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January 22, 2014

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 Policemen and Firemen Survivors' Benefit Fund Roll Forward Actuarial Valuation Report prepared as of June 30, 2013".

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

Sincerely yours,

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

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

JJG/EJK/KC

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

CONNECTICUT POLICEMEN AND FIREMEN SURVIVORS' BENEFIT FUND

ROLL FORWARD ACTUARIAL VALUATION REPORT PREPARED AS OF JUNE 30, 2013

January 22, 2014

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 Policemen and Firemen Survivors' Benefit Fund (SBF). At the direction of the Commission, the actuary provides a roll forward valuation of the Benefit Fund as an informational update to the projected required employer contribution amount from the most recent biennial actuarial valuation.

The June 30, 2012 biennial valuation of the Fund provided the required funding for the fiscal year ending June 30, 2013 which reflected an employer normal cost rate of 1.23% of covered payroll which was partially offset for the original 8 municipalities due to the recognition of the remaining surplus as determined in the June 30, 2012 biennial valuation. Because the surplus for the original 8 municipalities was exhausted as of June 30, 2013, the prior actuary subsequently provided the expected contribution rate for the fiscal year ending June 30, 2014 based on the 1.23% of covered payroll employer normal cost rate. In addition to the employer normal cost amount described above, each employer contributes a fixed administrative expense per covered employee which is $60 as of July 1, 2013.

The historical timing of the results of the valuations and roll forward calculations does not allow for the contribution requirement for the fiscal year to be known by participating municipalities at the time of the preparation of their budgets. We, therefore, recommend that the results of a full actuarial valuation, performed biennially, apply to the two fiscal years beginning one year after the valuation date. For example, the upcoming June 30, 2014 biennial valuation would produce the contribution requirements for the fiscal years ending in 2016 and 2017. This would coincide with the timing applied in each biennial valuation to the contribution requirements of employers participating in the Municipal Employees Retirement System (MERS).

As the Governmental Accounting Standards Board (GASB) does not allow one valuation result to apply to more than 2 fiscal years, we, therefore, recommend that the results of the June 30, 2013 roll forward valuation establish the employer contribution required for the fiscal year ending June 30, 2015. Notwithstanding this exception, we do not recommend that future roll forward valuation results be the basis for determining contribution requirements but provide information to assess the expected trend in the future biennial valuation results attributable to the actual investment experience during the prior year.

This report provides the results of the roll forward actuarial valuation of the Fund prepared as of June 30, 2013. We have not performed a reconciliation of census data or development of liabilities as of June 30, 2013. We use roll forward techniques from the June 30, 2012 biennial valuation to best estimate the valuation results as of June 30, 2013. Therefore, the only actual experience incorporated in the results of a roll forward valuation is the investment return for the plan year. On a market value basis, we approximate the investment rate of return for the year to be 8.73%, which is higher than the 8.00% assumed rate of return. The market value investment performance is smooth over a five-year period and the rate of return based on the smoothed actuarial value of assets was 5.16% due to recognition of past asset losses. Since the actuarial value of assets used in determining required contributions experienced a return less than the 8.00% assumed rate, the roll forward valuation results in an increase to the employer normal cost contribution rate reflecting the lower than assumed investment return.

The roll forward results in an increase to the required employer normal cost contribution rate for the 2015 fiscal year from 1.23% to 1.54% of covered payroll. In addition, each participating employer is also assessed a $60 per covered employee administrative expense. The resulting total contribution requirement for New Britain Police is determined by applying the 1.54% of covered payroll plus the $60 per covered employee expense less $4,852 due to the annual recognition of the remaining surplus allocated to that employer as of June 30, 2013.

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 assumptions and methods used for funding purposes meet the parameters set for the disclosures presented in the financial section by GASB Statement Nos. 25 and 27. The valuation method used is the Entry Age Normal Frozen Initial Liability cost method. Gains and losses under this method will impact the employer normal cost contribution.

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 Garrett | Edward J. Koebel

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

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

JJG/EJK/KC

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CONNECTICUT POLICEMEN AND FIREMEN SURVIVORS' BENEFIT FUND
ROLL FORWARD VALUATION REPORT
PREPARED AS OF JUNE 30, 2013

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the 2013 roll forward valuation and the 2012 biennial valuation are summarized below. Recommended contributions for each participating employer are provided in Section III.

Valuation Date	June 30, 2013* Roll Forward Valuation	June 30, 2012 Biennial Valuation
Number of active members		598
Annual compensation		$ 48,463,318
Retired members:		
Number		463
Annuitant Members:		
Number		102
Annual allowances		$ 1,006,214
Assets:		
Market Value	$ 23,975,868	$ 22,551,431
Actuarial Value	$ 23,759,530	$ 23,102,082
For Fiscal Year Ending	**June 30, 2015**	**June 30, 2013 & 2014**
Employer Normal Contribution Rate:	1.54%	1.23%

*Data on participants was not updated as part of the roll forward valuation.

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 D gives a summary of the benefit and contribution provisions of the plan.

SECTION II - ASSETS

1. As of June 30, 2013, the total market value of assets amounted to $23,975,868 as reported by the Comptroller's Office compared to $22,551,431 as of June 30, 2012. This represents an investment return of 8.73% for the fiscal year as compared to the assumed investment return of 8.00%. Schedule A shows the development of the actuarial value of assets as of June 30, 2013. The actuarial value of assets developed in this roll forward is $23,759,530 reflecting a rate of return on the actuarial value of 5.16%.

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 comparison of the employer normal cost rate of contribution payable by the employer as calculated in the June 30, 2012 biennial valuation to the June 30, 2013 roll forward valuation calculation. The 2012 valuation rate applies to the fiscal years ending 2013 and 2014 and the 2013 roll forward valuation is the basis for the recommended contributions for the fiscal year ending 2015. These amounts include only the employer normal cost contribution. The recommended dollar amount for each entity is determined by applying the normal cost rate to covered payroll at the beginning of the applicable fiscal year, plus the additional administrative expense of $60 per covered employee. In addition, New Britain Police will subtract $4,852 from the amount determined above due to the annual recognition of their surplus balance as of June 30, 2013.

CALCULATION OF ANNUAL NORMAL COST

	June 30, 2013 Roll Forward Valuation	June 30, 2012 Biennial Valuation
(1) Actuarial Liabilities		
Present Value of Future Benefits Payable to:		
(a) Present Annuitants	$ 7,902,076	$ 8,285,505
(b) Present Retired Members	11,475,919	10,625,851
(c) Present Active Members	11,938,154	11,053,846
(d) Non-Vested Inactive Members	360,542	360,542
(e) Total Actuarial Liabilities	31,676,691	30,325,744
(2) Actuarial Value of Assets	23,759,530	23,102,082
(3) Present Value of Future Contributions by Members	3,138,027	3,371,919
(4) Asset Surplus for all towns except New Britain	0	(243,679)
(5) Unfunded Accrued Liability for New Britain	(53,450)	(54,343)
(6) Present Value of Future Employer Normal Costs (1e) – (2) – (3) – (4) – (5)	4,832,584	4,149,765
(7) Present Value of Future Salary	313,802,739	337,191,941
(8) Employer Normal Contribution Rate (6) /(7), not less than zero	1.54%	1.23%

SCHEDULE A

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

			June 30, 2013	June 30, 2012
(1)	Actuarial Value Beginning of Year*		$23,102,082	$22,930,408
(2)	Market Value End of Year		23,975,868	22,551,431
(3)	Market Value Beginning of Year		22,551,431	21,859,581
(4)	Cash Flow			
	(a)	Contributions	525,490	510,513
	(b)	Disbursements	(1,046,269)	(1,005,240)
	(c)	Net: (4)(a) + (4)(b)	(520,779)	(494,727)
(5)	Investment Income			
	(a)	Market Total: (2) – (3) – (4)(c)	1,945,216	1,186,577
	(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]	1,827,335	1,814,644
	(d)	Amount for Phased-In Recognition: (5)(a) – (5)(c)	117,880	(628,067)
(6)	Phased-In Recognition of Investment Income			
	(a)	Current Year: (5)(d) * 0.2	23,576	(125,613)
	(b)	First Year Prior	(125,613)	220,782
	(c)	Second Year Prior	220,782	57,310
	(d)	Third Year Prior	57,310	(825,163)
	(e)	Fourth Year Prior	(825,163)	(475,557)
	(f)	Total Recognized Investment Gain	(649,109)	(1,148,242)
(7)	Preliminary Actuarial Value End of Year: (1) + (4)(c) + (5)(c) + (6)(b)		23,759,530	23,102,082
(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)		23,759,530	23,102,082
(9)	Difference Between Market & Actuarial Values: (2) – (8)		216,338	(550,651)
(10)	Rate of Return on Preliminary Actuarial Value		5.16%	2.94%

* Before corridor constraints, if applicable.

SCHEDULE B

SUMMARY OF RECEIPTS AND DISBURSEMENTS
(Market Value)

	YEAR ENDING	
Receipts for the Year	June 30, 2013	June 30, 2012
Contributions:		
Members	$471,545	$469,870
Employer/Transfers	53,945	40,643
Subtotal	525,490	510,513
Investment Earnings (net of expenses)	1,945,216	1,186,577
TOTAL		
Disbursements for the Year		
Benefit Payments	(1,042,184)	(978,929)
Refunds to Members	(4,085)	(26,311)
TOTAL	(1,046,269)	(1,005,240)
Excess of Receipts over Disbursements	1,424,437	691,850
Reconciliation of Asset Balances		
Asset Balance as of the Beginning of Year	22,551,431	21,859,581
Excess of Receipts over Disbursements	1,424,437	691,850
Asset Balance as of the End of Year	23,975,868	22,551,431
Rate of Return	8.73%	5.49%

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	Rate
25	11.25%
30	7.25%
35	6.25%
40	5.25%
45	4.75%
50	4.50%
55	4.50%
60	4.50%

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

Age	Withdrawal	Disability	Death	Service Retirement
25	7.0%	0.142%	0.008%	
30	5.0	0.149	0.011	
35	4.0	0.220	0.015	
40	2.0	0.318	0.023	
45	1.0	0.488	0.032	25%
50		1.105	0.050	20
55		3.029	0.077	12
60		6.884	0.122	20
65				100

DEATHS AFTER RETIREMENT: The RP2000 Combined Healthy Mortality Table (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

No mortality is assumed for children in receipt of a benefit.

ASSET METHOD: Actuarial Value, as developed in Schedule A. The method of valuing assets is intended to recognize a "smoothed" market value of assets. Under this method, the difference between actual return on market value from investment experience and the expected return on market value is recognized over a five-year period. The actuarial value of assets is constrained to an 80% to 120% corridor around market value of assets.

VALUATION METHOD: Entry Age Normal Frozen Initial Liability Cost method. Under this method, actuarial gains and losses will directly impact the normal cost calculations of the employers. Initial liabilities for employer joining the Fund are determined upon entry and amortized over a 30-year period as a level dollar amount. This amortization amount is required in addition to the normal cost and administrative expenses of the Fund.

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

PERCENT MARRIED: 90% of active members are assumed to be married.

LOADING OR CONTINGENCY RESERVE: Expenses are included in the required contribution. Additionally, since retiree membership data has been reported without spousal information since 2007, a load has been added since then to more accurately reflect the potential retiree liability. The load factor is determined based on the assumed discount rate, post-retirement mortality tables and marital assumptions, and then applied to the projected benefits payable upon the death of the retirees.

SCHEDULE D

SUMMARY OF MAIN BENEFIT AND CONTRIBUTION PROVISIONS

The Connecticut Policemen and Firemen Survivors' Benefit Fund became effective July 1, 1966. The following summary describes the main membership, benefits and contribution provisions of the Fund as interpreted for the valuation.

MEMBERSHIP

Any municipality may elect or vote to include any of its policemen and/or firemen as of the next following July 1st. Only full-time employees are eligible for membership.

BENEFITS

Survivor benefits are provided upon the death of an active or retired member of the Fund. Benefits are based on the annual rate of full-time pay on the date of death. For retired members, the rate of pay immediately prior to retirement is used.

The annual benefit payable from the date of death is equal to one of the following:

1. To a surviving spouse, an amount equal to 30% of pay.
2. To a surviving spouse with one dependent child under the age of 18, an amount equal to 45% of pay.
3. To a surviving spouse with two or more dependent children under the age of 18, an amount equal to 60% of pay.
4. To one dependent child under the age of 18 in the case where there is no benefit payable to a surviving spouse, an amount equal to 30% of pay.
5. To two or more dependent children under the age of 18 in the case where there is no benefit payable to a surviving spouse, an amount equal to 45% of pay.
6. To a depended parent in the case where there is no benefit payable to a surviving spouse or dependent child, an amount equal to 30% of pay.

Benefits to surviving spouses cease upon death or remarriage. Benefits to dependent children cease at age 18. Benefits to dependent parents cease upon death.

If there are no survivors eligible for a benefit on the date of the member's death, accumulated member contributions without interest are paid to a designated beneficiary of the member's estate.

CONTRIBUTIONS TO THE FUND

Active members contribute at the rate of 1.00% of salary. Participating municipalities contribute an amount as determined by the biennial actuarial valuation that is necessary to adequately fund all benefits. An annual administration fee of $60 per active member is also paid by the employer.