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City of Meriden Employees' Retirement System

Actuarial Valuation Report

July 1, 2014

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April 9, 2015

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Executive Summary		
	2014	**2012**
Number of participants		
Active	598	641
Terminated vested	29	33
Vested in employee contributions only	64	65
Retired, Disabled and Beneficiaries	459	442
Total	1,150	1,181
Total annual plan salaries	$37,477,862	$38,741,709
Average plan salary	62,672	60,439
Actuarial accrued liability	165,531,186	150,068,846
Asset value		
Market	142,902,773	127,719,008
Actuarial	154,906,580	147,647,445
Unfunded actuarial accrued liability	10,624,606	2,421,401
Funded Ratio	94%	98%
Normal cost - City (valuation year)	2,054,872	1,916,517
Contributions for next two fiscal years		
1st Fiscal Year	3,218,884	2,302,606
2nd Fiscal Year	3,284,920	2,307,742

Introduction

Purpose of the Valuation

The purpose of the valuation is to determine the funded status of the plan as well as the recommended cash contribution for the plan year.

The ultimate cost of a pension plan is based primarily on the level of benefits promised by the plan. The pension fund's investment earnings service to reduce the cost of plan benefits and expenses. Thus,

City's ultimate cost	=	*benefits paid*	+	*expenses incurred*	-	*investment return*	-	*employee contributions*

The actuarial cost method distributes this ultimate cost over the working lifetime of current plan participants. By means of this budgeting process, costs are allocated to both past and future years, and a cost is assigned to the current year. The current year's allocated cost, or normal cost, is the building block upon which the range of annual cash contributions is developed.

Information Available in the Valuation Report

The Executive Summary and Introduction are intended to emphasize the notable results of the valuation from the perspective of the Plan Sponsor. Supporting technical detail is documented in Valuation Results and Actuarial Basis. A concise summary of the principal provisions of the Plan is outlined in Summary of Plan Provisions.

Contribution for 2016 and 2017 Fiscal Years

The actuarial valuation as of July 1, 2014 produces the contribution for the City's 2016 and 2017 fiscal years. The actuarially calculated contribution payable (after allowing for employee contributions) is as follows:

Fiscal Year Ending	
2016	**2017**
Amount	**Amount**
$3,218,884	$3,284,920

Introduction

(continued)

Asset Performance

The plan's assets provided the following rates of return on plan assets during the past two fiscal years.

	Fiscal Year Ending	
	2013	**2014**
Market Value Basis	4.0%	14.2%
Actuarial Value Basis	4.4%	6.0%

The Actuarial Value of assets, rather than the Market Value, is used to determine plan contributions. The Actuarial Value spreads the asset volatility over five years, thereby smoothing out fluctuations that are inherent in the Market Value.

The valuation uses a long-term investment return assumption of 8.00% on the Actuarial Value of assets. Because the actual return in 2013 and 2014 was less than this assumption, there was an actuarial loss from assets.

Participant Data

The valuation incorporates assumptions anticipating changes in the demographics of the participant population. Actual experience will produce greater or smaller than expected increases in the actuarial liabilities.

There were some small liability gains which were offset by the asset losses and the net result caused an increase in the contribution.

Plan Changes

Updates were made to the Employee Contribution provisions in accordance with the applicable union agreements.

Assumption and Cost Method Changes

The rates of retirement for Police and Fire were updated to better reflect plan experience and align with the assumption used in the separate Police and Fire plans.

Certification

This report presents the results of the July 1, 2014 Actuarial Valuation for the City of Meriden Employees' Retirement System (the Plan) for the purpose of estimating the funded status of the Plan and determining the Actuarially Determined Employer Contribution (ADEC) for the fiscal years ending June 30, 2016 and June 30, 2017. This report is intended to satisfy the requirements of Connecticut General Statute 7-450a. This report may not be appropriate for any other purpose.

The valuation has been performed in accordance with generally accepted actuarial principles and practices. It is intended to comply with all applicable Actuarial Standards of Practice.

I certify that the actuarial assumptions and methods that were selected by me and represent my best estimate of anticipated actuarial experience under the Plan.

In preparing this valuation, I have relied on employee data provided by the Plan Sponsor, and on asset and contribution information provided by the Plan Sponsor. I have audited neither the employee data nor the financial information, although I have reviewed them for reasonableness.

The results in this valuation report are based on the Plan as summarized in the *Summary of Plan Provisions* section of this report and the actuarial assumptions and methods detailed in the *Actuarial Basis* section of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: 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. Due to the limited scope of this report, an analysis of the potential range of such future measurements has not been performed.

I am a member of the American Academy of Actuaries and meet its Qualification Standards to render the actuarial opinion contained herein.

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Timothy A. Ryor, FSPA, FCA, MAAA, Enrolled Actuary
14-05126

April 9, 2015

Valuation Results

A. Actuarial Balance Sheet and Funded Ratio

	July 1, 2014	July 1, 2012
Actuarial Liabilities		
Accrued Liability for:		
Active Employees	$ 84,093,828	$ 81,922,578
Retirees, Disabled and Beneficiaries	79,546,188	66,474,131
Terminated Vested Employees	1,891,170	1,672,137
Total	165,531,186	150,068,846
Source of Funds		
Plan Assets	154,906,580	147,647,445
Unfunded Accrued Liability	10,624,606	2,421,401
Total	165,531,186	150,068,846
Funded Ratio		
Plan Assets divided by Actuarial Accrued Liability	94%	98%

Valuation Results
(continued)

B. Determination of Actuarial Gain (Loss)

The Actuarial Gain (Loss) for a year is the difference between the Expected Unfunded Actuarial Accrued Liability and the Actual Unfunded Actuarial Accrued Liability, without regard to any plan changes or changes in methods or actuarial assumptions. Such a gain (loss) is also referred to as an Experience Gain (Loss), since it reflects the difference between what was expected and what was actually experienced.

Actuarial Gain (Loss)	
1. Expected unfunded actuarial accrued liability July 1, 2014	
a. Expected unfunded actuarial accrued liability July 1, 2013	
i. Unfunded actuarial accrued liability July 1, 2012	$2,421,401
ii. Employer Normal Cost July 1, 2012	1,916,517
iii. Employer Contributions for 2012/2013	2,056,897
iv. Interest at 8.00% to July 1, 2013 on (i), (ii) and (iii)	266,340
v. Expected unfunded actuarial accrued liability July 1, 2013: (i) + (ii) - (iii) + (iv)	2,547,361
b. Expected unfunded actuarial accrued liability July 1, 2013	
i. Unfunded actuarial accrued liability July 1, 2013	2,547,361
ii. Estimated Employer Normal Cost July 1, 2013	1,916,517
iii. Employer Contributions for 2013/2014	2,316,905
iv. Interest at 8.00% to July 1, 2014 on (i), (ii) and (iii)	266,217
v. Expected unfunded actuarial accrued liability July 1, 2014: (i) + (ii) - (iii) + (iv)	2,413,191
2. Actual unfunded actuarial accrued liability July 1, 2014 for gain (loss) determination	10,624,606
3. Actuarial gain (loss): (1b)(v) - (2)	(8,211,415)
4. Sources of gain (loss)	
a. Net gain/(loss) from investments	(8,734,947)
b. Net gain/(loss) from liabilities	523,532
c. Total net gain/(loss): (a) + (b)	(8,211,415)

Valuation Results

(continued)

C. Valuation Results - July 1, 2014 and Employer Contribution for Fiscal 2016 and 2017

Based on the employee data and asset information furnished us, the actuarial methods and assumptions and the plan provisions, the results of the July 1, 2014 valuation are:

	City	Fire	Police	Total
1. Normal cost				
a. Total normal cost	$ 2,831,147	$ 493,259	$ 872,741	$ 4,197,147
b. Employee contributions	1,633,148	145,625	363,502	2,142,275
c. Town normal cost	1,197,999	347,634	509,239	2,054,872
2. Accrued liability				
a. Active	76,608,513	2,569,885	4,915,430	84,093,828
b. Vested	1,823,833	-	67,337	1,891,170
c. Retirees, Beneficiaries, Disabled	78,483,316	-	1,062,872	79,546,188
d. Total accrued liabilitity	156,915,662	2,569,885	6,045,639	165,531,186
3. Market value of assets	135,465,007	2,218,577	5,219,189	142,902,773
4. Actuarial value of assets	146,844,043	2,404,937	5,657,600	154,906,580
5. Unfunded accrued liability: (2d) - (4)	10,071,619	164,948	388,039	10,624,606
6. Payment on unfunded accrued liabilty				
a. Interest rate	8.00%	8.00%	8.00%	8.00%
b. Amortization years	23	23	23	23
c. Payment	899,192	14,727	34,644	948,563
7. Estimated administrative expenses	28,438	466	1,096	30,000
8. Annual town cost, adjusted for timing	2,210,654	377,340	566,778	3,154,772
9. Payroll	27,591,994	3,640,625	5,962,304	37,194,923
a. Cost as a percentage of payroll	8.01%	10.36%	9.51%	8.48%
10. Budget for Fiscal Year ending June 30, 2016				
a. Normal cost	1,233,939	358,063	524,516	2,116,518
b. Amortization	899,192	14,727	34,644	948,563
c. Expenses	28,438	466	1,096	30,000
d. Total, adjusted for timing	2,248,032	388,186	582,666	3,218,884
11. Budget for Fiscal Year ending June 30, 2017				
a. Total, adjusted for timing	2,286,531	399,357	599,032	3,284,920

Valuation Results
(continued)

D. Assets

Development of Asset Market Values

Summary of Fund Activity		
	July 1, 2012 - June 30, 2013	July 1, 2013 - June 30, 2014
1. Beginning value	$ 127,719,008	$ 129,000,010
2. Contributions		
a. City contributions during year	2,056,897	2,316,905
b. Employee contributions during year	1,984,446	2,096,283
c. Total for plan year	4,041,343	4,413,188
3. Disbursements		
a. Benefit payments during year	7,481,905	8,256,310
b. Administrative expenses during year	27,612	29,362
c. Other	294,284	308,727
d. Total for plan year	7,803,801	8,594,399
4. Net investment return		
a. Interest and dividends	3,231,600	2,645,657
b. Realized and unrealized gain (loss)	2,529,231	16,216,393
c. Investment-related expenses	(717,371)	(778,076)
d. Total	5,043,460	18,083,974
5. Ending value	129,000,010	142,902,773
6. Approximate rate of return	4.0%	14.2%

Valuation Results

(continued)

D. Assets

The Actuarial Value of assets is used in the determination of plan contributions. It phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. A method of smoothing is used because the Market Value can swing widely from one year to the next, resulting in undesirable fluctuations in pension contributions.

Determination of the Actuarial Value of Assets	
1. Actuarial value of assets at July 1, 2012	$ 147,647,445
2. Employer and employee contributions for 2013	4,041,343
3. Disbursements during 2013	(7,803,801)
4. Expected return during 2013	11,661,297
5. Expected actuarial asset value at July 1, 2013	155,546,284
6. Market value July 1, 2013	129,000,010
7. Appreciation (depreciation) recognized 20% x [(6) - (5)]	(5,309,255)
8. Actuarial asset value at July 1, 2013 (5) + (7)	150,237,029
9. Contributions for 2014	4,413,188
10. Disbursements during 2014	(8,594,399)
11. Expected return during 2014	11,851,714
12. Expected actuarial asset value at July 1, 2014	157,907,532
13. Market value July 1, 2014	142,902,773
14. Appreciation (depreciation) recognized 20% x [(13) - (12)]	(3,000,952)
15. Actuarial asset value at July 1, 2014	154,906,580
16. Actuarial value as a percent of market value	108.4%
2012-2013 Year return on Actuarial Value of Assets	4.4%
2013-2014 Year return on Actuarial Value of Assets	6.0%

Valuation Results
(continued)

E. Membership Data

Employee Participation: July 1, 2012 - July 1, 2014

Participant Data					
		Terminated Vested			
	Active	With Monthly Benefit	Contributions Only	Retired and Beneficiaries	Total
Total Participants July 1, 2012	641*	33	65	442	1,181
Adjustments	0	0	0	0	0
Retirements	-45	-6	N/A	51	0
Terminations					
With vested benefit	-4	4	N/A	0	0
Vested in contributions only	-3	N/A	3	0	0
Lump sum settlements	-20	-1	-4	0	-25
Deaths					
Without beneficiary	-2	-1	N/A	-34	-37
With beneficiary	0	0	N/A	-4	-4
New beneficiaries	0	0	N/A	4	4
Rehires	2	0	-2	0	0
New entrants	29	N/A	2	0	31
Total Participants July 1, 2014	598*	29	64	459	1,150
Average age					
July 1, 2012	49.4				
July 1, 2014	49.6				
Average service					
July 1, 2012	14.0				
July 1, 2014	14.7				
Total annual plan salaries					
July 1, 2012	$38,734,928				
July 1, 2014	37,477,862				
Total monthly benefits					
July 1, 2012		$23,264		$599,614	
July 1, 2014		24,722		695,141	

* *As of July 1, 2012: 552 City, 34 Fire, 55 Police*
As of July 1, 2014: 487 City, 44 Fire, 67 Police

Actuarial Basis

A. Actuarial Cost Methods

Asset Valuation Method

The Actuarial Value of assets used in the development of plan contributions phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year.

Actuarial Funding Method

The actuarial valuation method used in the cost calculations is the Entry Age Normal Actuarial Cost Method. Recommended annual contributions until the actuarial accrued liability is completely funded will consist of two pieces:

a. Normal Cost - The actuarial cost to fund benefit units earned during the year.

b. Amortization Payments of Unfunded Actuarial Accrued Liability - The actuarial cost to amortize the unfunded portion of the actuarial liability.

   For the July 1, 2014 Valuation, a closed amortization period of 23 years was used.

Process

The valuation is performed as of the first day of a plan year. The valuation is used to determine the City contributions for the following two fiscal years. To accomplish this objective, we apply the City's Normal Cost Accrual Rate from the valuation year, to the estimated payroll for the target year to determine the Normal Cost for that year. We assume the dollar amount of the amortization payments on the unfunded liability will remain unchanged between the two years.

Actuarial Basis
(continued)

B. Actuarial Assumptions

The actuarial assumptions used in the determination of costs and liabilities are as follows:

Interest:	8% compounded annually, net of investment expenses.
Salary Scale:	City: It is assumed that salaries will increase by 3% per annum (compounded) plus a graded scale of 7% at age 20 down to 0% at age 60 and beyond. Firefighters and Police: It is assumed that salaries will increase by 3% per annum (compounded) plus a graded scale of 7% at age 20 down to 0% at age 50 and beyond.
Mortality:	Retirement: City: RP-2000 Mortality Table with separate male and female rates, with no collar adjustment, separate tables for non-annuitants and annuitants, projected to the valuation date with Scale AA. Fire and Police:: RP-2000 Mortality Table with separate male and female rates, with blue collar adjustment, separate tables for non-annuitants and annuitants, projected to the valuation date with Scale AA. Disability: RP-2000 Mortality Table with separate male and female rates, with no collar adjustment, combined table for non-annuitants and annuitants.
Mortality Improvement:	Retirement: Projected to date of decrement using Scale AA (generational mortality). Disability: None.

Actuarial Basis
(continued)

B. Actuarial Assumptions (continued)

Termination prior to retirement:

City

Sample rates are as follows:

Age	Disability*	Withdrawal
20	0.03%	5.44%
25	0.03	5.29
30	0.03	5.07
35	0.03	4.07
40	0.05	4.19
45	0.09	3.54
50	0.20	2.48
55	0.43	0.00
60	0.87	0.00

**25% of disabilities are considered service connected*

Fire

Sample rates are as follows:

Age	Disability*	Withdrawal
20	0.06%	0.00%
25	0.09	0.00
30	0.11	0.00
35	0.15	0.00
40	0.22	0.00
45	0.36	0.00
50	0.61	0.00
55	1.01	0.00
60	1.63	0.00

**100% of deaths prior to retirement and 100% of disabilities are considered service connected*

Actuarial Basis

(continued)

B. Actuarial Assumptions (continued)

Police

Sample rates are as follows:

Age	Disability*	Withdrawal
20	0.12%	0.00%
25	0.17	0.00
30	0.22	0.00
35	0.29	0.00
40	0.44	0.00
45	0.72	0.00
50	1.21	0.00
55	2.02	0.00
60	3.25	0.00

**100% of deaths prior to retirement and 100% of disabilities are considered service connected*

Retirement Rates:

City

Age and service based table developed from experience from prior years.

Sample rates are as follows:

	Years of Service				
Age	**10**	**15**	**20**	**25**	**30+**
50	6.25%	6.25%	6.25%	6.25%	12.50%
55	6.25%	6.25%	6.25%	6.25%	12.50%
60	15.00%	15.00%	15.00%	15.00%	30.00%
65	25.00%	25.00%	25.00%	25.00%	25.00%
70	20.00%	20.00%	20.00%	20.00%	20.00%
75	100.00%	100.00%	100.00%	100.00%	100.00%

Actuarial Basis
(continued)

B. Actuarial Assumptions (continued)

Fire and Police

Completed Years of Service	Retirement
<25	0%
25	25
26-29	15
30	50
31-34	20
35+	100

Fire

Prior Valuation:

Sample rates are as follows:

Age	Retirement
50	23%
51	5
52	5
53	8
54	3
55	10
56	8
57	3
58	10
59	3
60	5
61	5
62	2
63	3
64	2
65	100

Actuarial Basis
(continued)

Police

Prior Valuation:

Sample rates are as follows:

Age	Retirement
50	30%
51	5
52	5
53	11
54	2
55	14
56	11
57	5
58	2
59	2
60	2
61	3
62	3
63	3
64	2
65	100

Percent Married: 75% of male participants and 65% of female participants.

Age of Spouse: Males are assumed to be three years older than their spouses.

Administrative Expense: We have included estimated administrative expenses in the development of the normal cost. The applicable amount for July 1, 2014 is $30,000.

Summary of Plan Provisions

This summary outlines the major features of the Plan. It does not give full details or cover all aspects of the Plan. The actual terms and conditions of the Plan are stated in documents with the City.

Effective date	Originally effective July, 1972. Amended March 18, 2003 and May 1, 2003, respectively, to include police officers and firefighters hired after those dates. Amended and restated as of July 1, 2006.
Eligibility for Participation	Regular full-time employees (other than Members of the State Teachers' Retirement System), including elected and appointed officials, are eligible at hire. City Employees hired on or after July 1, 2011 are not eligible. Police Officers hired after July 1, 2012 are not eligible.
Years of Service	Year and months (rounded) of employment during which employee has made required contributions.
Pay	Salary or wages including elective deferrals under 401(k) or Sec. 125, limited by IRC 401(a)(17).
Average Annual Pay	Average of three highest paid calendar years out of the last ten years.
Accrued Benefit	Firefighters and BOE: 2% of Average Final Pay times Years of Service with a maximum of 30 years. Police and non-BOE City: 2% of Average Final Pay times Years of Service for the first 20 years, plus 2.5% of Average Final Pay times Years of Service for years 21 through 32.

Summary of Plan Provisions
(continued)

Normal Retirement	
Age & Service Requirements	City: Earlier of • Later of 10 Years of Service and age 65 • Any combination of Years of Service and age equaling 80, with a minimum of 10 Years of Service Police Officers: Earlier of • Completion of 25 Years of Service • Any combination of Years of Service and age equaling 80, with a minimum of 10 Years of Service • Age 65 Firefighters: Earlier of • Completion of 25 Years of Service • Age 65
Benefit	Accrued Benefit
Early Retirement	
Eligibility	City and Police: completion of 10 Years of Service and age 55 Firefighters: None
Benefit	Accrued Benefit reduced by the following percentages: • City: 6.67% per year for each year between 65 and 60, plus 3.33% for each year between 60 and 55. • Police: 5% per year for years between early retirement date and date Member would have completed 25 Years of Service.

Summary of Plan Provisions
(continued)

Termination	
Prior to completion of 10 Years of Service	Return of employee contributions plus regular interest.
After completion of 10 Years of Service	Member may elect to receive either • Return of employee contributions plus regular interest, or • Accrued Benefit.
Disability	
Eligibility	None if service-related; otherwise completion of 10 Years of Service
Benefit	City and Firefighters: • Service-related: greater of Accrued Benefit, or 50% of annual rate of Pay at time of disability. • Non-Service related: Accrued Benefit. Police: • Service-related: if disabled from employment as police officer: 50% of annual rate of Pay at time of disability. • Service-related: if disabled from any gainful employment: Accrued Benefit as if Officer had no less than 25 Years of Service. • Non-Service related: Accrued Benefit as if Officer had no less than 20 Years of Service.

Summary of Plan Provisions
(continued)

Death Prior to Retirement	
Prior to completion of 10 Years of Service	Return of employee contributions plus regular interest.
City Employees after eligibility for Early or Normal Retirement	Surviving spouse may elect to receive either • Return of employee contributions plus regular interest, or • 50% of benefit Member would have received if retired day before death and elected 50% Joint and Survivor option.
Police Officer and Firefighter Service-related death	Surviving spouse receives 100% of Accrued Benefit as if Officer had at least 25 Years of Service. Upon attainment of date Officer or Firefighter would have attained 25 Years, spouse's benefit decreases to 50% of the pension amount. Payable until death or remarriage.
Death After Retirement and after age 65	Firefighters and BOE: $1,000 lump sum payable to beneficiary in addition to any other benefits under plan. Police and non-BOE City: $5,000 lump sum payable to beneficiary in addition to any other benefits under plan.
Normal Form of Retirement Benefit	Single life annuity.
Optional Forms of Benefits	Actuarial equivalent of Normal Form paid as • Ten year certain and continuous annuity • Joint and Survivor annuity with 100%, 66-2/3% or 50% of pension continued to designated beneficiary

Summary of Plan Provisions

(continued)

Employee Contributions	Firefighters: 6% of Pay, split between Pension and OPEB at the City's discretion. Prior Valuation: 6% of Pay. (In addition, 2% of Pay is contributed to the Retiree Health Insurance Fund.) BOE: 8% of Pay, split between Pension and OPEB at the City's discretion. Prior Valuation: 4% of Pay. (In addition, 3.5% of Pay is contributed to the Retiree Health Insurance Fund, and 4% of Pay will be contributed in fiscal year 2014.) Non-BOE City: 11% of Pay, split between Pension and OPEB at the City's discretion. Prior Valuation: Currently 6.5% of Pay, and 7% of Pay for fiscal year 2014. (In addition, 2.5% of Pay is contributed to the Retiree Health Insurance Fund, and 3% of Pay will be contributed for fiscal year ending 2014.) Police: 10% of Pay for employees hired before July 1, 2012, split between Pension and OPEB at the City's discretion. 7% of Pay for employees hired on or after July 1, 2012, for Pension only. Prior Valuation: Currently 4% of Pay, and 5% of Pay for fiscal year ending 2014. (In addition, 2% of Pay is contributed to the Retiree Health Insurance Fund.)
COLA	Retirement prior to July 1, 1989: None. Retirement after July 1, 1989 and prior to July 1, 2000: 3% every other year, beginning after the later of 3 years from retirement date or age 65. Retirement after July 1, 2000: 2% every year, beginning after the later of 2 years from retirement date or age 62. For Police and Firefighters with 25 Years of Service, beginning 1 year from retirement. Lifetime cap of 50% of original pension.
Retirement windows	Retirement windows were offered in 1999 and 2007.

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