December 2011

Correctional Employees Retirement Fund

Actuarial Valuation Report as of July 1, 2011

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Contents

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December 2011

Minnesota State Retirement System
Correctional Employees Retirement Fund
St. Paul MN

Dear Board of Directors:

Submitted in this report are the July 1, 2011 actuarial valuation results for the Correctional Employees 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 rate 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

Gary D. Dickson, FSA, EA, MAAA

Bonita J. Wurst

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Highlights

Contributions

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

	Actuarial Valuation as of	
Contributions	**July 1, 2011**	**July 1, 2010**
Statutory Contributions – Chapter 352.92 (% of Payroll)	20.70%	20.70%
Required Contributions – Chapter 356 (% of Payroll)	26.00%	25.43%
Sufficiency / (Deficiency)	(5.30%)	(4.73%)

The contribution deficiency increased from (4.73%) of payroll to (5.30%) of payroll. The primary reason for the increased contribution deficiency is the recognition of deferred investment losses in the actuarial value of assets. A significant contribution deficiency remains. Without further changes or favorable actuarial experience, the funded status will deteriorate in the future. Plan changes affecting members first hired after June 30, 2010 are expected to ultimately reduce the cost of the plan significantly, but have not yet had a material impact on the valuation results.

The *Plan Assets* section provides detail on the plan assets used for the valuation including a development of the actuarial value of assets (AVA). The market value of assets (MVA) earned 23.0% for the plan year ending June 30, 2011. The AVA earned 5.5% for the plan year ending June 30, 2011 as compared to the assumed rate of 8.5% which is mandated by Minnesota Statutes.

The contributions received for the prior year were less than the amount actuarially required. This resulted in an increase of approximately $9.4 million in unfunded liability and an increase of approximately 0.27% of payroll in this year's required contribution.

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**
Contributions *(% of Payroll)*		
Statutory – Chapter 352	20.70%	20.70%
Required – Chapter 356	26.00%	25.43%
Sufficiency / (Deficiency)	(5.30%)	(4.73%)
Funding Ratios *(dollars in thousands)*		
Accrued Liability Funding Ratio		
– Current assets (AVA)	$ 637,027	$ 603,863
– Current assets (MVA)	646,582	525,245
– Actuarial accrued liability	907,012	851,086
– Funding ratio (AVA)	70.23%	70.95%
– Funding ratio (MVA)	71.29%	61.71%
Projected Benefit Funding Ratio		
– Current and expected future assets	$ 989,551	$ 953,231
– Current and expected future benefit obligations	1,169,736	1,117,466
– Projected benefit funding ratio (AVA)	84.60%	85.30%
Participant Data		
Active members		
– Number	4,322	4,268
– Projected annual earnings *(000s)*	205,608	205,574
– Average projected annual earnings	47,572	48,166
– Average age	41.6	41.7
– Average service	8.6	8.4
Service retirements	1,621	1,505
Survivors	165	148
Disability retirements	230	206
Deferred retirements	1,035	993
Terminated other non-vested	501	585
Total	**7,874**	**7,705**

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. The plan'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 71.3%. If the plan reaches a funding ratio of 90% (on a market value of assets basis) in the future, post-retirement increases will revert to the 2.5% level.

We performed a projection of liabilities and assets, 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 this plan 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 $950 million instead of $907 million, resulting in a funded ratio of 68.0% (on a market value basis).

Important Notices

Mercer has prepared this report exclusively for the Board 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.

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

Important Notices

such an analysis are not included in this report. At MSRS' 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* sections 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.

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. The Trustees are 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

Important Notices

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)*

		Market Value
Assets in Trust		
▪ Cash, equivalents, short term securities	$	18,349
▪ Fixed income		142,227
▪ Equity		484,034
▪ Other*		44,134
Total assets in trust	**$**	**688,744**
Assets Receivable		2,694
Total Assets	**$**	**691,438**
Amounts Payable*		(44,856)
Net Assets held in trust for pension benefits	**$**	**646,582**

* *Includes $44,134 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.

Change in Assets *(dollars in thousands)*		**Market Value**
1. Fund balance at market value at July 1, 2010	$	525,245
2. Contributions		
a. Member		17,002
b. Employer		23,892
c. Other sources		0
d. Total contributions	$	40,894
3. Investment income		
a. Investment income/(loss)	$	122,311
b. Investment expenses		(898)
c. Net investment income/(loss)	$	121,413
4. Other	$	13
5. Total income *(2.d. + 3.c. + 4.)*	**$**	**162,320**
6. Benefits Paid		
a. Annuity benefits	$	(39,116)
b. Refunds		(1,509)
c. Total benefits paid	$	(40,625)
7. Expenses		
a. Other	$	(2)
b. Administrative		(356)
c. Total expenses	$	(358)
8. Total disbursements *(6.c. + 7.c.)*	**$**	**(40,983)**
9. Fund balance at market value at June 30, 2011 *(1. + 5. + 8.)*	**$**	**646,582**

Plan Assets

Actuarial Asset Value *(Dollars in Thousands)*

					June 30, 2011
1. Market value of assets available for benefits				$	646,582
2. Determination of average balance					
a. Total assets available at July 1, 2010					525,245
b. Total assets available at June 30, 2011					646,582
c. Net investment income for fiscal year ending June 30, 2011					121,413
d. Average balance *[a. + b. – c.] / 2*					525,207
3. Expected return *[8.5% * 2.d.]*					44,643
4. Actual return					121,413
5. Current year asset gain/(loss) *[4. – 3.]*					76,770
6. Unrecognized asset returns*					
		Original Amount	**% Not Recognized**		
a. Year ended June 30, 2011	$	76,770	80%	$	61,416
b. Year ended June 30, 2010		30,070	60%		18,042
c. Year ended June 30, 2009		(155,770)	40%		(62,308)
d. Year ended June 30, 2008		(37,977)	20%		(7,595)
e. Total unrecognized return				$	9,555
7. Actuarial value at June 30, 2011 *(1. – 6.e.)*				**$**	**637,027**

**Prior to the year ended June 30, 2009, unrecognized asset returns do not include MPRIF gains or losses.*

Membership Data

Distribution of Active Members

	Years of Service as of June 30, 2011										
Age	**<3***	**3 - 4***	**5 - 9***	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 - 39**	**40+**	**Total**
< 25	94	12	2								**108**
Avg. Earnings	19,246	34,110	40,927								**21,300**
25 – 29	244	227	156								**627**
Avg. Earnings	26,131	37,563	38,773								**33,415**
30 – 34	147	167	282	55							**651**
Avg. Earnings	28,739	39,687	41,807	47,606							**38,802**
35 – 39	77	114	191	144	29						**555**
Avg. Earnings	27,827	41,277	42,529	50,207	59,206						**43,096**
40 – 44	90	79	179	121	142	14					**625**
Avg. Earnings	29,868	41,134	43,637	49,388	55,901	61,298					**45,633**
45 – 49	76	84	171	107	125	98	22				**683**
Avg. Earnings	33,051	45,350	48,142	49,518	54,670	60,031	60,780				**49,643**
50 – 54	57	89	137	116	133	75	66	25			**698**
Avg. Earnings	32,760	44,373	48,641	53,095	54,004	59,923	62,893	60,191			**51,536**
55 – 59	27	44	73	55	42	18	8	6			**273**
Avg. Earnings	48,075	49,213	53,343	57,215	54,262	56,558	59,487	69,326			**53,821**
60 – 64	12	12	30	16	7	4	2				**83**
Avg. Earnings	43,118	51,935	54,442	60,865	62,278	58,979	59,865				**54,691**
65 – 69		4	8	1	2						**15**
Avg. Earnings		46,133	48,993	65,610	67,300						**51,779**
70+	1	2		1							**4**
Avg. Earnings	66,930	42,681		42,245							**48,634**
Total	**825**	**834**	**1,229**	**616**	**480**	**209**	**98**	**31**	**0**	**0**	**4,322**
Avg. Earnings	**28,487**	**41,170**	**44,483**	**51,153**	**55,251**	**59,758**	**62,079**	**61,959**			**44,200**

* *This exhibit does not reflect service earned in other MSRS or Combined Service Annuity benefits. It should not be relied upon as an indicator of non-vested status.*

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

	Years Retired as of June 30, 2011							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
< 50								**0**
Avg. Benefit								**N/A**
50 - 54	27	52						**79**
Avg. Benefit	14,535	18,073						**16,864**
55 - 59	77	273	70					**420**
Avg. Benefit	17,732	18,404	18,945					**18,371**
60 – 64	36	79	352	45				**512**
Avg. Benefit	10,007	10,446	17,753	19,781				**16,259**
65 – 69	9	52	44	175				**280**
Avg. Benefit	9,782	9,158	11,715	20,589				**16,724**
70 – 74		11	29	54	51	4		**149**
Avg. Benefit		14,812	14,013	20,109	27,762	23,575		**21,244**
75 – 79			5	31	8	48		**92**
Avg. Benefit			17,075	16,253	20,060	24,460		**20,911**
80 – 84			2		9	14	23	**48**
Avg. Benefit			3,215		19,871	23,262	31,258	**25,622**
85 – 89						3	26	**29**
Avg. Benefit						15,800	25,166	**24,197**
90+							12	**12**
Avg. Benefit							16,546	**16,546**
Total	**149**	**467**	**502**	**305**	**68**	**69**	**61**	**1,621**
Avg. Benefit	**14,806**	**15,907**	**17,109**	**19,944**	**25,811**	**23,789**	**25,767**	**18,060**

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

Membership Data

Distribution of Survivors

	Years Since Death as of June 30, 2011							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45		7	4	1				**12**
Avg. Benefit		6,430	3,359	15,560				**6,167**
45 – 49	1	5	1					**7**
Avg. Benefit	2,019	5,122	339					**3,995**
50 – 54	4	9	2	5	1			**21**
Avg. Benefit	14,565	8,498	14,655	8,551	5,554			**10,113**
55 – 59	7	11	8	1	1	1		**29**
Avg. Benefit	12,597	12,431	10,924	19,202	525	9,610		**11,781**
60 – 64	1	6	17	6	1			**31**
Avg. Benefit	4,202	10,595	11,885	14,922	22,154			**12,306**
65 – 69	1	8	5	4	3	1		**22**
Avg. Benefit	12,298	18,454	9,011	12,784	11,535	6,271		**13,500**
70 – 74		2	3	5	2			**12**
Avg. Benefit		20,484	9,685	24,343	15,958			**18,638**
75 – 79	1	2	3	4	1	1	1	**13**
Avg. Benefit	7,578	34,222	22,510	9,379	13,044	12,733	20,082	**17,456**
80 – 84	1	3	3	1			1	**9**
Avg. Benefit	11,301	17,545	9,708	14,815			6,330	**12,689**
85 – 89		1		1	2	1		**5**
Avg. Benefit		16,265		19,211	14,275	8,350		**14,475**
90+	1						3	**4**
Avg. Benefit	11,107						8,300	**9,002**
Total	**17**	**54**	**46**	**28**	**11**	**4**	**5**	**165**
Avg. Benefit	**11,467**	**12,470**	**10,941**	**14,694**	**12,395**	**9,241**	**10,262**	**12,168**

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

Membership Data

Distribution of Disability Retirements

	Years Disabled as of June 30, 2011							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	6	14	14	5				**39**
Avg. Benefit	16,401	15,371	15,374	17,490				**15,802**
45 – 49	3	7	14	6	3			**33**
Avg. Benefit	19,787	13,905	15,635	19,061	16,448			**16,342**
50 – 54	8	13	13	12	3			**49**
Avg. Benefit	18,940	18,140	19,502	22,765	17,290			**19,712**
55 – 59	7	13	20	11	3			**54**
Avg. Benefit	15,664	18,347	18,658	18,321	18,378			**18,111**
60 – 64	1	4	13	16	3			**37**
Avg. Benefit	14,130	13,266	19,495	16,943	19,384			**17,564**
65 – 69	1	1	6	3	2	1		**14**
Avg. Benefit	13,660	18,093	20,272	25,106	27,001	8,590		**20,807**
70 – 74				1	2			**3**
Avg. Benefit				18,930	19,378			**19,228**
75+							1	**1**
Avg. Benefit							23,798	**23,798**
Total								
Avg. Benefit	**26**	**52**	**80**	**54**	**16**	**1**	**1**	**230**
	17,182	**16,500**	**17,948**	**19,294**	**19,203**	**8,590**	**23,798**	**17,922**

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

Membership Data

Reconciliation of Members

		Terminated		Recipients			
	Actives	Deferred Retirement	Other Non-Vested	Service Retirement	Disability Retirement	Survivor	Total
Members on 7/1/2010	**4,268**	**993**	**585**	**1,505**	**206**	**148**	**7,705**
Additions	399	0	0	0	0	0	**399**
Return to active	31	(19)	(5)	0	0	0	**7**
Terminated non-vested	(53)	0	53	0	0	0	**0**
Service retirements	(119)	(27)	0	146	0	0	**0**
Terminated deferred	(94)	94	0	0	0	0	**0**
Terminated refund/transfer	(91)	(8)	(126)	0	0	0	**(225)**
Deaths	(3)	(1)	0	(33)	(4)	(1)	**(42)**
New beneficiary	0	0	0	0	0	18	**18**
Disabled	(26)	0	0	0	26	0	**0**
Data correction	10	3	(6)	3	2	0	**12**
Net change	54	42	(84)	116	24	17	**169**
Members on 6/30/2011	**4,322**	**1,035**	**501**	**1,621**	**230**	**165**	**7,874**

Terminated Member Statistics	Deferred Retirement	Other Non-Vested	Total
Number	1,035	501	1,536
Average Age	45.4	36.7	42.6
Average Service	5.5	0.9	4.0
Average annual benefit, with augmentation to Normal Retirement Date and 30% CSA load*	$10,667	N/A	$10,667
Average refund value, with 30% CSA load	$24,314	$3,188	$17,424

* *Includes estimated benefits for 83 participants 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 20.70% 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.

	Non-Vested	Vested	June 30, 2011
A. Actuarial Value of Assets			$ 637,027
B. Expected future assets			
1. Present value of expected future statutory supplemental contributions			$ 89,800
2. Present value of future normal cost contributions			262,724
3. Total expected future assets *(1. + 2.)*			$ 352,524
C. Total current and expected future assets			$ 989,551
D. Current benefit obligations			
1. Benefit recipients	Non-Vested	Vested	Total
a. Service retirements	$ 0	342,488	342,488
b. Disability	0	53,568	53,568
c. Survivors	0	21,054	21,054
2. Deferred retirements with augmentation	0	75,037	75,037
3. Former members without vested rights*	1,597	0	1,597
4. Active members	7,700	373,477	381,177
5. Total Current Benefit Obligations	$ 9,297	865,624	874,921
E. Expected Future Benefit Obligations			$ 294,815
F. Total Current and Expected Future Benefit Obligations			$ 1,169,736
G. Unfunded Current Benefit Obligations *(D.5. – A.)*			$ 237,894
H. Unfunded Current and Future Benefit Obligations *(F. – C.)*			$ 180,185

* *Former members who have not satisfied vesting requirements and 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
A. Determination of Actuarial Accrued Liability (AAL)			
1. Active members			
a. Retirement annuities	$ 540,803	$ 178,438	$ 362,365
b. Disability benefits	79,541	45,066	34,475
c. Survivor's benefits	11,860	4,824	7,036
d. Deferred retirements	37,376	27,563	9,813
e. Refunds	6,412	6,833	(421)
f. Total	$ 675,992	262,724	413,268
2. Deferred retirements with future augmentation	75,037	0	75,037
3. Former members without vested rights	1,597	0	1,597
4. Benefit recipients	417,110	0	417,110
5. Total	$ 1,169,736	262,724	907,012
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)			
1. Actuarial accrued liability			$ 907,012
2. Current assets (AVA)			637,027
3. Unfunded actuarial accrued liability			$ 269,985
C. Determination of Supplemental Contribution Rate*			
1. Present value of future payrolls through the amortization date of July 1, 2038			$ 3,401,513
2. Supplemental contribution rate *(B.3. / C.1.)*			7.94%**

* *The amortization of the unfunded actuarial accrued liability (UAAL) using the current amortization method results in initial payments less than the "interest only" payment on the UAAL. Payments less than the interest only amount will result in the UAAL increasing for an initial period of time.*

** *The amortization factor as of July 1, 2011 is 16.5381.*

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	$	247,223
B. Changes due to interest requirements and current rate of funding		
1. Normal cost and expenses	$	37,544
2. Contributions		(40,894)
3. Interest on A., B.1. and B.2.		20,872
4. Total *(B.1. + B.2. + B.3.)*	$	17,522
C. Expected unfunded actuarial accrued liability at end of year *(A. + B.4.)*	$	264,745
D. Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected		
1. Salary increases	$	(12,936)
2. Investment return (AVA basis)		18,445
3. Mortality of benefit recipients		159
4. Other items		(428)
5. Total	$	5,240
E. Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions *(C. + D.5.)*	$	269,985
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 actuarial asset method	$	0
I. Unfunded actuarial accrued liability at end of year *(E. + F. + G. + H.)**	$	269,985

** The unfunded actuarial accrued liability on a market value of assets basis is $260,430.*

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 UAAL, and an allowance for expenses.

	Percent of Payroll	Dollar Amount
A. Statutory contributions – Chapter 352		
1. Employee contributions	8.60%	$ 17,682
2. Employer contributions	12.10%	24,879
3. Total	20.70%	$ 42,561
B. Required contributions – Chapter 356		
1. Normal cost*		
a. Retirement benefits	12.24%	$ 25,171
b. Disability benefits	3.43%	7,052
c. Survivors	0.30%	615
d. Deferred retirement benefits	1.56%	3,210
e. Refunds	0.36%	745
f. Total	17.89%	$ 36,793
2. Supplemental contribution amortization by July 1, 2038 of Unfunded Actuarial Accrued Liability	7.94%	$ 16,325
3. Allowance for expenses	0.17%	$ 350
4. Total	26.00%**	$ 53,468
C. Contribution Sufficiency/(Deficiency) *(A.3. – B.4.)*	(5.30%)	$ (10,907)

Note: Projected annual payroll for fiscal year beginning on the valuation date: $205,608.

* *Normal cost includes ½ year interest adjustment.*

*** The required contribution on a market value of assets basis is 25.72% of payroll.*

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

The assets are valued based on a five-year moving average of expected and market values (five-year average actuarial value) determined as follows:

- At the end of each plan year, an average asset value is calculated as the average of the market asset value at the beginning and end of the fiscal year net of investment income for the fiscal year;

- The investment gain or (loss) is taken as the excess of actual investment income over the expected investment income based on the average asset value as calculated above;

- The investment gain or (loss) so determined is recognized over five years at 20% per year;

- The asset value is the sum of the market asset value plus the scheduled recognition of investment gains or (losses) during the current and the preceding four fiscal years.

The Minnesota Post Retirement Investment Fund (MPRIF) was dissolved on June 30, 2009. For the purpose of determining the actuarial value of assets, the MPRIF asset loss for the fiscal year ending June 30, 2009 is recognized incrementally over five years at 20% per year, similar to the smoothing described above. Prior to June 30, 2009, MPRIF asset gains and losses were not smoothed.

Payment on the unfunded actuarial accrued liability

A level percentage of payroll each year to the statutory amortization date of July 1, 2038 assuming payroll increases of 4.50% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount is 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).

Funding objective

The fundamental financing objective of the fund is to establish contribution rates which, when expressed as a percentage of active member payroll, will remain approximately level from generation to generation and meet the required deadline for full funding.

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 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. All actuarial assumptions 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 assumptions prescribed are based on the last experience study, dated June 2004.

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 *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. An experience study has been authorized by MSRS and is scheduled to occur in 2012.

Investment return	6.50% compounded annually post-retirement 8.50% compounded annually pre-retirement
Benefit increases after retirement	Payment of 2.0% annual benefit increases after retirement are accounted for by using the 6.50% post-retirement assumption, as required by Minnesota Statute.
Salary increases	Reported salary at valuation date increased according to the rate table, to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for new members.
Payroll growth	4.50% per year.
Mortality rates	
Healthy Pre-retirement	1983 Group Annuity Mortality for males set back five years 1983 Group Annuity Mortality for females set back two years
Healthy Post-retirement	1983 Group Annuity Mortality for males set back two years 1983 Group Annuity Mortality for females set back one year
Disabled	Combined Annuity Mortality up to age 40, grading to health mortality for ages 60 and over
Retirement	Members retiring from active status are assumed to retire according to the following age related rates. Members who have attained the highest assumed retirement age are assumed to retire in one year.

Ages:	50-54	5%
	55	60%
	56-61	10%
	62-64	25%
	65 & over	100%

Actuarial Basis

Summary of actuarial assumptions *(continued)*

Withdrawal	Select and Ultimate rates based on actual experience. Rates after the third year are shown in rate table. Select rates in the first three years are 10% each year.
Disability	Age-related rates based on experience; see table of sample rates.
Allowance for combined service annuity	Liabilities for former members are increased by 30.00% to account for the effect of some participants having eligibility for a Combined Service Annuity.
Administrative expenses	Prior year administrative expenses expressed as percentage of prior year projected payroll.
Refund of contributions	All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Commencement of deferred benefits	Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at age 55.
Percentage married	85% of active members are assumed to be married. Actual marital status is provided for members in payment status.
Age of spouse	Females are assumed to be three years younger than their male spouses.
Form of payment	Married members retiring from active status are assumed to elect subsidized joint and survivor form of annuity as follows: Males: 50% elect Straight Life option 25% elect 50% Joint & Survivor option 0% elect 75% Joint & Survivor option 25% elect 100% Joint & Survivor option Females: 90% elect Straight Life option 5% elect 50% Joint & Survivor option 0% elect 75% Joint & Survivor option 5% elect 100% Joint & Survivor option Members receiving deferred annuities (including current terminated deferred members) are assumed to elect a straight life annuity, except that current terminated deferred members who terminated prior to July 1, 1997 are assumed to receive the Level Social Security option to age 62.

Actuarial Basis

Summary of actuarial assumptions *(continued)*

Unknown data for certain members	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. 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: Data for active members: There were nine members reported with missing salary and one member reported with missing service; due to the small number of members with missing salary and/or service, and based on direction from MSRS, we made no adjustment to the reported data for active members. Data for terminated members: There were 83 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 (62 members), we assumed a value of $30,000. If termination date was not reported (7 members), we assumed the member terminated at age 40 (or current age, if younger than age 40). There were no members reported without credited service. There were 220 members who terminated after June 30, 1997 and who were reported with a benefit in the Level Social Security option to age 62. Based on direction from MSRS, we adjusted benefits for these members to reflect the assumed life annuity election. Data for members receiving benefits: There was one member reported without a benefit; due to the small number of members with missing benefits, and based on direction from MSRS, we made no adjustment to the reported data for members receiving benefits.
Changes in actuarial assumptions	None.

Actuarial Basis

Summary of actuarial assumptions *(continued)*

	Rate (%)			
	Healthy Pre-Retirement Mortality		Disability Mortality	
Age	Male	Female	Male	Female
20	0.03%	0.02%	.21%	.21%
25	0.04	0.02	.22	.22
30	0.05	0.03	.24	.24
35	0.06	0.04	.31	.31
40	0.09	0.06	.46	.46
45	0.12	0.08	.54	.44
50	0.22	0.14	.62	.42
55	0.39	0.21	.69	.40
60	0.61	0.34	.77	.38
65	0.92	0.58	1.24	.64
70	1.56	0.97	2.22	1.09

	Withdrawal		Disability Retirement		
Age	Male	Female	Male	Female	Salary Increases
20	12.00%	8.00%	0.05%	0.08%	6.75%
25	7.35	7.00	0.08	0.12	6.50%
30	4.55	6.75	0.11	0.16	6.50%
35	3.00	6.45	0.15	0.22	6.50%
40	2.20	5.20	0.24	0.36	6.00%
45	1.70	3.20	0.39	0.58	5.25%
50	1.20	2.35	0.67	1.00	5.00%
55	0.70	1.65	1.17	1.76	4.75%
60	0.00	0.00	1.88	2.82	4.75%
65	0.00	0.00	0.00	0.00	4.75%
70	0.00	0.00	0.00	0.00	0.00%

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.

Plan year	July 1 through June 30
Eligibility	State employees in covered correctional service. Certain state employees with 75 percent working time spent in direct contact with inmates or patients are also eligible.
Contributions	**Member** / **Employer** Percent of salary: 8.60% / 12.10% Member contributions are "picked up" according to the provisions of Internal Revenue Code 414(h).
Allowable service	Service during which member contributions were made. May also include certain leave of absence, military service and periods while temporary Worker's Compensation is paid.
Salary	Includes wages, allowances and fees. Excludes lump sum payments of separation and reduced salary while receiving Worker's Compensation benefits.
Average salary	Average of the five highest successive years of Salary. Average Salary is based on all Allowable Service if less than five years.
Vesting	Hired before July 1, 2010: 100% vested after 3 years of Allowable Service. Hired after June 30, 2010: 50% vested after 5 years of Allowable Service; 60% vested after 6 years of Allowable Service; 70% vested after 7 years of Allowable Service; 80% vested after 8 years of Allowable Service; 90% vested after 9 years of Allowable Service; 100% vested after 10 years of Allowable Service.
Retirement	
Normal retirement benefit	
Age/Service requirement	Age 55 and vested. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.
Amount	2.40% (2.20% if first hired after June 30, 2010) of Average Salary for each year of Allowable Service, pro-rata for completed months.
Early retirement	
Age/Service requirement	Age 50 and vested.
Amount	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date reduced by 2/10% (5/12% if first hired after June 30, 2010 or if hired before July 1, 2010 and retire after June 30, 2015) per month for each month that the member is under age 55.

Actuarial Basis

Summary of plan provisions *(continued)*

Retirement *(continued)*	
Form of payment	Life annuity. Actuarially equivalent options are: (a.) 50%, 75%, or 100% Joint and Survivor with bounce back feature without additional reduction. (b.) 15-year Certain and Life (c.) Level Social Security option either to age 62 or Social Security Retirement Age.
Benefit increases	Benefit recipients receive future annual 2.0% benefit increases. If the accrued liability funding ratio 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.
Disability	
Duty Disability	
Age/Service requirement	Physically or mentally unable to perform normal job duties as a direct result of a disability relating to an incident while performing the duties of the job. Members who become disabled after June 30, 2009 will have disability benefits converted to retirement benefits at age 55 instead of age 65.
Amount	50.00% of Average Salary plus 2.40% (2.20% if first hired after June 30, 2010) of Average Salary for each year in excess of 20 years and 10 months of Allowable Service (pro rata for completed months). Payment begins at disability and ends at age 55 (age 65 if disabled prior to July 1, 2009) or the five-year anniversary of the effective date of the disability benefit, whichever is later. Payments stop earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current salary of position held at time of disability. Member is reclassified from disabled to retired at age 55 (age 65 if disabled prior to July 1, 2009). Optional amount continues. Otherwise, normal retirement benefit equal to the disability benefit paid, or an actuarially equivalent option.
Regular Disability	
Age/Service requirement	At least one year of covered Correctional service for employees hired before July 1, 2009, or a vested Correctional employee hired after June 30, 2009, and the employee is determined to have a regular disability not related to an incident while performing the duties of the job.

Actuarial Basis

Summary of plan provisions *(continued)*

Disability *(continued)*	
Amount	Normal retirement benefit based on covered Correctional Service (minimum of 15 years if hired prior to July 1, 2009) and Average Salary at disability. Payment begins at disability and ends at age 55 (age 65 if disabled prior to July 1, 2009) or the five-year anniversary of the effective date of the disability benefit, whichever is later. Payments stop earlier if disability ceases or death occurs. Benefits may be paid upon re-employment but salary plus benefit cannot exceed current salary of position held at time of disability. Member is reclassified from disabled to retired at age 55 (age 65 if disabled prior to July 1, 2009). Optional amount continues. Otherwise, normal retirement benefit equal to the disability benefit paid, or an actuarially equivalent option.
Benefit increases	Same as for retirement.
Death	
Surviving spouse benefit	
Age/service requirement	Member at any age or former member age 50 or older who dies before retirement or disability benefit commences and was vested. If a former member dies before age 55 and has less than 30 years of Allowable Service, benefits commence when the former member would have been age 55. If an active member dies, benefits may commence immediately, regardless of age.
Amount	Surviving spouse receives the 100% joint and survivor benefits using the Normal Retirement formula above. If commencement is prior to age 55, the appropriate early retirement formula described above applies except that one-half the monthly reduction factor is used from age 55 to the commencement age and the Rule of 90 does not apply. In lieu of this benefit, the surviving spouse may elect a refund of member contributions with interest or an actuarially equivalent term certain annuity (lump sum payable to estate at death).
Benefit increases	Same as for retirement.
Surviving dependent children's benefit	
Age/service requirement	If no surviving spouse, all dependent children (biological or adopted) below age 20 who are dependent for more than half of their support on deceased member.
Amount	Actuarially equivalent to surviving spouse 100% joint and survivor annuity payable to the later of age 20 or five years. The amount is to be proportionally divided among surviving children.
Benefit increases	Same as for retirement.
Refund of contributions with interest	
Age/service requirement	Active employee dies and survivor benefits are not payable or a former employee dies before annuity begins. If accumulated member contributions with interest exceed total payments to the surviving spouse and children, then the remainder is paid out.

Actuarial Basis

Summary of plan provisions *(continued)*

Death *(continued)*	
Amount	Member's contributions with 6.00% interest compounded daily until July 1, 2011 and 4.00% thereafter.
Termination	
Refund of contributions	
Age/service requirement	Termination of state service.
Amount	Member's contributions with 6.00% interest through June 30, 2011 compounded daily. Beginning July 1, 2011 a member's contributions will increase at 4.00% interest compounded daily. If a member is vested, a deferred annuity may be elected in lieu of a refund.
Deferred benefit	
Age/service requirement	Partially or fully vested.
Amount	Benefit computed under law in effect at termination and increased by the following annual augmentation percentage: (a.) 0.00% before July 1, 1971; (b.) 5.00% from July 1, 1971 to January 1, 1981; (c.) 3.00% thereafter (2.50% if hired after June 30, 2006) until January 1 of the year following attainment of age 55 or January 1, 2012, whichever is earlier; and (d.) 5.00% thereafter until the annuity begins (2.50% if hired after June 30, 2006), but before January 1, 2012. Amount is payable as a normal or early retirement; (e.) 2.00% from January 1, 2012 thereafter. Amount is payable at normal or early retirement.
Optional form conversion factors	Actuarially equivalent factors based on the 1983 Group Annuity Mortality, blended 75% male and 25% female (set forward two years), and 6% interest.
Combined Service Annuity	Members are eligible for combined service benefits if they: (a.) Have 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 (b.) Have at least six months of allowable service credit in each plan worked under (c.) Are not in receipt of a benefit from another plan, or have applied for benefits with an effective date within one year. Members who meet the above requirements must have their benefit based on the following: (a.) Allowable service in all covered plans are combined in order to determine eligibility for early retirement. (b.) Average salary is based on the high five consecutive years during their entire service in all covered plans.
Changes in Plan Provisions	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[1] *(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 (b) – (a) / (c)
07/01/1991	$ 105,925	$ 112,171	$ 6,246	94.43%	$ 43,429	14.38%
07/01/1992	121,051	123,515	2,464	98.01%	47,592	5.18%
07/01/1993	135,939	134,280	(1,659)	101.24%	52,122	(3.18%)
07/01/1994	148,163	152,702	4,539	97.03%	54,673	8.30%
07/01/1995	165,427	153,491	(11,936)	107.78%	66,939	(17.83%)
07/01/1996	193,833	170,959	(22,874)	113.38%	72,959	(31.35%)
07/01/1997	241,916	212,638	(29,278)	113.77%	112,408	(26.05%)
07/01/1998	295,291	261,869	(33,422)	112.76%	105,796	(31.59%)
07/01/1999	335,408	307,408	(28,000)	109.11%	106,131	(26.38%)
07/01/2000	386,964	359,885	(27,079)	107.52%	112,587	(24.05%)
07/01/2001	431,134	398,633	(32,501)	108.15%	120,947	(26.87%)
07/01/2002	457,416	446,426	(10,990)	102.46%	124,373	(8.84%)
07/01/2003	470,716	484,974	14,258	97.06%	131,328	10.86%
07/01/2004	486,617	524,215	37,598	92.83%	133,172	28.23%
07/01/2005	503,573	546,118	42,544	92.21%	132,335	32.15%
07/01/2006	535,357	647,480	112,123	82.68%	145,879	76.86%
07/01/2007	559,852	708,292	148,440	79.04%	167,727	88.50%
07/01/2008	572,719	760,363	187,644	75.32%	194,391[2]	96.53%
07/01/2009	590,399	821,250	230,851	71.89%	193,445[3]	119.34%
07/01/2010	603,863	851,086	247,223	70.95%	192,450[3]	128.46%
07/01/2011	637,027	907,012	269,985	70.23%	197,702[4]	136.56%

[1] *Information prior to 2008 provided by The Segal Company.*
[2] *Equal to actual earnings for active members as of the valuation date (annualized for members with less than one year of service).*
[3] *Equal to actual earnings for active members as of the valuation date.*
[4] *Assumed equal to actual member contributions divided by 8.60%.*

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

Schedule of Contributions from the Employer and Other Contributing Entities[1]

(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[2] (e)	Percentage Contributed (e)/(d)
1991	10.73%	$ 43,429	$ 2,128	$ 2,532	$ 2,731	107.86%
1992	10.82%	47,592	2,332	2,817	2,955	104.90%
1993	11.41%	52,122	2,554	3,393	3,217	94.81%
1994	10.97%	54,673	2,679	3,319	3,355	101.08%
1995	11.30%	66,939	3,280	4,284	4,195	97.92%
1996	11.11%	72,959	3,575	4,531	4,559	100.62%
1997	11.21%	112,408	5,508	7,093	9,129	128.70%
1998	12.49%	105,796	5,954	7,260	8,146	112.20%
1999[2]	12.99%	106,131	6,378	7,408	8,172	110.31%
2000[3]	13.66%	112,587	6,526	8,853	8,984	101.48%
2001[4]	13.72%	120,947	6,996	9,598	9,652	100.56%
2002	13.81%	124,373	7,207	9,969	9,925	99.56%
2003[5]	14.73%	131,328	7,610	11,735	10,480	89.31%
2004	15.83%	133,172	7,748	13,333	10,627	79.71%
2005	17.48%	132,335	7,943	15,189	11,016	72.52%
2006	17.71%	145,879	8,964	16,871	12,152	72.03%
2007[6]	23.34%	167,727	10,032	29,115	13,927	47.83%
2008[7]	24.44%	194,391[8]	12,775	34,734	18,623	53.62%
2009[9]	23.66%	193,445[10]	14,031	31,738	20,126	63.41%
2010[11]	24.85%	192,450[10]	15,267	32,557	21,988	67.54%
2011[12]	25.43%	197,702[13]	17,002	33,274	23,892	71.80%
2012	26.00%	N/A	N/A	N/A	N/A	N/A

1 *Information prior to 2008 provided by The Segal Company.*
2 *Includes contributions from other sources (if applicable)*
3 *Actuarially Required Contributions calculated according to parameters of GASB 25 using a 30-year amortization of the negative unfunded actuarial accrued liability.*
4 *Actuarially Required Contributions Rate prior to change in Asset Valuation Method is 13.34%.*
5 *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 14.46%.*
6 *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions and employee contribution rates is approximately 22.10%.*
7 *Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 23.41%.*
8 *Equal to actual earnings for active members as of the valuation date (annualized for members with less than one year of service).*
9 *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 27.22%.*
10 *Equal to actual earnings for active members as of the valuation date.*
11 *Actuarially Required Contribution Rate prior to any changes in Plan Provisions or Method is 25.98% and prior to change in Asset Valuation Method including new Plan Provisions is 25.35%.*
12 *Actuarially Required Contribution Rate prior to any changes in Plan Provisions is 28.01%.*
13 *Assumed equal to actual member contributions divided by 8.60%.*

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 Contribution (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 increases to 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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