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The Police Pension Trust Fund of the City of Stamford

Actuarial Valuation

July 1, 2011

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October 24, 2012

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I. Introduction

A. Purpose of the Valuation

Liabilities were valued as of July 1, 2010 using data, cost information, and assumptions from the July 1, 2010 Valuation. The July 1, 2010 liabilities were then projected to July 1, 2011.

The purpose of the valuation is to report the estimated funded status of the plan as of July 1, 2011 as well as an annual required contribution for the fiscal year ending June 30, 2013.

It is important to note that 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 serve to reduce the cost of plan benefits and expenses. Thus,

<i>City's Ultimate Cost</i>	=	<i>Benefits Paid</i>	+	<i>Expenses Incurred</i>	-	<i>Employee Contributions</i>	-	<i>Investment Return</i>
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Assets reported are actual (including accruals) through June 30, 2011 and reflect the asset smoothing method. Liabilities have been projected from the last full valuation done as of July 1, 2010.

We have assumed that no changes have been made to the plans since the July 1, 2010 actuarial valuation.

B. Comments

The market value return was approximately 13% this year. Because we are still smoothing in past asset losses, the actuarial smoothed return was 5.3% this year. Returning less than 8.0% increased the contribution by approximately 489,000. In total, the contribution increased \$544,000. Of this amount, \$55,000 was expected due to salary increases.

I. Introduction

continued

C. Certification

This report presents the results of the July 1, 2011 Actuarial Valuation for The Police Pension Trust Fund of the City of Stamford (the Plan) for the purpose of estimating the funded status of the Plan and determining the Annual Required Contribution (ARC) for the fiscal year ending June 30, 2013. 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 Trustee. 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 *Plan Provisions* section of this report and the actuarial assumptions and methods detailed in the *Description of Actuarial Methods and Assumptions* 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.



Evan W. Woollacott, Jr., FCA, MAAA, EA
11-04513

October 24, 2012

II. Results of the Valuation

A. Assets

Development of Market Value

1. Beginning value, 7/01/2010	
a. Trust assets	\$139,904,669
b. Accrued contributions - Employee	0
c. Benefits payable	0
d. Administrative expenses payable	<u>0</u>
e. Net: (a) + (b) - (c) - (d)	139,904,669
2. Contributions	
a. Contributions during year - Employer	4,117,000
b. Contributions during year - Employee	<u>1,266,377</u>
c. Total for Plan Year	5,383,377
3. Disbursements	
a. Benefit payments during year	9,891,817
b. Administrative expenses during year	0
c. Change in benefits payable	0
d. Change in administrative expenses payable	<u>0</u>
e. Total for plan year	9,891,817
4. Net Investment Return	
a. Interest and dividends	1,188,508
b. Other Income	0
c. Realized/unrealized gain (loss)	16,847,345
d. Investment - related expenses	<u>(427,644)</u>
e. Total	17,608,209
5. Ending Value, 7/01/2011	
a. Trust assets: (1e) + (2c) - (3e) + (4e)	153,004,438
b. Accrued contribution - Employer	0
c. Accrued contribution - Employee	0
d. Benefit payable	0
e. Administrative expenses payable	<u>0</u>
f. Net: (a) + (b) + (c) - (d) - (e) or (1) + (2) - (3) + (4)	153,004,438
6. Approximate rate of return 2010-2011	12.6%

II. Results of the Valuation

continued

Development of the Actuarial Asset Value

1. Actuarial Asset Value at June 30, 2010	\$166,770,165
2. Expected Return	13,254,274
3. Contributions	5,383,377
4. Disbursements	9,891,817
5. Expected Actuarial Asset Value at June 30, 2011 (1) + (2) + (3) – (4)	175,598,104
6. Market Value of Assets	153,004,438
7. Appreciation (Depreciation) Capitalized .20 x [(6) – (5)]	(4,518,733)
8. Preliminary Actuarial Asset Value at June 30, 2011 (5) + (7)	171,079,371
9. 70% of Market Value .7 x (6)	107,103,107
10. 130% of Market Value 1.3 x (6)	198,905,769
11. Actuarial Asset Value at June 30, 2011, not less than (9); and not greater than (10)	171,079,371
12. Round to nearest thousand	171,079,000
13. Actuarial Asset Return	5.3%

II. Results of the Valuation (continued)

B. Development of Projected Accrued Liability and Funded Ratio

	July 1, 2011 Interim Valuation	July 1, 2010 Valuation
1. Projected Accrued Liability	\$192,260,000	\$183,963,000
2. Assets (Actuarial Value)	171,079,000	166,770,000
3. Unfunded Accrued Liability: (1) - (2)	21,181,000	17,193,000
4. Funded Ratio: (2) ÷ (1)	89.0%	90.7%

II. Results of the Valuation (continued)

C. Annual Recommended Contribution

	July 1, 2011 for Fiscal Year Ending June 30, 2013	July 1, 2010 for Fiscal Year Ending June 30, 2012
1. Ongoing Annual Cost	\$3,743,000	\$3,581,000
2. Estimated Actuarial Employee Contributions	1,149,000	1,100,000
3. City's Ongoing Annual Cost: (1) - (2)	2,594,000	2,481,000
4. Amortization of Unfunded Accrued Liability (15 years)	2,291,000	1,860,000
5. City's Annual Contribution payable at the beginning of the year: [(3) + (4)]	4,885,000	4,341,000

III. Actuarial Cost Methods and Assumptions

A. Actuarial Cost Methods

Funding Method

The actuarial method used to develop the Annual Recommended Contribution is the Projected Unit Credit Cost Method.

The Ongoing Annual Cost equals the total present value for all participants of the benefit accruing during the coming year, increased to reflect salaries projected to the assumed retirement date.

The Accrued Liability equals the present value of all benefits accrued to date, increased to reflect salaries for all active participants. The total Accrued Liability is reduced by plan assets to develop the Unfunded Accrued Liability.

The cost of amortizing the Unfunded Accrued Liability constitutes a portion of the Annual Recommended Contribution.

The total Annual Recommended Contribution equals the Ongoing Annual Cost, further increased by any positive amortization of the Unfunded Accrued Liability. The amortization period is 15 years.

Asset Valuation Method

The Actuarial Value of Assets used in the development of the Annual Recommended Contribution is designed to smooth out fluctuations in the market value. An Expected Actuarial Value of Assets is determined based on the prior year's Actuarial Value of Assets and the assumed interest rate equal to the valuation interest rate. The Actuarial Value of Assets is equal to the Expected Actuarial Asset Value plus 20% of the difference between the Market Value and the Expected Value. The Actuarial Value of Assets is limited to a minimum of 70% or a maximum of 130% of the Market Value.

III. Actuarial Cost Methods and Assumptions

B. Actuarial Assumptions

Mortality: 1983 Group Annuity Mortality Table.

Investment Return: 8.0% per year.

Salary Scale: Average of 4.5% per year over the long term (includes cost of living and promotional increases).

Retirement Age: Sample rates of assumed annual rates of retirement after completion of 25 years are as follows:

Age	Retirement Rate
55	50%
56	50%
57	50%
58	50%
59	50%

An additional 50% is added upon attainment of 20 years of service and 100% of members remaining beyond the earlier of age 60 with 25 years of service or age 65 are assumed to retire.

Turnover: The following annual rates of turnover are assumed:

Age	Probability
20	5.44%
25	4.89%
30	3.70%
35	2.35%
40	0.00%
45	0.00%
50	0.00%
55	0.00%
60	0.00%

III. Actuarial Cost Methods and Assumptions

Disability: The following annual rates of disability are assumed:

Age	Probability
20	.05%
25	.05%
30	.05%
35	.06%
40	.09%
45	.18%
50	.40%
55	.85%
60	1.74%

Survivorship: 80% of employees assumed to be married, with wives 4 years younger than husbands.

Expenses: None, administrative expenses are assumed to be paid directly by City.

Sick Bank and Vacation Bank: 50% of retirees are assumed to elect an annuity from the fund.

Post-Retirement Life Insurance: 100% of active and retired employees are assumed to have a \$4,000 life insurance policy beginning at retirement.

IV. Summary of Current Principal Pension Plan Provisions

Pension Earnings: Base Salary in Final Year of Employment plus 14 paid holidays.

Normal Retirement:

Eligibility: 20 years of service

Benefit:	<u>Years of Service</u>	<u>% of Pension Earnings</u>
	20	50.00%
	21	53.00%
	22	56.00%
	23	59.00%
	24	62.00%
	25	65.00%
	26	67.33%
	27	69.66%
	28	71.99%
	29	74.32%
	30	76.65%

Limits on Annual Benefit:

Maximum: 76.65% of pension earnings.

Minimum: None.

Early Retirement:

Eligibility: None.

Benefit: See Termination Benefit.

Disability – Non-Service Connected:

Service Requirement: 20 years of service.

Benefit: 50% of salary, not less than accrued benefit.

Disability – Service Connected:

Service Requirement: None.

Benefit: 100% of pay (or 75% of pay depending on extent of disability).

IV. Summary of Current Principal Pension Plan Provisions (continued)

Pre-Retirement Death Benefit – Non Service Connected:

Service Requirement: 10 years of service.

Benefit: 50% of salary.

Pre-Retirement Death Benefit – Service Connected:

Service Requirement: None.

Benefit: 50% of salary.

Post-Retirement Spouse's Benefit: 100% of pension retiree was receiving.

Post-Retirement Death Benefit: Lump sum, excess of accumulated contributions over benefits paid to member or survivors (if not eligible for spouse's benefit).

Post-Retirement Life Insurance: Lump Sum equal to \$4,000.00.

Vesting in Accrued Benefit:

Eligibility: 10 years of service.

Benefit: 50% off final salary times the ratio of service at termination to 20 years. Benefit is payable when the officer would have had 20 years of service but not earlier than age 48.

Termination Benefit: Accumulated contributions as lump sum, if not vested.

Employee Contributions: 7% of salary; no contributions for those with 30 or more years of service.

Additional Retirement Benefits: Employees can trade in 50% of sick leave for additional pension credit. If an officer's sick bank has less than 200 days, unused vacation time may be added, subject to a maximum of 200 sick and unused vacation days combined. Each 20 days grants an additional 1.5% of salary up to a maximum of 7.5%.