preliminary Actuarial Value		7.42%	6.09%

* 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	$ 23,979,083	$ 20,619,573
Employer/Transfers	75,110,861	97,537,074
Subtotal	$ 99,089,944	$ 118,156,647
Amount Receivable	15,809,350	12,803,464
Investment Earnings (net of expenses)	272,491,577	22,393,570
TOTAL	$387,390,871	$ 153,353,681
Disbursements for the Year		
Benefit Payments	$ 154,179,090	$ 142,839,735
Refunds to Members	1,228,130	1,390,383
TOTAL	$ 155,407,220	$ 144,230,118
Excess of Receipts over Disbursements	$ 231,983,651	$ 9,123,563
Reconciliation of Asset Balances		
Asset Balance as of the Beginning of Year	$ 2,217,254,601	$ 2,208,131,038
Excess of Receipts over Disbursements	231,983,651	9,123,563
Asset Balance as of the End of Year	$ 2,449,238,252	$ 2,217,254,601
Rate of Return[1]	12.40%	1.02%

[1] The calculation of the annual rate of return is an approximation based on all cash flows occurring at the middle of the year and will differ from a more accurate time or dollar weighted return calculation.

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.

Schedule C – Outline of Actuarial Assumptions and Methods

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.

Schedule C – Outline of Actuarial Assumptions and Methods

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 D 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%.

Schedule E – Summary of Main Benefit and Contribution Provisions

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.

EXHBIT 2

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

August 24, 2015

Mr. William C. Cronin
Associate Retirement Counselor
Municipal Employees Retirement System
State of Connecticut
Office of the State Comptroller
Retirement Services Division
55 Elm Street
Hartford, CT 06106-1775

Dear Bill:

As requested, enclosed is a report of estimated costs for the City of New London Fire Chief if the entity were to join the Municipal Employees Retirement System (MERS) effective February 1, 2016. Please note that our calculation reflects no transfer of assets at the date of the request. A transfer of asset to MERS would reduce the entity's unfunded accrued liability and the annual unfunded cost. The calculations should be reviewed based on the actual amount of assets, if any, transferred to MERS at the effective date.

Finally, this valuation reflects a 14.98% service contribution rate. This rate was adopted by the Retirement Commission for the fiscal year commencing July 1, 2014.

Thank you very much for your assistance. Please let us know if you have any questions.

Sincerely,

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

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

JJG/EJK:jl

S:\Connecticut MERS\\Pension\Initial Studies\City of New London Fire Chief\City of New London Fire Chief PreVal 02012016.docx

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144
Phone (678) 388-1700 • Fax (678) 388-1730
www.CavMacConsulting.com
Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE

REPORT OF ESTIMATED COST FOR THE PARTICIPATION IN THE CONNECTICUT MUNICIPAL EMPLOYEES RETIREMENT SYSTEM

CITY OF NEW LONDON FIRE CHIEF

We have completed a special actuarial analysis to provide an estimate of the annual employer contribution required to support benefits provided to participants of the City of New London Fire Chief under the Connecticut Municipal Employees Retirement System (MERS) effective February 1, 2016.

DATA PROVIDED

The data we were provided is summarized below and serves as the basis for the cost estimate. Changes in data between this valuation and the effective date of participation may result in an employer cost different than that shown in this report.

Number of active employee(s)	1
Total annual pay	$101,500
Average age of group in years	63.5 years
Average accrued service years	37.4 years
Group	Police and Fire
Social Security Coverage	No

No assets were provided to be transferred into MERS as of the effective date. Changes in the amount of assets transferred between this valuation and the effective date of participation may result in an employer cost different than that shown in this report.

BASIS

The valuation methods and assumptions used were the same as those adopted for use in the regular annual actuarial valuation of the Connecticut Municipal Employees Retirement System as of July 1, 2014. In our opinion, these methods and assumptions produce contribution rates which will permit the System to continue to operate in sound condition in accordance with actuarial principles of level cost financing and the state law which governs MERS.

COST ESTIMATE

For the period February 1, 2016 through June 30, 2016, the employer is expected to contribute the service contribution on behalf of the employee. Therefore, the employer is expected to make contributions totaling $6,335 for fiscal year ending June 30, 2016. This amount represents the member's payroll multiplied by the service contribution rate in effect for the 2015 fiscal year (14.98%) for the remaining 5 months in the fiscal year. The employer contribution beginning for the 2017 fiscal year is as follows:

Estimate of Annual Cost	
1. Service Contribution (at 14.98% of covered payroll)	$15,205
2. Accrued Liability as of July 1, 2016	$875,223
3. Asset Transfer	$0
4. Unfunded Accrued Liability: (2 – 3)	$875,223
5. Unfunded Accrued Liability Cost (30 year level dollar amortization)*	$77,744
6. Estimated Total Employer Cost: (1 + 5)	$92,949

* First annual payment is July 1, 2016.

The service contribution rate is the employer contribution rate as of the most recent valuation and is pooled for all MERS members in the same coverage group. The employee contribution rate is fixed by statute. The employer rate may vary from year to year depending upon actuarial and financial experience or because of changes in benefit provisions.

Unfunded accrued liability cost is the annual payment required for 30 years to fully amortize the unfunded portion of the accrued liability based on the individual employer census data. Payments continue at the initially determined dollar amount until the liability (plus interest on the outstanding balance) is fully amortized.

Employer actual dollar contributions will be the service contribution rate multiplied by actual covered payroll plus the unfunded accrued liability cost. The estimated dollar amounts shown above were determined by applying the service contribution rate to the valuation payroll. In budgeting amounts for MERS contributions, employers should consider any changes between expected payroll and the valuation payroll shown on the previous page.

For additional consideration, we have determined that for each $10,000 of assets transferred as of the effective date, the annual unfunded liability amortization payment would decrease by $888.

CONNECTICUT MUNICIPAL EMPLOYEES RETIREMENT SYSTEM

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. This designation may be the result of collective bargaining. Only employees covered under the State Teachers Retirement System may not be included. There is 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 2014, the breakpoint is $69,200.

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: 1-1/2% 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 engaging in any gainful employment in the service of the Municipality provided such disability 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 requirement, 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 on demand, with 5% interest from July 1, 1983.
Optional Benefits	Prior to retirement, a member may elect to convert his retirement allowance into a benefit of equivalent actuarial value in accordance with one of the optional forms described as follows: 1. A reduced retirement allowance payable during his life with the provision that after his death the reduced allowance will be continued for life 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 an allowance of one-half of his reduced allowance will be continued for life to the beneficiary designated by him at 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 July 1. 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 July 1. The minimum adjustment is 3% and the maximum is 5%.

(ii) The benefits for all other 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: 2-1/4% 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 current service contribution and a prior service amortization payment which covers the liabilities of the System not met by member contribution.