Leominster Retirement System

Actuarial Valuation
January 1, 2011

STONE
CONSULTING, INC.

November 2011

STONE
CONSULTING, INC.

November 30, 2011

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, 2011 actuarial valuation of the Leominster 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. 25. 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 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

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actuarial valuation report is five years and the amortization increase is 2.77%. The schedule's length cannot exceed nineteen years (fully funded by 2030) and the amortization increase cannot exceed 4.50% annually. These limits are contained in Chapter 32 of the Massachusetts General Laws. Recent legislation has extended the maximum length of the funding schedule to Fiscal 2040 and reduced the maximum amortization increase to 4%. These limitations are contained in Section 22F of Chapter 32. The Leominster Retirement Board is not relying on this section of Chapter 32.

The contribution amount for Fiscal Year 2012 is $7,361,542 that is $110 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 Retirement Board conducted their previous actuarial valuation effective January 1, 2010. This satisfies these guidelines.

One of the notable occurrences since the past valuation, was the Leominster Retirement Board's decision to not grant a cost-of-living-adjustment on July 1, 2010. This was reflected in this valuation.

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

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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, 2011 for the purpose of determining the contribution requirements for Fiscal Year 2012 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2010
- The benefit provisions of M.G.L. Chapter 32 and related statutes;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2011);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (i.e., terminations, retirement, death, etc.)

JANUARY 1, 2011 VALUATION SUMMARY

	January 1, 2011	January 1, 2010	Change
Contribution Fiscal 2012	$7,361,542	$7,361,432	$110
Funding Schedule Length	5 years	7 years	-2 years
Amortization Increase	2.77%	2.26%	0.51%
Funding Ratio	79%	70%	9%
Interest Rate Assumption	8.00%	8.00%	0.00%
Salary Increase Rate Assumption	4.75%	4.75%	0.00%

- The Fiscal Year 2012 contribution is $110 more than the planned 2012 contribution. The System experienced a $3.7 million net actuarial asset gain from calendar year 2010. Stone Consulting, with agreement from the Retirement Board, values assets using market value of assets.

The System experienced a 12.1% return on the market value of assets versus our assumption of an 8.00% return. The System's asset portfolio, effective December 31, 2010 was 86% equities and alternative investments and 14% 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 2010 actuarial valuation. Total compensation changed by -8.2% over the prior valuation; however average annual compensation (compensation divided by number of active members) changed by 0.7%. This assumption is based on expected future experience. The decrease in total compensation is mainly due to an 8.8% decrease in number of active members.

- The funding level of the Leominster Retirement System is 79% compared to 70% for the January 1, 2010 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 five (5) 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 2.26% to 2.77%, while maintaining the FY2012 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, 2010 actuarial valuation. The mortality assumption was changed to the RP-2000 mortality table projected 11 years with Scale AA. This increased the accrued liability by $230,000.

- No COLA was granted by the Board for July 1, 2010. This has been reflected in this valuation. COLA's of 3% have been assumed on the $12,000 COLA base.

JANUARY 1, 2011 ACTUARIAL VALUATION RESULTS

	January 1, 2011	January 1, 2010	Percentage Change
Funding			
• Contribution for Fiscal 2012	$7,361,542		
• Contribution for Fiscal 2012 based on current schedule		$7,361,432	0.0%
Members *			
• ***Actives***			
a. Number	530	581	-8.8%
b. Annual Compensation	$22,407,674	$24,404,478	-8.2%
c. Average Annual Compensation	$42,279	$42,004	0.7%
d. Average Attained Age	46.9	46.5	0.9%
e. Average Past Service	12.4	11.6	6.9%
• ***Retired, Disabled and Beneficiaries***			
a. Number	384	376	2.1%
b. Total Benefits*	$7,298,992	6,875,508	6.2%
c. Average Benefits*	$ 19,008	$18,286	3.9%
c. Average Age	73.3	73.4	-0.1%
• ***Inactives***			
a. Number	121	107	13.1%
Normal Cost			
a. Total Normal Cost as of January 1, 2011	$2,810,030	$3,105,790	-9.5%
b. Less Expected Members' Contributions	2,009,473	2,168,278	-7.3%
c. Normal Cost to be funded by the Municipality	$800,557	$937,512	-14.6%
d. Adjustment to July 1, 2011	18,793	22,008	-14.6%
e. Administrative Expense Assumption	149,000	176,000	-15.3%
f. Normal Cost Adjusted to July 1, 2011	$968,350	$1,135,520	-14.7%

*Excluding State reimbursed COLA

SUMMARY OF JANUARY 1, 2011 VALUATION
(Continued)

	January 1, 2011	January 1, 2010	Percentage Change
Actuarial Accrued Liability as of January 1, 2011			
a. Active Members	$60,024,206	$62,603,366	-4.1%
b. Inactive Members	1,130,311	958,833	17.9%
c. Retired Members and Beneficiaries	67,583,697	63,485,184	6.5%
d. Total	$128,738,214	$127,047,383	1.3%
Unfunded Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of January 1, 2011	$128,738,214	$127,047,383	1.3%
b. Less Actuarial Value of Assets as of January 1, 2011	101,217,515	88,935,779	13.8%
c. Unfunded Actuarial Accrued Liability as of January 1, 2011	$27,520,699	$38,111,604	-27.8%
d. Adjustment to July 1, 2011	$ 1,495,632	$1,982,282	
e. Unfunded Actuarial Accrued Liability as of July 1, 2011	$29,016,331	$40,093,886	

DEMOGRAPHIC INFORMATION

Members	January 1, 2011	Percentage Change
• ***Actives***		
a. Number	530	-8.8%
b. Annual Compensation	$22,407,674	-8.2%
c. Average Annual Compensation	$42,279	0.7%
d. Average Attained Age	46.9	0.9%
e. Average Past Service	12.4	6.9%
• ***Retired, Disabled and Beneficiaries***		
a. Number	384	2.1%
b. Total Annual Retirement Allowance excluding State-reimbursed COLA	$7,298,992	6.2%
• ***Inactives***		
a. Number	121	13.1%

- 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 -8.2% over the course of the past year. Average annual compensation changed by 0.7% over the same time period. This is due to salaries remaining relatively flat for many participants.

- The salary increase assumption includes general wage adjustments, step increases, and promotional increases.

HISTORY OF ACTIVE PARTICIPANTS

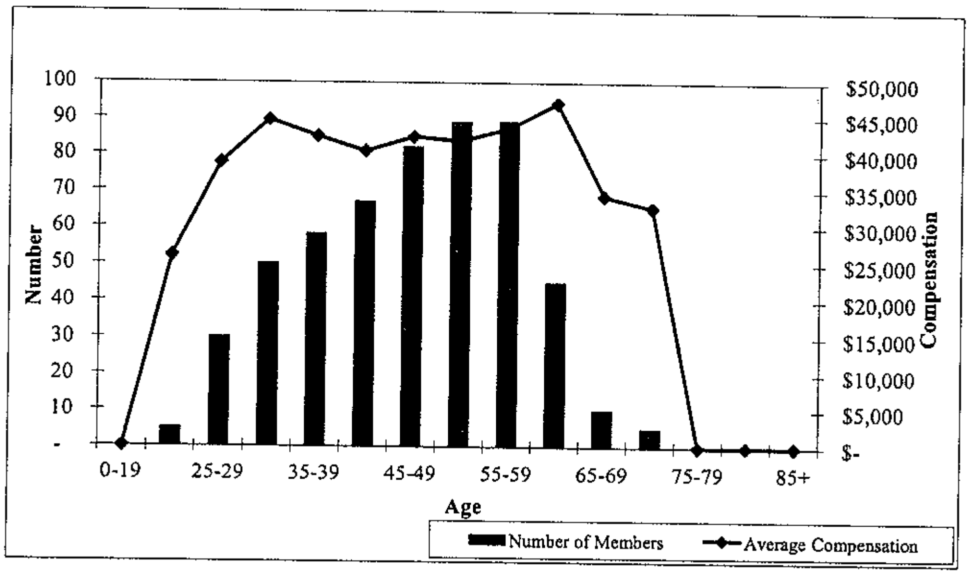
Valuation Year	Number	Average Age	Average Past Service	Average Ann'l Compensation
2011	530	46.9	12.4	$42,279
2010	581	46.5	11.6	$42,004
2008	632	45.7	10.6	$37,231
2007	616	45.7	10.8	$36,973
2006	660	45.0	10.0	$33,498
2004	613	45.4	10.2	$33,700
2001	610	44.3	9.6	$29,800

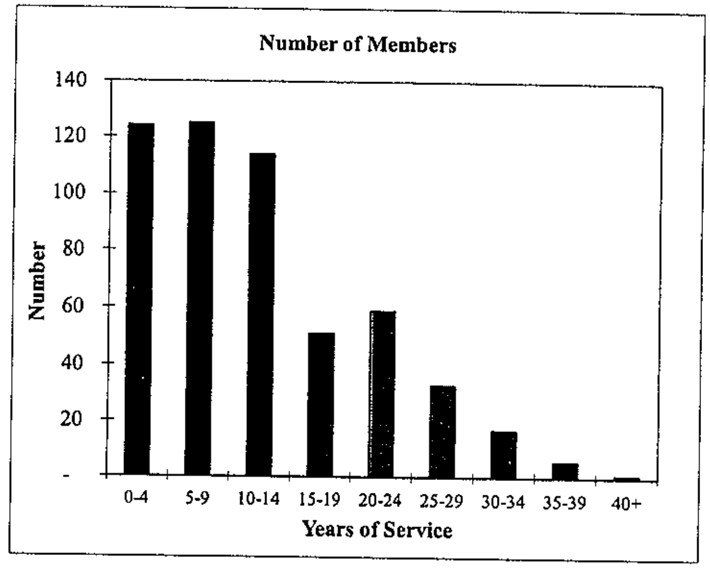
- Employee age has increased by 2.6 years and service has increased by 2.8 years over the course of the past ten years. Average annual compensation has grown by 41.9% (3.6% annually) over the same time period. The increase in age and service is consistent with the results we have observed with other 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, 2011
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	4	1	-	-	-	-	-	-	-	5	130,269	26,054
25-29	24	6	-	-	-	-	-	-	-	30	1,164,943	38,831
30-34	22	23	4	1	-	-	-	-	-	50	2,236,453	44,729
35-39	15	25	16	2	-	-	-	-	-	58	2,460,946	42,430
40-44	18	15	19	10	5	-	-	-	-	67	2,707,798	40,415
45-49	17	23	13	5	21	3	-	-	-	82	3,475,477	42,384
50-54	7	11	32	14	10	11	4	-	-	89	3,723,551	41,838
55-59	13	11	18	10	10	14	9	4	-	89	3,882,921	43,628
60-64	3	8	9	8	8	3	3	2	1	45	2,118,976	47,088
65-69	1	1	2	1	2	2	1	-	-	10	342,855	34,286
70-74	-	1	1	-	3	-	-	-	-	5	163,485	32,697
75-79	-	-	-	-	-	-	-	-	-	-	-	-
80-84	-	-	-	-	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	124	125	114	51	59	33	17	6	1	530	$ 22,407,674	$ 42,279





LEOMINSTER CONTRIBUTORY RETIREMENT SYSTEM
Distribution of Plan Members as of January 1, 2011
Retired Members

Disabled Member

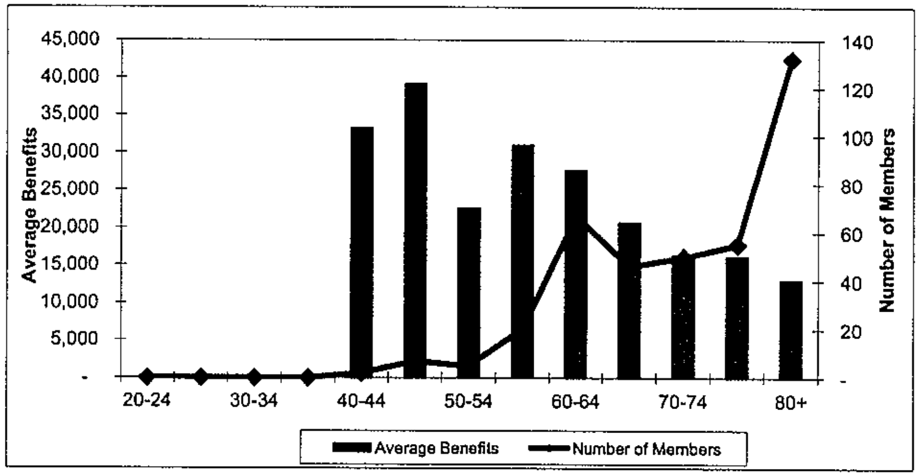
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	1	31,677	31,677
45-49	6	42,671	256,023
50-54	1	37,435	37,435
55-59	5	42,775	213,876
60-64	6	24,257	145,541
65-69	6	24,636	147,819
70-74	3	25,763	77,288
75-79	7	22,032	154,226
80+	8	21,602	172,812
TOTAL	**43**	**$ 28,760**	**$ 1,236,698**

Retired Members and Beneficiaries

Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	1	34,867	34,867
45-49	1	18,210	18,210
50-54	4	18,848	75,392
55-59	15	27,074	406,115
60-64	61	28,067	1,712,074
65-69	40	20,101	804,043
70-74	47	15,724	739,026
75-79	48	15,319	735,310
80+	124	12,397	1,537,256
TOTAL	**341**	**$ 17,778**	**$ 6,062,294**

Total

Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	2	33,272	66,544
45-49	7	39,176	274,233
50-54	5	22,565	112,827
55-59	20	31,000	619,991
60-64	67	27,726	1,857,616
65-69	46	20,693	951,862
70-74	50	16,326	816,315
75-79	55	16,173	889,537
80+	132	12,955	1,710,068
TOTAL	**384**	**$ 19,008**	**$ 7,298,992**



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, 2011	% of Payroll*
Gross Normal Cost (GNC)	$	2,810,030	12.5%
Employees Contribution		2,009,473	9.0%
Net Normal Cost (NNC)	$	800,557	3.6%
Adjusted to Beginning of Fiscal Year 2012	$	18,793	
Administrative Expense	$	149,000	0.7%
Adjusted Net Normal Cost With Admin. Expense	$	968,350	

*Payroll paid in 2010 for employees as of January 1, 2011 is $22,407,674. Payroll for new hires in 2010 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.

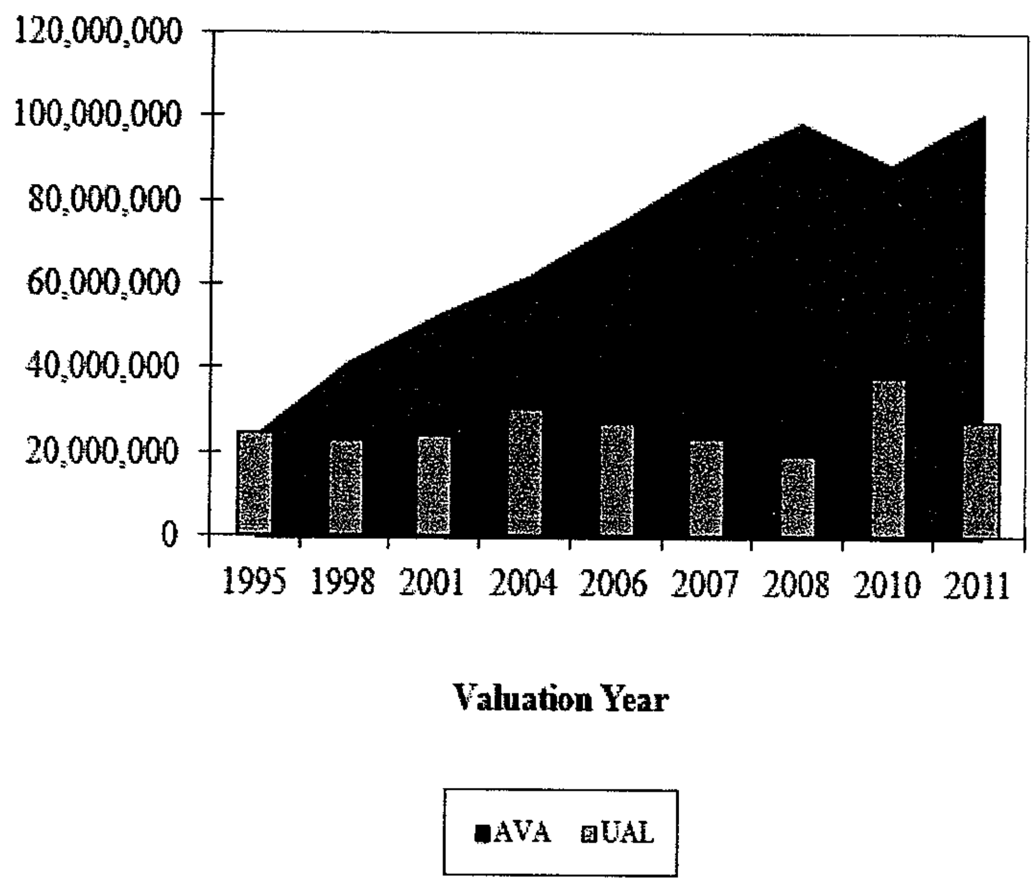
ACTUARIAL ACCRUED LIABILITY AND FUNDED STATUS

				January 1, 2011	Percentage Change
Active Actuarial Accrued Liability			$	60,024,206	-4.1%
Superannuation	$	50,384,387			
Death	$	1,589,853			
Disability	$	6,568,232			
Termination	$	1,481,734			
Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability				68,714,008	6.6%
Retirees and Beneficiaries	$	54,534,921			
Disabled	$	13,048,776			
Inactive	$	1,130,311			
Total Actuarial Accrued Liability (AAL)			$	128,738,214	1.3%
Actuarial Value of Assets (AVA)			$	101,217,515	13.8%
Unfunded Actuarial Accrued Liability			$	27,520,699	-27.8%
Funded Ratio (AVA / AAL)					
2011 (8.00% interest rate):		79%			
2010 (8.00% interest rate):		70%			

- 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 $128,738,214. This along with an actuarial value of assets of $101,217,515 produces a funded status of 79%. This compares to a funded status of 70% for the 2010 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 nine 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 2012	$	968,350
Amortization	$	6,393,192
Total Appropriation required for Fiscal 2012	$	7,361,542

- 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 2012 is $7,361,542. The funding schedule is presented on page 14. The schedule's length is five (5) years (for the fresh start base) which is two years less than the January 1, 2010 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 2.26% from the January 1, 2010 valuation to 2.77% The maximum amortization increase allowed under Chapter 32 is 4.50%.

LEOMINSTER CONTRIBUTORY RETIREMENT SYSTEM

FUNDING SCHEDULE

Fiscal Year	Normal Cost	Unfunded Liability	Funding Amortization of UAL	Schedule Contribution
2012	968,350	29,016,331	6,393,192	7,361,542
2013	1,014,347	24,432,989	6,570,283	7,584,630
2014	1,062,528	19,291,721	6,752,281	7,814,809
2015	1,112,998	13,542,596	6,939,319	8,052,317
2016	1,165,866	7,131,538	7,131,538	8,297,404
2017	1,221,244	-	-	1,221,244
2018	1,279,253	-	-	1,279,253

Amortization of Unfunded Liability as of July 1, 2011

Year	Type	Original Amort. Amount	Percentage Increasing	Original # of Years	Current Amort. Amount	Years Remaining
2012	Fresh Start	6,393,192	2.77%	5	6,393,192	5

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, 2011 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 11 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 with a 10 year 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 – 70 Group 4 Ages 50 – 65
Administrative Expense	$149,000 budget estimated for FY 2012 provided by Leominster Retirement Board.

ASSETS

a.	Cash	$	571,485.54
b.	Pooled Domestic Equity Funds		5,473,406.26
c.	Pooled International Equity Funds		12,612,154.10
d.	Pooled Global Equity Funds		24,324,777.67
e.	Pooled Domestic Fixed Income Funds		4,305,070.36
f.	Pooled Alternative Investments		5,571,532.10
g.	PRIT Cash		90,092.61
h.	PRIT Fund		48,268,975.67
i.	Sub-Total:	$	101,217,494.31
j.	Interest Due and Accrued	$	20.39
k.	Accounts Receivable		.00
l.	Accounts Payable		.00
m.	Sub-Total:	$	20.39
n.	Market Value of Assets [(i) + (m)]	$	101,217,514.70

- We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2010 (adjusted for interest due and accrued, payables and receivables) is $101,217,514.70.
- The asset allocation is approximately 1% cash, receivables, payables and short-term investments, 13% fixed income, and 86% 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. Note that the interest rate is net of custodial and management expenses.

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
1/1/2011	$101,218	$128,738	$27,520	79%	$22,408	123%
1/1/2010	$88,936	$127,047	$38,112	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%

Notes to Schedules

Additional information as of the latest actuarial valuation follows:

Valuation date	1/1/2011
Actuarial cost method	Entry Age Normal
Amortization method	Approximate level percent of payroll Closed
Remaining amortization period	5 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, 2011		
The normal cost for employees on that date was:	$2,009,473	9.0% of payroll
The normal cost for the employer was:	$800,557	3.6% of payroll
The actuarial liability for active members was:	$60,024,206	
The actuarial liability for retired members was (includes inactives):	$68,714,008	
Total actuarial accrued liability:	$128,738,214	
System assets as of that date:	101,217,515	
Unfunded actuarial accrued liability:	$27,520,699	
The ratio of system's assets to total actuarial liability was:	79%	
As of that date the total covered employee payroll was:	$22,407,674	

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)
1/1/2011	$101,218	$128,738	$27,520	79%	$22,408	123%
1/1/2010	$88,936	$127,047	$38,112	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%

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 2012. 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:

Age	**Rates of Retirement** *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 11 years with Scale AA. (*Prior valuation used RP-2000 with 10 year projection.*)

7. Disabled Life Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) projected 11 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 with 10 year 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 $149,000 for the Fiscal Year 2012 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	Credited service is provided by the retirement board. It may include service from prior boards. Liability from service for prior board is assumed to be representative of the liability associated with prior members who will or have retired from other boards.
14.	Contribution Timing	Contributions are assumed to be made at the beginning of the fiscal year (July 1).
15.	Valuation Date	January 1, 2011.

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, 2011 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