Duluth Teachers' Retirement Fund Association

Actuarial Valuation and Review as of July 1, 2011

SEGAL

SEGAL

The Segal Company
101 North Wacker Drive, Suite 500 Chicago, IL 60606-1724
T 312.984.8500 F 312.984.8590 www.segalco.com

November 10, 2011

Board of Trustees
Duluth Teachers' Retirement Fund Association
625 East Central Entrance
Duluth, Minnesota 55811

Members of the Board:

We are pleased to submit this Actuarial Valuation and Review as of July 1, 2011. It summarizes the actuarial data used in the valuation, establishes the funding requirements for fiscal 2012 and analyzes the preceding year's experience.

The census information on which our calculations were based was prepared by the Fund and the financial information was provided by the Fund. That assistance is gratefully acknowledged. The actuarial calculations were completed under our supervision.

This actuarial valuation has been completed in accordance with generally accepted actuarial principles and practices. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions used in the valuation are consistent with those in the statute, and reasonably represent the experience of the plan.

We certify that to the best of our knowledge and belief this actuarial valuation was performed in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work.

Sincerely,

THE SEGAL COMPANY

By:

Thomas D. Levy, FSA, FCIA, MAAA, EA
Senior Vice President and Chief Actuary

Matthew A. Strom, FSA, MAAA, EA
Consulting Actuary

cc: Jay Stoffel, Executive Director

SECTION 1

VALUATION SUMMARY

SECTION 2

VALUATION RESULTS

SECTION 3

SUPPLEMENTAL INFORMATION

SECTION 4

REPORTING INFORMATION

Purpose

This report has been prepared by The Segal Company to present a valuation of the Duluth Teachers' Retirement Fund Association (DTRFA) as of July 1, 2011. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The contribution requirements presented in this report are based on:

- Section 356.215 of the Minnesota Statutes, as amended in 2011;
- Standards for actuarial work as prescribed by the Legislative Commission on Pensions and Retirement;
- The benefit provisions of the Retirement Fund, as administered by the Legislative Commission on Pensions and Retirement;
- The data as provided and confirmed by the DTRFA staff;
- The characteristics of covered active members, inactive vested members, pensioners and beneficiaries as of July 1, 2011, provided by the Fund;
- The audited assets of the Fund as of June 30, 2011, provided by the Fund;
- Economic assumptions regarding future salary increases and investment earnings; and
- Other actuarial assumptions regarding employee terminations, retirement, death, etc.

Significant Issues in Valuation Year

1. The following Plan changes are reflected in this valuation as described in the 2010 Omnibus Pension Bill:
   a. The employee contribution rate increases from 5.50% to 6.00% for the 2012 fiscal year, and from 6.00% to 6.50% for fiscal 2013 and thereafter.
   b. The employer contribution rate increases from 5.79% to 6.29% for the 2012 fiscal year, and from 6.29% to 6.79% for fiscal 2013 and thereafter.
2. The 2010 Omnibus Pension Bill included a change to the post-retirement adjustment under Chapter 354A.27, Subdivisions 5, 6 and 7. The new law provides for a post-retirement benefit adjustment of CPI-U (up to 5%) when the funding ratio using the actuarial value of assets equals or exceeds 90%. Until that 90% threshold is met, the post-retirement adjustment will operate under a transition schedule, which provides for an adjustment based on the funding ratio using the market value of assets (2% when greater than 90%, 1% when greater than 80%, otherwise 0%). Since projected contributions are not sufficient to cover the long-term cost of the plan, neither threshold is expected to be met (90% funded on an actuarial value basis or 80% funded on a market value basis). As a result, the valuation for July 1, 2011 does not reflect any increases to benefits after retirement.
3. The actuarial accrued liability funding ratio based on the actuarial value of assets over the actuarial accrued liability as of July 1, 2011 is 73.22%, compared to 81.66% as of July 1, 2010. This ratio is a measure of funding status, and its history is a measure of funding progress, and is the ratio required to be reported under GASB 25.
4. The statutory contribution rate under Chapter 354A.12 for the 2012 fiscal year is equal to 13.50% of payroll (which includes a direct State aid payment of $346,000 per year under Subdivision 3a and an estimated $312,535 of redirected "amortization State aid" under 423A.02, Subdivision 3), and is compared to the required contribution rate under Chapter 356.215 of 17.23% of payroll. Therefore, the contribution deficiency is 3.73% of payroll as of July 1, 2011. Last year's contribution rate deficiency was 0.74% of payroll. The primary reason for the increase in the contribution deficiency was a loss on the actuarial value of assets. Each year there is a contribution deficiency leads to an increased deficiency in all future years.
5. The 2010 Omnibus Pension Bill also includes an additional 0.5% increase to the statutory employee and employer contribution rates for fiscal 2013, and remaining level thereafter. This additional rate increase is not reflected in the contribution sufficiency/deficiency calculation on page 34. When including the total 1% increase in the statutory contribution rate under Chapter 354A.12, and comparing that to the required contribution rate under Chapter 356.215 of 17.23% of payroll, the contribution deficiency would decrease from 3.73% to 2.73% of payroll.

6. For the year ended June 30, 2011, assets returned 21.57% on a market value basis. However, due to the gradual recognition of asset gains and losses under the actuarial smoothing method, the actuarial rate of return was -0.69%, compared to the assumed rate of 8.50%. As of June 30, 2011, the actuarial value of assets ($235.1 million) represented 110.2% of the market value ($213.4 million).
7. The portion of deferred asset gains and losses recognized during the calculation of the July 1, 2011 actuarial value of assets resulted in a loss of $17,263,749.
8. As noted in our last experience study report, the current 8.50% investment return assumption (as prescribed in Minnesota Statute 356.215, Subdivision 8) is at the high end of the reasonable range developed for this assumption. The 8.50% appears optimistic, and we recommend that a comprehensive review of the economic assumptions be performed when administratively feasible.
9. As indicated on page 4 of this report, the total investment loss not yet recognized as of June 30, 2011 is $21,703,980. These unrecognized losses will be recognized in the determination of the actuarial value of assets for funding purposes in the next few years, to the extent they are not offset by recognition of gains derived from future experience. This means that earning the assumed rate of investment return of 8.50% per year (net of investment expenses) on a market value basis will result in investment losses on the actuarial value of assets in the upcoming years. Therefore, if the actual market return is equal to the assumed 8.50% rate and all other actuarial assumptions are met, the contribution requirements would still increase in the short term.
10. The -0.69% return on the actuarial value of assets caused a $22,610,790 loss in the unfunded actuarial liability and demographic and liability experience resulted in a $3,804,394 loss (approximately 1% of the total accrued liability).
11. The most recent experience review study for the Fund was completed for the four-year period ending June 30, 2006. We recommend that consideration be given to authorizing the completion of a new five-year experience study covering the period July 1, 2006 through June 30, 2011. An amendment to Actuarial Standard of Practice (ASOP) No. 35 requires, effective for valuations with a measurement date on or after June 30, 2011, additional consideration and disclosure regarding the effect of mortality improvement. However, the mortality tables used for this valuation reasonably reflect the projected mortality experience of the Fund as of the measurement date. The most recent experience study determined that the ratio of actual to expected deaths was 113%. This provides a margin for future mortality improvement.
12. The actuarial valuation report as of June 30, 2011 is based on financial data as of that date. Changes in the value of assets subsequent to that date, to the extent that they exist, are not reflected. Declines in asset values will increase the actuarial cost of the plan, while increases will decrease the actuarial cost of the plan.

Summary of Key Valuation Results

	2011	2010
Contributions (% of payroll) for plan year beginning July 1:		
Statutory – Chapter 354A + Expected 423A	13.50%	12.48%
Required – Chapter 356	17.23%	13.22%
Sufficiency/(Deficiency)	-3.73%	-0.74%
Funding elements for plan year beginning July 1:		
Normal cost	$3,298,919	$3,287,998
Market value of assets	213,367,995	192,402,546
Actuarial value of assets (AVA)	235,071,975	255,308,913
Actuarial accrued liability (AAL)	321,065,000	312,649,572
Unfunded actuarial accrued liability	85,993,025	57,340,659
Funding ratios as of July 1:		
Accrued Benefit Funding Ratio	79.65%	88.75%
Current assets (AVA)	$235,071,975	$255,308,913
Current benefit obligations	295,120,573	287,677,752
Projected Benefit Funding Ratio*	92.49%	102.06%
Current and expected future assets	$316,540,593	$341,090,726
Current and expected future benefit obligations (Present Value of Benefits)	342,231,820	334,221,463
GASB 25/27 information:		
Annual required employer contributions for year ending June 30	$3,101,047	$5,922,137
Accrued Liability Funding Ratio (AVA/AAL) as of July 1	73.22%	81.66%
Covered actual payroll	$44,483,736	$49,501,727
Demographic data for plan year beginning July 1:		
Number of pensioners and beneficiaries	1,344	1,295
Number of vested terminated members	290	301
Number of other non-vested terminated members	735	721
Number of active members	1,006	1,054
Total projected payroll**	$54,279,300	$56,152,078

* *Current assets exclude $21.7 million of deferred market losses. Projected Benefit Funding Ratio would be 86.15% with current assets valued at market.*
** *Projected payroll includes annualized pay for new hires and increases to current fiscal year.*

A. MEMBER DATA

The Actuarial Valuation and Review considers the number and demographic characteristics of covered members, including active members, vested terminated members, pensioners and beneficiaries.

The ratio of non-actives to actives has increased for each of the past 8 years, except for last year.

This section presents a summary of significant statistical data on these member groups.

More detailed information for this valuation year and the preceding valuation can be found in Section 3, Exhibits A through F.

A historical perspective of how the member population has changed over the past ten valuations can be seen in this chart.

CHART 1

Member Population: 2002 – 2011

Year Ended June 30	Active Members	Vested Terminated Members*	Pensioners and Beneficiaries	Ratio of Non-Actives to Actives
2002	1,276	305	1,085	1.09
2003	1,373	187	1,107	0.94
2004	1,178	312	1,137	1.23
2005	1,164	313	1,153	1.26
2006	1,174	312	1,190	1.28
2007	1,150	321	1,227	1.35
2008	1,140	310	1,243	1.36
2009	1,016	348	1,264	1.59
2010	1,054	301	1,295	1.51
2011	1,006	290	1,344	1.62

* *Excludes terminated members due a refund of employee contributions*

Active Members

Plan costs are affected by the age, years of service and payroll of active members. In this year's valuation, there were 1,006 active members with an average age of 47.5, average years of service of 12.7 years and average projected compensation of $53,956. The 1,054 active members in the prior valuation had an average age of 47.2, average service of 12.4 years and average projected compensation of $53,275.

Inactive Members

In this year's valuation, there were 290 members with a vested right to a deferred or immediate vested benefit.

In addition, there were 735 other non-vested terminated members entitled to a return of their employee contributions.

These graphs show a distribution of active members by age and by years of service.

CHART 2

Distribution of Active Members by Age as of June 30, 2011

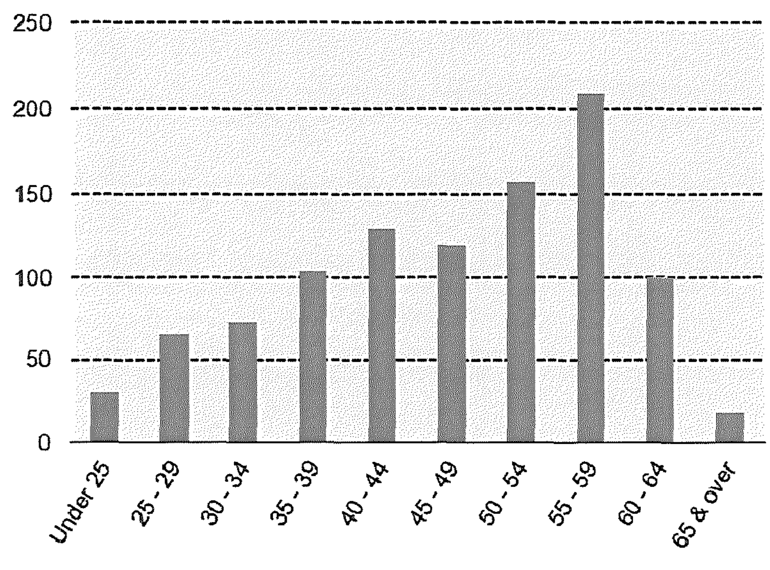
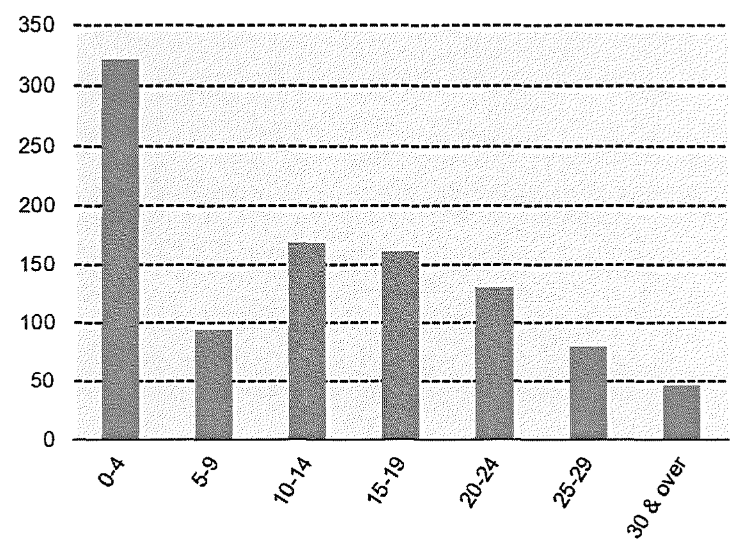


CHART 3

Distribution of Active Members by Years of Service as of June 30, 2011



Pensioners and Beneficiaries

As of June 30, 2011, 1,235 pensioners (including 19 disableds) and 109 beneficiaries were receiving total monthly benefits of $2,056,574. For comparison, in the previous valuation, there were 1,190 pensioners (including 19 disableds) and 105 beneficiaries receiving monthly benefits of $1,859,012.

These graphs show a distribution of the current pensioners and beneficiaries based on their monthly amount and age, by type of pension.

CHART 4

Distribution of Pensioners and Beneficiaries by Type and by Monthly Amount as of June 30, 2011

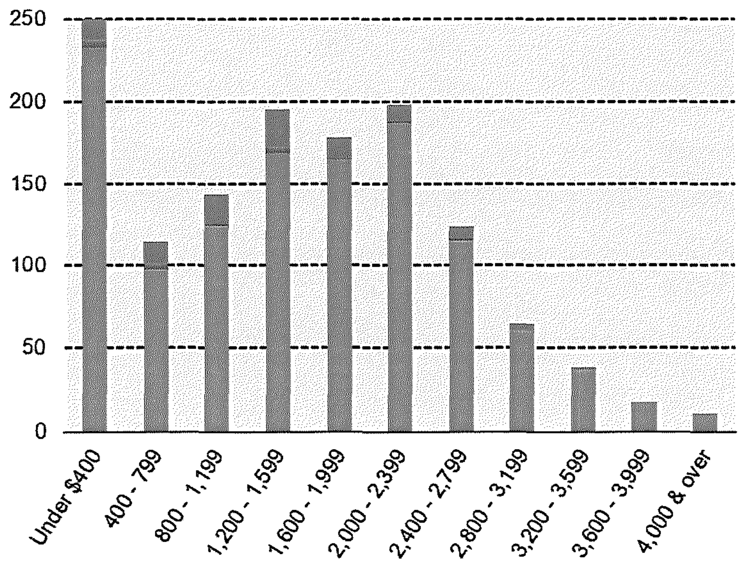
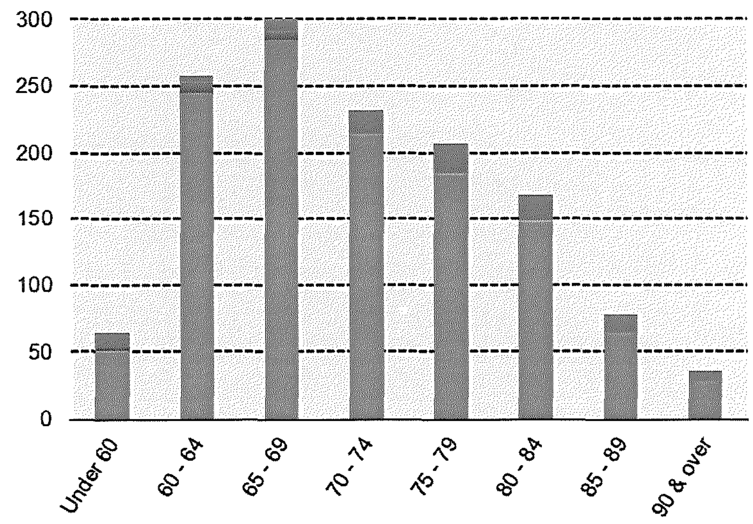
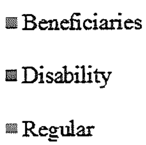


CHART 5

Distribution of Pensioners and Beneficiaries by Type and by Age as of June 30, 2011





B. FINANCIAL INFORMATION

It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Minnesota Statutes require an asset valuation method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuations is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Both the actuarial value and market value of assets are representations of the Fund's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Fund's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

The chart shows the determination of the actuarial value of assets as of the valuation date.

CHART 6

Determination of Actuarial Value of Assets for Years Ended June 30, 2011 and June 30, 2010

			2011		2010	
1.	Calculation of unrecognized return	Original Amount	% Not Recognized		% Not Recognized	
	(a) Year ended June 30, 2011	$23,938,638	80%	$19,150,910		--
	(b) Year ended June 30, 2010	15,619,356	60%	9,371,614	80%	$12,495,485
	(c) Year ended June 30, 2009	-96,764,564	40%	-38,705,826	60%	-58,058,738
	(d) Year ended June 30, 2008	-57,603,390	20%	-11,520,678	40%	-23,041,356
	(e) Year ended June 30, 2007	28,491,208			20%	5,698,242
	(f) Total unrecognized return			-$21,703,980		-$62,906,367
2.	Market value of assets available for benefits			$213,367,995		$192,402,546
3.	Less: Unrecognized return			-$21,703,980		-$62,906,367
4.	Actuarial value of assets (Current Assets): (2) – (3)			$235,071,975		$255,308,913
5.	Actuarial value as a percent of market value			110.2%		132.7%
	Total original amount for the last five plan years preceding the valuation date			-$86,318,752		-$103,983,173
	20% of total original amount stated above			-$17,263,750		-$20,796,635

C. ACTUARIAL EXPERIENCE

To calculate the required contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. Absent changes in external factors, if overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single year's experience was a short-term development and that, over the long term, experience will return to the original assumptions.

For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The total loss is $26,415,184, of which a loss of $22,610,790 is from investments and a loss of $3,804,394 is from all other sources. The net experience variation from individual sources other than investments was 1.18% of the actuarial accrued liability. The net loss from other changes and experience includes changes in the valuation program to reflect suggestions made by Milliman in their 2010 LCPR audit report (a loss of approximately $2.0 million), a change in valuation software used by Segal staff (a loss of approximately $2.9 million), and other unmeasured demographic experience (a gain of approximately $0.5 million).

This chart provides a summary of the actuarial experience during the past year.

CHART 7

Actuarial Experience for Year Ended June 30, 2011

1.	Net loss from investments on an actuarial value of assets basis	-$22,610,790
2.	Net gain from salary increases different than assumed	2,515,586
3.	Net loss from post-retirement mortality experience	-1,060,690
4.	Net loss from turnover and retirement from active status	-821,801
5.	Net loss from other changes and experience	-4,437,489
6.	Net experience loss: (1) + (2) + (3) + (4) + (5)	-$26,415,184

D. INFORMATION REQUIRED BY THE GASB

Governmental Accounting Standards Board (GASB) reporting information provides standardized information for comparative purposes of governmental pension plans. This information allows a reader of the financial statements to compare the funding status of one governmental plan to another on relatively equal terms.

Critical information to GASB is the historical comparison of the GASB required contribution to the actual contributions. This comparison demonstrates whether a plan is being funded in accordance with the GASB actuarially required contributions. Section 4, Exhibit III presents a representation of this information for the Fund.

The other critical piece of information regarding the Fund's financial status is the funding ratio. This ratio compares the actuarial value of assets to the actuarial accrued liabilities of the plan as calculated under GASB. High ratios indicate a well-funded plan with assets sufficient to pay most benefits. Lower ratios may indicate recent changes to benefit structures, funding of the plan below actuarial requirements, poor asset performance, or a variety of other factors.

GASB requires that the actuarial value of assets be used to determine the funding ratio as shown in Section 4, Exhibit IV.

EXHIBIT A
Table of Plan Coverage

Category	2011	2010	Change From Prior Year
Active members in valuation:			
Number	1,006	1,054	-4.6%
Average age	47.5	47.2	N/A
Average service	12.7	12.4	N/A
Total projected payroll*	$54,279,300	$56,152,078	-3.3%
Average projected compensation	53,956	53,275	1.3%
Total active vested members	746	776	-3.9%
Vested terminated members	290	301	-3.7%
Retired participants:			
Number in pay status	1,216	1,171	3.8%
Average age	71.9	71.7	N/A
Average monthly benefit	$1,551	$1,573	-1.4%
Disabled participants:			
Number in pay status	19	19	0.0%
Average age	63.8	62.8	N/A
Average monthly benefit	$1,156	$1,151	0.4%
Beneficiaries:			
Number in pay status	109	105	3.8%
Average age	75.3	77.5	N/A
Average monthly benefit	$1,346	$1,383	-2.7%
Other non-vested terminated members	735	721	1.9%

** Projected payroll includes annualized pay for new hires and increases to current fiscal year.*

EXHIBIT B-1

Members in Active Service as of June 30, 2011
By Age, Years of Service, and Average Projected Compensation – Total

		Years of Service						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 25	30	30	--	--	--	--	--	--
	$20,313	$20,313	--	--	--	--	--	--
25 - 29	66	63	3	--	--	--	--	--
	23,466	22,298	$48,006	--	--	--	--	--
30 - 34	73	55	17	1	--	--	--	--
	33,801	27,192	53,250	$66,655	--	--	--	--
35 - 39	104	28	22	46	8	--	--	--
	57,543	31,807	62,098	67,325	$78,845	--	--	--
40 - 44	129	39	16	39	33	2	--	--
	53,943	25,104	57,273	66,014	71,137	$70,554	--	--
45 - 49	120	20	14	23	33	27	3	--
	61,155	33,259	55,474	68,977	66,595	70,326	$71,308	--
50 - 54	157	30	8	28	32	41	17	1
	59,316	33,855	34,683	60,620	69,942	66,433	75,828	$71,174
55 - 59	209	23	10	26	36	37	43	34
	64,505	27,607	47,248	58,706	66,799	70,126	73,999	78,423
60 - 64	100	25	3	6	19	21	17	9
	59,007	24,899	81,924	80,194	67,145	68,937	70,079	70,723
65 & Over	18	10	1	--	1	3	--	3
	37,613	14,786	19,575	--	67,800	69,625	--	77,641
Total	1,006	323	94	169	162	131	80	47
	$53,956	$26,209	$54,508	$65,264	$68,903	$68,816	$73,454	$76,744

EXHIBIT B-2

Members in Active Service as of June 30, 2011
By Age, Years of Service, and Average Projected Compensation – Old Plan

		Years of Service						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 25	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
30 - 34	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
35 - 39	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
40 - 44	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	3	--	--	--	--	1	1	1
	$71,830	--	--	--	--	$69,626	$74,691	$71,174
55 - 59	49	--	--	--	2	3	12	32
	75,619	--	--	--	$66,780	60,022	72,879	78,661
60 - 64	12	--	--	1	--	--	2	9
	73,645	--	--	$104,186	--	--	71,521	70,723
65 & Over	3	--	--	--	--	--	--	3
	77,641	--	--	--	--	--	--	77,641
Total	67	--	--	1	2	4	15	45
	$75,186	--	--	$104,186	$66,780	$62,423	$72,819	$76,839

EXHIBIT B-3

Members in Active Service as of June 30, 2011
By Age, Years of Service, and Average Projected Compensation – New Plan Tier I

		Years of Service						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 25	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
25 - 29	1	1	--	--	--	--	--	--
	$24,290	$24,290	--	--	--	--	--	--
30 - 34	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
35 - 39	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
40 - 44	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
45 - 49	40	--	1	4	8	24	3	--
	70,468	--	$61,074	$67,765	$72,135	$70,649	$71,308	--
50 - 54	61	--	--	3	5	37	16	--
	67,201	--	--	45,294	60,879	66,071	75,899	--
55 - 59	69	1	--	2	4	29	31	2
	70,284	15,965	--	30,621	58,306	71,811	74,433	$74,611
60 - 64	40	--	--	--	5	20	15	--
	69,732	--	--	--	72,462	68,934	69,887	--
65 & Over	3	--	--	--	--	3	--	--
	69,625	--	--	--	--	69,625	--	--
Total	214	2	1	9	22	113	65	2
	$69,112	$20,127	$61,074	$52,020	$67,137	$69,117	$73,600	$74,611

EXHIBIT B-4

Members in Active Service as of June 30, 2011
By Age, Years of Service, and Average Projected Compensation – New Plan Tier II

		Years of Service						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 25	30	30	--	--	--	--	--	--
	$20,313	$20,313	--	--	--	--	--	--
25 - 29	65	62	3	--	--	--	--	--
	23,453	22,265	$48,006	--	--	--	--	--
30 - 34	73	55	17	1	--	--	--	--
	33,801	27,192	53,250	$66,655	--	--	--	--
35 - 39	104	28	22	46	8	--	--	--
	57,543	31,807	62,098	67,325	$78,845	--	--	--
40 - 44	129	39	16	39	33	2	--	--
	53,943	25,104	57,273	66,014	71,137	$70,554	--	--
45 - 49	80	20	13	19	25	3	--	--
	56,499	33,259	55,043	69,232	64,822	67,738	--	--
50 - 54	93	30	8	25	27	3	--	--
	53,740	33,855	34,683	62,459	71,620	69,836	--	--
55 - 59	91	22	10	24	30	5	--	--
	54,139	28,136	47,248	61,046	67,932	66,416	--	--
60 - 64	48	25	3	5	14	1	--	--
	46,410	24,899	81,924	75,395	65,246	68,996	--	--
65 & Over	12	10	1	--	1	--	--	--
	19,603	14,786	19,575	--	67,800	--	--	--
Total	725	321	93	159	138	14	--	--
	$47,520	$26,247	$54,437	$65,768	$69,216	$68,207	--	--

EXHIBIT C-1
Retired Participants as of June 30, 2011
By Age, Years Retired and Average Annual Benefit – Total

		Years Retired						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 45	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
45 – 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
55 - 59	50	49	--	--	1	--	--	--
	$19,115	$19,353	--	--	$7,477	--	--	--
60 - 64	244	151	92	1	--	--	--	--
	22,147	23,693	$19,801	$4,448	--	--	--	--
65 - 69	284	59	102	120	2	1	--	--
	17,162	14,736	18,931	16,990	9,955	$15,051	--	--
70 - 74	214	6	23	119	66	--	--	--
	18,698	12,657	16,551	20,284	17,136	--	--	--
75 - 79	184	2	1	39	101	41	--	--
	19,075	12,402	452	16,163	21,869	15,742	--	--
80 - 84	148	2	--	3	39	70	34	--
	17,073	10,094	--	20,959	18,737	17,480	$14,394	--
85 - 89	64	--	--	--	2	17	36	9
	15,830	--	--	--	21,058	17,964	16,244	$8,983
90 & Over	28	--	--	--	--	--	10	18
	12,586	--	--	--	--	--	15,930	10,728
Total	1,216	269	218	282	211	129	80	27
	$18,616	$20,507	$18,962	$18,264	$19,621	$16,973	$15,418	$10,146

EXHIBIT C-2

Retired Participants as of June 30, 2011
By Age, Years Retired and Average Annual Benefit – Old Plan

		Years Retired						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 45	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
55 - 59	20	20	--	--	--	--	--	--
	$25,646	$25,646	--	--	--	--	--	--
60 - 64	85	56	28	1	--	--	--	--
	22,347	27,522	$12,637	$4,448	--	--	--	--
65 - 69	91	9	21	60	--	1	--	--
	12,845	21,371	11,499	12,001	--	$15,051	--	--
70 - 74	72	1	1	40	30	--	--	--
	14,849	22,260	8,299	14,280	$15,580	--	--	--
75 - 79	68	1	--	7	38	22	--	--
	14,958	22,457	--	15,895	17,150	10,532	--	--
80 - 84	39	--	--	--	1	21	17	--
	12,476	--	--	--	29,699	15,362	$7,897	--
85 - 89	39	--	--	--	--	7	23	9
	12,262	--	--	--	--	16,108	12,374	$8,983
90 & Over	23	--	--	--	--	--	5	18
	11,361	--	--	--	--	--	13,639	10,728
Total	437	87	50	108	69	51	45	27
	$15,775	$26,335	$12,072	$13,027	$16,649	$13,375	$10,823	$10,146

EXHIBIT C-3

Retired Participants as of June 30, 2011
By Age, Years Retired and Average Annual Benefit – New Plan Tier I

		Years Retired						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 45	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
55 - 59	17	17	--	--	--	--	--	--
	$23,216	$23,216	--	--	--	--	--	--
60 - 64	130	74	56	--	--	--	--	--
	25,000	24,424	$25,761	--	--	--	--	--
65 - 69	142	23	64	53	2	--	--	--
	23,652	21,287	24,295	$24,418	$9,955	--	--	--
70 - 74	92	1	7	55	29	--	--	--
	25,441	11,038	24,984	27,985	21,222	--	--	--
75 - 79	72	--	--	4	50	18	--	--
	25,888	--	--	32,579	27,167	$20,489	--	--
80 - 84	55	1	--	--	6	31	17	--
	19,199	15,038	--	--	11,418	19,911	$20,891	--
85 - 89	16	--	--	--	--	3	13	--
	21,808	--	--	--	--	16,250	23,090	--
90 & Over	5	--	--	--	--	--	5	--
	18,221	--	--	--	--	--	18,221	--
Total	529	116	127	112	87	52	35	--
	$24,014	$23,429	$24,979	$26,461	$23,704	$20,024	$21,327	--

EXHIBIT C-4

Retired Participants as of June 30, 2011
By Age, Years Retired and Average Annual Benefit – New Plan Tier II

		Years Retired						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 45	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
55 - 59	13	12	--	--	1	--	--	--
	$3,706	$3,392	--	--	$7,477	--	--	--
60 - 64	29	21	8	--	--	--	--	--
	8,771	10,909	$3,159	--	--	--	--	--
65 - 69	51	27	17	7	--	--	--	--
	6,798	6,943	7,917	$3,520	--	--	--	--
70 - 74	50	4	15	24	7	--	--	--
	11,833	10,661	13,166	12,643	6,873	--	--	--
75 - 79	44	1	1	28	13	1	--	--
	14,289	2,347	452	13,885	15,284	$38,433	--	--
80 - 84	54	1	--	3	32	18	--	--
	18,229	5,150	--	20,959	19,767	15,765	--	--
85 - 89	9	--	--	--	2	7	--	--
	20,666	--	--	--	21,058	20,554	--	--
90 & Over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	250	66	41	62	55	26	--	--
	$12,160	$7,688	$8,727	$12,576	$16,890	$17,926	--	--

EXHIBIT D

Disabled Members as of June 30, 2011
By Age, Years Disabled and Average Annual Benefit – Total

		Years Disabled						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 45	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	1	1	--	--	--	--	--	--
	$5,999	$5,999	--	--	--	--	--	--
55 - 59	2	1	1	--	--	--	--	--
	9,498	3,827	$15,169	--	--	--	--	--
60 - 64	9	3	2	1	2	1	--	--
	15,140	13,960	22,328	$1,106	$22,500	$3,621	--	--
65 - 69	7	--	3	3	1	--	--	--
	14,618	--	14,472	12,993	19,934	--	--	--
70 - 74	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
75 - 79	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
80 - 84	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
85 - 89	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
90 & Over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	19	5	6	4	3	1	--	--
	$13,873	$10,342	$17,207	$10,021	$21,644	$3,621	--	--

EXHIBIT E-1
Beneficiaries as of June 30, 2011
By Age, Years Since Member's Retirement Date and Average Annual Benefit – Total

		Years Since Member's Retirement Date						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 45	3	--	--	3	--	--	--	--
	$3,291	--	--	$3,291	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	2	1	1	--	--	--	--	--
	690	$838	$543	--	--	--	--	--
55 - 59	7	5	--	--	1	1	--	--
	12,413	13,093	--	--	$15,743	$5,682	--	--
60 - 64	5	--	2	2	--	1	--	--
	13,356	--	5,385	21,858	--	12,294	--	--
65 - 69	9	--	2	4	3	--	--	--
	18,682	--	10,112	17,429	26,067	--	--	--
70 - 74	18	--	1	6	9	2	--	--
	25,650	--	24,854	22,939	29,748	15,736	--	--
75 - 79	23	--	--	--	7	11	5	--
	16,480	--	--	--	15,411	18,467	$13,607	--
80 - 84	20	--	--	1	5	7	7	--
	17,097	--	--	19,007	20,430	14,204	17,338	--
85 - 89	14	--	--	--	1	3	10	--
	12,326	--	--	--	2,113	11,849	13,491	--
90 & Over	8	--	--	--	--	--	4	4
	9,094	--	--	--	--	--	8,202	$9,986
Total	109	6	6	16	26	25	26	4
	$16,157	$11,050	$9,399	$17,497	$22,070	$15,502	$13,735	$9,986

EXHIBIT E-2

Beneficiaries as of June 30, 2011
By Age, Years Since Member's Retirement Date and Average Annual Benefit – Old Plan

		Years Since Member's Retirement Date						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 45	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
55 - 59	1	--	--	--	--	1	--	--
	$5,682	--	--	--	--	$5,682	--	--
60 - 64	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
65 - 69	4	--	2	--	2	--	--	--
	16,796	--	$10,112	--	$23,479	--	--	--
70 - 74	7	--	--	3	2	2	--	--
	25,535	--	--	$26,740	33,525	15,736	--	--
75 - 79	7	--	--	--	4	3	--	--
	13,735	--	--	--	11,044	17,324	--	--
80 - 84	3	--	--	--	--	1	2	--
	14,506	--	--	--	--	21,144	$11,187	--
85 - 89	7	--	--	--	--	2	5	--
	14,310	--	--	--	--	9,371	16,286	--
90 & Over	8	--	--	--	--	--	4	4
	9,094	--	--	--	--	--	8,202	$9,986
Total	37	--	2	3	8	9	11	4
	$15,249	--	$10,112	$26,740	$19,773	$14,335	$12,420	$9,986

EXHIBIT E-3

Beneficiaries as of June 30, 2011
By Age, Years Since Member's Retirement Date and Average Annual Benefit – New Plan Tier I

		Years Since Member's Retirement Date						
Age	Total	Under 5	5-9	10-14	15-19	20-24	25-29	30 & Over
Under 45	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
55 - 59	1	1	--	--	--	--	--	--
	$41,266	$41,266	--	--	--	--	--	--
60 - 64	4	--	1	2	--	1	--	--
	15,707	--	$6,820	$21,858	--	$12,294	--	--
65 - 69	3	--	--	2	1	--	--	--
	25,637	--	--	22,834	$31,242	--	--	--
70 - 74	6	--	--	1	5	--	--	--
	32,261	--	--	39,141	30,885	--	--	--
75 - 79	11	--	--	--	2	4	5	--
	17,398	--	--	--	17,800	21,935	$13,607	--
80 - 84	6	--	--	--	1	2	3	--
	19,670	--	--	--	17,794	17,829	21,522	--
85 - 89	5	--	--	--	1	1	3	--
	10,984	--	--	--	2,113	16,804	12,001	--
90 & Over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	36	1	1	5	10	8	11	--
	$20,525	$41,266	$6,820	$25,705	$24,117	$19,062	$15,328	--

EXHIBIT E-4

Beneficiaries as of June 30, 2011
By Age, Years Since Member's Retirement Date and Average Annual Benefit – New Plan Tier II

		Years Since Member's Retirement Date						
Age	**Total**	**Under 5**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30 & Over**
Under 45	3	--	--	3	--	--	--	--
	$3,291	--	--	$3,291	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
50 - 54	2	1	1	--	--	--	--	--
	690	$838	$543	--	--	--	--	--
55 - 59	5	4	--	--	1	--	--	--
	7,988	6,049	--	--	$15,743	--	--	--
60 - 64	1	--	1	--	--	--	--	--
	3,950	--	3,950	--	--	--	--	--
65 - 69	2	--	--	2	--	--	--	--
	12,023	--	--	12,023	--	--	--	--
70 - 74	5	--	1	2	2	--	--	--
	17,877	--	24,854	9,137	23,128	--	--	--
75 - 79	5	--	--	--	1	4	--	--
	18,305	--	--	--	28,103	$15,855	--	--
80 - 84	11	--	--	1	4	4	2	--
	16,401	--	--	19,007	21,089	10,657	$17,211	--
85 - 89	2	--	--	--	--	--	2	--
	8,736	--	--	--	--	--	8,736	--
90 & Over	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total	36	5	3	8	8	8	4	--
	$12,722	$5,007	$9,782	$8,900	$21,807	$13,256	$12,974	--

EXHIBIT F

Reconciliation of Member Data

	Active Members	Vested Terminated Members	Other Non-Vested Terminated Members	Retired Participants	Disabled Members	Beneficiaries	Total
A. Number as of June 30, 2010	1,054	301	721	1,171	19	105	3,371
B. Additions and new hires	85	0	0	0	0	0	85
C. Participant movement:							0
1. Retirements	-45	-16	-6	67	0	0	0
2. Disability	0	0	0	0	0	0	0
3. Died with beneficiary	0	0	0	-11	0	11	0
4. Died without beneficiary	0	0	0	-13	0	-7	-20
5. Terminated – deferred	-10	10	0	0	0	0	0
6. Terminated – other non-vested	-104	-3	107	0	0	0	0
7. Refunds	0	0	-24	0	0	0	-24
8. Rehired as active	26	-4	-22	0	0	0	0
9. Contributions written off	0	0	-40	0	0	0	-40
10. Expired benefits	0	0	0	0	0	-1	-1
D. Data adjustments	0	2	-1	2	0	1	4
E. Number as of June 30, 2011	1,006	290	735	1,216	19	109	3,375

EXHIBIT G

Schedule of Pensioners and Beneficiaries Added to and Removed from Rolls

	Added to Rolls		Removed from Rolls		Rolls – End of Year			
Fiscal Year	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
1999	61	1,263,965	32	251,972	939	10,926,102	12.1	11,636
2000	90	2,519,000	33	633,465	996	12,359,721	13.1	12,409
2001	88	2,458,668	26	547,671	1,058	14,341,500	16.0	13,555
2002	56	1,817,094	29	800,165	1,085	15,968,396	11.3	14,717
2003	41	1,191,364	19	574,944	1,107	16,767,603	5.0	15,147
2004	56	1,203,279	26	303,856	1,137	18,240,239	8.8	16,042
2005	64	1,373,262	48	603,930	1,153	18,936,633	3.8	16,424
2006	66	1,359,258	29	312,333	1,190	19,901,351	5.1	16,724
2007	62	1,426,530	25	345,683	1,227	20,978,509	5.4	17,097
2008	58	1,196,895	42	525,597	1,243	22,291,901	6.3	17,934
2009	55	1,201,849	35	424,843	1,264	23,605,292	5.9	18,690
2010	60	1,132,248	29	331,381	1,295	24,114,153	2.2	18,621
2011	76	1,370,877	27	439,349	1,344	24,661,881	2.3	18,350

EXHIBIT H

Statement of Change in Net Plan Assets for Year Ended June 30, 2011

				Market Value
A.	Assets available at beginning of year (BOY)			$192,402,546
B.	Additions:			
	1.	Member contributions		$2,779,703
	2.	Employer contributions		2,798,027
	3.	Direct State aid (including redirected "amortization State aid" payments)		658,535
	4.	Investment income		2,614,157
	5.	Investment expenses		- $1,365,972
	6.	Other		12,404
	7.	Net appreciation/(depreciation)		38,244,338
	8.	Total Additions		$45,741,192
C.	Operating Expenses:			
	1.	Service retirements		$22,185,946
	2.	Disability benefits		162,188
	3.	Survivor benefits		1,719,781
	4.	Refunds		210,819
	5.	Administrative expenses		497,009
	6.	Total operating expenses		$24,775,743
D.	Other changes in reserves			--
E.	Assets available at end of year (EOY)			$213,367,995
F.	Determination of current year unrecognized asset return			
	1.	Average balance:		
		(a)	Assets available at BOY: (A)	$192,402,546
		(b)	Assets available at EOY: (E)	213,367,995
		(c)	Average balance [(a) + (b) – Net Investment Income] / 2 [Net Investment Income: (B.4) + (B.5) + (B.6) + (B.7)]	183,132,807
	2.	Expected return: 8.50% x (F.1.(c))		15,566,289
	3.	Actual return: (B.4) + (B.5) + (B.6) + (B.7)		39,504,927
	4.	Current year unrecognized asset return: (F.3) – (F.2)		$23,938,638

EXHIBIT I

Statement of Plan Net Assets for Year Ended June 30, 2011

	Market Value
Assets in trust	
Cash, equivalents, short-term securities	$19,133,933
Investments:	
Fixed income	$50,971,344
Equity and other	152,577,360
Real estate and mortgages	--
Invested securities lending collateral	4,857,528
Other assets	294,616
Total assets in trust	$227,834,781
Assets receivable	$10,761,354
Liabilities	
Invested securities lending collateral	-$6,227,360
Stock and bond purchases, and accounts payable	-19,000,780
Total liabilities	-$25,228,140
Net assets held in Trust for Pension Benefits	
Member reserves	$33,598,860
Other reserves	179,769,135
Total Assets Available for Benefits	$213,367,995
Net Assets at Market Value	$213,367,995

EXHIBIT J

Actuarial Value of Assets Calculation History Through June 30, 2011

Year Ended June 30	Employer Contributions[1]	Employee Contributions	Net Investment Return[2]	Administrative Expenses	Benefit Payments	Actuarial Value of Assets at End of Year
2002	- -	- -	- -	- -	- -	$280,515,000
2003	$2,933,000	$3,299,000	$9,174,000	$445,000	$17,009,000	278,467,000
2004	2,826,730	2,991,801	10,518,561	448,704	17,406,336	276,949,052
2005	2,845,684	2,924,264	4,566,718	436,507	18,368,390	268,480,821
2006	2,867,299	3,030,418	16,291,585	424,840	19,319,594	270,925,689
2007	2,940,697	2,978,435	32,143,488	456,987	20,266,573	288,264,749
2008	2,994,086	2,954,062	25,980,797	487,944	21,638,665	298,067,085
2009	3,300,026	2,927,260	-1,539,093	505,164	22,994,555	279,255,559
2010	3,626,514	2,899,071	-6,254,241	505,672	23,712,318	255,308,913
2011	3,456,562	2,779,703	-1,697,460	497,009	24,279,734	235,071,975

(1) *Includes direct State aid payments for years ending 2009 and later.*

(2) *Net Investment Return on an Actuarial Value of Assets basis, and net of investment fees.*

EXHIBIT K

Development of Unfunded/(Overfunded) Actuarial Accrued Liability for Year Ended June 30, 2011

1. Unfunded/(Overfunded) actuarial accrued liability at beginning of year		$57,340,659
2. Normal cost at beginning of year, including expenses		3,798,982
3. Total contributions		-6,236,265
4. Interest		
(a) For whole year on (1) + (2)	$5,196,869	
(b) For half year on (3)	-265,041	
(c) Total interest: (4a) + (4b)		4,931,828
5. Expected unfunded/(overfunded) actuarial accrued liability:		$59,835,204
6. Changes due to (gain)/loss from:		
(a) Investments	$22,610,790	
(b) Demographic experience[1] and other changes[2]	3,804,394	
(c) Total changes due to (gain)/loss		$26,415,184
7. Change due to plan amendments[3]		-257,363
8. Unfunded/(Overfunded) actuarial accrued liability at end of year		$85,993,025

[1] *Includes (gain)/loss due to age/service retirements, disability, mortality (pre and post-retirement), withdrawal and salary increases*

[2] *Includes changes in the valuation program to reflect suggestions made by Milliman in their 2010 LCPR audit report and a change in valuation software used by Segal staff.*

[3] *Reflects the increase in employee contribution rate and the associated impact on anticipated future refund of contribution benefits.*

EXHIBIT L
Definitions of Pension Terms

The following list provides an overview of certain technical terms for the convenience of the reader:

Assumptions or Actuarial Assumptions:
The estimates on which the cost of the Fund is calculated including:

(a) Investment return — the rate of investment yield that the Fund will earn over the long-term future. For actuarial purposes, the investment return often reflects a smoothing of the capital gains and losses to avoid significant swings in the value of assets from one year to the next;

(b) Mortality rates — the death rates of employees and pensioners; life expectancy is based on these rates;

(c) Retirement rates — the rate or probability of retirement at a given age;

(d) Turnover rates — the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement.

Actuarial Cost Method:
Entry Age Normal Actuarial Cost Method. Entry Age is calculated as current age minus pension credits. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are expressed as a level percentage of payroll, with Normal Cost determined as if the current benefit accrual rate had always been in effect.

Actuarial Accrued Liability For Pensioners:
The single sum value of lifetime benefits to existing pensioners. This sum takes account of life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.

Unfunded Actuarial Accrued Liability:
The extent to which the actuarial accrued liability of the Fund exceeds the assets of the Fund. There are a wide range of approaches to paying off the unfunded actuarial

accrued liability, from meeting the interest accrual only to amortizing it over a specific period of time.

Amortization of the Unfunded Actuarial Accrued Liability: Payments made over a period of years equal in value to the Fund's unfunded actuarial accrued liability.

Accrued Benefit Funding Ratio: A current year funded status that measures the percent of benefits covered by Current Assets. This ratio is based on benefits earned to the valuation date (accrued service) and includes future salary increases to retirement. The liability for these benefits is defined as the Current Benefit Obligations. The Accrued Benefit Funding Ratio is calculated as the Actuarial Value of Assets (Current Assets) divided by the Current Benefit Obligations.

Projected Benefit Funding Ratio: A projected funded status that measures contribution sufficiency/deficiency, which is based on a present value of all plan benefits for the lifetime of all plan members. The liability for these benefits is defined as the Current and Expected Future Benefit Obligations, or Present Value of Benefits. The Current and Expected Future Assets are determined as the sum of the Actuarial Value of Assets (Current Assets), the Present Value of Expected Future Statutory Supplemental Contributions and the Present Value of Future Normal Costs. The Projected Benefit Funding Ratio is calculated as the Current and Expected Future Assets divided by the Current and Expected Future Benefit Obligations. In general (and without consideration of unrecognized investment gains or losses), if the ratio is equal to or more than 100%, there is a contribution sufficiency, and if it is less than 100% there is a contribution deficiency.

EXHIBIT I

Summary of Actuarial Valuation Results

The valuation was made with respect to the following data supplied to us:

1.	Pensioners as of the valuation date (including 109 beneficiaries in pay status)		1,344
2.	Members inactive during year ended June 30, 2011 with vested rights		290
3.	Members active during the year ended June 30, 2011		1,006
	Fully vested	746	
	Not vested	260	
4.	Other non-vested terminated members as of June 30, 2011		735

EXHIBIT I (continued)

Summary of Actuarial Valuation Results

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A. Determination of Actuarial Accrued Liability			
1. Active members:			
(a) Retirement benefits	$117,045,162	$16,587,320	$100,457,842
(b) Disability benefits	1,298,609	371,582	927,027
(c) Death benefits	1,784,371	412,501	1,371,869
(d) Withdrawal benefits	4,349,875	3,795,416	554,459
(e) Total	$124,478,017	$21,166,819	$103,311,197
2. Vested terminated members	$7,990,579	--	$7,990,579
3. Other non-vested terminated members	1,510,832	--	1,510,832
4. Annuitants	208,252,392	--	208,252,392
5. Total	$342,231,820	$21,166,819	$321,065,000
B. Determination of Unfunded Actuarial Accrued Liability			
1. Actuarial Accrued Liability			$321,065,000
2. Actuarial Value of Assets			235,071,975
3. Unfunded Actuarial Accrued Liability: (1) – (2)			$85,993,025
C. Determination of Supplemental Contribution Rate			
1. Present value of future payrolls through the amortization date of June 30, 2035			$837,019,845
2. Supplemental contribution rate: (B.3) / (C.1)			10.27%

EXHIBIT II
Actuarial Balance Sheet

	Non-Vested	Vested	Total
A. Current Assets[1]			$235,071,975
B. Expected Future Assets			
1. Present Value of Expected Future Statutory Supplemental Contributions[2]			$60,209,729
2. Present Value of Future Normal Costs			21,166,819
3. Total Expected Future Assets			$81,376,548
C. Total Current and Expected Future Assets[1]			$316,448,523
D. Current Benefit Obligations			
1. Benefit recipients:			
(a) Retirement annuities	- -	$193,047,038	$193,047,038
(b) Disability benefits	- -	2,645,855	2,645,855
(c) Beneficiaries	- -	12,559,499	12,559,499
2. Vested terminated members	- -	7,990,579	7,990,579
3. Other non-vested terminated members	- -	1,510,832	1,510,832
4. Active members:			
(a) Retirement benefits	$1,269,900	71,783,049	73,052,949
(b) Disability benefits	215,769	478,641	694,410
(c) Death benefits	10,714	1,079,415	1,090,129
(d) Withdrawal benefits	111,216	2418,066	2,529,282
5. Total Current Benefit Obligations	$1,607,599	$293,512,974	$295,120,573
E. Expected Future Benefit Obligations			$47,111,247
F. Total Current and Expected Future Benefit Obligations - Present Value of Benefits: (D.5 + E)			$342,231,820
G. Unfunded Current Benefit Obligations (D.5 - A)			$60,048,598
H. Unfunded Current and Future Benefit Obligations (F - C)[1]			$25,783,297

(1) *Items do not reflect $21.7 million of deferred market losses. Item H would be $47,395,207 with current assets valued at market.*

(2) *Reflects 0.5% increase in both the employee and employer contribution rates, effective for fiscal year 2013.*

EXHIBIT III

Supplementary Information Required by the GASB – Schedule of Employer Contributions

Plan Year Ended June 30	Actuarially Required Contribution Rate (a)	Actual Covered Payroll (b)	Actual Member Contributions (c)	Annual Required Employer Contributions [(a) x (b)] – (c) = (d)	Actual Employer Contributions[(1)] (e)	Percentage Contributed (e) / (d)
1991	10.70%	$42,297,000	$2,043,000	$2,483,000	$2,449,000	98.63%
1992	11.09	42,884,000	2,124,000	2,632,000	2,483,000	94.34
1993	11.42	43,282,000	2,126,000	2,817,000	2,506,000	88.96
1994	10.21	43,109,000	2,230,000	2,171,000	2,496,000	114.97
1995	10.36	46,528,000	2,144,000	2,676,000	2,694,000	100.67
1996	13.23	44,870,000	2,570,000	3,366,000	2,598,000	77.18
1997	13.60	46,770,000	2,644,000	3,717,000	2,708,000	72.85
1998	12.87	47,064,000	2,664,000	3,393,000	3,211,000	94.64
1999	10.24	52,176,000	3,118,000	2,225,000	3,507,000	157.62
2000	9.16	52,270,000	3,152,000	1,636,000	3,512,000	214.67
2001	8.51	51,996,000	3,141,000	1,284,000	3,497,000	272.35
2002	7.49	51,054,000	3,275,000	549,000	3,442,000	626.96
2003[(2)]	9.85	50,656,000	3,299,000	1,691,000	2,933,000	173.45
2004	11.27	48,820,898	2,991,801	2,510,314	2,826,730	112.60
2005	12.11	49,148,256	2,924,264	3,027,590	2,845,684	93.99
2006	14.16	49,521,572	3,030,418	3,981,837	2,867,299	72.01
2007	15.19	50,789,240	2,978,435	4,736,451	2,940,697	62.09
2008	14.53	51,711,330	2,954,062	4,559,594	2,994,086	65.67
2009	15.87	51,019,447	2,927,260	5,169,526	3,300,026	63.84
2010	17.82	49,501,727	2,899,071	5,922,137	3,626,514	61.24
2011	13.22	44,483,736	2,779,703	3,101,047	3,456,562	111.46

(1) *Includes contributions from other sources (if applicable)*

(2) *Actuarially Required Contribution Rate prior to change in actuarial assumptions and plan provisions is 7.62%.*

EXHIBIT IV

Supplementary Information Required by the GASB – Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded/ (Overfunded) AAL (UAAL) (b) – (a)	Funding Ratio (a) / (b)	Actual Covered Payroll (Previous FY) (c)	UAAL as a Percentage of Covered Payroll [(b) – (a)] / (c)
07/01/1991	$105,087,000	$117,582,000	$12,495,000	89.37%	$42,297,000	29.54%
07/01/1992	116,492,000	124,140,000	7,648,000	93.84	42,884,000	17.83
07/01/1993	130,856,000	132,700,000	1,844,000	98.61	43,282,000	4.26
07/01/1994	133,632,000	137,042,000	3,410,000	97.51	43,109,000	7.91
07/01/1995	142,852,000	173,965,000	31,113,000	82.12	46,528,000	66.87
07/01/1996	157,007,000	189,518,000	32,511,000	82.85	44,870,000	72.46
07/01/1997	170,059,000	197,820,000	27,761,000	85.97	46,770,000	59.36
07/01/1998	187,482,000	197,078,000	9,596,000	95.13	47,064,000	20.39
07/01/1999	218,699,000	220,540,000	1,841,000	99.17	52,176,000	3.53
07/01/2000	251,007,000	241,899,000	-9,108,000	103.77	52,270,000	-17.42
07/01/2001	273,618,000	254,255,000	-19,363,000	107.62	51,996,000	-37.24
07/01/2002	280,515,000	279,428,000	-1,087,000	100.39	51,054,000	-2.13
07/01/2003	278,467,000	291,109,000	12,642,000	95.66	50,656,000	24.96
07/01/2004	276,949,052	301,704,445	24,755,393	91.79	48,820,898	50.71
07/01/2005	268,480,821	310,923,929	42,443,108	86.35	49,148,256	86.36
07/01/2006	270,925,689	322,229,167	51,303,478	84.08	49,521,572	103.60
07/01/2007	288,264,749	332,216,981	43,952,232	86.77	50,789,240	86.54
07/01/2008	298,067,085	363,044,284	64,977,199	82.10	51,711,330	125.65
07/01/2009	279,255,559	364,811,453	85,555,894	76.55	51,019,447	167.69
07/01/2010	255,308,913	312,649,572	57,340,659	81.66	49,501,727	115.84
07/01/2011	235,071,975	321,065,000	85,993,025	73.22	44,483,736	193.31

Exhibit V

Determination of Contribution Sufficiency – Total

	July 1, 2011	
A. Statutory Contributions – Chapter 354A	**Percent of Payroll**	**Dollar Amount**
1. Member contributions	6.00%	$3,256,758
2. Employer contributions	6.29%	3,414,168
3. Direct State aid[1]	1.21%	658,535
4. Total[2]	13.50%	$7,329,461
B. Required Contributions – Chapter 356	**Percent of Payroll**	**Dollar Amount**
1. Normal Cost:		
(a) Retirement	4.91%	$2,665,843
(b) Disability	0.10%	55,891
(c) Death	0.11%	62,350
(d) Withdrawal	0.95%	514,835
(e) Total	6.07%	$3,298,919
2. Supplemental contribution amortization	10.27%	$5,574,484
3. Allowance for administrative expenses	0.89%	483,086
4. Total	17.23%	$9,356,489
C. Contribution Sufficiency / (Deficiency): (A.4) – (B.4)	-3.73%	-$2,027,028
Projected annual payroll for fiscal year beginning on the valuation date[3]		$54,279,300

[1] *A direct State aid payment of $346,000 is made each year on October 1st. In addition, it is assumed that an estimated $312,535 of redirected "amortization State aid" under 423A.02, Subdivision 3 is paid the following June 30th.*

[2] *Statutory contribution rates are set to increase 0.5% each for employee and employer for fiscal 2013 and remain level thereafter. When including the total 1% increase in the statutory contribution rate under Chapter 354A and comparing that to the required contribution rate under Chapter 356 of 17.23% of payroll, there would be a contribution deficiency of 2.73% of payroll.*

[3] *Projected payroll includes annualized pay for new hires and increases to current fiscal year.*

Exhibit VI

Determination of Contribution Sufficiency – Old Plan

	July 1, 2011	
A. Statutory Contributions – Chapter 354A	**Percent of Payroll**	**Dollar Amount**
1. Member contributions	6.00%	$302,248
2. Employer contributions	6.29%	316,857
3. Direct State aid[1]	1.21%	61,116
4. Total	13.50%	$680,221

B. Required Contributions – Chapter 356	**Percent of Payroll**	**Dollar Amount**
1. Normal Cost:		
(a) Retirement	4.11%	$207,161
(b) Disability	0.10%	4,839
(c) Death	0.11%	5,374
(d) Withdrawal	1.19%	59,836
(e) Total	5.51%	$277,210

Projected annual payroll for fiscal year beginning on the valuation date[2]	$5,037,472

(1) *$61,116 represents a pro-rata portion of the $658,535 direct State aid and redirected "amortization State aid" payments, allocated by projected payroll.*

(2) *Projected payroll includes annualized pay for new hires and increases to current fiscal year.*

Note: The above calculation does not take into account the necessary required contributions to amortize the unfunded accrued liability nor an allowance for administrative expenses.

Exhibit VII

Determination of Contribution Sufficiency – New Plan Tier I

	July 1, 2011	
A. Statutory Contributions – Chapter 354A	**Percent of Payroll**	**Dollar Amount**
1. Member contributions	6.00%	$887,402
2. Employer contributions	6.29%	930,293
3. Direct State aid[1]	1.21%	179,438
4. Total	13.50%	$1,997,133

B. Required Contributions – Chapter 356	**Percent of Payroll**	**Dollar Amount**
1. Normal Cost:		
(a) Retirement	4.73%	$699,826
(b) Disability	0.11%	15,973
(c) Death	0.12%	17,358
(d) Withdrawal	0.99%	146,449
(e) Total	5.95%	$879,606

Projected annual payroll for fiscal year beginning on the valuation date[2]	$14,790,027

[1] *$179,438 represents a pro-rata portion of the $658,535 direct State aid and redirected "amortization State aid" payments, allocated by projected payroll.*

[2] *Projected payroll includes annualized pay for new hires and increases to current fiscal year.*

Note: The above calculation does not take into account the necessary required contributions to amortize the unfunded accrued liability nor an allowance for administrative expenses.

Exhibit VIII

Determination of Contribution Sufficiency – New Plan Tier II

	July 1, 2011	
A. Statutory Contributions – Chapter 354A	**Percent of Payroll**	**Dollar Amount**
1. Member contributions	6.00%	$2,067,108
2. Employer contributions	6.29%	2,167,018
3. Direct State aid[1]	1.21%	417,981
4. Total	13.50%	$4,652,107

B. Required Contributions – Chapter 356	**Percent of Payroll**	**Dollar Amount**
1. Normal Cost:		
(a) Retirement	5.11%	$1,758,856
(b) Disability	0.10%	35,079
(c) Death	0.11%	39,618
(d) Withdrawal	0.90%	308,550
(e) Total	6.22%	$2,142,103

Projected annual payroll for fiscal year beginning on the valuation date[2]	$34,451,801

(1) *$417,981 represents a pro-rata portion of the $658,535 direct State aid and redirected "amortization State aid" payments, allocated by projected payroll.*

(2) *Projected payroll includes annualized pay for new hires and increases to current fiscal year.*

Note: The above calculation does not take into account the necessary required contributions to amortize the unfunded accrued liability nor an allowance for administrative expenses.

EXHIBIT IX
Cash Flow Sufficiency Test

	7/1/2011	7/1/2012	7/1/2013	7/1/2014	7/1/2015	7/1/2016	7/1/2017	7/1/2018	7/1/2019	7/1/2020
1. Market value of assets at beginning of year	$213,367,995	$207,884,958	$205,449,557	$202,659,808	$199,497,089	$196,030,285	$192,391,153	$188,646,068	$184,833,200	$181,060,133
2. Total expected contributions	7,329,461	8,224,671	8,594,781	8,981,546	9,385,716	9,808,073	10,249,436	10,710,661	11,192,641	11,696,310
3. Projected benefit payments	29,502,794	27,005,815	27,494,540	27,987,870	28,401,049	28,380,118	28,899,309	29,091,890	29,195,226	29,174,877
4. Administrative Expenses	483,086	504,825	527,542	551,281	576,089	602,013	629,103	657,413	686,997	717,911
5. Expected investment return at 8.50%										
(a) For whole year on (1)	18,136,280	17,670,221	17,463,212	17,226,084	16,957,253	16,662,574	16,353,248	16,034,916	15,710,822	15,390,111
(b) For half year on (2)	311,502	349,549	365,278	381,716	398,893	416,843	435,601	455,203	475,687	497,093
(c) For half year on (3) + (4)	1,274,400	1,169,202	1,190,938	1,212,914	1,231,528	1,244,491	1,254,958	1,264,345	1,269,994	1,270,443
(d) Total expected return: (5a) + (5b) – (5c)	17,173,382	16,850,568	16,637,552	16,394,886	16,124,618	15,834,926	15,533,891	15,225,774	14,916,515	14,616,761
6. Projected market value of assets at end of year: (1) + (2) - (3) – (4) + (5d)	$207,884,958	$205,449,557	$202,659,808	$199,497,089	$196,030,285	$192,391,153	$188,646,068	$184,833,200	$181,060,133	$177,480,416

Notes:

1. *Future total expected contributions are based on projected payroll increasing at the payroll growth assumption (4.5% annually) and include Statutory contribution rate increases of 0.5% each for both employee and employer for fiscal 2013 and level thereafter.*
2. *Projected benefit payments are based on a closed-group projection of the current members where actives, inactive vesteds, and members in payment status are assumed to decrement based on the demographic assumptions outlined in Exhibit XI.*
3. *Administrative expenses are assumed to be 0.89% of projected payroll in the future.*

EXHIBIT X
Supplementary Information Required by the GASB

Valuation date	July 1, 2011
Actuarial cost method	Entry Age Normal
Amortization method	Level percentage of payroll, assuming payroll increases of 4.50% per annum
Remaining amortization period	24 years remaining as of July 1, 2011
Asset valuation method	Market Value, adjusted for amortization obligations receivable at the end of each fiscal year, less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets and the asset return expected during that fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year), and is recognized (20% per year) over a five-year period.
Actuarial assumptions:	
Investment rate of return	8.50% per annum
Projected salary increases	Select and ultimate rates by age, with ultimate rates of 3.50% - 7.00%
Plan membership:	
Pensioners and beneficiaries receiving benefits	1,344
Terminated vested members entitled to, but not yet receiving benefits	290
Other terminated non-vested members	735
Active members	1,006
Total	3,375

EXHIBIT XI
Actuarial Assumptions and Actuarial Cost Method

Mortality Rates:

Healthy:

Male: 1994 Group Annuity Mortality Table for Males set back 2 years

Female: 1994 Group Annuity Mortality Table for Females set back 2 years

Rates for sample ages are shown on the next page.

Disabled:

Male and Female tables apply:

Age	Table
54 and younger	Disabled Eligible for Social Security Disability – ERISA Sec. 4044 for 2006
55 – 64	Graded from table for ages 54 and younger to table for ages 65 and older
65 and older	1994 Group Annuity Mortality Table set back 2 years

The mortality tables above reasonably reflect the projected mortality experience of the Fund as of the measurement date. As of the most recent experience study, the ratio of actual to expected deaths was 113%. This provides a margin for future mortality improvement.

Summary of Rates: Shown below for selected ages:

	Rate (%)						
	Mortality				Retirement		Ultimate Rate of Salary Increases
Age	Male	Female	Withdrawal	Disability	Old	New	
20	0.05%	0.03%	3.50%	- -	- -	- -	6.90%
25	0.06	0.03	3.25	- -	- -	- -	6.75
30	0.08	0.03	3.00	- -	- -	- -	6.50
35	0.08	0.04	2.75	0.01%	- -	- -	6.25
40	0.09	0.06	2.50	0.03	- -	- -	6.00
45	0.14	0.09	2.00	0.06	- -	- -	5.50
50	0.21	0.12	1.50	0.10	- -	- -	5.00
55	0.36	0.19	0.75	0.15	15.00%	15.00%	4.50
60	0.63	0.34	- -	0.21	15.00	15.00	4.00
65	1.15	0.67	- -	- -	40.00	40.00	3.50
67*	1.45	0.86	- -	- -	100.00	100.00	- -

* Last Retirement Age

Retirement Rates:	Rates are shown for selected ages on the previous page. In addition, 40% of the members are assumed to retire each year that they are eligible for Rule of 90.
Withdrawal Rates:	Select and ultimate rates are based on recent plan experience. Ultimate rates after the third year are shown for sample ages on the previous page. Select rates are as follows:
First year:	60.00%
Second year:	20.00%
Third year:	15.00%
Retirement Age for Inactive Vested Members:	Normal retirement age
Unknown Data for Members:	Same as those exhibited by members with similar known characteristics.
Percent Married:	80% of members are assumed to be married.
Age of Spouse:	Females three years younger than males.
Net Investment Return:	8.50% per annum
Salary Increases:	Reported salary for prior fiscal year, with new hires annualized, increased to current fiscal year and annually for each future year according to the ultimate rate table on the prior page. This table includes a 10-year select period. For service from hire through 7 completed years, an 8.00% salary increase is assumed. With 8 completed years, a 7.25% increase is assumed. With 9 completed years, a 6.50% increase is assumed.
Administrative Expenses:	Prior year administrative expenses expressed as percentage of prior year projected payroll.
Allowance for Combined Service Annuity:	10% load on liabilities for active and deferred vested participants.

Return of Contributions:	All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Special Consideration:	Members in the Old Plan are assumed to receive their retirement benefits from either the Old Plan or New Plan, based on whichever benefit is larger. Direct State aid payments include a portion attributed to redirected "amortization State aid" under 423A.02, Subdivision 3. For fiscal 2012, the amount is assumed to equal the amount that was paid for the 2011 fiscal year on June 30, 2011. Married Members assumed to elect subsidized joint and survivor form of annuity as follows:
Males:	30% elect 50% J&S option 40% elect 100% J&S option
Females:	15% elect 50% J&S option 15% elect 100% J&S option
Post-retirement Increases	Effective July 1, 2010, the law provides for a post-retirement benefit adjustment of CPI-U (up to 5%) when the funding ratio using the actuarial value of assets equals or exceeds 90%. Until that 90% threshold is met, the post-retirement adjustment will operate under a transition schedule, which provides for an adjustment based on the funding ratio using the market value of assets (2% when greater than 90%, 1% when greater than 80%, otherwise 0%). Since projected contributions are not sufficient to cover the long-term cost of the plan, neither threshold is expected to be met (90% funded on an actuarial value basis or 80% funded on a market value basis). Therefore, the valuation results do not reflect any increases to benefits after retirement.

Asset Valuation Method:	Market Value, adjusted for amortization obligations receivable at the end of each fiscal year, less a percentage of the Unrecognized Asset Return determined at the close of each of the four preceding fiscal years. Unrecognized Asset Return is the difference between actual net return on Market Value of Assets and the asset return expected during the fiscal year (based on the assumed interest rate employed in the July 1 Actuarial Valuation of the fiscal year). Each year's Unrecognized Asset Return is being amortized over 5 years (20% per year) on a straight-line basis.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method. Entry Age is calculated as current age minus pension credits. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis and are expressed as a level percentage of payroll, with Normal Cost determined as if the current benefit provisions had always been in effect.
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 4.50% per annum. If the Actuarial Value of Assets exceeds the Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll.

EXHIBIT XII
Summary of Plan Provisions

This summary of provisions reflects the interpretation of applicable Statutes for purposes of preparing this valuation. This interpretation is not intended to create or rescind any benefit rights in conflict with any Minnesota Statutes.

Plan Year:	July 1 through June 30
Eligibility (Old Plan and New Plan):	Licensed full-time and part-time teachers who are employed by the Duluth Public Schools other than a charter school teacher, and eligible licensed staff at Lake Superior College, who have elected to retain their membership in the DTRFA. Also includes any employees of the Retirement Fund Association. Employees in the Old Plan are those first hired before July 1, 1981. Employees in the New Plan, Tier I are those first hired on or after July 1, 1981. Employees in the New Plan, Tier II are those first hired on or after July 1, 1989.
Credited Service (Old Plan and New Plan):	Earned while employed in a covered position and employee contributions are deducted. May also include extended or mid-career leaves of absence, medical leave of absence, sabbatical leave, and military service. Credit for less than a full year is granted on a prorated basis.
Salary (Old Plan and New Plan):	Total Compensation. Excludes any lump-sum annual leave or sick leave payments and lump-sum payments at time of separation from employment.
Average Salary (Old Plan):	Average of the five highest years of annual salary.
Average Salary (New Plan):	Average of the five highest successive years of salary. Average Salary is based on all Credited Service if less than five years.

Retirement (Old Plan):

<u>*Normal Retirement:*</u>

Age Requirement:	Age 60, and
Service Requirement:	10 years of Credited Service
Amount:	1.45% of Average Salary for each year of Credited Service

<u>*Early Retirement:*</u>

Age Requirement:	Age 55, and
Service Requirement:	10 years of Credited Service, or
Age/Service Requirement:	The sum of age and Credited Service equals 90, if earlier.
Amount:	1.45% of Average Salary for each year of Credited Service with reduction of 0.25% for each month the member is under age 60. No reduction if the sum of age and years of Credited Service equals 90.
Form of Payment:	Life annuity. Actuarially equivalent options are: (a) 5, 10, 15 or 20-year certain and life, or (b) 50% or 100% joint and survivor with bounce back feature without additional reduction. (c) Other equivalent options approved by the Board.
Benefit Increases:	<u>Annual Cost-of-Living Adjustment (COLA):</u> Post-retirement benefit adjustments are based on the Plan's funding ratio as outlined in the assumptions section. **Note: A member who is eligible for normal or early benefits under the Old Plan may instead receive a benefit under New Plan Tier I or New Plan Tier II if it is greater than the benefit from the Old Plan.**

Retirement (New Plan Tier I):

Normal Retirement:

Age/Service Requirement: Members first hired before July 1, 1989:

(a) Age 65, or

(b) Age 62 and 30 years of Credited Service.

Amount: 1.20% of Average Salary for each of the first ten years of Credited Service and 1.70% of Average Salary for each subsequent year.

Early Retirement:

Age/Service Requirement: (a) Age 55 and three years (five years, if hired after June 30, 2010) of Credited Service, or

(b) Any age with 30 years of Credited Service, or

(c) The sum of age and Credited Service equals 90.

Amount: 1.20% of Average Salary for the first ten years of Credited Service and 1.70% of Average Salary for each subsequent year with reduction of 0.25% for each month the member is under Normal Retirement Age. No reduction if the sum of age and years of Credited Service equals 90.

Form of Payment: Life annuity. Actuarially equivalent options are:

(a) 5, 10, 15 or 20-year certain and life, or

(b) 50% or 100% joint and survivor with bounce back feature without additional reduction.

(c) A larger life annuity before age 62 and reduced thereafter.

Benefit Increases: Annual Cost-of-Living Adjustment (COLA):

Post-retirement benefit adjustments are based on the Plan's funding ratio as outlined in the assumptions section.

Note: A member who is eligible for normal or early benefits under the New Plan Tier I may instead receive a benefit under New Plan Tier II if it is greater than the benefit from New Plan Tier I.

Retirement (New Plan Tier II):

<u>*Normal Retirement:*</u>

Age/Service Requirement:	Members first hired after June 30, 1989: The greater of age 65 or the age eligible for full Social Security retirement benefits but not higher than age 66.
Amount:	1.70% of Average Salary for each year of Credited Service.

<u>*Early Retirement:*</u>

Age/Service Requirement:	Age 55 and three years (five years, if hired after June 30, 2010) of Credited Service.
Amount:	1.70% of Average Salary for each year of Credited Service with augmentation to the age eligible for full social security retirement benefits at 3.00% per year and actuarial reduction for each month the member is under the Social Security Retirement Age.
Form of Payment:	Life annuity. Actuarially equivalent options are: (a) 5, 10, 15 or 20-year certain and life, or (b) 50% or 100% joint and survivor with bounce back feature without additional reduction. (c) A larger life annuity before age 62 and reduced thereafter.
Benefit Increases:	<u>Annual Cost-of-Living Adjustment (COLA):</u> Post-retirement benefit adjustments are based on the Plan's funding ratio as outlined in the assumptions section.

Disability (Old Plan):

Age/Service Requirement:	Totally and permanently disabled as a teacher before the age of 60 with five years of Credited Service.
Amount:	(a) Normal Retirement benefit based on Credited Service and Average Salary at disability date without reduction for early commencement. Amount is reduced for Workers' Compensation. (b) Payment stops at age 60, or earlier if disability ceases or death occurs.
Form of Payment:	Same as for Normal Retirement.
Benefit Increases:	Same as for Normal Retirement.

Disability (New Plan):

Age/Service Requirement:	Totally and permanently disabled under Normal Retirement Age with three years (five years, if hired after June 30, 2010) of Credited Service. Also, at least two of the years of Credited Service must have been uninterrupted.
Amount:	(a) Normal Retirement benefit based on Credited Service and Average Salary at disability without reduction commencement before retirement age. Benefit is reduced by Workers' Compensation. (b) Payments may begin 90 days after disability and stops at Normal Retirement Age, or earlier if disability ceases or death occurs. Benefits paid while partially employed may be reduced.
Form of Payment:	Same as for Normal Retirement.
Benefit Increases:	Same as for Normal Retirement.

Retirement After Disability:

Age/Service Requirement:	Normal Retirement Age if still totally and permanently disabled.
Amount:	Optional annuity continues, otherwise the larger of the disability benefit paid before Normal Retirement Age or the Normal Retirement benefit available at Normal Retirement Age, or an actuarial equivalent optional annuity.
Benefit Increases:	Same as for retirement.

Withdrawal (Old Plan):

Refund of Member's Contributions:

Age/Service Requirement:	Termination from Teaching Service.
Amount:	Member's contributions with 4.00% interest compounded annually

Deferred Annuity:

Age/Service Requirement:	Ten years of Credited Service.
Amount:	For members hired before July 1, 2006, the benefit computed under law in effect at termination and increased by the following annual percentage: (a) 3.00% until January 1 of the year following attainment of age 55, and (b) 5.00% thereafter until the annuity begins. For members hired after June 30, 2006, the benefit is computed under law in effect at termination and increased by 2.5% annually until the annuity begins. Effective July 1, 2012, the annual augmentation percentage is reduced to 2.00% from the age of termination to the age the annuity begins. The amount is payable as a Normal or Early Retirement.

Withdrawal (New Plan):

Refund of Member's Contributions:

Age/Service Requirement:	Termination from Teaching Service.
Amount:	Member contributions accumulate with 4.00% interest compounded annually.

Deferred Annuity:

Age/Service Requirement:	Three years (five years, if hired after June 30, 2010) of Credited Service.
Amount:	For members hired before July 1, 2006, the benefit is computed under law in effect at termination and increased by the following annual percentage: (a) 3.00% until January 1 of the year following attainment of age 55, and (b) 5.00% thereafter until the annuity begins. For members hired after June 30, 2006, the benefit is computed under law in effect at termination and increased by 2.50% for all years. Effective July 1, 2012, the annual augmentation percentage for all New Plan members is reduced to 2.00% from the age of termination to the age the annuity begins. The amount is payable as a Normal or Early Retirement.

Pre-Retirement Death Benefit (Old Plan):		
	Age/Service Requirement:	None.
	Amount:	Refund of two times member's contributions accumulated with 4.00% interest compounded annually.
Post-Retirement Death Benefit (Old Plan):		
	Age/Service Requirement:	None.
	Amount:	Refund the excess of member's contributions over total benefits paid, accumulated with 4.00% interest compounded annually.
Surviving Spouse Benefit (Old Plan):		
Optional Annuity I:		
	Age/Service Requirement:	Death of active member with ten years of Credited Service.
	Amount:	In lieu of the Pre-Retirement Death Benefit Refund, an annuity to surviving spouse equivalent to 120% of the refund amount.
Optional Annuity II:		
	Age/Service Requirement:	Death of active member who is age 55 with ten years of Credited Service.
	Amount:	In lieu of Pre-Retirement Death Benefit Refund or Surviving Spouse Optional Annuity I, spouse may elect survivor portion of the 100% joint and survivor annuity the member could have elected if terminated.

Pre-Retirement Death Benefit (New Plan):

Surviving Spouse Optional Annuity:

Age/Service Requirement:	Member who dies before retirement benefits commence with three years (five years, if hired after June 30, 2010) of Credited Service.
Amount:	Survivor's payment of the 100% joint and survivor benefit or an actuarial equivalent term certain annuity. If commencement is prior to Normal Retirement Age, the benefit is reduced at the early retirement reduction factors, with half the applicable reduction factor used from age 55 to the actual commencement age. If no surviving spouse, then an actuarial equivalent dependent child benefit is paid to age 20 or for five years if longer.
Benefit Increases:	Same as for Normal Retirement.

Refund of Member's Contributions:

Age/Service Requirement:	Member or former member dies before receiving any disability or retirement benefits, and survivor benefits are not payable.
Amount:	Member's contributions with 4.00% interest compounded annually.

Contributions:

Member:	6.00% of salary. Effective July 1, 2012, 6.50% of salary.
Employer:	6.29% of salary. Effective July 1, 2012, 6.79% of salary.
Direct State Aid:	$346,000 per year each October 1, beginning in 2008, plus a redirected "amortization State aid" payment, estimated at $312,535 for fiscal 2012.

Changes in Plan Provisions:	The following Plan changes are reflected in this valuation as described in the 2010 Omnibus Pension Bill: > For purposes of determining the contribution sufficiency, contribution rates were increased from 5.50% to 6.00% and 5.79% to 6.29% for employees and employers, respectively. > For purposes of determining the actuarial accrued liability, member contribution rates were increased from 5.50% to 6.50% when projecting future refund of contribution balances.

5227541v1/05776.072