Leominster Retirement System

Actuarial Valuation
January 1, 2010

STONE
CONSULTING, INC.

October 2010

STONE
CONSULTING, INC.

October 12, 2010

Leominster Retirement Board
City Hall, Room 15
25 West Street
Leominster, MA 01453

Dear Leominster Retirement Board:

Stone Consulting, Inc. has performed a January 1, 2010 actuarial valuation of the Leominster Contributory Retirement System. This valuation and report was prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board Statement (GASB) No. 27. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the Leominster Contributory Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the plan's auditors.

The funding objective of the plan is to fully fund the system while attempting to maintain a stable contribution amount for the upcoming fiscal year that is consistent with prior funding schedules or if employer finances allow it, to increase the contribution amount. This funding objective is being met.

We anticipate over time the contribution level to decrease as a percentage of payroll. The contribution rate is determined by adding the normal cost plus an amortization of the unfunded actuarial accrued liability. The normal cost is expected to remain at a level percentage of payroll. The number of years of the amortization and/or the rate of increase of the amortization is adjusted to maintain a stable contribution level for the upcoming fiscal year. The length of the funding schedule contained in this actuarial valuation report is eight years, six years more than the prior January 1, 2008 actuarial valuation with a 2.26% amortization. The amortization increase cannot exceed 4.50% annually. The maximum length of the amortization is until Fiscal 2030. These limits are contained in Chapter 32 of the Massachusetts General Laws. If the Board accepted Section 22F of Chapter 32 these limits would be changed to a maximum length to Fiscal 2040 and the amortization increase can not exceed 4.00% annually.

The contribution amount for Fiscal Year 2011 is $7,155,958 that is $20,739 more than the anticipated contribution amount from the prior funding schedule. PERAC and GASB guidelines indicate that actuarial valuations should be conducted at least every other year. The Leominster Contributory Retirement Board conducted their previous actuarial valuation effective January 1, 2008. This satisfies these guidelines.

T (508) 359-9600
F (508) 359-0190
Lstone@stoneconsult.com

5 West Mill Street, Suite 5
Medfield, MA 02052

We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in inaccurate or misleading understanding of the results.

Respectfully submitted,

STONE CONSULTING, INC.

Actuaries for the Plan

Lawrence B. Stone

Lawrence B. Stone
Member, American Academy of Actuaries

TABLE OF CONTENTS

INTRODUCTION

This report presents the results of the actuarial valuation of the Leominster Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2010 for the purpose of determining the contribution requirements for Fiscal Year 2011 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2009
- The benefit provisions of M.G.L. Chapter 32;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2010);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (i.e., terminations, retirement, death, etc.)

JANUARY 1, 2010 VALUATION SUMMARY

	January 1, 2010	January 1, 2008	Change
Contribution Fiscal 2011	$7,155,958	$7,135,219	$20,739
Funding Schedule Length	8 years	2 years	6 years
Amortization Increase	2.26%[1]	0.00%	2.26%
Funding Ratio	70%	84%	(14%)
Interest Rate Assumption	8.00%	8.00%	0.00%
Salary Increase Rate Assumption	4.75%	4.75%	0.00%

- The Fiscal Year 2011 contribution is $20,739 more than the planned 2011 contribution. The System experienced a $28.3 million net actuarial asset loss from calendar year 2007. Stone Consulting, with agreement from the Retirement Board, values assets using market value of assets.

[1]2.25841%; referenced in the report with rounding as 2.26%

The System experienced a (14.3)% return, (7.4)% annually on the market value of assets versus our assumption of an 8.00% return. The System's asset portfolio, effective December 31, 2009 was 83% equities and alternative investments and 17% fixed income and short-term investments. The interest rate assumption was maintained at 8.00% to reflect anticipated market performance.

- We have kept the salary increase rate at 4.75%, consistent with the 2008 actuarial valuation. Total compensation changed by 3.7% over the prior valuation; however average annual compensation (compensation divided by number of active members) changed by 12.8%, (6.2% annually). This assumption is based on expected future experience.

- The funding level of the Leominster Retirement System is 70% compared to 84% for the January 1, 2008 actuarial valuation. Chapter 68 requires a minimum funding ratio of 65% along with additional criteria in order to avoid being labeled an "under performing system". If you are considered an "under performing system" the system assets are required to be transferred to PRIT. The system is likely to remain over the 65% funding ratio level unless the market has a sustained downturn or there are significant changes to benefit provisions. The funding level is estimated to be in the first quartile of Massachusetts' Contributory Retirement Systems.

  The schedule length is eight (8) years. The maximum period (without using Section 22F) permitted under Chapter 32 of the Massachusetts General Laws is 19 years (2030). The amortization percentage was changed from 0.00% to 2.26%, while maintaining the FY2011 contribution level consistent with the prior valuation. The maximum amortization permitted under Chapter 32 is 4.5%.

- Non-economic assumptions were changed from the January 1, 2008 actuarial valuation. The mortality assumption was changed to the RP-2000 mortality table projected 10 years with

Scale AA and the retirement age was extended to age 70 for Groups 1 and 2. The net effect of these changes was to increase the accrued liability by $77,000.

JANUARY 1, 2010 ACTUARIAL VALUATION RESULTS

	January 1, 2010	January 1, 2008	Percentage Change
Funding			
• Contribution for Fiscal 2011	$7,155,958		
• Contribution for Fiscal 2011 based on current schedule		$7,135,219	0.3%
Members *			
• ***Actives***			
a. Number	581	632	-8.1%
b. Annual Compensation	$24,404,478	$23,530,297	3.7%
c. Average Annual Compensation	$42,004	$37,231	12.8%
d. Average Attained Age	46.5	45.7	1.8%
e. Average Past Service	11.6	10.6	9.4%
• ***Retired, Disabled and Beneficiaries***			
a. Number	376	378	-0.5%
b. Total Benefits*	$6,875,508	6,307,157	9.0%
c. Average Benefits*	$ 18,286	$16,686	9.6%
c. Average Age	73.4	73.1	0.4%
• ***Inactives***			
a. Number	107	108	-0.9%
Normal Cost			
a. Total Normal Cost as of January 1, 2010	$3,105,790	$3,030,289	2.5%
b. Less Expected Members' Contributions	2,168,278	2,038,148	6.4%
c. Normal Cost to be funded by the Municipality	$937,512	$992,141	-5.5%
d. Adjustment to July 1, 2010	22,008	23,290	-5.5%
e. Administrative Expense Assumption	176,000	190,000	-7.4%
f. Normal Cost Adjusted to July 1, 2010	$1,135,520	$1,205,431	-5.8%

*Excluding State reimbursed COLA

SUMMARY OF JANUARY 1, 2010 VALUATION
(Continued)

	January 1, 2010	January 1, 2008	Percentage Change
Actuarial Accrued Liability as of January 1, 2010			
a. Active Members	$62,603,366	$56,424,441	11.0%
b. Inactive Members	958,833	758,079	26.5%
c. Retired Members and Beneficiaries	63,485,184	61,333,086	3.5%
d. Total	$127,047,383	$118,515,606	7.2%
Unfunded Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of January 1, 2010	$127,047,383	$118,515,606	7.2%
b. Less Actuarial Value of Assets as of January 1, 2010	88,935,779	99,004,504	-10.2%
c. Unfunded Actuarial Accrued Liability as of January 1, 2010	$38,111,604	$19,511,102	95.3%
d. Adjustment to July 1, 2010	$ 1,982,282	$1,280,962	
e. Unfunded Actuarial Accrued Liability as of July 1, 2010	$40,093,886	$20,792,064	

DEMOGRAPHIC INFORMATION

Members	January 1, 2010	Percentage Change
• ***Actives***		
a. Number	581	-8.1%
b. Annual Compensation	$24,404,478	3.7%
c. Average Annual Compensation	$42,004	12.8%
d. Average Attained Age	46.5	1.8%
e. Average Past Service	11.6	9.4%
• ***Retired, Disabled and Beneficiaries***		
a. Number	376	-0.5%
b. Total Annual Retirement Allowance excluding State-reimbursed COLA	$6,875,508	9.0%
• ***Inactives***		
a. Number	107	-0.9%

- The data was supplied by the Leominster Retirement Board. The data was checked under broad parameters for reasonableness. With the assistance of the staff of the Leominster Retirement Board, we were able to develop a database sufficient for valuation purposes.
- Payroll changed by 3.7% over the course of the past year. Average annual compensation changed by 12.8% over the same time period.
- The salary increase assumption includes general wage adjustments, step increases, and promotional increases.

HISTORY OF ACTIVE PARTICIPANTS

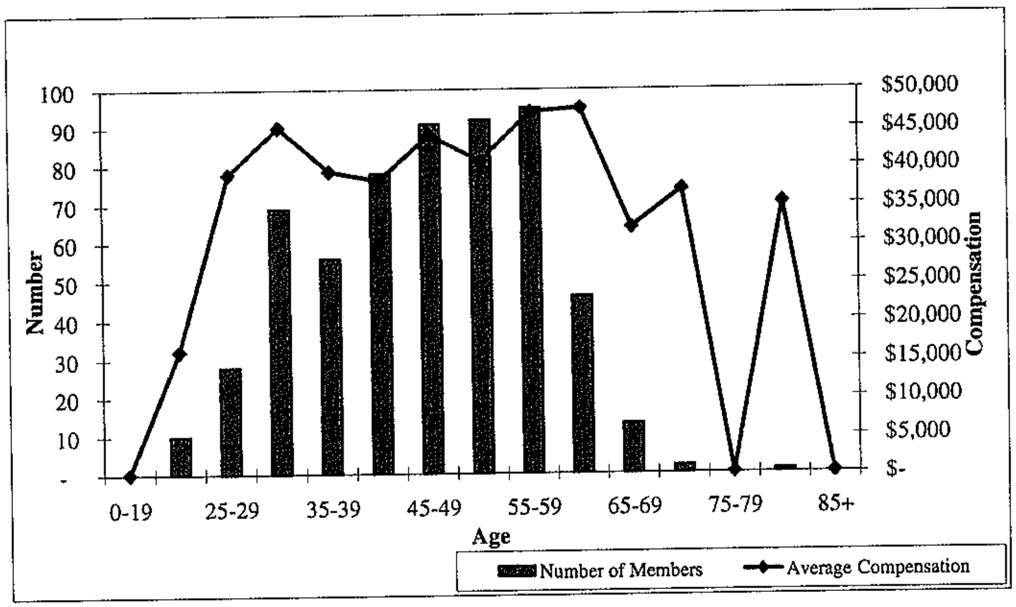
Valuation Year	Number	Average Age	Average Past Service	Average Ann'l Compensation
2010	581	46.5	11.6	$42,004
2008	632	45.7	10.6	$37,231
2007	616	45.7	10.8	$36,973
2006	660	45.0	10.0	$33,498
2004	613	45.4	10.2	$33,700
2001	610	44.3	9.6	$29,800

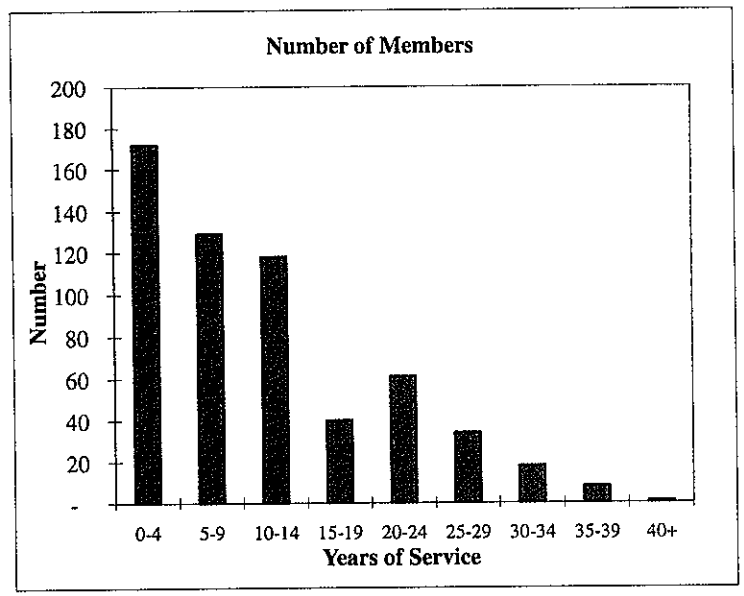
- Employee age has increased by 2.2 years and service has increased by 2 years over the course of the past nine years. Average annual compensation has grown by 24.9% (3.2% annually) over the same time period. The increase in age and service is consistent with the results we have observed with other Massachusetts cities and towns.

The charts on the following pages summarize demographic information regarding active and retiree members.

LEOMINSTER CONTRIBUTORY RETIREMENT SYSTEM
Distribution of Plan Members as of January 1, 2010
Active Members

AGE	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40 + Years	Total	Total Compensation	Average Compensation
0-19	-	-	-	-	-	-	-	-	-	-	$ -	$ -
20-24	10	-	-	-	-	-	-	-	-	10	159,710	15,971
25-29	26	2	-	-	-	-	-	-	-	28	1,088,085	38,860
30-34	31	32	6	-	-	-	-	-	-	69	3,104,103	44,987
35-39	24	19	13	-	-	-	-	-	-	56	2,196,827	39,229
40-44	28	16	21	4	9	-	-	-	-	78	2,967,741	38,048
45-49	21	25	14	5	22	4	-	-	-	91	4,000,291	43,959
50-54	12	13	33	10	10	10	4	-	-	92	3,724,073	40,479
55-59	15	12	20	11	7	13	11	6	-	95	4,458,482	46,931
60-64	4	5	9	10	7	5	3	2	1	46	2,181,872	47,432
65-69	1	4	2	-	4	2	-	-	-	13	414,549	31,888
70-74	-	-	-	-	2	-	-	-	-	2	73,656	36,828
75-79	-	-	-	-	-	-	-	-	-	-	-	-
80-84	-	1	-	-	-	-	-	-	-	1	35,089	35,089
85+	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	**172**	**129**	**118**	**40**	**61**	**34**	**18**	**8**	**1**	**581**	**$ 24,404,478**	**$ 42,004**





LEOMINSTER CONTRIBUTORY RETIREMENT SYSTEM
Distribution of Plan Members as of January 1, 2010
Retired Members

Disabled Member

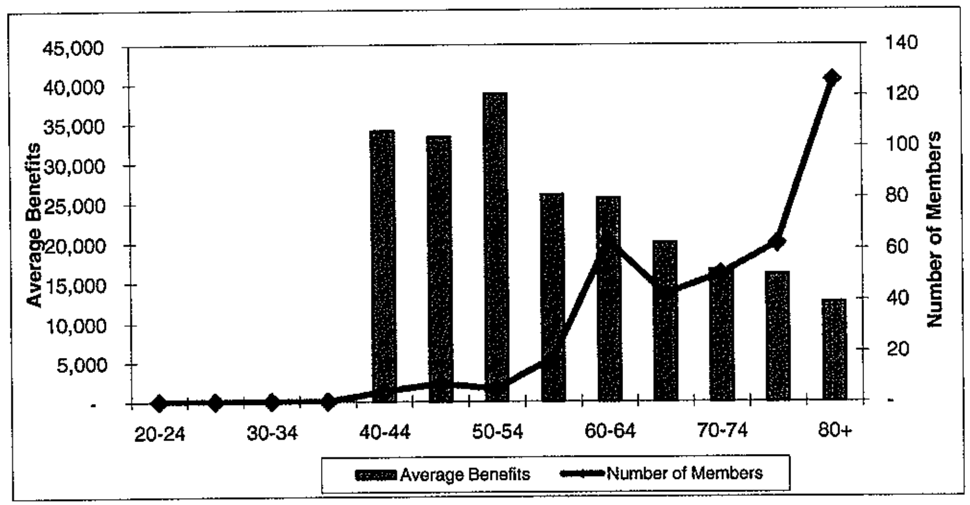
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	3	33,604	100,813
45-49	4	46,722	186,887
50-54	3	47,931	143,792
55-59	4	33,233	132,932
60-64	5	19,663	98,317
65-69	5	23,613	118,064
70-74	5	23,088	115,439
75-79	5	23,215	116,076
80+	9	21,333	192,001
TOTAL	**43**	**$ 28,007**	**$ 1,204,322**

Retired Members and Beneficiaries

Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	1	35,491	35,491
45-49	3	15,497	46,490
50-54	2	25,167	50,333
55-59	13	23,825	309,725
60-64	58	26,113	1,514,549
65-69	37	19,553	723,476
70-74	45	15,916	716,238
75-79	57	15,451	880,716
80+	117	11,916	1,394,169
TOTAL	**333**	**$ 17,031**	**$ 5,671,186**

Total

Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	4	34,076	136,304
45-49	7	33,340	233,377
50-54	5	38,825	194,125
55-59	17	26,039	442,657
60-64	63	25,601	1,612,866
65-69	42	20,037	841,539
70-74	50	16,634	831,677
75-79	62	16,077	996,792
80+	126	12,589	1,586,170
TOTAL	**376**	**$ 18,286**	**$ 6,875,508**



Benefits shown are net of State reimbursed COLA.

VALUATION METHODOLOGY

Stone Consulting, Inc. used the Entry Age Normal actuarial funding method in this actuarial valuation. The use of the Entry Age Normal actuarial funding method is consistent with the requirements of Chapter 32 of the Massachusetts General Laws.

NORMAL COST

		January 1, 2010	% of Payroll*
Gross Normal Cost (GNC)	$	3,105,790	12.7%
Employees Contribution		2,168,278	8.9%
Net Normal Cost (NNC)	$	937,512	3.8%
Adjusted to Beginning of Fiscal Year 2011	$	22,008	
Administrative Expense	$	176,000	0.7%
Adjusted Net Normal Cost With Admin. Expense	$	1,135,520	

*Payroll paid in 2009 for employees as of January 1, 2010 is $24,404,478. Payroll for new hires in 2009 was annualized.

- The gross normal cost (GNC) is the "price" of benefits accruing in the current year if the assumptions underlying the normal cost were realized.
- An individual normal cost represents that part of the cost of a member's future benefits that are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation.
- Anticipated employee contributions to be made during the year are subtracted from the GNC to determine employer normal cost, or net normal cost (NNC).
- Administrative expenses added to the NNC. The administrative expense does not include investment manager and custodial fees. These fees are considered part of the interest rate assumption that is net of fees.

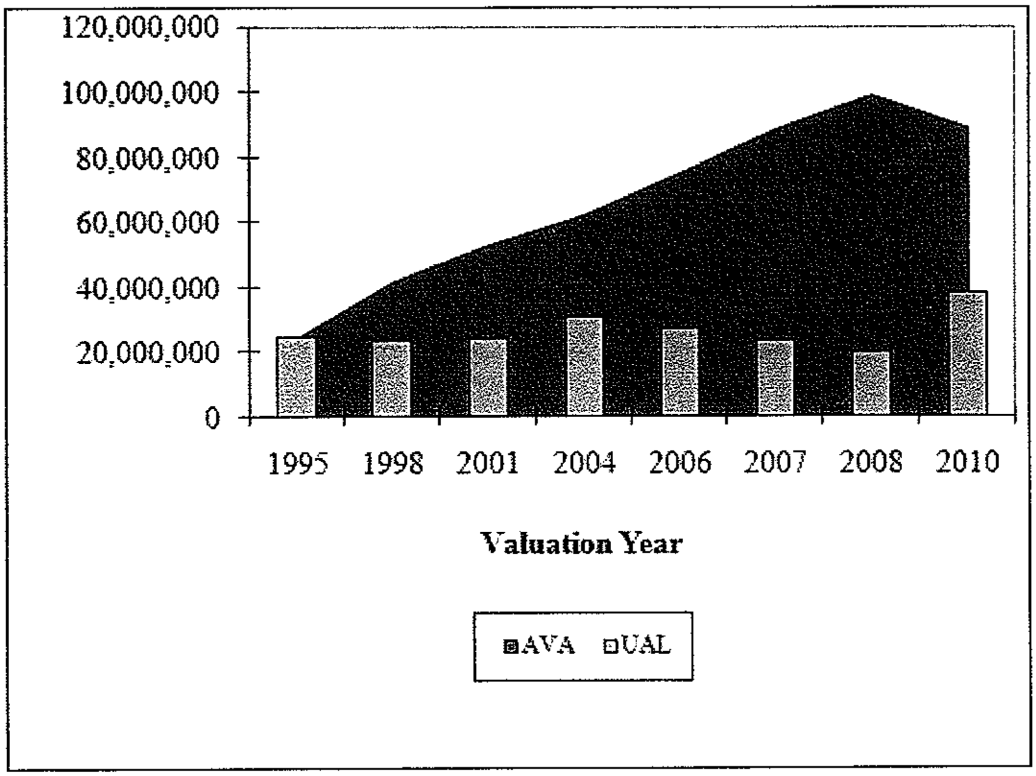
ACTUARIAL ACCRUED LIABILITY AND FUNDED STATUS

				January 1, 2010	Percentage Change
Active Actuarial Accrued Liability			$	62,603,366	11.0%
Superannuation	$	52,398,874			
Death	$	1,695,079			
Disability	$	6,901,171			
Termination	$	1,608,242			
Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability				64,444,017	3.8%
Retirees and Beneficiaries	$	50,787,120			
Disabled	$	12,698,064			
Inactive	$	958,833			
Total Actuarial Accrued Liability (AAL)			$	127,047,383	7.2%
Actuarial Value of Assets (AVA)			$	88,935,779	-10.2%
Unfunded Actuarial Accrued Liability			$	38,111,604	95.3%
Funded Ratio (AVA / AAL)					
2010 (8.00% interest rate):		70%			
2008 (8.00% interest rate):		84%			

- Actuarial Accrued Liability (AAL) is the “price” of benefits attributable to benefits earned in past years, or in other words, represents today’s value of all benefits earned by active and inactive members.
- The total AAL is $127,047,383. This along with an actuarial value of assets of $88,935,779 produces a funded status of 70%. This compares to a funded status of 84% for the 2008 valuation.

The chart on the following page is a history of the unfunded actuarial accrued liability (UAL) and the valuation assets (AVA) over the course of the past eight actuarial valuations.

HISTORY OF ACTUARIAL VALUATION OF ASSETS (AVA) AND UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAL)



DEVELOPMENT OF FUNDING SCHEDULE

Net Employer Normal Cost for Fiscal 2011	$	1,135,520
Amortization	$	6,020,438
Total Appropriation required for Fiscal 2011	$	7,155,958

- The funding schedule is composed of the normal cost, and the amortization of the actuarial accrued unfunded liability and is adjusted by the administrative expense assumption. The contribution is assumed to be made at the beginning of the Fiscal Year (July 1).

- The contribution amount for Fiscal 2011 is $7,155,958. The funding schedule is presented on page 15. The schedule's length is eight (8) years (for the fresh start base) which is six years more than the January 1, 2008 valuation schedule's length.

- In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. The use of a fresh-start approach results in a funding schedule in which the changes in contribution amounts from year to year are more consistent. The amortization percentage changed from 0.00% from the January 1, 2008 valuation to 2.26% The maximum amortization increase allowed under Chapter 32 is 4.50%.

FUNDING SCHEDULE

Fiscal Year	Normal Cost	Unfunded Liability	Funding Amortization of UAL	Schedule Contribution
2011	1,135,520	40,093,886	6,020,438	7,155,958
2012	1,189,457	36,799,324	6,156,404	7,345,861
2013	1,245,956	33,094,354	6,295,441	7,541,397
2014	1,305,139	28,942,826	6,437,618	7,742,757
2015	1,367,133	24,305,625	6,583,005	7,950,139
2016	1,432,072	19,140,430	6,731,677	8,163,749
2017	1,500,096	13,401,453	6,883,705	8,383,801
2018	1,571,350	7,039,168	7,039,168	8,610,518
2019	1,645,989	-	-	1,645,989

Amortization of Unfunded Liability as of July 1, 2010

Year	Type	Original Amort. Amount	Percentage Increasing	Original # of Years	Current Amort. Amount	Years Remaining
2011	Fresh Start	6,020,438	2.26%	8	6,020,438	8

Notes on Amortization of Unfunded Liability

Year is the year the amortization base was established.

Type is the reason for the creation of the base. Examples are Gain/(Loss) or Fresh Start.

Original Amortization Amount is the annual amortization amount when the base was established.

Percentage Increasing is the percentage that the Original Amortization Amount increases per year.

Original # of Years is the number of years over which the base is being amortized.

Current Amortization Amount is the amortization payment amount for this year.

Years Remaining is the number of years left to amortize the base.

Years Remaining is the number of years left to amortize the base.

ASSUMPTIONS AND METHODOLOGY SUMMARY

The principal actuarial assumptions used in this valuation are the same as the assumptions used in the previous valuation, except where noted, and are summarized in the following table:

Assumption	January 1, 2010 Valuation
Interest Rate	8.00% (same as prior valuation)
Salary Increase	4.75% (same as prior valuation)
COLA	3% of $12,000
COLA Frequency	Granted every year
Mortality	RP-2000 table projected 10 years with Scale AA. For members retired under an Accidental Disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality RP-2000 table, ages set forward 2 years. *(Prior valuation used RP-2000 without projection)*
Overall Disability	Groups 1 and 2 45% ordinary disability 55% accidental disability Group 4 10% ordinary disability 90% accidental disability
Retirement Rates	Groups 1 and 2 Ages 55 - 65 Group 4 Ages 50 – 65
Administrative Expense	$176,000 budget estimated for FY 2011 provided by Leominster Retirement Board.

ASSETS

a.	Cash	$	579,776.26
b.	Pooled Domestic Equity Funds		4,349,838.60
c.	Pooled International Equity Funds		11,820,573.67
d.	Pooled Global Equity Funds		21,855,255.18
e.	Pooled Domestic Fixed Income Funds		7,050,977.03
f.	Pooled Alternative Investments		5,241,896.82
g.	PRIT Cash		93.92
h.	PRIT Fund		38,037,365.79
i.	Sub-Total:	$	88,935,777.27
j.	Interest Due and Accrued	$	2.14
k.	Accounts Receivable		.00
l.	Accounts Payable		.00
m.	Sub-Total:	$	2.14
n.	Market Value of Assets [(i) + (m)]	$	88,935,779.41

- We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2009 (adjusted for interest due and accrued, payables and receivables) is $88,935,779.41.
- The asset allocation is approximately 1% cash, receivables, payables and short-term investments, 16% fixed income, and 83% equities and other investments such as real estate and alternative investments.
- Historically, 10 to 11% has been the expected long-term rate of return for equities, and 6 to 7% has been the expected long-term rate of return for fixed income securities. Many economists and investment professionals are projecting lower returns of 6.25 to 9.00% for equities and 3.65 to 6.00% for fixed income securities. In light of these projections, as well as historical investment returns, the 8.00% interest rate assumption is within the reasonable assumption range. We encourage close monitoring for changes in investment performance against expectations.

DISCLOSURE INFORMATION UNDER GASB STATEMENT 25

Schedules of Funding Progress

(Dollars In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets A	Actuarial Accrued Liability B	Unfunded AAL (UAAL) B-A	Funded Ratio A/B	Covered Payroll C	UAAL as a % of Covered Payroll (B-A)/C
1/1/2010	$88,936	$127,047	$38,111	70%	$24,404	156%
1/1/2008	$99,005	$118,516	$19,511	84%	$23,530	83%
1/1/2007	$88,606	$111,752	$23,146	79%	$22,775	102%
1/1/2006	$75,143	$101,959	$26,816	74%	$22,109	121%
1/1/2004	$62,214	$92,559	$30,345	67%	$20,658	147%

Notes to Schedules

Additional information as of the latest actuarial valuation follows:

Valuation date	1/1/2010
Actuarial cost method	Entry Age Normal
Amortization method	Approximate level percent of payroll Closed
Remaining amortization period	8 years
Asset valuation method	Market value of assets (adjusted by accounts payable and receivable)
Actuarial assumptions:	
Investment Rate of Return	8.00% per year
Projected Salary Increases	4.75% per year

PERAC INFORMATION DISCLOSURE

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2010

The normal cost for employees on that date was:	$2,168,278	8.9% of payroll
The normal cost for the employer was:	$937,512	3.8% of payroll
The actuarial liability for active members was:	$62,603,366	
The actuarial liability for retired members was (includes inactives):	$64,444,017	
Total actuarial accrued liability:	$127,047,383	
System assets as of that date:	88,935,779	
Unfunded actuarial accrued liability:	$38,111,604	
The ratio of system's assets to total actuarial liability was:	70%	
As of that date the total covered employee payroll was:	$24,404,478	

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.00% per annum
Rate of Salary Increase:	4.75% per annum

SCHEDULE OF FUNDING PROGRESS (Dollars in $000's)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
1/1/2010	$88,936	$127,047	$38,111	70%	$24,404	156%
1/1/2008	$99,005	$118,516	$19,511	84%	$23,530	83%
1/1/2007	$88,606	$111,752	$23,146	79%	$22,775	102%
1/1/2006	$75,143	$101,959	$26,816	74%	$22,109	121%
1/1/2004	$62,214	$92,559	$30,345	67%	$20,658	147%

ACTUARIAL METHODS AND ASSUMPTIONS

Actuarial Methods

1. Actuarial Cost Method

   The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age.

   The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.

2. Asset Valuation Method

   Market value of assets (adjusted by payables and receivables).

3. Fiscal Year Adjustment

   The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2011. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.

Actuarial Assumptions

1. Investment Return

   8.00% per year net of investment expenses. (Same as the prior valuation)

2. Salary Increases

   4.75% per year. (Same as the prior valuation)

ACTUARIAL METHODS AND ASSUMPTIONS
(Continued)

3. Withdrawal Prior to Retirement

The rates shown at the following sample ages illustrate the withdrawal assumption. Withdrawal rates are set to zero if the retirement rate at that age is nonzero.

	Rate of Withdrawal	
Age	*Group 1 and 2*	*Group 4*
20	37.51%	3.15%
25	28.23%	2.85%
30	17.35%	2.48%
35	10.07%	1.88%
40	7.21%	0.84%
45	5.68%	0.06%
50	4.57%	0.00%
55	0.00%	0.00%

4. Disability Prior to Retirement

The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

	Rate of Disability	
Age	*Group 1 and 2*	*Group 4*
20	0.03%	0.10%
25	0.04%	0.12%
30	0.06%	0.18%
35	0.08%	0.26%
40	0.12%	0.38%
45	0.18%	0.58%
50	0.31%	0.98%
55	0.50%	1.60%
60	0.61%	1.97%

Disability is assumed to be 45% ordinary and 55% accidental for Group 1 and 2 and 10% ordinary and 90% accidental for Group 4.

ACTUARIAL METHODS AND ASSUMPTIONS
(Continued)

5. Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service:

	Rates of Retirement	
Age	***Group 1 and 2***	***Group 4***
50	N/A	2%
51	N/A	2%
52	N/A	2%
53	N/A	2%
54	N/A	2%
55	10%	5%
56	3%	5%
57	3%	5%
58	3%	5%
59	5%	5%
60	5%	10%
61	5%	10%
62	10%	20%
63	10%	20%
64	10%	20%
65	50%	100%
66	35%	N/A
67	35%	N/A
68	35%	N/A
69	35%	N/A
70	100%	N/A

6. Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) projected 10 years with Scale AA. (*Prior valuation used RP-2000 without projection.*)

7. Disabled Life Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) projected 10 years with Scale AA, set-forward by 2 years. Death is assumed to be due to the same cause as the disability 40% of the time.
(*Prior valuation used RP-2000 without projection.*)

ACTUARIAL METHODS AND ASSUMPTIONS
(Continued)

8.	Regular Interest Rate Credited to Annuity Savings Account	2% per year.
9.	Family Composition	Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the male being the older).
10.	Cost-of-Living Increases	A 3% COLA on the first $12,000 of a member's retirement allowance is assumed to be granted every year.
11.	Administrative Expenses	Estimated budgeted amount of $176,000 for the Fiscal Year 2011 excluding investment management fees and custodial fee is added to the Normal Cost.
12.	Step Increases	Step increases are assumed to be part of the salary increase assumption.
13.	Credited Service	Service between date of hire and date of membership is assumed to be purchased by all members.
14.	Contribution Timing	Contributions are assumed to be made at the beginning of the fiscal year (July 1).
15.	Valuation Date	January 1, 2010.

SUMMARY OF PRINCIPAL PROVISIONS

1. Participant

Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

Group 1: general employees

Group 2: employees in specified hazardous occupations (e.g., electricians)

Group 4: police and firefighters

2. Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5% of Pay
1975 – 1983	7% of Pay
1984 – June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 contribute an additional 2% of pay over $30,000.

3. Pay

a. Pay

Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.

b. Average Pay

The average of pay during the 3 consecutive years that produce the highest average or, if greater, during the last three years (whether or not consecutive) preceding retirement.

4. Credited Service

Period during which an employee contributes to the retirement system plus certain periods of military service and "purchased" service.

SUMMARY OF PRINCIPAL PROVISIONS
(Continued)

5. Service Retirement

a. Eligibility

Completion of 20 years of credited service or attainment of age 55 and completion of 10 years of credited service. If hired prior to 1978 or a member of group 4, attainment of age 55.

b. Retirement Allowance

Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

Benefit Percentage	Group 1	Group 2	Group 4
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45

In addition, veterans receive an additional $15 per year for each year of credited service up to 20 years.

6. Deferred Vested Retirement

a. Eligibility

Completion of 10 years of credited service (for elected and appointed members, 6 years in the event of involuntary termination).

SUMMARY OF PRINCIPAL PROVISIONS
(Continued)

6. Deferred Vested Retirement *(continued)*

b. Retirement Allowance	Determined in the same manner as 5b. with the benefit payable at age 55, unless deferred until later at the member's option. Member contributions with interest may be withdrawn after separation from service. If contributions are withdrawn, eligibility for retirement benefits is forfeited. Members hired before 1984 receive full interest on contributions that are withdrawn; otherwise, one half the credited interest is provided for members who withdraw after 5 but before 10 years of credited service and no interest is provided for withdrawals before 5 years of credited service.

7. Ordinary Disability Retirement

a. Eligibility	Non-job related disability after completion of 10 years of credited service.
b. Retirement Allowance	Determined in the same manner as 5b. with the benefit payable immediately. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.

8. Accidental Disability Retirement

a. Eligibility	Disabled as a result of an accident in the performance of duties. No age or service requirement.
b. Retirement Allowance	72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

9. Non-Occupational Death

a. Eligibility	Dies while in active service, but not due to occupational injury. 2 years of service.
b. Retirement Allowance	Benefit as if Option C had been elected (see below). Minimum monthly benefits provided as follows: spouse - $250, first child - $120, each additional child - $90.

10. Occupational Death

a. Eligibility	Dies as a result of an occupational injury.
b. Benefit Amount	Same as 8b.

11. Cost-of-Living Increases — An increase of up to 3% applied to the first $12,000 of annual benefit. Funded by the Municipality from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through Fiscal 1998 are reimbursed by the Commonwealth.

12. Optional Forms of Payment

a. Option A	Allowance payable monthly for the life of the member.
b. Option B	Allowance payable monthly for the life of the member with a guarantee of remaining member contributions with interest.
c. Option C	Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops up" to the non-reduced amount.

GLOSSARY OF TERMS

1.	Present Value of Benefits	Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.
2.	Actuarial Cost Method	The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.
3.	Actuarial Assumptions	Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.
4.	Actuarial Accrued Liability	The portion of the Present Value of Benefits that is attributable to past service.
5.	Normal Cost	The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.
6.	Actuarial Assets	Market value of assets (adjusted by payables and receivables).
7.	Unfunded Actuarial Accrued Liability	That portion of the Actuarial Accrued Liability not covered by System Assets.
8.	PERAC	Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.
9.	PRIT	Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system.
10.	GASB	Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities).

Acknowledgement of Qualification

Acknowledgement of Qualification for January 1, 2010 actuarial valuation of the Leominster Employees' Retirement System:

I, Lawrence Stone, am a consultant for Stone Consulting, Inc. I am a member of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Lawrence B. Stone

Lawrence B. Stone
Member, American Academy of Actuaries

STONE CONSULTING, INC.

October 13, 2009

Mr. John J. Richard
Chair
Leominster Retirement Board
City Hall, Room 15
25 West Street
Leominster, MA 01453

Re: Police, Fire and DPW $1,500 Uniform Allowance

Dear Mr. Richard:

We have completed the requested study of the effect of including a $1,500 uniform allowance as part of compensation for the Leominster Retirement System purposes. The study was, as discussed, as of January 1, 2008 using the data, assumptions and methodology of the most recent actuarial valuation. The results were <u>not</u> adjusted to the current date.

The inclusion of a $1,500 uniform allowance would increase the Present Value of Future Benefits (PVFB) and Present Value of Future Employee Contributions by $1,200,000 and $345,000 respectively. The cost to the employer is the difference between these two numbers or $855,000. Most of this increase, $769,000, represents past service liability and as such would be added to the unfunded accrued liability and amortized under the funding schedule. The remainder would be funded through future normal costs. For Fiscal Year 2009 the increase in amortization payment is $171,000 based on the current funding schedule of 5 years with a 4.50% amortization increase. The increase in normal cost is $7,000 for a total of $178,000.

T (508) 359-9600
F (508) 359-0190
Lstone@stoneconsult.com

5 West Mill Street, Suite 5
Medfield, MA 02052

The increases by department are as follows:

	(1) Increase in PVFB	(2) Increase in Present Value of Future Employee Contributions	(3) Increase in Net PVFB Employer Funded (1)-(2)	(4) Increase in Appropriation FY 2009
Police	$422,000	$152,000	$270,000	$54,000
Fire	550,000	132,000	418,000	87,000
DPW	228,000	61,000	167,000	37,000
Total	$1,200,000	$345,000	$855,000	$178,000

The number of employees in each group and total compensation inclusive of the $1,500 uniform allowance is as follows:

	Number	Total Compensation
Police	72	$4,334,000
Fire	80	4,940,000
DPW	54	2,373,000
Total	206	$11,647,000

If you have any questions, please let us know.

Sincerely,

Lawrence B. Stone
Member, American Academy of Actuaries