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## **City of Norwich Volunteer Firefighters' Pension Plan**

Revised  
Actuarial Report for Cash  
Contribution Purposes

January 1, 2014

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May 28, 2014

# City of Norwich Volunteer Firefighters' Pension Plan

## Table of Contents

Section	Page
<b>Executive Summary</b>	1
<b>I. Introduction</b>	
A. Purposes of the Valuation	2
B. Experience During Period Under Review	2
C. Changes Since the Last Valuation	2
D. Certification	3
<b>II. Results of the Valuation</b>	
A. Actuarial Balance Sheet	4
B. Development of Unfunded Accrued Liability and Funded Ratio	5
C. Annual Contribution	6
<b>III. Supporting Exhibits</b>	
A. Membership Data	7
Age/Service Chart	8
B. Assets – Market Value	9
<b>IV. Actuarial Methods and Assumptions</b>	
A. Actuarial Cost Method	11
B. Actuarial Assumptions	12
<b>V. Summary of Current Principal Plan Provisions</b>	14

## City of Norwich Volunteer Firefighters' Pension Plan

<b>Executive Summary</b>		
	<b>January 1, 2014</b>	<b>January 1, 2012</b>
<b>Status</b>		
Active Volunteers	54	58
Volunteers with a Deferred Benefit	6	85
Volunteers with an assumed Return of Contributions	77	N/A
Retired Pensioners	50	52
Terminated Vested Employees	<u>0</u>	<u>0</u>
Total	187	195
<b>Actuarial present value of future benefits</b>	5,475,119	5,292,712
<b>Actuarial accrued liability*</b>	5,040,812	4,804,450
<b>Asset value</b>		
Market	2,139,179	1,639,416
<b>Funded Ratio</b>	42.44%	34.12%
<b>Normal cost – employer</b>	51,280	50,400
<b>Unfunded accrued liability</b>	2,901,633	3,165,034
<b>Employer Contributions as of end of plan year</b>	<b>303,861</b>	<b>308,987</b>
<b>Volunteer Contributions</b>	11,664	12,528

\* *EAN level \$ basis.*

# City of Norwich Volunteer Firefighters' Pension Plan

## Section I Introduction

### A. Purposes 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 information found in *II. Results of the Valuation B and C* of the report have been developed for this purpose.

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</i>								
<i>Ultimate</i>	=	<i>Benefits</i>	+	<i>Expenses</i>	-	<i>Investment</i>	-	<i>Employee</i>
<i>Cost</i>		<i>Paid</i>		<i>Incurred</i>		<i>Return</i>		<i>Contributions</i>

### B. Experience During Period Under Review

This report shows an Unfunded Accrued Liability of \$2,901,633. This represents a decrease of \$236,400 compared to the prior valuation. The plan experienced a net actuarial gain during the last 2 years. Gains resulted mostly from better than expected investment returns in 2012 and in 2013. The net gain decreased the resulting contribution by about \$16,000.

### C. Changes Since the Last Valuation

There were no significant changes in plan provisions since the previous January 1, 2012 valuation. The method of estimating who is an active volunteer expected to continue to contribute was changed from those who contributed in the prior year to those who contributed in either of the past two years.

# City of Norwich Volunteer Firefighters' Pension Plan

## Section I

### Introduction (continued)

#### D. Certification

This report presents the results of the January 1, 2014 Actuarial Valuation for the City of Norwich Volunteer Firefighters' Pension Plan (the Plan) for the purpose of estimating the funded status of the Plan and determining the Actuarially Determined Contribution (ADC) for the fiscal years ending June 30, 2015 and June 30, 2016. 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.

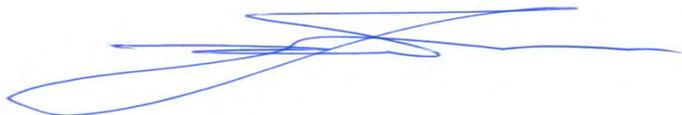
I certify that the actuarial assumptions and methods that were selected by me and represent my best estimate of anticipated actuarial experience under the Plan.

In preparing this valuation, I have relied on employee data provided by the City, and on asset and contribution information provided by the City. 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.



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

May 27, 2014

# City of Norwich Volunteer Firefighters' Pension Plan

## Section II Results of the Valuation

### A. Actuarial Balance Sheet

The essential elements of the actuarial valuation process are shown by the actuarial balance sheet. The description of the funding method in Section IV defines and explains the terms used in this actuarial balance sheet.

	January 1, 2014	January 1, 2012
<b>Actuarial Liabilities</b>		
Present Value of Future Benefits		
Active Employees	\$ 2,695,849	\$ 2,568,360
Retired Pensioners	<u>2,779,270</u>	<u>2,724,352</u>
TOTAL	5,475,119	5,292,712
<b>Source of Funds</b>		
Plan Assets (Market Value)	2,139,179	1,639,416
Unfunded Accrued Liability	2,901,633	3,165,034
Actuarial Present Value of Future Normal Cost Contributions	<u>434,307</u>	<u>488,262</u>
TOTAL	5,475,119	5,292,712

# City of Norwich Volunteer Firefighters' Pension Plan

## Section II Results of the Valuation (continued)

### B. Development of Unfunded Accrued Liability and Funded Ratio

	January 1, 2014	January 1, 2012
Accrued Liability:		
Active Employees	\$2,261,542	\$2,080,098
Retired Pensioners	<u>2,779,270</u>	<u>2,724,352</u>
Total Accrued Liability	5,040,812	4,804,450
Plan Assets (Market Value)	<u>2,139,179</u>	<u>1,639,416</u>
Unfunded Accrued Liability	2,901,633	3,165,034
Funded Ratio (Plan Assets Divided by Total Accrued Liability)	42.44%	34.12%

# City of Norwich Volunteer Firefighters' Pension Plan

## Section II

### Results of the Valuation (continued)

#### C. Annual Contribution for Fiscal Years Beginning July 1, 2014 and July 1, 2015

Based on the employee data and asset information furnished us, the actuarial methods and assumptions shown in Section IV and the plan provisions outlined in Section V, we have developed the City's contribution for both the 2014-2015 and 2015-2016 fiscal years.

#### Recommended Contribution

For each of the 2014-2015 and 2015-2016 Fiscal Years, the Recommended Contribution for the City, in addition to the member contributions, is as follows:

a) Total Normal Cost (including expenses)	\$ 62,944
b) Expected Employee Contributions	<u>11,664</u>
c) City Normal Cost (including expenses): (a) – (b)	51,280
d) Payment to Amortize the Actuarial Unfunded Past Service Liability over 25 years	<u>232,702</u>
e) City Contribution January 1: (c) + (d)	283,982
f) <b>Plus:</b> Interest at 7%	<u>19,879</u>
<b>g) City Contribution due December 31: (e) + (f)</b>	<b>303,861</b>
h) Expected Employee Contributions	<u>11,664</u>
i) Total Contributions	\$315,525

The contribution developed above assumes that the Unfunded Actuarial Past Service Liability will be amortized over a 25-year closed period from January 1, 2014. Future gains and losses will be amortized over a 20 year open period.

## City of Norwich Volunteer Firefighters' Pension Plan

### Section III Supporting Exhibits

#### A. Membership Data

	Active Participants					Total
	Occum	Taftville	Yantic	East Great Plains	Laurel Hill	
Active, 1/1/2012	20	30	38	51	4	143
Adjustment	0	0	0	0	0	0
Retirements*	0	0	0	-2	0	-2
Terminations	-4	-2	-0	-1	-1	-8
Transfers	0	-1	+1	0	0	0
Deaths						
Without beneficiary	0	0	0	0	0	0
With beneficiary	0	0	0	0	0	0
New Entrants	<u>+1</u>	<u>+0</u>	<u>+0</u>	<u>+2</u>	<u>+1</u>	<u>+4</u>
Active, 1/1/2014	17	27	39	50	4	137
Active and Accruing Benefits (included above)	5	7	17	22	3	54

\* Includes retirees who continue to accrue service.

#### Retired Participants\*

Retired, 1/1/2012	11	16	15	8	2	52
Adjustment	0	-1	0	-1	0	-2
New Retirements	0	0	+1	+1	0	+2
New Beneficiaries	0	0	0	+1	0	+1
QDRO Beneficiaries	0	0	0	0	0	0
Deaths	<u>-1</u>	<u>0</u>	<u>-2</u>	<u>0</u>	<u>0</u>	<u>-3</u>
Total, 1/1/2014	10	15	14	9	2	50

\* Includes Retirees accruing service.

## New Accounting Standards

In June of 2012, The Government Accounting Standards Board (GASB) issued statements 67 and 68. GASB 67 is a new standard that pertains to financial reporting for pension plans. In general, it replaces GASB 25 and it is effective for fiscal years beginning after June 15, 2013. GASB 68 is a new standard that pertains to accounting and financial reporting for pensions. In general, it replaces GASB 27 and it is effective for fiscal years beginning after June 15, 2014. Both statements replace the relevant provisions of GASB 50.

Currently, your annual financial report tracks the Net Pension Obligation (NPO) and the NPO is displayed in the footnote section of the annual financial report. With GASB 68, the NPO will no longer be tracked. A new item called Net Pension Liability (NPL) will be displayed not as a footnote but directly on your balance sheet. Liabilities are calculated using the Entry Age Normal Cost Method. In general, the NPL is EAN Accrued Liability less the Market Value of Assets. A table that displays the NPL for the City’s volunteer pension plan is below.

<u>Valuation Date</u>	<u>Entry Age Normal Accrued Liability</u>	<u>Market Value Of Assets</u>	<u>Net Pension Liability</u>
January 1, 2010	3,962,415	1,403,940	2,558,485
January 1, 2012	4,804,450	1,639,416	3,165,034
January 1, 2014	5,040,812	2,139,179	2,901,633

In addition to replacing the NPO with NPL, the Annual Required Contribution (ARC) will also be eliminated. Even though the ARC will be eliminated, we will work with you to develop a contribution policy. The new term for this is called the Actuarially Determined Contribution (ADC). One possible ADC is to use the same concepts that were used to develop the ARC which would mean no change in the present funding policy. The ADCs calculated in this report are based on the prior ARC methodology but with a 25-year amortization of the unfunded liability (previously 30-years).

Under the prior standards the ARC served as both the contribution policy and the accounting expense. As noted above, the ARC is eliminated and replaced with the ADC with regard to the funding policy. The new pension expense will be quite different from the ARC and it has several components (including normal cost, interest cost, amortization components, actual return, and plan changes). The new pension expense will help reconcile the change in the Net Pension Liability each year. In addition, it will be more volatile than the ARC and so not suitable for use as a contribution policy.

If the City wants to see how the pension expense works, please let us know and we will prepare a sample exhibit. Like the Net Pension Liability, the calculation of the pension expense is based upon the Entry Age Normal Cost Method and will no longer be a footnote but reported directly in the annual financial report.

# City of Norwich Volunteer Firefighters' Pension Plan

## Section III Supporting Exhibits (continued)

### Development of Asset Market Values

Summary of Fund Activity	
	Market Value
<b>1. Beginning value 1/1/2012</b>	
a. Trust assets	\$ 1,639,416
b. Accrued contribution	0
c. Benefits payable	0
d. Administrative expenses payable	0
e. Net: (a)+(b)-(c)-(d)	1,639,416
<b>2. Contributions</b>	
a. Contributions during year	324,040
b. Change in accrued contribution	0
c. Total for plan year	324,040
<b>3. Disbursements</b>	
a. Benefit payments during year	255,875
b. Administrative expenses during year	6,195
c. Change in benefits payable	0
d. Change in administrative expenses payable	0
e. Total for plan year	262,070
<b>4. Net investment return</b>	
a. Interest and dividends	46,592
b. Change in accrued income	0
c. Realized gain (loss)	7,562
d. Unrealized gain (loss)	117,221
e. Recognized capital appreciation	N/A
f. Required adjustment due to corridor	N/A
g. Reversal of prior year required adjustment	N/A
h. Investment-related expenses	(7,119)
i. Total	164,256
<b>5. Ending value 1/1/2013</b>	
a. Trust assets: (1a)+(2a)-(3a)-(3b)+(4i)	1,865,642
b. Accrued contribution	0
c. Benefits payable	0
d. Administrative expenses payable	0
e. Net: (a)+(b)-(c)-(d)	1,865,642
<b>6. Approximate rate of return 2012</b>	
	9.8%
<b>7. Rate of return for Form 5500, Schedule B:</b>	
$2x(4i) \div [(1e) + (5e) - (4i)]$	N/A

# City of Norwich Volunteer Firefighters' Pension Plan

## Section III Supporting Exhibits (continued)

### Development of Asset Market Values

Summary of Fund Activity	
	Market Value
<b>1. Beginning value 1/1/2013</b>	
a. Trust assets	\$ 1,865,642
b. Accrued contribution	0
c. Benefits payable	0
d. Administrative expenses payable	0
e. Net: (a)+(b)-(c)-(d)	1,865,642
<b>2. Contributions</b>	
a. Contributions during year	324,539
b. Change in accrued contribution	0
c. Total for plan year	324,539
<b>3. Disbursements</b>	
a. Benefit payments during year	258,172
b. Administrative expenses during year	1,800
c. Change in benefits payable	0
d. Change in administrative expenses payable	0
e. Total for plan year	259,972
<b>4. Net investment return</b>	
a. Interest and dividends	66,984
b. Change in accrued income	0
c. Realized gain (loss)	38,574
d. Unrealized gain (loss)	111,327
e. Recognized capital appreciation	N/A
f. Required adjustment due to corridor	N/A
g. Reversal of prior year required adjustment	N/A
h. Investment-related expenses	(7,915)
i. Total	208,970
<b>5. Ending value 1/1/2014</b>	
a. Trust assets: (1a)+(2a)-(3a)-(3b)+(4i)	2,139,179
b. Accrued contribution	0
c. Benefits payable	0
d. Administrative expenses payable	0
e. Net: (a)+(b)-(c)-(d)	2,139,179
<b>6. Approximate rate of return 2013</b>	11.0%
<b>7. Rate of return for Form 5500, Schedule B:</b> $2x(4i) \div [(1e) + (5e) - (4i)]$	N/A

# **City of Norwich Volunteer Firefighters' Pension Plan**

## **Section IV**

### **Actuarial Methods and Assumptions**

#### **A. Actuarial Cost Methods - Entry Age Normal**

##### **Normal Cost**

Under this method, the Normal Cost for each volunteer is the amount, necessary to fund his estimated normal retirement benefit if paid annually from entry age (the age at which the volunteer would have been first eligible for the plan, if it had always been in effect) to his assumed retirement age. The Normal Cost for the plan is the sum of the individual volunteers' Normal Costs. The Normal Cost for the City is the difference between the total Normal Cost for the year and the anticipated member contributions for that year.

##### **Past Service Liability**

The Actuarial Present Value of Future Pension Benefits that relates to service before the valuation date is the Actuarial Past Service Liability. The Unfunded City Actuarial Past Service Liability is the difference between the total Actuarial Past Service Liability and any Assets (including Accumulated Volunteer Contributions).

##### **Gains and Losses**

All gains and losses (the financial effect of the difference between the actual experience of the prior year and the result expected by the actuarial assumptions for that prior year) appear directly in the Actuarial Past Service Liability and are amortized at the same rate the City is amortizing the remaining Unfunded Actuarial Past Service Liability (25-year closed amortization as of January 1, 2014 and an open 20-year amortization of future gains & losses). Note: Prior amortization method was an open 30-year amortization.

# City of Norwich Volunteer Firefighters' Pension Plan

## Section IV

### Actuarial Methods and Assumptions (continued)

#### B. Actuarial Assumptions

Interest Return: 7.0%.

Mortality: Current Valuation: RP-2000 Mortality Table with separate male and female rates, with no collar adjustment, combined table for non-annuitants and annuitants projected to the valuation date with Scale AA.

Mortality Improvement Projected to date of decrement using Scale AA (generational mortality).

Retirement Age: The later of age 55 or 20 years of service. Active participants who are past their normal retirement age are assumed to retire immediately.

Employee Turnover: Volunteers who do not currently meet the Plan's eligibility requirements are excluded from the costs. In addition, termination rates based on the following scale are assumed:

<u>Age</u>	
25	5.00%
35	2.50%
45	0.75%
55	0.00%

Proportionate rates apply to intermediate ages. The above turnover is applied to all active volunteers to reflect the impact of turnover on the plan costs.

Expense Loading: Estimated annual expenses are included in the Normal Cost, \$3,500 currently.

Asset Valuation: Market Value of assets.

Death Benefits, Disability Benefits And Return of Contribution: Valued explicitly using the underlying Actuarial Cost Method.

# City of Norwich Volunteer Firefighters' Pension Plan

## Section IV

### Actuarial Methods and Assumptions (continued)

Rates of Disability:	1985 Pension Disability Table Class 1		
	<u>Age</u>	<u>Male</u>	<u>Female</u>
	25	.038%	.047%
	35	.069%	.136%
	45	.202%	.303%
	55	.722%	.952%
Percent of Active Employees Married:	80% of males and 80% of females (prior valuation 85%).		
Spouse's Age:	Husbands are assumed to be 3 years older than wives.		

# City of Norwich Volunteer Firefighters' Pension Plan

## Section V

### Outline of Plan Provisions (according to City Ordinance)

Effective Date:	January 1, 1988, Amended as of January 1, 2011 (Adopted January 31, 2011).
Eligibility:	Volunteers who have at least one year of service as of January 1, 1988 become eligible for membership on January 1, 1988.  Volunteers after January 1, 1987 shall become Members on the first of the year following completion of 12 months of continuous volunteer service.
Normal Retirement Date:	Age 55 with 20 years of Credited Service.
Normal Retirement Benefit:	\$18.00 (was \$15.00) per month multiplied by years of Credited Service to Normal Retirement Date maximized at 40 years (was 35 years).
Deferred Retirement:	A member who is satisfactorily able to perform his duties may remain in active volunteer service after Normal Retirement Date. A member may begin to receive benefits at Normal Retirement Date even though he continues volunteer service; benefits will be adjusted annually to reflect the additional year of credit and to reflect any change in benefit level.
Form of Annuity:	90% Joint and Survivor Annuity.
Disability:	Totally and permanently disabled in the line of duty, benefit based on 40 years (was 35 years) of service.

# City of Norwich Volunteer Firefighters' Pension Plan

## Section V

### Outline of Plan Provisions (according to City Ordinance) (continued)

Termination:	A refund of volunteer contributions with interest at 3% (was 5%).
Pre-Retirement Death Benefits: Spouse's Benefit:	Upon the death of an active Member who dies as a result of volunteer service to the City, his surviving spouse shall receive \$720 (was \$525) a month. A refund of volunteer contributions with interest shall be payable to a beneficiary if there is no surviving spouse.
Post-Retirement Death Benefits:	The surviving spouse shall receive (until death or remarriage) 90% of the pension the deceased member was receiving. If there is no surviving spouse, or the spouse dies or remarries payments shall be made to the then living children until they attain age 24.
Member's Contributions:	\$18.00 per month (was \$15.00 per month). No contributions after completion of 40 years (was 35 years) of service.

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