

December 2009

# **Correctional Employees Retirement Fund**

Actuarial Valuation Report as of July 1, 2009

## **MERCER**



MARSH MERCER KROLL  
GUY CARPENTER OLIVER WYMAN

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## Contents

Highlights.....	1
Principal Valuation Results.....	2
Effects of Changes .....	3
Certification .....	4
Supplemental Information .....	6
Plan Assets.....	7
▪ Statement of Plan Net Assets for Year Ended June 30, 2009.....	7
▪ Reconciliation of Plan Assets.....	8
▪ Actuarial Asset Value.....	9
Membership Data.....	10
▪ Distribution of Active Members.....	10
▪ Distribution of Service Retirements.....	11
▪ Distribution of Survivors.....	12
▪ Distribution of Disability Retirements .....	13
▪ Reconciliation of Members .....	14
Development of Costs.....	15
▪ Actuarial Valuation Balance Sheet.....	15
▪ Determination of Unfunded Actuarial Accrued Liability and Supplemental Contribution Rate .....	16
▪ Changes in Unfunded Actuarial Accrued Liability .....	17
▪ Determination of Contribution Sufficiency/(Deficiency) .....	18
Actuarial Basis .....	19
▪ Actuarial Cost Method .....	19
▪ Summary of Actuarial Assumptions .....	21
▪ Summary of Plan Provisions .....	24
Plan Accounting Under GASB 25 (as amended by GASB 50).....	29
▪ Schedule of Funding Progress Under Entry Age Normal Method.....	29
▪ Schedule of Contributions from the Employer and Other Contributing Entities .....	30
Glossary .....	31

## Highlights

This report has been prepared by Mercer for the Minnesota State Retirement System to:

- Present the results of a valuation of the Correctional Employees Retirement Fund as of July 1, 2009.
- Review experience under the Plan for the year ended June 30, 2009.
- Provide reporting and disclosure information for governmental agencies and other interested parties.

## Contributions

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

Contributions	Actuarial Valuation as of	
	July 1, 2009	July 1, 2008
Statutory Contributions – Chapter 352 (% of Payroll)	18.80%	17.10%
Required Contributions – Chapter 356 (% of Payroll)	24.85%	23.66%
Sufficiency / (Deficiency)	(6.05%)	(6.56%)

Despite the 1.70% of pay increase in statutory contribution rates, the contribution deficiency only decreased from (6.56%) of payroll to (6.05%) of payroll. On a market value of assets basis, the plan moved from a deficiency of (6.77%) of payroll to a deficiency of (9.77%) of payroll. The primary reasons for the increased deficiency are the less than expected return on assets and the impact of insufficient contributions.

Even when taking into account the scheduled increases in member and employer contribution rates, a significant funding deficiency exists. **Without additional changes in contribution rates, or favorable actuarial experience, the funded status will continue to deteriorate.**

The “Plan Assets” section provides detail on the plan assets used for the valuation including a development of the actuarial value of assets. The market value of assets earned (19.1%) for the plan year ending June 30, 2009. **Only 20% of the asset loss is recognized this year in the actuarial value of assets. The remainder will be recognized over the next four years.** The actuarial value of assets earned 3.1% for the plan year ending June 30, 2009 as compared to the assumed rate of 8.5%.

Participant reconciliation and statistics are detailed in the “Participant 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” section details the required accounting information for the Plan under GASB Statement No. 25 (as amended by GASB 50).

There were no changes in actuarial assumptions since July 1, 2008. Changes in plan provisions and valuation methods are reflected in this report and summarized in the Actuarial Basis section.

## 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, 2009	July 1, 2008
<b>Contributions (% of Payroll)</b>		
Statutory – Chapter 352	18.80%	17.10%
Required – Chapter 356	24.85%	23.66%
Sufficiency / (Deficiency)	(6.05%)	(6.56%)
<b>Funding Ratios (dollars in thousands)</b>		
Accrued Benefit Funding Ratio		
– Current assets (AVA)	\$ 590,339	\$ 572,719
– Current benefit obligations	784,832	729,003
– Funding ratio	75.22%	78.56%
Accrued Liability Funding Ratio		
– Current assets (AVA)	\$ 590,339	\$ 572,719
– Current assets (MVA)	456,783	565,180
– Actuarial accrued liability	821,250	760,363
– Funding ratio (AVA)	71.88%	75.32%
– Funding ratio (MVA)	55.62%	74.33%
Projected Benefit Funding Ratio		
– Current and expected future assets	\$ 886,971	\$ 852,907
– Current and expected future benefit obligations	1,104,242	1,040,551
– Funding ratio	80.32%	81.97%
<b>Participant Data</b>		
Active members		
– Number	4,403	4,520
– Projected annual earnings (000s)	208,388	205,537
– Average projected annual earnings	47,329	45,473
– Average age	41.0	40.3
– Average service	7.8	7.2
Service retirements	1,381	1,293
Survivors	134	123
Disability retirements	194	184
Deferred retirements	949	888
Terminated other non-vested	626	548
<b>Total</b>	<b>7,687</b>	<b>7,556</b>

## Effects of Changes

The following changes in plan provisions and methods were recognized as of July 1, 2009:

### **Dissolution of Minnesota Post Retirement Investment Fund (MPRIF)**

Because the MPRIF composite funding ratio was less than 80 percent as of June 30, 2008, the MPRIF was dissolved, and assets were transferred back to MSRS and merged with the respective active member fund. The transfer of assets and liabilities occurred on June 30, 2009.

In conjunction with the dissolution, benefit recipients will receive future annual 2.5% cost-of-living adjustments (COLA).

The waiting period and proration schedule for the COLA paid in the first year of retirement were also revised.

Other than the change in Asset Method described below, the MPRIF dissolution and COLA changes did not affect the valuation results.

### **Asset Method**

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 of active fund assets. Prior to June 30, 2009, MPRIF asset gains and losses were not smoothed.

The change in the actuarial asset method for MPRIF assets reduced the required contribution by 0.50% of pay.

### **Disability Benefits**

The definition of duty disability was changed to specifically require the disability to be a result from an incident while performing the duties of the job.

For employees hired after June 30, 2009, non-duty disability benefits will be based on actual service, rather than the current 15 year minimum service.

Employees who become disabled after June 30, 2009 will have the disability benefits converted to retirement benefits at age 55 instead of age 65, with a minimum disability payment period of five years for those who become disabled after age 50.

These changes in plan provisions reduced the required contribution by 0.63% of pay.

## Certification

Mercer has prepared this report exclusively for the Board of Directors of the Minnesota State Retirement System and the Legislative Commission on Pensions and Retirement (LCPR) for the following purposes:

- Present the results of a valuation of the Correctional Employees Retirement Fund as of July 1, 2009 as required by Minnesota Statutes, Section 356.215 and the Standards of Actuarial Work established by the State of Minnesota Legislative Commission on Pensions and Retirement
- Review plan experience for the year ended June 30, 2009
- Provide the annual required contribution for the period beginning July 1, 2009
- Provide reporting and disclosure information for financial statements for governmental agencies pursuant to GASB Statements Number 25 (as amended by GASB Number 50) and 27.

This valuation report may not be relied upon for any other purpose or by any party other than the Board of Directors, the LCPR, or the Plan's auditors solely for the purpose of completing an audit related to the matters herein. Mercer is not responsible for the consequences of any unauthorized use.

A valuation report is a snapshot of a plan's estimated financial condition at a particular point in time; it does not predict a plan's future financial condition or its ability to pay benefits in the future.

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, plan expenses and the amount earned on any assets invested to pay the benefits. These amounts and other variables are uncertain and unknowable at the valuation date, but are predicted to fall within a reasonable range of possibilities.

To prepare this report, *Actuarial Assumptions*, as described in the Actuarial Basis section, are used to select a single scenario from a range of possibilities. The results of that single scenario are included in this report. However, the future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material. In addition, different assumptions or scenarios may also be within the reasonable range and results based on those assumptions would be different. 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. Due to the limited scope of our assignment, we did not perform, nor do we present, an analysis of the potential range of future possibilities and scenarios.

Because actual plan experience will differ from the assumptions, decisions about benefit changes, investment policy, funding amounts, benefit security and/or benefit-related issues should be made only after careful consideration of alternative future financial conditions and scenarios, and not solely on the basis of a valuation report or reports.

## Data and plan provisions

To prepare this report, Mercer has used and relied on financial data submitted by the Minnesota State Retirement System as of June 30, 2009, as well as participant data supplied by the Minnesota State Retirement System as of June 30, 2009. We have reviewed the financial and participant data for internal consistency and general reasonableness, but we have not verified or audited any of the data or information provided. We have also used and relied on the Statutes and summary of plan provisions supplied by the Minnesota State Retirement System. A summary of the plan provisions valued is presented in our report. The Board of Directors are solely responsible for the accuracy, validity and comprehensiveness of this information. If the 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.

## Certification

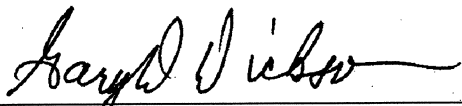
### Actuarial Calculations, Methods and Assumptions

To the best of our knowledge and belief, this report is complete and accurate and all costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures, in accordance with the requirements of Minnesota Statutes Section 356.215 and the requirements of the Standards of Actuarial Work established by the LCPR. The economic assumptions, including discount rates, are set in Minnesota Statutes, and the remaining assumptions are adopted by the Board of Directors and the LCPR. This valuation is based on assumptions, plan provisions, methods and other parameters as summarized in this report. If this information is inaccurate or incomplete or does not reflect current statutes, regulations or Board directives, the reader of this report should not rely on the valuation results and should notify Mercer promptly. In our opinion, this report fully and fairly discloses the actuarial position of the plan on an ongoing basis.

### Professional qualifications

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate. 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.

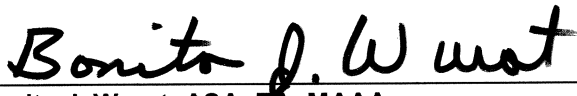
**The information contained in this document (including any attachments) is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.**



Gary Dickson, FSA, EA, MAAA  
Principal

12/8/2009

Date



Bonita J. Wurst, ASA, EA, MAAA  
Principal

12/8/2009

Date

Mercer  
333 South 7th Street, Suite 1600  
Minneapolis, MN 55402-2427  
612 642 8600

## 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 and the Minnesota State Board of Investments. 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 for Year Ended June 30, 2009 *(Dollars in Thousands)*

	Market Value	Cost Value
<b>Assets in Trust</b>		
▪ Cash, equivalents, short term securities	\$ 9,025	\$ 9,025
▪ Fixed income	101,162	102,523
▪ Equity	420,128	482,816
▪ Other	0	0
<b>Total assets in trust</b>	<b>\$ 530,315</b>	<b>\$ 594,364</b>
 Assets Receivable	 1,983	 1,983
<b>Total Assets</b>	<b>\$ 532,298</b>	<b>\$ 596,347</b>
 Amounts Payable	 (75,515)	 (75,515)
<b>Net Assets held in trust for pension benefits</b>	<b>\$ 456,783</b>	<b>\$ 520,832</b>

## 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 and the Minnesota State Board of Investment, for the Plan's Fiscal Year July 1, 2008 to June 30, 2009.

Change in Assets (dollars in thousands)	Non-MPRIF Assets	MPRIF Reserve	Market Value
1. Fund balance at market value at July 1, 2008	\$ 293,463	\$ 271,717	\$ 565,180
2. Contributions			
a. Member	14,031	0	14,031
b. Employer	20,126	0	20,126
c. Other sources	0	0	0
d. Total contributions	\$ 34,157	\$ 0	\$ 34,157
3. Investment income*			
a. Investment income/(loss)	\$ (107,155)	\$ 0	\$ (107,155)
b. Investment expenses	(632)	0	(632)
c. Net investment income/(loss)	\$ (107,787)	\$ 0	\$ (107,787)
4. Other	\$ 30	\$ 0	\$ 30
<b>5. Total income (2.d. + 3.c. + 4.)</b>	<b>\$ (73,600)</b>	<b>\$ 0</b>	<b>\$ (73,600)</b>
6. Benefits Paid			
a. Annuity benefits	\$ 0	\$ (33,239)	\$ (33,239)
b. Refunds	(1,016)	0	(1,016)
c. Total benefits paid	\$ (1,016)	\$ (33,239)	\$ (34,255)
7. Expenses			
a. Other	\$ (140)	\$ 0	\$ (140)
b. Administrative	(402)	0	(402)
c. Total expenses	\$ (542)	\$ 0	\$ (542)
<b>8. Total disbursements (6.c. + 7.c.)</b>	<b>\$ (1,558)</b>	<b>\$ (33,239)</b>	<b>\$ (34,797)</b>
9. Other changes in reserves			
a. Annuities awarded	\$ (15,975)	\$ 15,975	\$ 0
b. Transfer between reserves	258,228	(258,228)	0
c. Mortality gain/(loss) not transferred	(3,775)	3,775	0
d. Change in assumptions	0	0	0
e. Total other changes	\$ 238,478	\$ (238,478)	\$ 0
<b>10. Fund balance at market value at June 30, 2009</b> <i>(1. + 5. + 8. + 9.e.)</i>	<b>\$ 456,783</b>	<b>\$ 0</b>	<b>\$ 456,783</b>

\*MPRIF investment income allocated to non-MPRIF assets by the Minnesota State Retirement System.

## Plan Assets

### Actuarial Asset Value (Dollars in Thousands)

	June 30, 2009		
1. Market value of assets available for benefits	\$		456,783
2. Determination of average balance			
a. Total assets available at July 1, 2008			565,180
b. Total assets available at June 30, 2009			456,783
c. Net investment income for fiscal year ending June 30, 2009			(107,757)
d. Average balance $[a. + b. - c.] / 2$			564,860
3. Expected return $[8.5\% * 2.d.]$			48,013
4. Actual return			(107,757)
5. Current year asset gain/(loss) $[4. - 3.]$			(155,770)
6. Unrecognized asset returns*			
	Original Amount	% Not Recognized	
a. Year ended June 30, 2009	\$ (155,770)	80%	\$ (124,616)
b. Year ended June 30, 2008	(37,977)	60%	(22,786)
c. Year ended June 30, 2007	29,894	40%	11,957
d. Year ended June 30, 2006	9,447	20%	1,889
e. Total unrecognized return			\$ (133,556)
7. Actuarial value at June 30, 2009 $(1. - 6.e.)$			\$ 590,339

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

## Membership Data

### Distribution of Active Participants

Age	Years of Service as of June 30, 2009										Total
	<3	3 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40+	
< 25	161	30	1								192
Avg. Earnings	26,779	37,049	39,651								28,451
25 - 29	348	219	87								654
Avg. Earnings	32,708	37,774	41,155								35,528
30 - 34	234	147	199	25							605
Avg. Earnings	31,626	38,103	43,601	48,291							37,827
35 - 39	165	114	162	137	15	1					594
Avg. Earnings	33,309	39,560	44,140	52,199	55,349	55,560					42,413
40 - 44	116	80	153	158	106	17	1				631
Avg. Earnings	29,216	41,252	44,747	51,227	57,526	59,370	70,649				45,653
45 - 49	128	103	130	129	118	87	36	1			732
Avg. Earnings	37,715	45,410	47,006	53,284	56,511	59,760	59,522	49,673			49,931
50 - 54	113	78	130	131	94	40	70	21			677
Avg. Earnings	40,551	49,710	48,843	52,608	53,797	59,576	60,349	63,085			51,241
55 - 59	39	41	50	39	23	12	8	1			213
Avg. Earnings	37,665	57,669	52,528	55,674	57,888	59,579	60,895	68,101			52,736
60 - 64	18	20	30	12	4	2	3		1		90
Avg. Earnings	44,764	48,760	52,867	60,409	54,889	58,537	57,759		57,119		51,765
65 - 69	3	2	2	2	1						10
Avg. Earnings	52,445	54,228	37,034	62,888	72,467						53,810
70+	3			1				1			5
Avg. Earnings	27,438			42,173				67,880			38,474
<b>Total</b>	<b>1,328</b>	<b>834</b>	<b>944</b>	<b>634</b>	<b>361</b>	<b>159</b>	<b>118</b>	<b>24</b>	<b>1</b>	<b>0</b>	<b>4,403</b>
<b>Avg. Earnings</b>	<b>33,060</b>	<b>41,724</b>	<b>45,594</b>	<b>52,495</b>	<b>56,168</b>	<b>59,617</b>	<b>60,155</b>	<b>62,395</b>	<b>57,119</b>	<b>N/A</b>	<b>43,935</b>

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

## Membership Data

### Distribution of Service Retirements

Age	Years Retired as of June 30, 2009							Total
	<1	1 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25+	
50 - 54	15	42						57
Avg. Benefit	20,734	16,382						17,527
55 - 59	68	295	60					423
Avg. Benefit	17,763	17,803	16,746					17,647
60 - 64	13	54	314	16				397
Avg. Benefit	6,167	11,790	16,374	22,493				15,662
65 - 69	6	40	46	120	1			213
Avg. Benefit	12,112	9,934	12,708	22,733	26,344			17,882
70 - 74	1	6	35	45	55			142
Avg. Benefit	980	15,283	16,373	19,723	26,334			21,138
75 - 79			4	9	17	39		69
Avg. Benefit			3,902	9,577	24,260	22,816		20,348
80 - 84				1	8	7	30	46
Avg. Benefit				24,845	13,950	25,631	29,575	26,154
95+						3	31	34
Avg. Benefit						18,588	17,243	17,362
<b>Total</b>	<b>103</b>	<b>437</b>	<b>459</b>	<b>191</b>	<b>81</b>	<b>49</b>	<b>61</b>	<b>1,381</b>
<b>Avg. Benefit</b>	<b>16,240</b>	<b>16,169</b>	<b>15,946</b>	<b>21,395</b>	<b>24,676</b>	<b>22,959</b>	<b>23,308</b>	<b>17,878</b>

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

Age	Years Since Death as of June 30, 2009							Total
	<1	1 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25+	
<45	2	4	3					9
Avg. Benefit	6,670	6,376	7,876					6,941
45 – 49	2	3	1	1				7
Avg. Benefit	3,556	6,870	324	11,998				5,720
50 – 54	1	11	7	2				21
Avg. Benefit	3,207	12,843	9,803	6,144				10,733
55 – 59	2	6	11	2	1			22
Avg. Benefit	6,864	8,408	10,607	2,576	9,191			8,873
60 – 64	2	7	9	6				24
Avg. Benefit	12,609	16,134	10,683	16,066				13,779
65 – 69	1	4	3	1	1	1		11
Avg. Benefit	16,638	12,719	7,140	19,449	8,781	5,998		11,197
70 – 74	2	4	4	8			1	19
Avg. Benefit	32,732	16,040	18,815	14,157			41,251	18,916
75 – 79		1	3	1	1		2	8
Avg. Benefit		33,484	12,339	7,641	12,179		12,631	14,448
80 – 84	2	2	2	1	1			8
Avg. Benefit	12,742	10,943	12,061	25,739	7,986			13,152
85+				2			3	5
Avg. Benefit				9,972			7,939	8,752
<b>Total</b>	<b>14</b>	<b>42</b>	<b>43</b>	<b>24</b>	<b>4</b>	<b>1</b>	<b>6</b>	<b>134</b>
<b>Avg. Benefit</b>	<b>12,156</b>	<b>12,409</b>	<b>10,773</b>	<b>12,994</b>	<b>9,534</b>	<b>5,998</b>	<b>15,055</b>	<b>11,947</b>

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

Age	Years Disabled as of June 30, 2009						Total
	<1	1 - 4	5 - 9	10 - 14	15 - 19	20 - 24	
<45	3	13	20	2			38
Avg. Benefit	16,844	15,491	16,082	15,170			15,892
45 – 49	1	12	11	6	1		31
Avg. Benefit	20,892	16,046	18,528	17,018	15,870		17,265
50 – 54	5	14	14	8	1		42
Avg. Benefit	19,369	17,628	19,677	17,975	11,372		18,435
55 – 59	3	10	21	7	2		43
Avg. Benefit	16,269	14,350	18,161	17,181	17,889		16,970
60 – 64	1	3	14	10	1		29
Avg. Benefit	12,016	19,576	16,000	18,302	10,215		16,827
65 – 69		2	2	2	1	1	8
Avg. Benefit		12,661	27,192	26,428	17,934	21,803	21,538
70 – 74			1		1	1	3
Avg. Benefit			18,106		19,135	22,763	20,001
<b>Total</b>	<b>13</b>	<b>54</b>	<b>83</b>	<b>35</b>	<b>7</b>	<b>2</b>	<b>194</b>
<b>Avg. Benefit</b>	<b>17,622</b>	<b>16,079</b>	<b>17,817</b>	<b>18,068</b>	<b>15,758</b>	<b>22,283</b>	<b>17,337</b>

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\*

	Actives	Terminated		Recipients			Total
		Deferred Retirement	Other Non-vested	Service Retirements	Disability Retirements	Survivors	
<b>Members on 7/1/2008</b>	<b>4,520</b>	<b>888</b>	<b>548</b>	<b>1,293</b>	<b>184</b>	<b>123**</b>	<b>7,556**</b>
Additions	356	108	168	108	16	15**	771**
Return to active	20	(11)	(9)	0	0	0	0
Terminated non-vested	(149)	(1)	1	0	0	0	(149)
Service retirements	(84)	(19)	(1)	0	0	0	(104)
Terminated deferred	(104)	0	0	0	0	0	(104)
Terminated refund	(114)	(10)	(44)	0	0	0	(168)
Deaths	(2)	(4)	(4)	(13)	(5)	(2)	(30)
Disabled	(12)	(1)	0	0	0	0	(13)
Transferred to Fund	(0)	0	(36)	0	0	0	(36)
Data correction	(28)	(1)	3	(7)	(1)	(2)	(36)
Net change	(117)	61	78	88	10	10	130
<b>Members on 6/30/2009</b>	<b>4,403</b>	<b>949</b>	<b>626</b>	<b>1,381</b>	<b>194</b>	<b>134</b>	<b>7,687</b>

\* Provided by MSRS and checked for reasonableness.

\*\* Adjusted by Mercer to match 2008 counts.

#### Terminated deferred retirement statistics

- Average age 45.0 years
- Average service 5.7 years
- Average monthly benefit, with augmentation \$725  
(includes estimated benefits for 81 participants who were reported with \$0 benefit)

## Development of Costs

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

The actuarial balance sheet is based on the fundamental equation that at any given time the present value of benefits to be paid in the future must be equal to the assets on hand plus the present value of future contributions to be received. The total rate of contribution is determined as the amount which will make the total present and potential assets balance with the total present value of future benefits. The members' rate of contribution is fixed at the current schedule of compensation. The Employer's rate of contribution is the balance required to cover the total rate of contribution.

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.

				June 30, 2009
A.	Actuarial Value of Assets		\$	590,339
B.	Expected future assets			
1.	Present value of expected future statutory supplemental contributions		\$	13,640
2.	Present value of future normal cost contributions			282,992
3.	Total expected future assets (1. + 2.)		\$	296,632
C.	Total current and expected future assets		\$	886,971
D.	Current benefit obligations			
1.	Benefit recipients	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>
a.	Service retirements	\$ 0	\$ 305,003	\$ 305,003
b.	Disability	0	45,321	45,321
c.	Survivors	0	18,066	18,066
2.	Deferred retirements with augmentation	0	55,339	55,339
3.	Former members without vested rights*	1,235	0	1,235
4.	Active members	13,978	345,890	359,868
5.	Total Current Benefit Obligations	\$ 15,213	\$ 769,619	\$ 784,832
E.	Expected Future Benefit Obligations		\$	319,410
F.	Total Current and Expected Future Benefit Obligations		\$	1,104,242
G.	Unfunded Current Benefit Obligations (D.5. - A.)		\$	194,493
H.	Unfunded Current and Future Benefit Obligations (F. - C.)		\$	217,271

\* Former members with less than three years of service 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	\$ 548,895	\$ 198,546	\$ 350,349
b. Disability benefits	68,574	37,106	31,468
c. Survivor's benefits	12,443	5,450	6,993
d. Deferred retirements	46,970	32,171	14,799
e. Refunds	2,396	9,719	(7,323)
f. Total	\$ 679,278	\$ 282,992	\$ 396,286
2. Deferred retirements with future augmentation	55,339	0	55,339
3. Former members without vested rights	1,235	0	1,235
4. Benefit recipients	368,390	0	368,390
5. Total	\$ 1,104,242	\$ 282,992	\$ 821,250
<b>B. Determination of Unfunded Actuarial Accrued Liability (UAAL)</b>			
1. Actuarial accrued liability			\$ 821,250
2. Current assets (AVA)			590,339
3. Unfunded actuarial accrued liability			\$ 230,911
<b>C. Determination of Supplemental Contribution Rate</b>			
1. Present value of future payrolls through the amortization date of July 1, 2038			\$ 3,589,488
2. Supplemental contribution rate <i>(B.3. / C.1.)</i>			6.43%

## Development of Costs

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

	Year Ending June 30, 2009
A. Unfunded actuarial accrued liability at beginning of year	\$ 187,644
B. Changes due to interest requirements and current rate of funding	
1. Normal cost and expenses	\$ 37,902
2. Contributions	(34,157)
3. Interest on A., B.1. and B.2.	16,109
4. Total (B.1. + B.2. + B.3.)	\$ 19,854
C. Expected unfunded actuarial accrued liability at end of year (A. + B.4.)	\$ 207,498
D. Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected	
1. Salary increases	\$ (3,631)
2. Investment return	48,978
3. Mortality of benefit recipients	(196)
4. Other items	(2,619)
5. Total	\$ 42,532
E. Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions (C. + D.5.)	\$ 250,030
F. Change in unfunded actuarial accrued liability due to changes in plan provisions	\$ (1,101)
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	\$ (18,018)
I. Unfunded actuarial accrued liability at end of year (E. + F. + G. + H.)	\$ 230,911

## Development of Costs

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

	Percent of Payroll	Dollar Amount
A. Statutory contributions – Chapter 352		
1. Employee contributions	7.70%	\$ 16,046
2. Employer contributions	11.10%	23,131
3. Total	18.80%	\$ 39,177
B. Required contributions – Chapter 356		
1. Normal cost		
a. Retirement benefits	13.27%	\$ 27,660
b. Disability benefits	2.34%	4,877
c. Survivors	0.33%	677
d. Deferred retirement benefits	1.73%	3,603
e. Refunds	0.55%	1,153
f. Total	18.22%	\$ 37,970
2. Supplemental contribution amortization by July 1, 2038 of Unfunded Actuarial Accrued Liability	6.43%	13,399
3. Allowance for expenses	0.20%	\$ 417
4. Total	24.85%	\$ 51,786
C. Contribution Sufficiency/(Deficiency) (A.3. – B.4.)	(6.05%)	\$ (12,609)

Note: Projected annual payroll for fiscal year beginning on the valuation date: \$208,388.

## Actuarial Basis

### Actuarial Cost Method

Liabilities and 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.

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 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 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.

## 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.

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 of active fund assets. 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.

### 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 2009, 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 2009, the limit is \$245,000.

## Actuarial Basis

### Summary of Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan.

<i>Investment return:</i>	6.0% compounded annually post-retirement 8.5% compounded annually pre-retirement		
<i>Benefit increases after retirement</i>	Payment of 2.5% annual benefit increases after retirement are accounted for by using the 6.0% post-retirement assumption, as required by statute.		
<i>Salary increases</i>	Reported salary at valuation date increased according to the rate table below, to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for new members.		
<i>Mortality rates</i>			
<i>Healthy Pre-retirement</i>	1983 Group Annuity Mortality for males set back five years 1983 Group Annuity Mortality for females set back two years		
<i>Healthy Post-retirement</i>	1983 Group Annuity Mortality for males set back two years 1983 Group Annuity Mortality for females set back one year		
<i>Disabled</i>	Combined Annuity Mortality up to age 40, grading to health mortality for ages 60 and over		
<i>Retirement</i>	Age related table as follows:		
	Ages:	50-54	5%
		55	60%
		56-61	10%
		62-64	25%
		65 & over	100%
<i>Withdrawal</i>	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.		
<i>Disability</i>	Age-related rates based on experience; see table of sample rates.		
<i>Allowance for combined service annuity</i>	Liabilities for former members 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 projected payroll.		
<i>Refund of contributions</i>	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.		
<i>Percentage married</i>	85% of active members are assumed to be married. Actual marital status is provided for members in payment status.		
<i>Age of spouse</i>	Females are assumed to be three years younger than their male spouses.		

## Actuarial Basis

### Summary of Actuarial Assumption *(continued)*

<i>Form of payment</i>	Married members assumed to elect subsidized joint and survivor form of annuity as follows: Males: 25% elect 50% J&S option 0% elect 75% J&S option 25% elect 100% J&S option Females: 5% elect 50% J&S option 0% elect 75% J&S option 5% elect 100% J&S option
<i>Changes in actuarial assumptions</i>	No assumption changes were recognized as of July 1, 2009.

## Actuarial Basis

### Summary of Actuarial Assumptions *(continued)*

Age	Rate (%)					
	Healthy Pre-Retirement Mortality		Healthy Post-Retirement Mortality		Disability Mortality	
	Male	Female	Male	Female	Male	Female
20	0.03%	0.02%	0.04%	0.02%	.21%	.21%
25	0.04	0.02	0.04	0.02	.22	.22
30	0.05	0.03	0.05	0.03	.24	.24
35	0.06	0.04	0.07	0.04	.31	.31
40	0.09	0.06	0.10	0.06	.46	.46
45	0.12	0.08	0.17	0.09	.58	.48
50	0.22	0.14	0.31	0.15	.69	.49
55	0.39	0.21	0.52	0.23	.80	.51
60	0.61	0.34	0.77	0.38	.92	.52
65	0.92	0.58	1.24	0.64	1.56	.87
70	1.56	0.97	2.22	1.09	2.75	1.62

Age	Withdrawal		Disability Retirement		Salary Increases
	Male	Female	Male	Female	
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

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

<i>Plan year</i>	July 1 through June 30											
<i>Eligibility</i>	State employees in covered correctional service.											
<i>Contributions</i>	Shown as a percent of salary: <table><tr><td><u><b>Date of Increase</b></u></td><td><u><b>Employee</b></u></td><td><u><b>Employer</b></u></td></tr><tr><td>July 1, 2009</td><td>7.70%</td><td>11.10%</td></tr><tr><td>July 1, 2010</td><td>8.60%</td><td>12.10%</td></tr></table> <p>Employee contributions are “picked up” according to the provisions of Internal Revenue Code 414(h).</p>			<u><b>Date of Increase</b></u>	<u><b>Employee</b></u>	<u><b>Employer</b></u>	July 1, 2009	7.70%	11.10%	July 1, 2010	8.60%	12.10%
<u><b>Date of Increase</b></u>	<u><b>Employee</b></u>	<u><b>Employer</b></u>										
July 1, 2009	7.70%	11.10%										
July 1, 2010	8.60%	12.10%										
<i>Allowable service</i>	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.											
<i>Salary</i>	Includes wages, allowances and fees. Excludes lump sum payments of separation and reduced salary while receiving Worker’s Compensation benefits.											
<i>Average salary</i>	Average of the five highest successive years of Salary. Average Salary is based on all Allowable Service if less than five years.											
<b>Retirement</b>												
<u>Normal retirement benefit</u>												
<i>Age/Service requirement</i>	Age 55 and three years of Allowable Service under the Correctional and General Plans. Proportionate Retirement Annuity is available at age 65 and one year of Allowable Service.											
<i>Amount</i>	2.40% of Average Salary for each year of Allowable Service, pro-rata for completed months.											
<u>Early retirement</u>												
<i>Age/Service requirement</i>	Age 50 and three years of Allowable Service.											
<i>Amount</i>	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date reduced by 2/10% per month for each month that the member is under age 55.											

## Actuarial Basis

### Summary of Plan Provisions *(continued)*

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<b>Retirement</b> <i>(continued)</i>	
<u>Form of payment</u>	Life annuity. Actuarially equivalent options are: <ul style="list-style-type: none"> <li>(a.) 50%, 75%, or 100% Joint and Survivor with bounce back feature without additional reduction.</li> <li>(b.) 15-year Certain and Life</li> <li>(c.) Level Social Security option either to age 62 or Social Security Retirement Age.</li> </ul>
<u>Benefit increases</u>	Benefit recipients will receive future annual 2.5% cost-of-living adjustments. A benefit recipient who has been receiving a benefit for at least 12 full months as of December 31 will receive a full increase. Members receiving benefits for at least one full month but less than 12 full months will receive a pro-rata increase.

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<b>Disability</b>	
<u>Duty Disability</u>	
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% 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.
<u>Regular Disability</u>	
Age/Service requirement	At least one year of covered Correctional service for employees hired before July 1, 2009, or at least three years of covered Correctional service for employees 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.

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## Actuarial Basis

### Summary of Plan Provisions *(continued)*

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**Disability** *(continued)**Amount*

Normal retirement benefit based on Allowable 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.

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## Actuarial Basis

### Summary of Plan Provisions *(continued)*

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#### 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 with three years of Allowable Service. 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 contributions with interest or an actuarially equivalent term certain annuity (lump sum payable to estate at death).

###### *Benefit increases*

Benefit recipients will receive future annual 2.5% cost-of-living adjustments.

##### 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*

Benefit recipients will receive future annual 2.5% cost-of-living adjustments.

##### 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 contributions with interest exceed total payments to the surviving spouse and children, then the remainder is paid out.

###### *Amount*

The member's contributions with 5.00% interest if death occurred before May 16, 1989 and 6.00% interest if death occurred on or after May 16, 1989.

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## Actuarial Basis

### Summary of Plan Provisions *(continued)*

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#### Termination

##### Refund of contributions

Age/service requirement

Termination of state service.

Amount

Member's contributions with 5.00% interest compounded annually if termination occurred before May 16, 1989 and 6.00% interest if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund if three or more years of Allowable Service.

##### Deferred benefit

Age/service requirement

Three years of Correctional and General Service.

Amount

Benefit computed under law in effect at termination and increased 3.00% compounded annually until January 1 of the year following attainment of age 55 and 5.00% (2.50% if hired after June 30, 2006) thereafter until the annuity begins.

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#### Changes in Plan Provisions

The following changes in plan provisions are reflected in this valuation:

##### Dissolution of Minnesota Post Retirement Investment Fund (MPRIF)

Since the MPRIF composite funding ratio was less than 80 percent as of June 30, 2008, the MPRIF was dissolved, and assets were transferred back to MSRS and merged with the respective active member fund. The transfer of assets and liabilities occurred on June 30, 2009.

In conjunction with the dissolution, benefit recipients will receive future annual 2.5% cost-of-living adjustments (COLA). The waiting period and proration schedule for the COLA paid in the first year of retirement were also revised.

##### Disability Benefits

The definition of duty disability was changed to specifically require the disability to be a result from an incident while performing the duties of the job.

For employees hired after June 30, 2009, non-duty disability benefits will be based on actual service, rather than the current 15 year minimum service.

Employees who become disabled after June 30, 2009 will have the disability benefits converted to retirement benefits at age 55 instead of age 65, with a minimum disability payment period of five years for those who become disabled after age 50.

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## 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 (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	96.53%
07/01/2009	590,399	821,250	230,851	71.89%	193,445	119.34%

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

## 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	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 <sup>2</sup>	12.99%	106,131	6,378	7,408	8,172	110.31%
2000 <sup>3</sup>	13.66%	112,587	6,526	8,853	8,984	101.48%
2001 <sup>4</sup>	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 <sup>5</sup>	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 <sup>6</sup>	23.34%	167,727	10,032	29,115	13,927	47.83%
2008 <sup>7</sup>	24.44%	194,391	12,775	34,734	18,623	53.62%
2009 <sup>8</sup>	23.66%	193,445	14,031	31,738	20,126	63.41%
2010 <sup>9</sup>	24.85%					

<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 Contributions calculated according to parameters of GASB 25 using a 30-year amortization of the negative unfunded actuarial accrued liability.

<sup>4</sup> Actuarially Required Contributions Rate prior to change in Asset Valuation Method is 13.34%.

<sup>5</sup> Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 14.46%.

<sup>6</sup> Actuarially Required Contribution Rate prior to change in Actuarial Assumptions and employee contribution rates is approximately 22.10%.

<sup>7</sup> Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 23.41%.

<sup>8</sup> Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 27.22%.

<sup>9</sup> 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%.

## 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 contribution to the plan 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 periodic required contributions to a defined benefit pension plan, calculated in accordance with the parameters of GASB 25 (as amended by GASB 50) or GASB 27.

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

**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.

# MERCER



MARSH MERCER KROLL  
GUY CARPENTER OLIVER WYMAN

Mercer (US) Inc.  
333 South 7th Street, Suite 1600  
Minneapolis, MN 55402-2427  
612 642 8600

Consulting. Outsourcing. Investments.