

December 2011

# Legislators Retirement Fund

Actuarial Valuation Report as of July 1, 2011

**MERCER**

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# MERCER

December 2011

Minnesota State Retirement System  
Legislators Retirement Fund  
St. Paul MN

Dear Board of Directors:

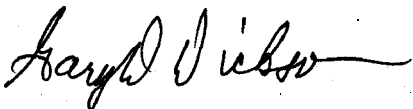
Submitted in this report are the July 1, 2011 actuarial valuation results for the Legislators Retirement Fund. The purposes of this report are to:

- Present Mercer's actuarial estimates of the Plan's liabilities and expenses as required by Minnesota Statutes, Section 356.215 and the Standards for Actuarial Work established by the State of Minnesota Legislative Commission on Pensions and Retirement (LCPR) for the Minnesota State Retirement System (MSRS) to incorporate, as MSRS deems appropriate, in its financial statements; and
- Provide the actuarially required contribution for the fiscal year beginning July 1, 2011.

To the best of our knowledge and belief, the valuation was performed in accordance with the requirements of Minnesota Statutes, Section 356.215, and the requirements of the Standards for Actuarial Work established by the LCPR, including one modification regarding decrement timing. The LCPR approved this modification prior to the preparation of this report in order to ensure consistency and comparability. For more information about the decrement timing methodology, please refer to the *Actuarial Basis* section.

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate. Moreover, this report contains a Glossary of certain terms referenced in the report, which you may wish to consult before reviewing the report. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. In addition, Mr. Dickson meets the requirements of "approved actuary" under Minnesota Statutes, Section 356.215, Subdivision 1, Paragraph (c). We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest, that would impair the objectivity of our work.

Respectfully submitted,



Gary D. Dickson, FSA, EA, MAAA



Bonita J. Wurst, ASA, EA, MAAA

## Highlights

### Contributions

The following table summarizes important contribution information as described in the *Development of Costs* section.

Contributions	Actuarial Valuation as of	
	July 1, 2011	July 1, 2010
Statutory Contributions – Chapter 3A (% of Payroll)	9.00%	9.00%
Required Contributions – Chapter 356 (% of Payroll)	511.51%	359.43%
Sufficiency / (Deficiency)	(502.51%)	(350.43%)

This plan has a funding ratio of 22.5%. The required contribution shown above represents the annual contribution amount, as a percent of payroll, assuming future payroll increases of 4.5% per year, that would be needed in order for this plan to attain 100% funding by July 1, 2021, based upon the prescribed assumptions. Actual contributions have been less than the required amount since 2003. This plan is primarily funded on a pay-as-you-go basis, with member contributions paid to the state’s General Fund and annual appropriations from the state’s General Fund. **Based on the current data, methods, and assumptions, without a change in contribution policy, or extremely favorable actuarial experience, the fund’s assets will be depleted within the next 5 years. Upon depletion of those assets, all benefits will be funded on a pay-as-you-go basis with annual appropriations from the state’s General Fund.**

The expected benefit payments for the next 10 years, based on current data, methods, and assumptions, are:

Fiscal Year Ending	Expected Annual Benefit Payments
2012	\$ 8,678,000
2013	8,519,000
2014	8,595,000
2015	8,552,000
2016	8,488,000
2017	8,396,000
2018	8,248,000
2019	8,001,000
2020	7,824,000
2021	7,591,000

Note that the current contribution levels (member contributions and annual appropriations) are not sufficient to cover annual benefit payments. For the fiscal year ending June 30, 2011, total contributions were \$3.0 million and total benefit payments were \$7.5 million.

## Highlights

The estimated benefit payments, actuarial accrued liability, and required contribution are based on prescribed assumptions. The economic assumptions are prescribed by Minnesota Statute, and the remaining assumptions are adopted by the MSRS Board of Directors and the Legislative Commission on Pensions and Retirement. We have a number of concerns about the prescribed assumptions.

- The current funding policy of this plan does not support a long-term investment return assumption of 8.5%. For contribution calculations, a significantly lower discount rate, perhaps even 0%, would be more consistent with the current pay-as-you-go contribution policy.
- The *Mortality Rates* that are prescribed by the LCPR are based on a table that is almost 30 years old. Mortality rates have improved since this table was adopted for use by the plan and are generally expected to continue to improve. Using this table as is does not comply with the guidance in Actuarial Standards of Practice Number 35 (ASOP 35), which requires an explicit assumption about mortality improvement, and if no mortality improvement is assumed after the valuation date, an explanation as to why. To the extent the rates in this table are too high, i.e. mortality has improved or will in the future, this report understates the plan's liabilities and required contributions.

In the event of a conflict between the Standards for Actuarial Work established by the LCPR and ASOP 35, the Standards require that the actuary for the Fund and the Commission's actuary review the situation to determine the approach to completing the valuations. We discussed this issue with Milliman, acting in their capacity as the Commission's actuary, and their preferred approach, as followed herein, is to use the prescribed mortality for 2011 valuations with commentary, and update the mortality assumption in 2012. A review of the valuation assumptions has been authorized by MSRS and is scheduled to occur in 2012.

- The retirement age assumption has predicted more retirements than the plan has experienced.
- The method for amortizing the unfunded liability includes a payroll growth assumption of 4.5% per year. This method is not reasonable for a closed plan with decreasing payroll.
- We recommend that all prescribed assumptions be reviewed and updated, if possible, before the next actuarial valuation. Lowering the discount rate and updating the mortality table will increase the actuarial accrued liability.

The current assumptions may not comply with GASB standards for financial reporting. For GASB purposes, you have directed us to use an alternate assumption set, as follows:

	<b>Prescribed assumptions</b>	<b>Alternate assumptions</b>
Discount rate	8.5% pre-retirement 6.5% post-retirement	0% pre-retirement 0% post-retirement
Post-retirement benefit increase	Implicit in 6.5% post-retirement rate	2.0% annual increase
Mortality	1983 Group Annuity Mortality Pre-retirement: males set back four years, females set back two years Post-retirement: no set backs	RP 2000 generational mortality, white collar Pre-retirement: non-annuitant table, males set forward three years, females set back one year Post-retirement: annuitant table with no set backs
Amortization method	Level percent of payroll amortization assuming payroll increases of 4.5% per year	Level dollar amortization
Retirement rates	Age 62 or, if over age 62, one year from valuation date	40% at age 62, 30% at ages 63 and 64, 40% at age 65, 30% at age 66, 25% at ages 67, 68, and 69, 30% at age 70, 100% at age 71, one year from valuation date if over age 71

All other assumptions not noted above are the same under the Alternate assumptions as the Prescribed assumptions. Results under the alternate assumption set are shown on the next page, in the GASB exhibits, and in footnotes throughout the report.

## Highlights

The *Plan Assets* section provides detail on the plan assets used for the valuation. The plan assets earned 24.1% for the plan year ending June 30, 2011 as compared to the assumed rate of 8.5%. Participant reconciliation and statistics are detailed in the *Membership Data* section. The *Actuarial Basis* section includes a summary of plan provisions and actuarial methods and assumptions used for the calculations in this report. The *Plan Accounting* sections detail the required accounting information for the Plan under GASB Statement No. 25 (as amended by GASB 50).

## Principal Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in plan provisions, actuarial assumptions or valuation methods and procedures between the two valuations are described after the summary.

	Actuarial Valuation as of	
	July 1, 2011	July 1, 2010
<b>Contributions (% of Payroll)</b>		
Statutory – Chapter 3A	9.00%	9.00%
Required – Chapter 356	511.51%*	359.43%
Sufficiency / (Deficiency)	(502.51%)*	(350.43%)
<b>Funding Ratios (dollars in thousands)</b>		
Accrued Liability Funding Ratio		
– Current assets (AVA)	\$ 19,140	\$ 26,821
– Actuarial accrued liability	85,034*	86,236
– Funding ratio	22.51%*	31.10%
Projected Benefit Funding Ratio		
– Current and expected future assets	\$ 19,847	\$ 27,743
– Current and expected future benefit obligations	85,741	87,158
– Projected benefit funding ratio	23.15%	31.83%
<b>Participant Data</b>		
Active members		
– Number	38	47
– Projected annual earnings (000s)	\$ 1,646	\$ 1,970
– Average projected annual earnings	\$ 43,303	\$ 41,925
– Average age	63.1	63.7
– Average service	22.8	22.0
Service retirements	288	279
Survivors	80	80
Disability retirements	0	0
Deferred retirements	78	88
Terminated other non-vested	1	1
<b>Total</b>	<b>485</b>	<b>495</b>
* Alternate assumption results:		
Required contribution	1,320.95%	
Sufficiency / (deficiency)	(1,311.95%)	
Actuarial accrued liability (000s)	\$ 216,559	
Actuarial accrued liability funding ratio	8.84%	

## Principal Valuation Results

### Valuation of Future Post-Retirement Benefit Increases

A very important assumption affecting the valuation results is the expectation of future post-retirement benefit increases, which depends on the accrued liability funding ratio of the State Employees Retirement Fund. If the State Employees Retirement Fund reaches a funding ratio of 90% (on a market value of assets basis) in the future, post-retirement increases in the Legislators Retirement Fund will revert to the 2.5% level. The State Employees Retirement Fund's accrued liability funding ratio (on a market value of assets basis and assuming 2.0% post-retirement benefit increases in all future years) is currently 87.0%.

We performed a projection of liabilities and assets of the State Employees Retirement Fund, using the 2011 valuation results as a baseline and assuming future experience follows the valuation assumptions (including future investment returns of 8.5%). In addition, the projection utilized the following methods and assumptions:

- Liabilities and normal cost assume future COLAs at 2.5% level payable for all years
- Cash flow assuming future COLAs at current 2.0% level
- Level normal cost as a percent of pay (assuming total payroll increases as assumed in the valuation for purposes of amortizing the unfunded liability). Plan changes affecting members first hired after June 30, 2010 are expected to ultimately reduce the cost of the plan, but have not yet had a material impact on the valuation results. We did not attempt to quantify this reduction.
- Current statutory contribution levels (i.e. not including potential contribution increases under the contribution stabilizer statutes).

Based on these assumptions and methods, the projection indicates that the funded status of the State Employees Retirement Fund is not expected to reach 90% within the next 15 years of the projection.

The liabilities in this report are based on the assumption that the post-retirement benefit increase will remain at the reduced level of 2.0% indefinitely. We relied on direction from MSRS, including MSRS' interpretation of applicable Minnesota Statutes, on this issue. If we assumed future post-retirement benefit increases of 2.5% instead of 2.0%, the actuarial accrued liability would be \$88.0 million instead of \$85.0 million, resulting in a funded ratio of 21.8% (on a market value basis).



## Important Notices

Mercer has prepared this report exclusively for the Board of Directors of the Minnesota State Retirement System (MSRS) and the Legislative Commission on Pensions and Retirement (LCPR); Mercer is not responsible for reliance upon this report by any other party. Subject to this limitation, MSRS may direct that this report be provided to its auditors in connection with audits of the Plan or its sponsoring entities.

The only purposes of this report are to:

- Present Mercer's actuarial estimates of the Plan's liabilities and expenses as required by Minnesota Statutes, Section 356.215 and the Standards for Actuarial Work established by the State of Minnesota LCPR for MSRS to incorporate, as MSRS deems appropriate, in its financial statements; and
- Provide the actuarially required contribution rate for the fiscal year beginning July 1, 2011.

This report may not be used for any other purpose; Mercer is not responsible for the consequences of any unauthorized use.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security and/or benefit-related issues should not be made on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic and societal factors, including financial scenarios that assume future sustained investment losses.

The State Board of Investment (SBI) is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Mercer's actuaries have not provided any investment advice to the Board of Directors of the SBI.

A valuation report is only a snapshot of a Plan's estimated financial condition at a particular point in time; it does not predict the Plan's future financial condition or its ability to pay benefits in the future and does not provide any guarantee of future financial soundness of the Plan. Over time, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the period of time over which benefits are paid, plan expenses and the amount earned on any assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the valuation date.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that are immaterial in our judgment. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

To prepare the valuation report, actuarial assumptions, as described in the *Actuarial Basis* section of this report, are used in a forward looking financial and demographic model to present a single scenario from a wide range of possibilities; the results based on that single scenario are included in the valuation. The future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions.

## Important Notices

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely “correct” and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A "sensitivity analysis" shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those utilized in this report. We have not been engaged to perform such a sensitivity analysis and thus the results of such an analysis are not included in this report. At MSRS’s request, Mercer is available to perform such a sensitivity analysis.

Actuarial assumptions may also be changed from one valuation to the next because of changes in mandated requirements, plan experience, changes in expectations about the future and other factors. A change in assumptions is not an indication that prior assumptions were unreasonable when made.

The calculation of actuarial liabilities for valuation purposes is based on a current estimate of future benefit payments. The calculation includes a computation of the “present value” of those estimated future benefit payments using an assumed discount rate; the higher the discount rate assumption, the lower the estimated liability will be. For purposes of estimating the liabilities (future and accrued) in this report, you selected an assumption based on the expected long term rate of return on plan investments. Using a lower discount rate assumption, such as a rate based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

Because valuations are a snapshot in time and are based on estimates and assumptions that are not precise and will differ from actual experience, contribution calculations are inherently imprecise. There is no uniquely “correct” level of contributions for the coming plan year.

Valuations do not affect the ultimate cost of the Plan, only the timing of contributions into the Plan. Plan funding occurs over time. Contributions not made this year, for whatever reason, including errors, remain the responsibility of the Plan sponsor and can be made in later years. If the contribution levels over a period of years are lower or higher than necessary, it is normal and expected practice for adjustments to be made to future contribution levels to take account of this with a view to funding the plan over time.

Data, computer coding and mathematical errors are possible in the preparation of a valuation involving complex computer programming and thousands of calculations and data inputs. Errors in a valuation discovered after its preparation may be corrected by amendment to the valuation or in a subsequent year’s valuation.

Actuarial assumptions, including discount rates, mortality tables and others identified in this report, are prescribed by Minnesota Statutes Section 356.215, the LCPR, and the Board of Directors. These parties are responsible for selecting the plan’s funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in the *Actuarial Basis* section of this report. MSRS is solely responsible for communicating to Mercer any changes required thereto.

To prepare this report Mercer has used and relied on financial data and participant data supplied by MSRS and summarized in the *Plan Assets* and *Membership Data* section of this report. MSRS is responsible for ensuring that such participant data provides an accurate description of all persons who are participants under the terms of the plan or otherwise entitled to benefits as of the valuation date that is sufficiently comprehensive and accurate for the purposes of this report. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.

## Important Notices

Mercer has also used and relied on the summary of plan provisions, including amendments, and interpretations of plan provisions, supplied by MSRS as summarized in the *Actuarial Basis* section of this report and on plan provisions stipulated by Minnesota Statute. We have assumed for purposes of this valuation that copies of any official plan document including all amendments and collective bargaining agreements as well as any interpretations of any such document have been provided to Mercer along with a written summary of any other substantive commitments. The Board of Directors is solely responsible for the validity, accuracy and comprehensiveness of this information. If any data or plan provisions supplied are not accurate and complete, the valuation results may differ significantly from the results that would be obtained with accurate and complete information; this may require a later revision of this report. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

MSRS should notify Mercer promptly after receipt of the valuation report if MSRS disagrees with anything contained in the valuation report or is aware of any information that would affect the results of the valuation report that has not been communicated to Mercer or incorporated therein. The valuation report will be deemed final and acceptable to MSRS unless MSRS promptly provides such notice to Mercer.

The information contained in this document (including any attachments) is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.

## Supplemental Information

The remainder of the report includes information supporting the results presented in the previous sections.

- **Plan assets** presents information about the plan's assets as reported by the Minnesota State Retirement System. The assets represent the portion of total fund liabilities that has been funded.
- **Membership data** presents and describes the membership data used in the valuation.
- **Development of costs** shows the liabilities for plan benefits and the derivation of the contribution amount.
- **Actuarial basis** describes the plan provisions, as well as the methods and assumptions used to value the plan. The valuation is based on the premise that the plan is ongoing.
- **Plan accounting under GASB 25 (as amended by GASB 50)** shows the disclosures required by GASB Statement No. 25 as amended by GASB Statement No. 50.
- **Glossary** defines the terms used in this report.

## Plan Assets

Statement of Plan Net Assets as of June 30, 2011 *(Dollars in Thousands)*

	<b>Market Value</b>
<b>Assets in Trust</b>	
▪ Cash, equivalents, short term securities	\$ 786
▪ Fixed income	4,171
▪ Equity	14,197
▪ Other*	1,294
<b>Total assets in trust</b>	<b>\$ 20,448</b>
Assets Receivable	22
<b>Total Assets</b>	<b>\$ 20,470</b>
Accounts Payable*	(1,330)
<b>Net Assets held in trust for pension benefits</b>	<b>\$ 19,140</b>

\* Includes \$1,294 in Securities Lending Collateral.

## Plan Assets

### Reconciliation of Plan Assets

The following exhibit shows the revenue, expenses and resulting assets of the Fund as reported by the Minnesota State Retirement System for the Plan's Fiscal Year July 1, 2010 to June 30, 2011.

<b>Change in Assets</b> ( <i>dollars in thousands</i> )	<b>Market Value</b>
1. Fund balance at market value at July 1, 2010	\$ 26,821
2. Restatement of plan assets as of July 1, 2010*	\$ 19,528
3. Contributions	
a. Member	\$ 160
b. Employer	0
c. Other sources	2,805
d. Total contributions	\$ 2,965
4. Investment income	
a. Investment income/(loss)	\$ 4,168
b. Investment expenses	(26)
c. Net subtotal	\$ 4,142
5. Other	2
<b>6. Total income</b> (3.d. + 4.c. + 5.)	<b>\$ 7,109</b>
7. Benefits Paid	
a. Annuity benefits	\$ (7,464)
b. Refunds	(11)
c. Total benefits paid	\$ (7,475)
8. Expenses	
a. Other	\$ 0
b. Administrative	(22)
c. Total expenses	\$ (22)
<b>9. Total disbursements</b> (7.c. + 8.c.)	<b>\$ (7,497)</b>
<b>10. Fund balance at market value at June 30, 2011</b> (2. + 6. + 9.)	<b>\$ 19,140</b>

\* Net assets as of July 1, 2010 were restated by MSRS for a prior period adjustment after the 2010 valuation report was issued. Per MSRS, the prior period adjustment results from a reduction of the Assets Receivable balance as of June 30, 2010. The amount previously reported included a contingency that received financial statement recognition instead of note disclosure only, which MSRS felt was more appropriate.

## Plan Assets

### Actuarial Asset Value

The Actuarial Value of Assets (AVA) is equal to the Market Value of Assets (consistent with valuations since July 1, 2000).

## Membership Data

### Distribution of Active Members

Age	Years of Service as of June 30, 2011										Total
	< 3	3 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	
< 25											0
Avg. Earnings											N/A
25 – 29											0
Avg. Earnings											N/A
30 – 34											0
Avg. Earnings											N/A
35 – 39											0
Avg. Earnings											N/A
40 – 44											0
Avg. Earnings											N/A
45 – 49				1	1						2
Avg. Earnings				40,304	43,565						41,935
50 – 54				2	2	2					6
Avg. Earnings				26,799	36,004	40,778					34,527
55 – 59				1	1	2		1			5
Avg. Earnings				43,816	44,768	42,676		42,761			43,339
60 – 64				1	2	2	2				7
Avg. Earnings				43,472	40,169	42,036	42,613				41,873
65 – 69				3	1	2	1	2	2		11
Avg. Earnings				42,421	42,075	42,075	43,181	42,859	43,589		42,688
70+				1	1		1	2	2		7
Avg. Earnings				42,075	42,075		43,277	42,858	41,805		42,393
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>8</b>	<b>8</b>	<b>4</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>38</b>
<b>Avg. Earnings</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>38,947</b>	<b>40,604</b>	<b>41,891</b>	<b>42,921</b>	<b>42,839</b>	<b>42,697</b>	<b>N/A</b>	<b>41,241</b>

In each cell, the top number is the count of active participants for the age/service combination and the bottom number is average actual earnings for the fiscal year ending on the valuation date.



## Membership Data

### Distribution of Service Retirements

Age	Years Retired as of June 30, 2011							Total
	<1	1 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25+	
< 50								0
Avg. Benefit								N/A
55 – 59	2	2						4
Avg. Benefit	26,534	18,089						22,312
60 – 64	7	15	3					25
Avg. Benefit	25,300	16,218	20,722					19,302
65 – 69	5	24	24	12				65
Avg. Benefit	27,956	21,034	17,248	12,847				18,657
70 – 74	2	9	15	28				54
Avg. Benefit	27,613	17,603	16,169	18,134				17,851
75 – 79		1	6	21	23			51
Avg. Benefit		15,522	20,679	24,944	28,042			25,655
80 – 84	2	3	5	9	22	19		60
Avg. Benefit	16,942	28,340	21,678	21,599	29,238	20,676		24,296
85 – 89	1				3	6	11	21
Avg. Benefit	26,909				22,011	15,702	29,689	24,464
90+							8	8
Avg. Benefit							36,547	36,547
<b>Total</b>	<b>19</b>	<b>54</b>	<b>53</b>	<b>70</b>	<b>48</b>	<b>25</b>	<b>19</b>	<b>288</b>
<b>Avg. Benefit</b>	<b>25,577</b>	<b>19,319</b>	<b>17,946</b>	<b>19,716</b>	<b>28,213</b>	<b>19,483</b>	<b>32,577</b>	<b>21,947</b>

In each cell, the top number is the count of retired participants for the age/years retired combination and the bottom number is the average annual benefit amount.

## Membership Data

### Distribution of Survivors

Age	Years Since Death as of June 30, 2011							Total
	<1	1 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25+	
< 50								0
Avg. Benefit								N/A
50 – 54		1						1
Avg. Benefit		12,211						12,211
55 – 59		1						1
Avg. Benefit		12,588						12,588
60 – 64				1				1
Avg. Benefit				6,663				6,663
65 – 69		5	2	2	1	1	1	12
Avg. Benefit		19,780	22,893	18,252	10,937	54,653	16,924	21,975
70 – 74		3		1	2	1		7
Avg. Benefit		9,569		7,299	18,799	12,960		12,366
75 – 79	1	5	4	1	2		1	14
Avg. Benefit	41,796	23,216	9,982	69,394	8,831		6,868	20,838
80 – 84	3	4	1	3	5	1	1	18
Avg. Benefit	10,718	19,478	20,510	20,878	9,027	20,292	13,693	15,129
85 – 89		5	2	1	1	2	3	14
Avg. Benefit		18,012	9,375	48,968	16,749	9,206	10,753	16,086
90+		2	1	1	3	2	3	12
Avg. Benefit		14,116	16,302	1,972	14,770	16,371	8,588	12,443
<b>Total</b>	<b>4</b>	<b>26</b>	<b>10</b>	<b>10</b>	<b>14</b>	<b>7</b>	<b>9</b>	<b>80</b>
<b>Avg. Benefit</b>	<b>18,487</b>	<b>17,873</b>	<b>14,128</b>	<b>23,343</b>	<b>12,314</b>	<b>19,865</b>	<b>10,612</b>	<b>16,504</b>

In each cell, the top number is the count of survivor participants for the age/years since death combination and the bottom number is the average annual benefit amount.

## Membership Data

### Reconciliation of Members

	Actives	Terminated		Recipients			Total
		Deferred Retirement	Other Non-Vested	Service Retirement	Disability Retirement	Survivors	
<b>Members on 7/1/2010</b>	<b>47</b>	<b>88</b>	<b>1</b>	<b>279</b>	<b>0</b>	<b>80</b>	<b>495</b>
New members	0	0	0	0	0	0	0
Return to active	1	(1)	0	0	0	0	0
Terminated-nonvested	0	0	0	0	0	0	0
Service retirements	(7)	(11)	0	18	0	0	0
Terminated deferred	(2)	2	0	0	0	0	0
Terminated refund/transfer	0	0	0	0	0	0	0
Deaths	(1)	0	0	(10)	0	(4)	(15)
New beneficiary	0	0	0	0	0	4	4
Disabled	0	0	0	0	0	0	0
Data correction	0	0	0	1	0	0	1
Net Change	(9)	(10)	0	9	0	0	(10)
<b>Members on 6/30/2011</b>	<b>38</b>	<b>78</b>	<b>1</b>	<b>288</b>	<b>0</b>	<b>80</b>	<b>485</b>

<b>Terminated Member Statistics</b>	Deferred Retirement	Other Non-Vested	Total
Number	78	1	79
Average Age	57.2	62.3	57.3
Average Service	10.7	4.0	10.6
Average annual benefits, with augmentation to Normal Retirement Date and 30% CSA load*	\$ 19,606	N/A	\$ 19,606
Average refund value, with 30% CSA load	\$ 75,510	\$ 36,174	\$ 75,012

\* Includes estimated benefits for 34 members who were reported without a benefit amount

## Development of Costs

### Actuarial Valuation Balance Sheet *(Dollars in Thousands)*

The actuarial balance sheet is based on the principle that the long-term projected benefit obligations of the plan should be ideally equal to the long-term resources available to fund those obligations. The resources available to meet projected obligations for current members consist of current fund assets plus the present value of anticipated future contributions intended to fund benefits for current members. In the exhibit below, B.2 is the estimated present value of contributions to fund the normal cost rate for current members until their respective termination dates. Item B.1 is the present value of the total 9.00% statutory contribution net of normal cost and anticipated plan expenses during the period from the valuation date to the statutory unfunded amortization date.

The contributions made in excess of amounts required for current benefit payments are accumulated as a reserve to help meet benefit payments in later years. It is this reserve system which permits the establishment of a level rate of contribution each year.

				<b>June 30, 2011</b>
A.	Actuarial value of assets			\$ 19,140
B.	Expected future assets			
1.	Present value of expected future statutory supplemental contributions			\$ 0
2.	Present value of future normal costs			707
3.	Total expected future assets (1. + 2.)			\$ 707
C.	Total current and expected future assets			\$ 19,847
D.	Current benefit obligations	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>
1.	Benefit recipients			
a.	Service retirements	\$ 0	\$ 53,452	\$ 53,452
b.	Disability	0	0	0
c.	Survivors	0	9,515	9,515
2.	Deferred retirements with augmentation	0	12,818	12,818
3.	Former members without vested rights*	36	0	36
4.	Active members	0	8,894	8,894
5.	Total Current Benefit Obligations	\$ 36	\$ 84,679	\$ 84,715
E.	Expected Future Benefit Obligations			\$ 1,026
F.	Total Current and Expected Future Benefit Obligations			\$ 85,741
G.	Unfunded Current Benefit Obligations (D.5. – A.)			\$ 65,575
H.	Unfunded Current and Future Benefit Obligations (F. – C.)			\$ 65,894

\* Former members with either six full years of service or service during all or part of four regular legislative sessions that have not collected a refund of member contributions as of the valuation date.

## Development of Costs

### Determination of Unfunded Actuarial Accrued Liability and Supplemental Contribution Rate *(Dollars in Thousands)*

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
<b>A. Determination of Actuarial Accrued Liability (AAL)</b>			
1. Active Members			
a. Retirement annuities	\$ 9,782	\$ 631	\$ 9,151
b. Disability benefits	0	0	0
c. Survivor's benefits	129	22	107
d. Deferred retirements	0	18	(18)
e. Refunds	9	36	(27)
f. Total	\$ 9,920	\$ 707	\$ 9,213
2. Deferred retirements with future augmentation	12,818	0	12,818
3. Former members without vested rights*	36	0	36
4. Benefit recipients	62,967	0	62,967
5. Total	\$ 85,741	\$ 707	\$ 85,034**
<b>B. Determination of Unfunded Actuarial Accrued Liability (UAAL)</b>			
1. Actuarial accrued liability			\$ 85,034
2. Current assets (AVA)			19,140
3. Unfunded actuarial accrued liability			\$ 65,894**
<b>C. Determination of Supplemental Contribution Rate</b>			
1. Present value of future payrolls through the amortization date of July 1, 2021 assuming payroll increases of 4.5% per year***			\$ 13,376
2. Supplemental Contribution Rate (B.3. / C.1.)**			492.62%

\* Former members with either six full years of service or service during all or part of four regular legislative sessions that have not collected a refund of member contributions as of the valuation date.

\*\* Actuarial accrued liability, Unfunded actuarial accrued liability, and Supplemental contribution rate (assuming level dollar amortization) under the alternate assumptions are \$216,559, \$197,419, and \$19,742, respectively. The amortization factor is 10.0000.

\*\*\* The amortization factor as of July 1, 2011 is 8.1260.

## Development of Costs

### Changes in Unfunded Actuarial Accrued Liability (UAAL) (Dollars in Thousands)

	Year Ending June 30, 2011
A. Unfunded actuarial accrued liability at beginning of year	\$ 59,415
B. Changes due to interest requirements and current rate of funding	
1. Normal cost and actual administrative expenses	\$ 316
2. Contributions	(2,965)
3. Interest on A., B.1. and B.2.	4,938
4. Total (B.1. + B.2. + B.3.)	\$ 2,289
C. Expected unfunded actuarial accrued liability at end of year (A. + B.4.)	\$ 61,704
D. Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected	
1. Salary increases	\$ 17
2. Investment return	(2,654)
3. Restatement of July 1, 2010 assets	7,293
4. Mortality of benefit recipients	989
5. Other items*	(1,455)
6. Total	\$ 4,190
E. Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions (C. + D.6.)	\$ 65,894
F. Change in unfunded actuarial accrued liability due to changes in plan provisions	0
G. Change in unfunded actuarial accrued liability due to changes in actuarial assumptions	0
H. Change in unfunded actuarial accrued liability due to changes in methods	0
I. Unfunded actuarial accrued liability at end of year (E. + F. + G. + H.)	\$ 65,894

\* Other items reflects actuarial gains due to fewer than expected retirements on both the active and deferred vested members. In addition, after reviewing actual data, an adjustment was made to the assumed Average Salary for deferred vested members who were reported without a benefit; this modification accounts for approximately \$1.1 million of the total "Other items" actuarial gain.

## Development of Costs

### Determination of Contribution Sufficiency/(Deficiency) *(Dollars in Thousands)*

The Annual Required Contribution (ARC) is the sum of normal cost, a supplemental contribution to amortize the Unfunded Actuarial Accrued Liability, and an allowance for expenses.

	Percent of Payroll	Dollar Amount
<b>A. Statutory contributions – Chapter 3A</b>		
1. Employee contributions	9.00%	\$ 148
2. Employer contributions	0.00%	0
3. Total	9.00%	\$ 148
<b>B. Required contributions – Chapter 356</b>		
1. Normal cost*		
a. Retirement benefits	15.57%	\$ 257
b. Disability benefits	0.00%	0
c. Survivors	0.57%	9
d. Deferred retirement benefits	0.74%	12
e. Refunds	0.91%	15
f. Total	17.79%	\$ 293
2. Supplemental contribution amortization by July 1, 2021 of Unfunded Actuarial Accrued Liability**	492.62%	8,109
3. Allowance for expenses	1.10%	\$ 18
4. Total**	511.51%	\$ 8,420
C. Contribution Sufficiency/(Deficiency) (A.3. – B.4.)	(502.51%)	\$ (8,272)

Note: Projected annual payroll for fiscal year beginning on the valuation date: \$1,646

\* Normal cost includes 1/2 year interest.

\*\* Supplemental contribution amortization increases to 1,199.74% of payroll (\$19,742) under the alternate assumptions with level dollar amortization. Normal cost under the alternate assumptions increases to 120.11% of payroll (\$1,976). Required contribution under the alternate assumptions (with level dollar amortization) is 1,320.95% of payroll (\$21,736).

## Actuarial Basis

### Actuarial cost method

Actuarial Accrued Liability and required contributions in this report are computed using the Individual Entry Age Normal Cost Method. This method is prescribed by Minnesota Statutes.

The objective under this method is to fund each member's benefits under the Plan as payments which are level as a percentage of salary, starting at original participation date (or employment date), and continuing until the assumed date of retirement termination, disability or death. For valuation purposes, entry age for each member is determined as the age at valuation minus years of service as of the valuation date.

At any given date, a liability is calculated equal to the contributions which would have been accumulated if this method of funding had always been used, the current plan provisions had always been in place, and all assumptions had been precisely accurate. The difference between this liability and the assets (if any) which are held in the fund is the unfunded liability. The unfunded liability is typically funded over a chosen period in accordance with the amortization schedule.

A detailed description of the calculation follows:

The normal cost for each active member under the assumed retirement age is determined by applying to earnings the level percentage of salary which, if contributed each year from date of entry into the Plan until the assumed retirement (termination, disability or death) date, is sufficient to provide the full value of the benefits expected to be payable.

- The present value of future normal costs is the total of the discounted values of all active members' normal cost, assuming these to be paid in each case from the valuation date until retirement (termination, disability or death) date. The discount rate assumptions used in this calculation are 8.5% pre-retirement and 6.5% post-retirement, as described in the *Summary of Actuarial Assumptions*.
- The present value of projected benefits is calculated as the value of all benefit payments expected to be paid to the Plan's current members, including active and retired members, beneficiaries, and terminated members with vested rights.
- The accrued liability is the excess of the present value of projected benefits over the present value of future normal costs.
- The unfunded liability is the excess of the accrued liability over the assets of the fund, and represents that part of the accrued liability which has not been funded by accumulated past contributions.

Current Benefit Obligation is computed using the Projected Unit Credit cost method.

### Decrement timing

All decrements are assumed to occur on the anniversary of the valuation date, beginning on the valuation date. Decrement timing is a fundamental part of the computer programming underlying actuarial calculations. Mercer's valuation systems use beginning of year decrements, a generally accepted actuarial practice. The Legislative Commission on Pensions and Retirement approved this modification to the Standards for Actuarial Work prior to the preparation of this report in order to ensure consistency and comparability.



## Actuarial Basis

### Asset valuation method

Market Value (consistent with valuations since July 1, 2000).

### Payment on the unfunded actuarial accrued liability

The unfunded liability is amortized as a level percentage of payroll each year to the statutory amortization date of July 1, 2021 assuming payroll increases of 4.5% per year. If the unfunded Actuarial Accrued Liability is negative, the surplus amount shall be amortized over 30 years as a level percentage of payroll. Projected payroll is multiplied by 0.957 in the determination of the present value of future payroll to account for timing differences (as required by the Standards for Actuarial Work).

For GASB purposes, we have calculated a level dollar amortization amount.

### Funding objective

This plan is primarily funded on a pay-as-you-go basis, offset by member contributions and annual appropriations from the General Fund.

### Benefits included or excluded

To the best of our knowledge, all material benefits have been included in the liability.

**IRC Section 415(b):** The limitations of Internal Revenue Code Section 415(b) have been incorporated into our calculations. Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2011, the limit is \$195,000.

**IRC Section 401(a)(17):** The limitations of Internal Revenue Code Section 401(a)(17) have been incorporated into our calculations. Compensation for any 12-month period used to determine accrued benefits may not exceed the limits in IRC Section 401(a)(17) for the calendar year in which the 12-month period begins. This limit is indexed annually. For 2011, the limit is \$245,000.

### Changes in actuarial methods since prior valuation

None.

## Actuarial Basis

### Summary of actuarial assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan. Certain actuarial assumptions, including discount rates, mortality tables and others identified in this report, are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement (LCPR), or the MSRS Board of Directors. These parties are responsible for selecting the assumptions used for this valuation.

The *Allowance for Combined Service Annuity* was based on a recommendation by a former actuary. We are unable to judge the reasonableness of this assumption without performing a substantial amount of additional work beyond the scope of the assignment.

The *Investment Return* assumption is defined in Statute. The current funding policy of this plan does not support a long-term investment return assumption of 8.5%. For contribution calculations, a significantly lower discount rate, perhaps even 0%, would be more consistent with the current pay-as-you-go contribution policy.

The *Pre and Post-Retirement Mortality Rates* that are prescribed by the LCPR are based on a table that is almost 30 years old. Mortality rates have improved since this table was adopted for use by the plan and are generally expected to continue to improve. Using this table as is does not comply with the guidance in Actuarial Standards of Practice Number 35 (ASOP 35), which requires an explicit assumption about mortality improvement, and if no mortality improvement is assumed after the valuation date, an explanation as to why. To the extent the rates in this table are too high, i.e. mortality has improved or will in the future, this report understates the plan's liabilities and required contributions.

In the event of a conflict between the Standards for Actuarial Work established by the LCPR and ASOP 35, the Standards require that the actuary for the Fund and the Commission's actuary review the situation to determine the approach to completing the valuations. We discussed this issue with Milliman, acting in their capacity as the Commission's actuary, and their preferred approach, as followed herein, is to use the prescribed mortality for 2011 valuations with commentary, and update the mortality assumption in 2012. A review of the valuation assumptions has been authorized by MSRS and is scheduled to occur in 2012.

<i>Investment return:</i>	6.50% compounded annually post-retirement. 8.50% compounded annually pre-retirement.
<i>Benefit increases after retirement</i>	Payment of 2.0% annual benefit increases after retirement accounted for by using a 6.5% post-retirement assumption, as required by Minnesota Statute.
<i>Salary increases</i>	5.00% annually.
<i>Mortality</i>	
<i>Healthy Pre-retirement</i>	1983 Group Annuity Mortality for males set back four years 1983 Group Annuity Mortality for females set back two years
<i>Healthy Post-retirement</i>	1983 Group Annuity Mortality for males 1983 Group Annuity Mortality for females
<i>Disabled</i>	N/A
<i>Retirement</i>	Age 62 or if over age 62, one year from valuation date.

## Actuarial Basis

### Summary of actuarial assumptions *(continued)*

<i>Withdrawal</i>	Rates based on years of service.		
	Year	House	Senate
	1	0%	0%
	2	30	0
	3	0	0
	4	20	25
	5	0	0
	6	10	0
	7	0	0
	8	5	10
	9+	0	0
<i>Disability</i>	None.		
<i>Payroll growth</i>	4.50% per annum.		
<i>Allowance for combined service annuity</i>	Liabilities for former members not in pay status are increased by 30.00% to account for the effect of some participants having eligibility for a Combined Service Annuity.		
<i>Administrative expenses</i>	Prior year administrative expenses expressed as percentage of prior year payroll.		
<i>Refund of contributions</i>	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.		
<i>Percentage married</i>	85.00% of members are assumed to be married.		
<i>Age of spouse</i>	Females are assumed to be three years younger than males.		
<i>Eligible children</i>	Each member may have two dependent children depending upon member's age. Assumed first child born at member's age 28 and second child is born at member's age 31.		
<i>Commencement of deferred benefits</i>	Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at age 62.		
<i>Form of payment</i>	Active married members are assumed to elect a 50% joint and survivor annuity. Active single members and deferred members are assumed to elect a life annuity.		

## Actuarial Basis

### Summary of actuarial assumptions *(continued)*

<i>Unknown data for certain members</i>	<p>To prepare this report, Mercer has used and relied on participant data supplied by the Fund. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.</p> <p>There are no members reported with missing gender or birth dates. In cases where submitted data was missing or incomplete, the following assumptions were applied:</p> <p><u>Data for active members:</u></p> <p>There were no members reported with missing salary or service.</p> <p><u>Data for terminated members:</u></p> <p>There were 34 members reported without a benefit. If available, we calculated benefits for these members using the reported Average Salary and credited service. If Average Salary was also not reported (31 members), we assumed a value of \$30,000. If termination date was not reported, we assumed the member terminated at age 40 (or current age if older than 40). There were no members reported without credited service.</p> <p>The benefit reported by MSRS has not been adjusted for the augmentation change first effective with the 2010 valuation. At MSRS' direction, we have adjusted benefits to reflect this plan change.</p> <p><u>Data for members receiving benefits:</u></p> <p>There were no members reported without a benefit.</p> <p>Members reported as a life annuity and also reported with a spouse benefit were valued under the 50% joint and survivor option.</p>				
<i>Alternate assumptions</i>	<p>For GASB purposes, MSRS has directed us to use an alternate assumption set, as follows:</p> <p>Discount rate:</p> <table style="margin-left: 40px;"> <tr> <td>Pre-retirement</td> <td>0.00%</td> </tr> <tr> <td>Post-retirement</td> <td>0.00%</td> </tr> </table> <p>Post-retirement benefit increases: 2.00%</p> <p>Mortality: RP 2000 generational mortality, white collar  Pre-retirement: non-annuitant table, males set forward three years, females set back one year  Post-retirement: annuitant table with no set backs</p> <p>Amortization Level dollar.</p> <p>Retirement rates: 40% at age 62, 30% at ages 63 and 64, 40% at age 65, 30% at age 66, 25% at ages 67, 68, and 69, 30% at age 70, 100% at age 71, one year from valuation date if over age 71</p> <p>All other assumptions not noted above are the same under the Alternate assumptions as the Prescribed assumptions.</p>	Pre-retirement	0.00%	Post-retirement	0.00%
Pre-retirement	0.00%				
Post-retirement	0.00%				
<i>Changes in actuarial assumptions</i>	<p>None.</p>				

## Actuarial Basis

### Summary of plan provisions

Following is a summary of the major plan provisions used in the valuation of this report. MSRS is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report. Moreover, these plan provisions may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

<i>Plan year</i>	July 1 through June 30
<i>Eligibility</i>	Members of the State Legislature first elected to office before July 1, 1997 and who elect to retain coverage under this plan (i.e., do not elect Social Security coverage).
<i>Contributions</i>	
<i>Member</i>	9.00% of salary which must be paid to the state's General Fund.
<i>Employer:</i>	Plan is funded by annual appropriations from the state's General Fund. Employee contributions are "picked up" according to the provisions of Internal Revenue Code 414(h).
<i>Allowable service</i>	Service while in an eligible position.
<i>Salary</i>	Compensation received for service as a member of the legislature. Salary includes the monthly compensation paid to a legislator and the per diem payments paid during a regular or special session. Salary does not include additional compensation attributable to a leadership position.
<i>Average salary</i>	Average of the five highest successive years of salary.
<b><i>Retirement</i></b>	
<b><i>Normal retirement benefit</i></b>	
<i>Age/service requirements</i>	Age 62 and either six full years of service or service during all or part of four regular legislative sessions. For eligibility purposes, service does not include credit for time not served when a member does not serve a full term of office.
<i>Amount</i>	A percentage of Average Salary for each year of service as follows: First elected prior to January 1, 1979 (a) 5.00% for the first eight years of service prior to January 1, 1979; and (b) 2.50% for subsequent years Elected after December 31, 1978 (a) 2.50%

## Actuarial Basis

### Summary of plan provisions *(continued)*

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<b>Retirement</b> <i>(continued)</i>	
<u>Early retirement benefit</u>	
<i>Age/service requirements</i>	Age 55 and either six full years of Service or Service during all or part of four regular legislative sessions.
<i>Form of payment</i>	Normal retirement benefit based on service and Average Salary at retirement date and actuarially reduced for each month the member is under age 62 assuming augmentation to age 62 at 3.00% per year.
<u>Form of payment</u>	Paid as a 50% joint and survivor annuity to member, spouse and dependent children. Annuitants may elect 100% joint and survivor bounce back annuity, life annuity, or a term certain and life annuity on an actuarially equivalent basis.
<u>Benefit increases</u>	Benefit recipients receive future annual 2.0% benefit increases. When the funding ratio of the State Employees Retirement Fund reaches 90% (on a Market Value of Assets basis), the benefit increase will revert to 2.5%. A benefit recipient who has been receiving a benefit for at least 18 full months as of December 31 will receive a full increase. Members receiving benefits for at least six full months but less than 18 full months will receive a pro rata increase.
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<b>Disability</b>	No additional benefits provided beyond standard plan. Treated as retirement or termination, depending on age and service at termination.
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<b>Death</b>	
<u>Surviving spouse benefit</u>	
<i>Age/service requirement</i>	Death while active, or after termination if service requirements for a normal retirement benefit is met but payments have not begun.
<i>Amount</i>	Survivor payments of 50% of the retirement benefit of the member assuming the member had attained normal retirement age and had a minimum of eight years of service. Benefit is paid for life. A former member's benefit is augmented as a Deferred Annuity to date of death before determining the portion payable to the spouse. If the legislator was at least age 55 at death, the surviving spouse may elect an optional joint and survivor annuity. If a deferred benefit was not eligible to be in pay status before July 1, 1997, an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
<i>Benefit increases</i>	Same as for retirement.
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## Actuarial Basis

### Summary of plan provisions *(continued)*

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#### **Death** *(continued)*

##### Surviving dependent children's benefit

<i>Age/service requirement</i>	Same as spouse's benefit.
<i>Amount</i>	Benefit for first child is 25.00% of the retirement benefit (computed as for surviving spouse) with 12.50% for each additional child. Maximum payable (including spouse) is 100.00% of the retirement benefit. Benefits cease when a child marries or attains age 18 (22 if a full-time student).
<i>Benefit Increases</i>	Same as retirement.

##### Refund of contributions

<i>Age/service requirement</i>	Member dies before receiving any retirement benefits and survivor benefits are not payable.
<i>Amount</i>	Member's contributions with 6.00% annual interest compounded daily until June 30, 2011, 4.00% thereafter.

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#### **Termination**

##### Refund of contributions

<i>Age/service requirement</i>	Termination of service.
<i>Amount</i>	Member's contributions with 6.00% annual interest compounded daily until June 30, 2011, 4.00% thereafter. If a member is vested, a deferred annuity may be elected in lieu of a refund.

##### Deferred benefit

<i>Age/service requirement</i>	Same service requirements as for normal retirement.
<i>Amount</i>	Benefit computed under law in effect at termination and increased by the following annual augmentation percentage: <ul style="list-style-type: none"> <li>(a.) 0.00% before July 1, 1973;</li> <li>(b.) 5.00% from July 1, 1973 to January 1, 1981;</li> <li>(c.) 3.00% until the earlier of January 1 of the year following attainment of age 55 and January 1, 2012;</li> <li>(d.) 5.00% until the earlier of January 1, 2012 and when the annuity begins; and</li> <li>(e.) 2.00% from January 1, 2012 forward.</li> </ul> Amount is payable at normal or early retirement. For members who terminated prior to July 1, 1997 but were not eligible to commence their pensions before July 1, 1997, the benefit shall be increased to reflect the actuarial equivalent change in post-retirement interest rate from 5.00% to 6.00%.

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#### **Adjustment for Benefits Not In Pay Status**

Benefits are adjusted on an actuarial equivalent basis to reflect the 1997 change in post-retirement interest rate assumption from 5.0% to 6.0%.

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## Actuarial Basis

### Summary of plan provisions *(continued)*

<b><i>Optional form conversion factors</i></b>	Actuarially equivalent factors based on the 1983 Group Annuity Mortality, blended 75% male and 25% female, and 6% interest.
<b><i>Combined Service Annuity</i></b>	<p>Members are eligible for combined service benefits if they:</p> <ul style="list-style-type: none"> <li>(a.) Has sufficient allowable service in total that equals or exceeds the applicable service credit vesting requirement of the retirement plan with the longest applicable service credit vesting requirement; and</li> <li>(b.) Have at least six months of allowable service credit in each plan worked under</li> <li>(c.) Are not in receipt of a benefit from another plan, or have applied for benefits with an effective date within one year.</li> </ul> <p>Members who meet the above requirements must have their benefit based on the following:</p> <ul style="list-style-type: none"> <li>(a.) Allowable service in all covered plans are combined in order to determine eligibility for early retirement.</li> <li>(b.) Average salary is based on the high five consecutive years during their entire service in all covered plans.</li> </ul>
<b><i>Changes in plan provisions</i></b>	None.



## Plan Accounting Under GASB 25 (as amended by GASB 50)

Provided below is information required under GASB Statement No. 25 as amended by GASB Statement No. 50 – Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans as amended by GASB Statement No. 50.

### Schedule of Funding Progress<sup>1</sup> (Dollars in Thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded (Overfunded) AAL (UAAL) (b) – (a)	Funded Ratio (a)/(b)	Actual Covered Payroll (Previous FY) (c)	UAAL as a Percentage of Covered Payroll $\frac{(b) - (a)}{(c)}$
07/01/1991	\$ 14,694	\$ 30,403	\$ 15,709	48.33%	\$ 7,078	221.94%
07/01/1992	15,160	33,224	18,064	45.63%	6,556	275.53%
07/01/1993	17,169	36,801	19,632	46.65%	7,322	268.12%
07/01/1994	18,738	45,448	26,710	41.23%	6,589	405.37%
07/01/1995	21,213	50,255	29,042	42.21%	7,056	411.59%
07/01/1996	22,532	54,225	31,693	41.55%	6,267	505.71%
07/01/1997	25,678	60,055	34,377	42.76%	7,767	442.60%
07/01/1998	31,212	62,928	31,716	49.60%	6,802	466.27%
07/01/1999	33,474	66,418	32,944	50.40%	7,490	439.84%
07/01/2000	37,265	69,364	32,099	53.72%	5,808	552.67%
07/01/2001	42,608	75,072	32,464	56.76%	5,858	554.18%
07/01/2002	45,501	78,070	32,569	58.28%	5,089	639.99%
07/01/2003 <sup>2</sup>	–	–	–	–	–	--
07/01/2004	46,155	83,197	37,042	55.48%	3,815	970.89%
07/01/2005	45,523	81,836	36,314	55.63%	3,014	1,204.84%
07/01/2006	48,504	81,361	32,858	59.62%	2,894	1,135.45%
07/01/2007	44,869	86,449	41,580	51.90%	2,380	1,747.42%
07/01/2008	39,209	86,131	46,922	45.52%	1,993 <sup>3</sup>	2,354.34%
07/01/2009	28,663	90,431	61,768	31.70%	1,963 <sup>4</sup>	3,146.61%
07/01/2010	26,821	86,236	59,415	31.10%	1,877 <sup>4</sup>	3,165.42%
07/01/2011	19,140	216,559 <sup>5</sup>	197,419 <sup>5</sup>	8.84% <sup>5</sup>	1,774 <sup>6</sup>	11,128.47% <sup>5</sup>

<sup>1</sup> Information prior to 2008 provided by The Segal Company.

<sup>2</sup> An actuarial valuation was not completed as of July 1, 2003.

<sup>3</sup> Equal to actual earnings for active members as of the valuation date (annualized for members with less than one year of service).

<sup>4</sup> Equal to actual earnings for active members as of the valuation date.

<sup>5</sup> Based on the alternate assumptions.

<sup>6</sup> Assumed equal to actual member contributions divided by 9%.

## Plan Accounting Under GASB 25 (as amended by GASB 50)

### Schedule of Contributions from the Employer and Other Contributing Entities<sup>1</sup> (Dollars in Thousands)

The GASB Statement No. 25 required and actual contributions are as follows:

Plan Year Ended June 30	Actuarially Required Contribution Rate (a)	Actual Covered Payroll (b)	Actual Member Contributions (c)	Annual Required Contributions [(a)x(b)] – (c) = (d)	Actual Employer Contributions <sup>2</sup> (e)	Percentage Contributed (e) / (d)
1991	32.62%	\$ 7,078	\$ 637	\$ 1,672	\$ 1,889	112.98%
1992	27.67%	6,556	590	1,224	601	49.10%
1993	30.49%	7,322	659	1,573	2,284	145.20%
1994	31.12%	6,589	593	1,457	1,618	111.05%
1995	38.34%	7,056	635	2,070	2,938	141.93%
1996	41.54%	6,267	564	2,039	1,511	74.10%
1997	43.96%	7,767	699	2,715	3,176	116.98%
1998	48.03%	6,802	612	2,655	5,199	195.82%
1999	47.19%	7,490	674	2,861	2,091	73.09%
2000	52.72%	5,808	523	2,539	3,192	125.72%
2001	47.26%	5,858	527	2,241	5,039	224.85%
2002	60.14%	5,089	458	2,603	4,135	158.86%
2003 <sup>3</sup>	63.12%	–	–	–	–	–
2004 <sup>4</sup>	63.12%	3,815	343	2,065	–	–
2005	104.72%	3,014	384	2,773	–	–
2006	112.64%	2,894	264	2,995	–	–
2007	111.24%	2,380	239	2,408	–	–
2008 <sup>5,6</sup>	171.10%	1,993 <sup>7</sup>	180	3,230	– <sup>8</sup>	–
2009 <sup>9</sup>	243.21% <sup>10</sup>	1,963 <sup>11</sup>	248	4,526	– <sup>8</sup>	–
2010	413.00%	1,877 <sup>11</sup>	170	7,582	– <sup>8</sup>	–
2011	432.92% <sup>12</sup>	1,774 <sup>13</sup>	160	7,520	– <sup>8</sup>	–
2012	1,320.95% <sup>14</sup>	N/A	N/A	N/A	– <sup>8</sup>	–

<sup>1</sup> Information prior to 2008 provided by The Segal Company.

<sup>2</sup> Includes contributions from other sources (if applicable).

<sup>3</sup> Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 61.36%.

<sup>4</sup> Actuarially Required Contribution Rate is equal to prior year's rate since an actuarial valuation was not completed as of July 1, 2003.

<sup>5</sup> Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 161.95%.

<sup>6</sup> Actuarially Required Contribution Rate was provided by The Segal Company.

<sup>7</sup> Equal to actual earnings for active members as of the valuation date (annualized for members with less than one year of service).

<sup>8</sup> Excludes contributions from other sources, as directed by Minnesota State Retirement System.

<sup>9</sup> Actuarially Required Contribution Rate prior to change in actuarial method is 237.40%.

<sup>10</sup> Actuarially Required Contribution Rate is based on assumed payroll growth of 4.5%, which is not appropriate for a closed group.

<sup>11</sup> Equal to actual earnings for active members as of the valuation date.

<sup>12</sup> Actuarially Required Contribution Rate is based on assumed level payroll. Actuarially Required Contribution Rate prior to change in plan provisions is 464.71%.

<sup>13</sup> Assumed equal to actual member contributions divided by 9%.

<sup>14</sup> Based on the alternate assumptions.

## Glossary

**Actuarial Asset Value.** The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method. The goal of an asset valuation method is to produce a relatively stable asset value thereby reducing year-to-year volatility in contribution requirements.

**Actuarial Cost Method.** Sometimes called “funding method,” a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the Annual Required Contribution (ARC) calculated for plan financial reporting is established by the actuarial cost method and comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

**Annual Pension Cost.** A measure of the periodic cost of an employer’s participation in a defined benefit pension plan.

**Annual Required Contributions (ARC).** The employer’s recommended annual contribution to a defined benefit pension plan, calculated in accordance with the parameters of GASB 25 (as amended by GASB 50) or GASB 27. The ARC for a given fiscal reporting period is affected by the specific actuarial cost method selected by the plan sponsor.

**ASA.** Associate of the Society of Actuaries.

**Augmentation.** Annual increase in deferred benefits.

**Current Benefit Obligations.** The present value of benefits earned to the valuation date, based on current service and including future salary increases to retirement.

**EA.** Enrolled Actuary

**FSA.** Fellow of the Society of Actuaries.

**MAAA.** Member of the American Academy of Actuaries.

**Normal Cost.** The annual cost assigned to the current year, under the actuarial cost method in use.

**Present Value.** Sometimes called “actuarial present value,” the current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

**Statement No. 25 of the Governmental Accounting Standards Board (GASB 25).** The accounting standard governing the financial reporting for defined benefit pension plans and note disclosures for defined contribution plans.

**Statement No. 27 of the Governmental Accounting Standards Board (GASB 27).** The accounting standard governing a state or local governmental employer’s accounting for pensions.

**Statement No. 50 of the Governmental Accounting Standards Board (GASB 50).** The accounting standard amending both GASB 25 and GASB 27 to require a schedule of funding progress under the Entry Age Normal method for plans that use the aggregate funding method to determine the Annual Required Contribution.

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