State Employees Retirement Fund ACTUARIAL VALUATION REPORT

)

)

)

July 1, 1996





Internationally WOODROW MILLIMAN

Suite 400, 15800 Bluemound Road, Brookfield, Wisconsin 53005-6069 Telephone: 414/784-2250 Fax: 414/784-7287

November 19, 1996

Legislative Commission on Pensions and Retirement 55 State Office Building St. Paul, Minnesota 55155

)

)

RE: State Employees Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 1996.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Minnesota State Retirement System.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on July 8, 1992.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

Homes K. Curs'

Thomas K. Custis, F.S.A., M.A.A.A. Consulting Actuary

William V. Hogan, F.S.A., M.A.A.A.

William V. Hogan, F.S.A., M.A.A. Consulting Actuary

TKC/WVH/bh

Albany, Atlanta, Boston, Chicago, Dallas, Denver, Hartford, Houston, Indianapolis, Irvine, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Phoenix, Portland, ME, Portland, OR, St. Louis, Salt Lake City, San Diego, San Francisco, Seattle, Tampa, Washington, D.C., Bermuda, Tokyo

Table of Contents

Page

1

COMMENTARY

)

)

)

Purpose	2
Report Highlights	2
Asset Information	2
Actuarial Balance Sheet	3
GASB Disclosure	3
Actuarial Cost Method	4
Sources of Actuarial Gains and Losses	4
Contribution Sufficiency	4
Changes in Actuarial Assumptions	5
Changes in Plan Provisions	5
-	

ASSET INFORMATION

Table 1 -	Accounting Balance Sheet	6
Table 2 -	Changes in Assets Available for Benefits	7

MEMBERSHIP DATA

Table 3 -	Active Members	8
Table 4 -	Service Retirements	9
Table 5 -	Survivors	10
Table 6 -	Disability Retirements	11
Table 7 -	Reconciliation of Members	12

FUNDING STATUS

Table 8 -	Actuarial Balance Sheet	13
Table 9 -	Determination of Unfunded Actuarial Accrued Liability	14
	(UAAL) and Supplemental Contribution Rate	
Table 10 -	Changes in Unfunded Actuarial Accrued Liability (UAAL)	15
Table 11 -	Determination of Contribution Sufficiency	16

Table of Contents

(Continued)

	Page
SSUMPTIONS	
Summary of Actuarial Assumptions and Methods	17
ONS	
Summary Plan Provisions	21
UPS	
Military Affairs Calculation Pilots Calculation	27
	SSUMPTIONS Summary of Actuarial Assumptions and Methods ONS Summary Plan Provisions UPS Military Affairs Calculation Pilots Calculation

MILLIMAN & ROBERTSON, INC.

)

)

)

Report Highlights

)

)

)

(dollars in thousands)

		07/01/95 Valuation	07/01/96 Valuation
A.	CONTRIBUTIONS (Table 11)1. Statutory Contributions - Chapter 352% of Payroll	8.27%	8.27%
	 Required Contributions - Chapter 356 % of Payroll 	8.05%	7.21%
	3. Sufficiency (Deficiency): (A.1 A.2.)	0.22%	1.06%
B.	FUNDING RATIOS 1. Accrued Benefit Funding Ratio	¢2,462,000	¢2.075.022
	a. Current Assets (Table 1)	\$3,462,098	\$3,975,832
	b. Current Benefit Obligations (Table 8)	\$3,339,193	\$3,612,360
	c. Funding Ratio: (a/b)	103.68%	110.06%
	2. Accrued Liability Funding Ratio		
	a. Current Assets (Table 1)	\$3,462,098	\$3,975,832
	b. Actuarial Accrued Liability (Table 9)	\$3,795,926	\$4,087,273
	c. Funding Ratio: (a/b)	91.21%	97.27%
	3. Projected Benefit Funding Ratio (Table 8)		
	a. Current and Expected Future Assets	\$4,749,183	\$5,274,235
	b. Current and Expected Future Benefit Obligations	\$4,689,789	\$4,992,669
	c. Funding Ratio: (a/b)	101.27%	105.64%
C.	PLAN PARTICIPANTS 1. Active Members		
	a. Number (Table 3)	49,705	49,914
	b. Projected Annual Earnings	\$1,611,687	\$1,643,049
	c. Average Annual Earnings (Actual \$)	\$32,425	\$32,918
	d. Average Age	42.7	43.0
	e. Average Service	11.1	11.4
	2. Others		
	a. Service Retirements (Table 4)	14,004	14,368
	b. Survivors (Table 5)	1,313	1,447
	c. Disability Retirements (Table 6)	824	857
	d. Deferred Retirements (Table 7)	5,518	6,118
	e. Terminated Other Non-vested (Table 7)	5,242	5,744
	f. Total	26,901	28,534

Commentary

Purpose

)

)

)

The purpose of this valuation is to determine the financial status of the Plan. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The financial status of the Plan can be measured by three different funding ratios:

- ^o The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 110.06%. The corresponding ratio for the prior year was 103.68%.
- ^o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 1996 the ratio is 97.27%, which is an increase from the 1995 value of 91.21%.
- ^o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 105.64% verifies that the current statutory contributions are sufficient.

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gain and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F1 to F6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets", the latter phrase will be used in the remainder of this report.

This Plan participates in the Minnesota Post Retirement Investment Fund (i.e. MPRIF). After the MPRIF liability has been calculated for each participating Plan, the State Board of Investments, (i.e. SBI), will determine each Plan's portion of the excess earnings for the January benefit increase as well as the Plan's allocated market share of MPRIF.

Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

The Current Benefit Obligation used to measure current funding levels is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

- ° For Active Members salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.
- ° For Non-active Members the discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

)

)

The Current Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 uses the terms "Actuarial Present Value of Credited Projected Benefits" and "Pension Benefit Obligation" rather than "Current Benefit Obligation".

The JULY 1, 1996 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the following table:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$1,585,766,000		
Current Employees			
Accumulated employee contributions including allocated investment income	\$754,205,000		
Employer-financed vested	1,138,262,000		
Employer-financed nonvested	134,127,000		
Total Pension Benefit Obligation	\$3,612,360,000		
Net Assets Available for Benefits at Cost	\$3,896,041,000		
Total Benefit Obligation less Assets	(\$283,681,000)		
Funded Ratio	107.85%		

Actuarial Cost Method (Table 9)

)

)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level percentage of payroll.

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

The payments will increase 5.00% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years, the annual payment will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. For a detailed analysis of the major components, refer to Table 10.

Contribution Sufficiency (Table 11)

This report determines the adequacy of Statutory Contributions by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

[°]Normal costs based on the Entry Age Normal Actuarial Cost Method.

[°]A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability.

[°]An Allowance for Expenses.

Table 11 shows the Plan has a contribution sufficiency since the Statutory Contribution Rate is 8.27% compared to the Required Contribution Rate of 7.21%.

Changes in Actuarial Assumptions

)

)

)

There were no changes in actuarial assumptions since the last valuation.

Changes in Plan Provisions

There were no changes in plan provisions since the last valuation which impacted funding costs.

)

)

)

Accounting Balance Sheet (dollars in thousands)

JULY 1, 1996

		Market Value	Cost Value
A.	ASSETS		
	1. Cash, Equivalents, Short-term Securities	\$43,558	\$43,558
	2. Investments		
	a. Fixed Income	620,554	628,688
	b. Equity	1,931,887	1,676,334
	c. Real Estate	101,404	109,451
	3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	1,433,177	1,433,177
	4. Other	7,981	7,981
B.	TOTAL ASSETS	\$4,138,561	\$3,899,189
C.	AMOUNTS CURRENTLY PAYABLE	\$3,148	\$3,148
D.	ASSETS AVAILABLE FOR BENEFITS		
	1. Member Reserves	\$586,315	\$586,315
	2. Employer Reserves	2,112,180	1,872,808
	3. MPRIF Reserves	1,433,177	1,433,177
	4. Non-MPRIF Reserves	3,741	3,741
	5. Total Assets Available for Benefits	\$4,135,413	\$3,896,041
E.	TOTAL AMOUNTS CURRENTLY PAYABLE	\$4,138,561	\$3,899,189
	AND ASSETS AVAILABLE FOR BENEFITS		
F.	DETERMINATION OF ACTUARIAL VALUE OF ASSETS	1	
	1. Cost Value of Assets Available		\$3,896,041
	for Benefits (D5)	Ø 4 10 5 410	
	2. Market Value (D5)	\$4,135,413	
	3. Cost Value (D5)	3,896,041	
	4. Market Over Cost: $(F2-F3)$	\$239,372	70 701
	5. 1/5 OI Market Over Cost: (F4)/5		<u> </u>
	6. Actuarial value of Assets (F1+F5)		\$3,973,832
	(Same as "Current Assets")		

)

)

)

Change In Assets Available For Benefits

(dollars in thousands)

YEAR ENDING JUNE 30, 1996

		Market Value	Cost Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$3,582,687	\$3,401,803
B.	OPERATING REVENUES		
	1. Member Contributions	\$63,507	\$63,507
	2. Employer Contributions	65,557	65,557
	3. Investment Income	322,179	322,179
	4. MPRIF Income	147,577	147,577
	5. Net Realized Gain (Loss)	47,591	47,591
	6. Other	656	656
	7. Net Change in Unrealized Gain (Loss)	58,488	0
	8. Total Revenue	\$705,555	\$647,067
C.	OPERATING EXPENSES		
	1. Service Retirements	\$136,522	\$136,522
	2. Disability Benefits	0	0
	3. Survivor Benefits	0	0
	4. Refunds	7,857	7,857
	5. Investment Fees	3,689	3,689
	6. Administrative Expenses	1,972	1,972
	7. Other	2,789	2,789
	8. Total Disbursements	\$152,829	\$152,829
D.	OTHER CHANGES IN RESERVES	0	0
E.	ASSETS AVAILABLE AT END OF PERIOD	\$4,135,413	\$3,896,041

STATE EMPLOYEES RETIREMENT FUND

)

)

)

	Years of Service								
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
<25	991	283	11	0	0	0	0	0	1,285
25-29	1,540	1,770	399	10	0	0	0	0	3,719
30-34	1,044	1,786	2,047	587	92	0	0	0	5,556
35-39	827	1,672	2,431	1,630	1,205	40	0	0	7,805
40-44	727	1,527	2,244	1,657	2,171	1,089	46	0	9,461
45-49	502	1,236	1,801	1,404	1,820	1,680	827	32	9,302
50-54	321	613	988	820	1,028	957	968	434	6,129
55-59	124	364	567	536	622	550	492	720	3,975
60-64	72	173	291	301	345	309	251	319	2,061
65+	54	79	112	105	96	66	55	54	621
ALL	6,202	9,503	10,891	7,050	7,379	4,691	2,639	1,559	49,914

ACTIVE MEMBERS AS OF JUNE 30, 1996

AVERAGE ANNUAL EARNINGS

				Yea	ars of Servi	ce			
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	ALL
<25	12,425	17,943	20,016	0	0	0	0	0	13,705
25-29	17,630	23,743	25,885	25,494	0	0	0	0	21,446
30-34	19,122	25,919	30,105	29,896	27,759	0	0	0	26,635
35-39	20,377	27,320	31,285	32,913	32,277	29,156	0	0	29,762
40-44	21,059	27,397	32,497	34,627	35,440	34,755	34,689	0	32,114
45-49	21,692	29,136	33,942	33,925	36,944	39,368	37,605	34,433	34,534
50-54	25,721	27,977	33,087	33,843	37,278	39,905	41,829	41,913	36,065
55-59	21,604	27,892	31,735	32,092	34,056	37,324	39,048	43,285	35,249
60-64	13,645	24,851	31,162	32,829	34,338	35,868	38,224	43,689	34,300
65+	19,198	12,695	27,816	26,193	31,956	34,144	34,920	42,653	28,101
ALL	18,612	26,258	31,691	33,198	35,241	37,776	39,376	42,782	31,093

PRIOR FISCAL YEAR EARNINGS (IN MILLIONS) BY YEARS OF SERVICE

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
All	115	249	345	234	260	177	103	66	1,551

Page 8

STATE EMPLOYEES RETIREMENT FUND

)

				YEARS R	ETIRED			
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	0	0	0	0	0	0	0	0
50-54	6	1	1	0	0	0	0	8
55-59	188	311	8	0	0	0	0	507
60-64	381	911	485	0	0	0	0	1,777
65-69	246	1,394	1,266	245	0	0	0	3,151
70-74	36	327	1,678	1,107	29	0	0	3,177
75-79	9	61	261	1,579	627	10	0	2,547
80-84	0	1	3	217	1,304	284	6	1,815
85+	0	0	0	- 7	66	919	394	1,386
ALL	866	3,006	3,702	3,155	2,026	1,213	400	14,368

SERVICE RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

				YEARS R	RETIRED			
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	0	0	0	0	0	0	0	. 0
50-54	8,460	13,489	6,851	0	0	0	0	8,888
55-59	7,904	8,075	8,077	0	0	0	0	8,012
60-64	8,385	9,219	11,690	0	0	0	0	9,715
65-69	8,046	8,416	9,670	12,210	0	0	0	9,186
70-74	6,612	9,096	8,049	10,209	8,648	0	0	8,899
75-79	6,138	9,839	8,322	8,233	9,362	6,184	0	8,543
80-84	0	22,736	5,553	7,260	6,630	7,157	4,679	6,788
85+	0	0	0	6,952	6,989	6,363	5,150	6,051
ALL	8,088	8,733	9,097	9,165	7,516	6,547	5,143	8,427

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
All	7,004	26,251	33,677	28,915	15,227	7,941	2,057	121,079

Page 9

STATE EMPLOYEES RETIREMENT FUND

)

			Ŷ	EARS SIN	CE DEATH	I		
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	25	32	10	7	0	0	0	74
50-54	12	19	14	3	0	0	0	48
55-59	14	53	22	9	0	0	1	99
60-64	18	58	46	15	1	0	0	138
65-69	25	66	83	27	10	1	2	214
70-74	29	67	65	72	40	7	2	282
75-79	32	83	61	33	49	14	4	276
80-84	12	34	38	12	35	37	9	177
85+	1	21	11	- 1	6	43	56	139
ALL	168	433	350	179	141	102	74	1,447

SURVIVORS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

		YEARS SINCE DEATH								
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>		
<50	5,181	3,907	4,934	3,722	0	0	0	4,459		
50-54	7,746	5,711	5,508	6,123	0	0	0	6,186		
55-59	7,074	7,120	10,085	4,832	0	0	4,125	7,534		
60-64	4,808	8,324	6,431	5,896	3,393	0	0	6,935		
65-69	6,775	7,942	8,112	6,789	9,237	3,187	3,894	7,727		
70-74	8,613	8,744	6,375	8,682	7,736	4,584	2,088	7,875		
75-79	8,636	7,549	7,751	5,982	6,906	4,824	6,344	7,263		
80-84	4,575	6,039	6,785	9,162	7,011	7,501	4,009	6,706		
85+	14,412	6,164	4,756	1,812	4,460	7,203	4,196	5,536		
ALL	6,981	7,310	7,185	7,229	7,204	6,766	4,223	7,025		

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
All	1,172	3,165	2,514	1,293	1,015	690	312	10,165

TABLE 6

STATE EMPLOYEES RETIREMENT FUND

	YEARS DISABLED							
Age	<1	<u>]-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<50	26	56	26	4	0	0	0	112
50-54	15	36	20	5	2	0	0	78
55-59	28	63	22	7	2	3	0	125
60-64	18	48	43	9	4	0	0	122
65-69	2	34	52	25	10	3	0	126
70-74	0	0	18	47	44	14	2	125
75-79	0 .	0	0	12	58	17	4	91
80-84	0	0	0	0	26	23	6	55
85+	0	0	0	· 0	0	11	12	23
ALL	89	237	181	109	146	71	24	857

DISABILITY RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

	YEARS DISABLED								
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	- 1 1 2	ALL
<50	6,239	4,824	4,711	3,694	0	0	0		5,086
50-54	5,827	6,775	6,520	5,518	4,803	0	0		6,396
55-59	6,714	6,794	6,116	5,787	4,323	3,282	0		6,477
60-64	6,413	7,309	7,306	5,740	5,041	0	0		6,986
65-69	6,598	6,164	6,164	5,253	6,750	4,637	0		6,000
70-74	0	0	4,894	5,494	6,579	5,083	5,875		5,750
75-79	0	0	0	4,951	7,059	4,725	4,398		6,228
80-84	0	0	0	0	4,966	5,261	4,650		5,055
85+	0	0	0	0	0	5,278	4,371		4,805
ALL	6,362	6,340	6,134	5,353	6,397	4,990	4,571		6,022

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	15-19	20-24	<u>25+</u>	ALL
All	566	1,502	1,110	583	933	354	109	5,160

MILLIMAN & ROBERTSON, INC.

)

)

Reconciliation Of Members

			Termin	nated
		Actives	Deferred Retirement	Other Non-Vested
A.	ON JUNE 30, 1995	49,705	5,518	5,242
B.	ADDITIONS	4,237	1,142	1,718
C.	DELETIONS			
	1. Service Retirement	(713)	(166)	(1)
	2. Disability	(76)	(14)	0
	3. Death	. (53)	(5)	(3)
	4. Terminated - Deferred	(1,102)	0	(4)
	5. Terminated - Refund	(1,700)	(174)	(459)
	6. Terminated - Other Non-Vested	(1,430)	(7)	0
	7. Returned as Active	327	(168)	(159)
	8. Transferred to Other Fund	0	(1)	(584)
D.	DATA ADJUSTMENTS	719	(7)	(6)
	Vested	37,998		
	Non-Vested	11,916		
E.	TOTAL ON JUNE 30, 1996	49,914	6,118	5,744

			Recipients		
		Retirement Annuitants	Disabled	Survivors	
A.	ON JUNE 30, 1995	14,004	824	1,313	
B.	ADDITIONS	883	99	178	
C.	DELETIONS	<u>^</u>	0	0	
	1. Service Retirement	0	0	0	
	2. Death	(507)	(64)	(38)	
	3. Annuity Expired	0	0	0	
	4. Returned as Active	0	0	0	
D.	DATA ADJUSTMENTS	(12)	(2)	(6)	
E.	TOTAL ON JUNE 30, 1996	14,368	857	1,447	

MILLIMAN & ROBERTSON, INC.

)

)

Actuarial Balance Sheet

)

)

)

(dollars in thousands)

JULY 1, 1996

A.	CURRENT ASSETS (TABLE 1, F6)		\$3,975,832		
B.	 EXPECTED FUTURE ASSETS 1. Present Value of Expected Future Statutory Supplemental Contributions 2. Present Value of Future Normal Costs 3. Total Expected Future Assets 	(See Table 11)		\$393,007 <u>905,396</u> \$1,298,403	
C.	TOTAL CURRENT AND EXPECTED FU	TURE ASSETS	-	\$5,274,235	
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total	
	 a. Retirement Annuities b. Disability Benefits c. Surviving Spouse and Child Benefits 		\$1,281,385 50,187 105,345	\$1,281,385 50,187 105,345	
	2. Deferred Retirements with Future Augmentation 145,270				
	3. Former Members without Vested Rights	3,579	3,579		
	 4. Active Members a. Retirement Annuities b. Disability Benefits c. Survivor's Benefits d. Deferred Retirements e. Refund Liability Due to Death or Withdrawal 	12,290 68,315 48,040 5,482 0	$1,609,591 \\ 0 \\ 0 \\ 258,715 \\ 24,161$	1,621,881 68,315 48,040 264,197 24,161	
	5. Total Current Benefit Obligations	\$134,127	\$3,478,233	\$3,612,360	
E.	EXPECTED FUTURE BENEFIT OBLIGA	TIONS		\$1,380,309	
F.	. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				
G.	CURRENT UNFUNDED ACTUARIAL LI	ABILITY (D5-A)		(\$363,472)	
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C) (\$281,566)				

)

)

)

Determination Of Unfunded Actuarial Accrued Liability (UAAL) And Supplemental Contribution Rate

(dollars in thousands)

JULY 1, 1996

		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		(2)	(3)=(1)-(2)
	a. Retirement Annuities	\$2,770,870	\$567,256	\$2,203,614
	b. Disability Benefits	121,397	38,318	83,079
	c. Survivor's Benefit	80,220	25,790	54,430
	d. Deferred Retirements	393,048	180,087	212,961
	e. Refunds Due to Death or Withdrawal	41,367	93,945	(52,578)
	f. Total	\$3,406,902	\$905,396	\$2,501,506
	2. Deferred Retirements With Future Augmentation	145,270		145,270
	 Former Members Without Vested Rights 	3,579		3,579
	4. Annuitants in MPRIF	1,433,177		1,433,177
	5. Recipients Not in MPRIF	3,741		3,741
	6. Total	\$4,992,669	\$905,396	\$4,087,273
B.	DETERMINATION OF UNFUNDED ACT	UARIAL ACCRU	JED LIABILITY	(UAAL)
	1. AAL (A6)			\$4,087,273
	2. Current Assets (Table 1, F6)			3,975,832
	3. UAAL (B1-B2)			\$111,441
C.	DETERMINATION OF SUPPLEMENTAL 1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	CONTRIBUTIO	N RATE	\$26,554,525
	2. Supplemental Contribution Rate (B3/C1)			0.42%

)

)

)

Changes In Unfunded Actuarial Accrued Liability (UAAL) (dollars in thousands)

YEAR ENDING JUNE 30, 1996

A.	UAAL AT BEGINNING OF YEAR	\$333,828
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	 Normal Cost and Expenses Contribution Interest on A, B1 and B2 	\$109,543 (129,063) 27,546
	4. Total (B1+B2+B3)	\$8,026
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	\$341,854
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	 Salary Increases Investment Return MPRIF Mortality Mortality of Other Benefit Recipients Other Items 	(\$91,073) (202,100) 1,867 (186) 61,079
	6. Total	(\$230,413)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	\$111,441
F.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	0
G.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR (E+F+G)	\$111,441

)

)

)

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1996

		Percent of	Dollar
A.	STATUTORY CONTRIBUTIONS - CHAPTER 352		Amount
	1. Employee Contributions	4.07%	\$66,872
	2. Employer Contributions	4.20%	69,008
	3. Total	8.27%	\$135,880
B.	REQUIRED CONTRIBUTIONS - CHAPTER 356		
	1. Normal Cost	1 18%	\$68 621
	h Disability benefits	0.27%	4.430
	c. Survivors	0.18%	2,972
	d. Deferred Retirement Benefits	1.32%	21,620
	e. Refunds Due to Death or Withdrawal	0.72%	11,837
	f. Total	6.67%	\$109,480
	2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	0.42%	6,901
	3. Allowance for Expenses	0.12%	1,972
	4. Total	7.21%	\$118,353
C.	CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	1.06%	\$17,527

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1996 is \$1,643,049.

)

)

)

Summary of Actuarial Assumptions and Methods

Interest:	Pre-Retirement: Post-Retirement	8.5% per annum t: 5.0% per annum
Salary Increases:	Reported salary a rate table below t future year. Prior Members.	at valuation date increased according to the to current fiscal year and annually for each r fiscal year salary is annualized for new
Mortality:	Pre-Retirement : Male - 1983 Female -	Group Annuity Mortality Table for males setback four years. 1983 Group Annuity Mortality Table for females set back two years.
	Post-Retirement	
	Male -	1983 Group Annuity Mortality Table for males.
	Female -	1983 Group Annuity Mortality Table for females.
	Post-Disability:	
	Male - Female -	Combined Annuity Mortality Table Combined Annuity Mortality Table
Retirement Age:	Graded rates begin who have attained in one year. In a each year that the	inning at age 58 as shown in rate table. Members d the highest assumed retirement age will retire ddition, 25% of Members are assumed to retire by are eligible for the Rule of 90.
Separation:	Graded rates base June 30, 1971 exp	ed on actual experience developed by the perience analysis. Rates are shown in rate table.
Disability:	Rates adopted by	MSRS as shown in rate table.
Expenses:	Prior year administration expenses expressed as a percentage of prior year payroll.	

TABLE 12
(Continued)

Return 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.					
Family Composition:	85% of Membe years younger t	85% of Members are assumed to be married. Female is three years younger than male.				
Social Security:	N/A	N/A				
Benefit Increases After Retirement:	Payment of earn accounted for b	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.				
Special Consideration:	Married Members assumed to elect subsidized joint and survivor form of annuity as follows:					
	Males -	25% elect 50% J&S option 45% elect 100% J&S option				
	Females -	5% elect 50% J&S option 5% elect 100% J&S option				
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.					
Asset Valuation Method:	Cost Value plus	one-third Unrealized Gains or Losses.				
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 5% per annum.					

)

)

)

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

)

)

)

	Pre-retirement Death		Witl	ndrawal	Dis	ability	Retir	ement	
<u>Age</u>	<u>Male</u>	Female	<u>Male</u>	<u>Female</u>	<u>Male</u>	Female	Male	Female	Salary Increases
20	3	2	2,400	3,700	0	0	0	0	7.75%
21	3	2	2,250	3,550	0	0	0	0	7.1454
22	4	2	2,080	3,390	0	0	0	0	7.1094
23	4	2	1,920	3,230	0	0	0	0	7.0725
24	4	2	1,760	3,070	0	0	0	0	7.0363
25	4	2	1,600	2,910	0	0	0	0	7
26	4	2	1,470	2,750	0	0	0	0	7
27	4	3	1,340	2,600	0	0	0	0	7
28	4	3	1,230	2,430	0	0	0	0	7
29	5	3	1,130	2,270	0	0	0	0	7
30	5	3	1,040	2,120	2	0	0	0	7
31	5	3	950	1,970	2	0	0	0	7
32	5	3	890	1,820	2	0	0	0	7
33	6	4	830	1,680	2	0	0	0	7
34	6	4	770	1,540	2	0	0	0	7
35	6	4	720	1,410	2	1	0	0	7
36	7	4	680	1,300	2	1	0	0	6.9019
37	7	5	640	1,190	2	1	0	0	6.8074
38	8	5	600	1,090	2	1	0	0	6.7125
39	9	5	560	1,000	2	2	0	0	6.6054
40	9	6	530	920	2	2	0	0	6.5
41	10	6	500	850	2	2	0	0	6.354
42	10	7	480	780	2	4	0	0	6.2087
43	11	7	460	720	3	4	0	0	6.0622
44	12	8	430	680	3	4	0	0	5.9048
45	14	8	410	630	3	5	0	0	5.75
46	15	9	390	590	5	6	0	0	5.6940
47	17	10	370	560	7	7	0	0	5.6375
48	19	11	350	530	9	7	0	0	5.5822
49	22	12	340	500	11	10	0	0	5.5405

Page 19

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

)

)

)

	Pre-retirement Death		Withdrawal		Disability		<u>Retirement</u>		<u>Calary</u>
Age	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	Male	<u>Female</u>	<u>Male</u>	<u>Female</u>	Salary Increases
50	25	14	320	470	14	10	0	0	5.5%
51	28	15	300	440	16	12	0	0	5.4384
52	31	16	280	410	20	14	0	0	5.3776
53	35	18	260	390	· 24	16	0	0	5.3167
54	39	19	240	360	28	20	0	0	5.2826
55	43	21	210	330	34	24	0	0	5.25
56	48	23	170	290	40	30	0	0	5.25
57	52	25	140	230	46	36	0	0	5.25
58	57	28	90	170	56	44	50	50	5.25
59	61	31	40	90	66	52	50	50	5.25
60	66	34	0	0	76	62	150	150	5.25
61	71	38	0	0	90	74	150	150	5.25
62	77	42	0	0	110	88	500	500	5.25
63	84	47	0	0	136	104	350	350	5.25
64	92	52	0	0	174	122	1,100	1,100	5.25
65	101	58	0	0	0	0	10,000	10,000	5.25
66	111	64	0	0	0	0	0	0	5.25
67	124	71	0	0	0	0	0	0	5.25
68	139	78	0	0	0	0	0	0	5.25
69	156	87	0	0	0	0	0	0	5.25
70	176	97	0	0	0	0	0	0	5.25

Summary of Plan Provisions

GENERAL

)

)

)

Eligibility:	State employees, non-academic staff of the University of Minnesota and employees of certain Metro level governmental units, unless excluded by law.		
Contributions:			
Member:	4.07% of salary unless there is a deficiency. (Amended 1992)		
Employer:	4.20% of salary unless there is a deficiency. (Amended 1992)		
Allowable Service:	Service during which Member contributions were made. May also include certain leaves of absence, military service and periods while temporary Worker's Compensation is paid. Excludes lump sum vacation pay at termination.		
Salary:	Includes wages, allowances and fees. Excludes lump-sum payments at separation, employer contributions to deferred compensation and tax-sheltered annuity plans and benevolent vacation and sick leave donation programs.		
Average Salary:	Average of the five highest successive years (60 successive months) of salary. Average salary is based on all Allowable Service if less than five years.		

RETIREMENT

Normal Retirement Benefit:

Eligibility:	First hired before July 1, 1989:
	Age 65 and three years of Allowable Service. Proportionate
	Retirement Annuity is available at age 65 and one year of
	Allowable Service.

)

)

)

	First hired after June 30, 1989 : The greater of age 65 or the age eligible for full Social Security retirement benefits and three years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and one year of Allowable Service.
Amount:	1.5% of average salary for each year of Allowable Service.
Early Retirement Benefit:	
Eligibility:	 First hired before July 1, 1989: Age 55 and three years of Allowable Service. Any age with 30 years of Allowable Service. Rule of 90: Age plus Allowable Service totals 90. First hired after June 30, 1989: Age 55 with three years of Allowable Service.
Amount	 First hired before July 1, 1989: The greater of 1% of average salary for each of the first 10 years of Allowable Service and 1.5% of average salary for each subsequent year with reduction of 0.25% for each month the Member is under age 65 at time of retirement or age 62 if 30 years of Allowable Service. No reduction if age plus years of Allowable Service totals 90; Nor 1.5% of average salary for each year of Allowable Service assuming augmentation to age 65 at 3% per year and actuarial reduction for each month the Member is under age 65.
	First hired after June 30, 1989:

1.5% of average salary for each year of Allowable Service assuming augmentation to the age eligible for full Social Security retirement benefit at 3% per year and actuarial reduction for each month the Member is under the Social Security retirement age.

Form of Payment: Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are:

50% or 100% joint and survivor with bounce back feature without additional reduction. 15 year certain and life thereafter.

Benefit Increases: Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Benefit recipients receiving benefits for at least one full month but less than 12 full months will receive a partial increase.

Members retired under laws in effect before July 1, 1973 receive an additional lump-sum payment each year. In 1989, this lump-sum payment is the greater of \$25 times each full year of Allowable Service or \$400 per full year of service less any Social Security benefits received or annuity from a Minnesota public employee pension plan. In each following year, the lump-sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF.

DISABILITY

)

)

Disability Benefit:

Eligibility:	Total and permanent disability before normal retirement age with three years of Allowable Service.
Amount:	Normal Retirement Benefit based on Allowable Service and average salary at disability without reduction for
	commencement before normal retirement age.

Payments stop if disability ceases or death occurs. Payments revert to a retirement annuity at normal retirement age. Benefits may be reduced on resumption of partial employment.

Form of Payment: Same as for retirement.

Benefit Increases: Same as for retirement.

Retirement After Disability:

Eligibility:	Normal retirement age with continued disability.	
Amount:	Any optional annuity continues. Otherwise, a normal retirement benefit equal to the disability benefit paid before normal retirement age, or an actuarially equivalent optional annuity.	
Benefit Increases:	Same as for retirement.	

DEATH

)

)

)

Surviving Spouse Optional Benefit:

Eligibility:	Member or former Member who dies before retirement or disability benefits commence 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 benefit the Member could have elected if terminated. 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.

Benefit Increases: Same as for retirement.

Surviving Dependent Children's Benefit:

Eligibility: 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.

Amounts: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.

Refund of Contributions:

)

)

)

Eligibility:	Active employee dies and survivor benefits are not payable, or a former employee dies before annuity begins, or a former employee who is not entitled to an annuity dies.
Amount:	The Member's contributions with 5% interest if death occurred before May 16, 1989, and 6% interest if death occurred on or after May 16, 1989.
Eligibility:	Retired or disabled annuitant who did not select an optional annuity dies, or the remaining recipient of an option dies.
Amount:	The excess of the Member's contributions over all benefits paid.

TERMINATION

Refund of Contributions:

Eligibility: Termination of state service.

<i>Amount</i> : Member's contributions with 5% interest compoun if termination occurred before May 16, 1989 and 6 compounded annually if termination occurred on o May 16, 1989. A deferred annuity may be elected refund.	
Deferred Benefit:	
Eligibility:	Three years of Allowable Service.
Amount:	Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/71; 5% from 7/1/71 to 1/1/81; and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

)SIGNIFICANT CHANGES

None.

)

)

TABLE 14

State Employees Retirement Fund

Military Affairs Calculation

Section 352.85 of Chapter 352 of Minnesota Statutes provides that certain military affairs personnel may retire, with an unreduced benefit, at age 60. In addition, they may receive disability benefits upon being found disqualified for retention in active military duty. To fund these special benefits, employees and employer contribute an extra 1.6% of payroll.

To recognize the effect of the unreduced early retirement benefit available at age 60, we have assumed that all military affairs personnel will retire at age 60 or, if over age 60, one year from the valuation date.

The results of our calculations are as follows:

)

)

1.	Num	ber of Active Members	4
2.	Proje	ected Annual Earnings	\$120,286
3.	Norn	nal Cost	
	a.	Dollar Amount	\$ 13,442
	b.	Percent of Payroll	11.18%

Pilots Calculation

Section 352.86 of chapter 352 of Minnesota Statutes provides that certain transportation department pilots may retire, with an unreduced benefit, at age 62. In addition, they may receive disability benefits upon being found disqualified for retention as pilots. To fund these special benefits, employees and employer contribute an extra 1.6% of payroll.

To recognize the effect of the unreduced early retirement benefit available at age 62, we have assumed that all pilots will retire at age 62 or, if over age 62, one year from the valuation date.

The results of our calculations are as follows:

)

)

)

1.	Num	ber of Active Members	4
2.	Proje	ected Annual Earnings	\$237,825
3.	Norn	nal Cost	
	a.	Dollar Amount	\$ 25,029
	b.	Percent of Payroll	10.52%

R:\CLIENT\06MSG\REPORTS\MSG.DOC

State Patrol Retirement Fund ACTUARIAL VALUATION REPORT

July 1, 1996





Internationally WOODROW MILLIMAN

Suite 400, 15800 Bluemound Road, Brookfield, Wisconsin 53005-6069 Telephone: 414/784-2250 Fax: 414/784-7287

November 19, 1996

Legislative Commission on Pensions and Retirement 55 State Office Building St. Paul, Minnesota 55155

RE: State Patrol Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 1996.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Minnesota State Retirement System.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on July 8, 1992.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

A. Custs'

Thomas K. Custis, F.S.A., M.A.A.A. **Consulting Actuary**

William V. Hogan, F.S.A., M.A.A.A.

Consulting Actuary

TKC/WVH/bh

Albany, Atlanta, Boston, Chicago, Dallas, Denver, Hartford, Houston, Indianapolis, Irvine, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Phoenix, Portland, ME, Portland, OR, St. Louis, Salt Lake City, San Diego, San Francisco, Seattle, Tampa, Washington, D.C., Bermuda, Tokyo **State Patrol Retirement Fund**

Table of Contents

PAGE
1

REPORT HIGHLIGHTS

COMMENTARY

Purpose	2
Report Highlights	2
Asset Information	2
Actuarial Balance Sheet	3
GASB Disclosure	3
Actuarial Cost Method	4
Sources of Actuarial Gains and Losses	4
Contribution Sufficiency	4
Changes in Actuarial Assumptions	5
Changes in Plan Provisions	5
ASSET INFORMATION	
Table 1 - Accounting Balance Sheet	6
Table 2 -Changes in Assets Available for Benefits	7
MEMBERSHIP DATA	

Table 3 -	Active Members		8
Table 4 -	Service Retirements		9
Table 5 -	Survivors		10
Table 6 -	Disability Retirements	,	11
Table 7 -	Reconciliation of Members		12

State Patrol Retirement Fund

Table of Contents

(Continued)

FUNDING STATUS

Table 8 -	Actuarial Balance Sheet	13
Table 9 -	Determination of Unfunded Actuarial Accrued Liability	14
	(UAAL) and Supplemental Contribution Rate	
Table 10 -	Changes in Unfunded Actuarial Accrued Liability (UAAL)	15
Table 11 -	Determination of Contribution Sufficiency	16

ACTUARIAL ASSUMPTIONS

Table 12 -	Summary of Actu	uarial Assumptions and Methods	17
------------	-----------------	--------------------------------	----

PLAN PROVISIONS

Table 13 -	Summary of Plan Provisions	21
	•	

.
Report Highlights

(dollars in thousands)

A.CONTRIBUTIONS (Table 11)Interface1.Statutory Contributions - Chapter 352B 23.80% 23.80% $\%$ of Payroll 23.80% 23.80% 23.80% 2.Required Contributions - Chapter 356 21.34% 21.33% $\%$ of Payroll 2.46% 2.47% 3.Sufficiency (Deficiency): (A.1 A.2.) 2.46% 2.47% B.FUNDING RATIOS 2.46% 2.47% b.Current Assets (Table 1) $5284,918$ $5323,868$ c.Funding Ratio 2.46% 110.78% c.Funding Ratio: (a/b) 104.82% 110.78% c.Accrued Liability Funding Ratio $2284,918$ $5323,868$ c.Funding Ratio: (a/b) 104.82% 110.78% 2.Accrued Liability (Table 9) $5283,078$ $5302,941$ c.Funding Ratio: (a/b) 100.65% 106.56% 3.Projected Benefit Funding Ratio (Table 8) $3.271,920$ $5392,684$ a.Current and Expected Future Assets $5392,684$ $5431,196$ b.Current and Expected Future Assets $5392,684$ $5371,920$ c.Funding Ratio: (a/b) 105.58% 109.83% C.PLAN PARTICIPANTS 803 777 b.Projected Annual Earnings $539,839$ $540,399$ c.Average Age 42.3 42.3 e.Average Age 42.3 42.3 e.Average Age 42.3 42.8 e.Average Retirements (Table 4) <th></th> <th></th> <th>07/01/95 Valuation</th> <th>07/01/96 Valuation</th>			07/01/95 Valuation	07/01/96 Valuation
1. Statutory Contributions - Chapter 352B23.80%23.80%% of Payroll21.34%21.33%% of Payroll21.34%21.33%3. Sufficiency (Deficiency): $(A.1 A.2.)$ 2.46%2.47%B. FUNDING RATIOS2.46%2.47%a. Current Assets (Table 1)\$284,918\$323,868b. Current Benefit Obligations (Table 8)\$271,819\$229,348c. Funding Ratio: (a/b) 104.82%110.78%2. Accrued Liability Funding Ratio\$284,918\$323,868b. Actuarial Accrued Liability (Table 9)\$283,078\$3303,941c. Funding Ratio: (a/b) 100.65%106.56%3. Projected Benefit Funding Ratio (Table 8)\$322,684\$431,196a. Current and Expected Future Assets\$392,684\$431,196b. Current and Expected Future Assets\$392,684\$431,196c. Funding Ratio: (a/b) 105.58%109.83%C. PLAN PARTICIPANTS105.58%109.83%c. PLAN PARTICIPANTS\$39,839\$40,399c. Average Annual Earnings\$39,839\$40,399c. Average Annual Earnings\$39,839\$40,399c. Average Annual Earnings (Actual \$)\$49,613\$51,993d. Average Age42.342.8e. Average Service15.115.62. Others121126c. Disability Retirements (Table 4)401416b. Survivors (Table 5)121126c. Disability Retirements (Table 7)56f. Total564588 <td>A.</td> <td>CONTRIBUTIONS (Table 11)</td> <td></td> <td></td>	A.	CONTRIBUTIONS (Table 11)		
2. Required Contributions - Chapter 356 % of Payroll 21.34% % of Payroll 21.33% % of Payroll3. Sufficiency (Deficiency): (A.1 A.2.) 2.46% 2.47% B. FUNDING RATIOS 1. Accrued Benefit Funding Ratio a. Current Assets (Table 1) $$284,918$ $$323,868$ 		 Statutory Contributions - Chapter 352B % of Payroll 	23.80%	23.80%
3. Sufficiency (Deficiency): (A.1 A.2.) 2.46% 2.47% B. FUNDING RATIOS 1. Accrued Benefit Funding Ratio $3.$ Current Assets (Table 1) $$2284,918$ $$323,868$ b. Current Benefit Obligations (Table 8) $$271,819$ $$222,348$ $$221,819$ $$222,348$ c. Funding Ratio: (a/b) 104.82% 110.78% 2. Accrued Liability Funding Ratio $$284,918$ $$323,868$ b. Actuarial Accrued Liability (Table 9) $$2283,078$ $$303,941$ c. Funding Ratio: (a/b) 100.65% 106.56% 3. Projected Benefit Funding Ratio (Table 8) $$322,684$ \$431,196 b. Current and Expected Future Assets \$392,684 \$431,196 b. Current and Expected Future Benefit Obligations $$371,920$ \$392,611 c. Funding Ratio: (a/b) 105.58% 109.83% C. PLAN PARTICIPANTS 105.58% 109.83% C. PLAN PARTICIPANTS $$393,839$ \$40,399 c. Average Age 42.3 42.8 e. Average Age 42.3 42.8 e. Average Age 42.3 42.8 e. Average Revice 15.1 15.6 <td< td=""><td></td><td> Required Contributions - Chapter 356 % of Payroll </td><td>21.34%</td><td>21.33%</td></td<>		 Required Contributions - Chapter 356 % of Payroll 	21.34%	21.33%
B.FUNDING RATIOS1. Accrued Benefit Funding Ratio a. Current Assets (Table 1) $$284,918$ \$323,868b. Current Benefit Obligations (Table 8) $$271,819$ $$292,348$ c. Funding Ratio: (a/b) 104.82% 110.78% 2. Accrued Liability Funding Ratio a. Current Assets (Table 1) $$284,918$ \$323,868b. Actuarial Accrued Liability (Table 9) $$283,078$ \$303,941c. Funding Ratio: (a/b) 100.65% 106.65% 3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets $$392,684$ \$431,196b. Current and Expected Future Assets $$392,684$ \$431,196b. Current and Expected Future Benefit Obligations 		3. Sufficiency (Deficiency): (A.1 A.2.)	2.46%	2.47%
a. Current Assets (Table 1) $$284,918$ $$323,868$ b. Current Benefit Obligations (Table 8) $$271,819$ $$292,348$ c. Funding Ratio: (a/b) 104.82% 110.78% 2. Accrued Liability Funding Ratio $$284,918$ $$323,868$ b. Actuarial Accrued Liability (Table 9) $$283,078$ $$303,941$ c. Funding Ratio: (a/b) 100.65% 106.56% 3. Projected Benefit Funding Ratio (Table 8) $$322,684$ $$431,196$ b. Current and Expected Future Assets $$392,684$ $$431,196$ b. Current and Expected Future Benefit Obligations $$371,920$ $$392,611$ c. Funding Ratio: (a/b) 105.58% 109.83% C. PLAN PARTICIPANTS 105.58% 109.83% 1. Active Members $$39,839$ $$40,399$ c. Average Annual Earnings (Actual \$) $$49,613$ \$51,993d. Average Age 42.3 42.8 e. Average Service 15.1 15.6 2. Others a Service Retirements (Table 4) 401 d. Deferred Retirements (Table 6) 18 18 d. Deferred Retirements (Table 7) 5 6 e. Terminated Other Non-vested (Table 7) 5 6 f. Total 564 588	B.	FUNDING RATIOS 1. Accrued Benefit Funding Ratio		
b. Current Benefit Obligations (Table 8) c. Funding Ratio: (a/b) 2. Accrued Liability Funding Ratio a. Current Assets (Table 1) b. Actuarial Accrued Liability (Table 9) c. Funding Ratio: (a/b) 3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Average Annual Earnings c. Average Annual Earnings (Actual \$) c. Average Age a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) c. Disability Retirements (Table 6) c. Disability Retirements (Table 7) c. Terminated Other Non-vested (Table 7) c. Total 5. Cothers a. Service Retirements (Table 7) c. Terminated Other Non-vested (Table 7) c. Terminated Other Non-vested (Table 7) c. Total 5. Cothers c. Funding Cother Source c. Terminated Other Non-vested (Table 7) c. Total 5. Cother Source c. Total 5. Cother Source c. Terminated Other Non-vested (Table 7) c. Terminated Other Non-vested (Table 7) c. Terminated Other Non-vested (Table 7) c. Te		a. Current Assets (Table 1)	\$284,918	\$323,868
c. Funding Ratio: (a/b) 104.82% 110.78% 2. Accrued Liability Funding Ratio a. Current Assets (Table 1) \$284,918 \$323,868 b. Actuarial Accrued Liability (Table 9) \$283,078 \$303,941 c. Funding Ratio: (a/b) 100.65% 106.56% 3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets \$392,684 \$431,196 b. Current and Expected Future Benefit Obligations \$371,920 \$392,611 c. Funding Ratio: (a/b) 105.58% 109.83% C. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) \$03 777 b. Projected Annual Earnings (Actual \$) \$49,613 \$51,993 d. Average Age 42.3 42.8 e. Average Service 15.1 15.6 2. Others a. Service Retirements (Table 4) 401 416 b. Survivors (Table 5) 121 126 c. Disability Retirements (Table 6) 18 18 d. Deferred Retirements (Table 7) 5 6 f. Total 564 588		b. Current Benefit Obligations (Table 8)	\$271,819	\$292,348
2. Accrued Liability Funding Ratioa. Current Assets (Table 1)\$284,918\$323,868b. Actuarial Accrued Liability (Table 9)\$283,078\$303,941c. Funding Ratio: (a/b)100.65%106.56%3. Projected Benefit Funding Ratio (Table 8)a.4a. Current and Expected Future Assets\$392,684\$431,196b. Current and Expected Future Benefit Obligations\$371,920\$392,611c. Funding Ratio: (a/b)105.58%109.83%C. PLAN PARTICIPANTS105.58%109.83%1. Active Members803777b. Projected Annual Earnings\$39,839\$40,399c. Average Annual Earnings (Actual \$)\$49,613\$51,993d. Average Age42.342.8e. Average Service15.115.62. Others121126c. Disability Retirements (Table 4)401416b. Survivors (Table 5)121126c. Disability Retirements (Table 7)1922e. Terminated Other Non-vested (Table 7)564f. Total564588		c. Funding Ratio: (a/b)	104.82%	110.78%
a. Current Assets (Table 1)\$284,918\$323,868b. Actuarial Accrued Liability (Table 9)\$283,078\$303,941c. Funding Ratio: (a/b)100.65%106.56%3. Projected Benefit Funding Ratio (Table 8)a. Current and Expected Future Assets\$392,684\$431,196b. Current and Expected Future Benefit Obligations\$371,920\$392,611c. Funding Ratio: (a/b)105.58%109.83%C. PLAN PARTICIPANTS105.58%109.83%c. Projected Annual Earnings\$39,839\$40,399c. Average Annual Earnings (Actual \$)\$49,613\$51,993d. Average Age42.342.8e. Average Service15.115.62. Othersa. Service Retirements (Table 4)401416b. Survivors (Table 5)121126c. Disability Retirements (Table 7)1922e. Terminated Other Non-vested (Table 7)56f. Total564588		2 Accrued Liability Funding Ratio		
b. Actuarial Accrued Liability (Table 9) c. Funding Ratio: (a/b) 3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 5. Current and Expected Future Benefit Obligations c. Average Age c. Average Age c. Average Age c. Average Service c. Disability Retirements (Table 4) c. Disability Retirements (Table 6) c. Disability Retirements (Table 6) c. Disability Retirements (Table 7) c. Terminated Other Non-vested (Table 7) c. Terminated Other Non-vested (Table 7) f. Total 5. Current Active Carlov Carlent Carlent (Table 7) f. Total 5. Current Active Carlent Carlent (Table 7) c. Terminated Other Non-vested (Table 7) c. Terminated Oth		a. Current Assets (Table 1)	\$284,918	\$323,868
c. Funding Ratio: (a/b)100.65%106.56%3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets\$392,684\$431,196b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)\$392,684\$431,196b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b)\$392,684\$431,196c. Funding Ratio: (a/b)\$392,611\$392,611\$392,611c. Funding Ratio: (a/b)105.58%109.83%C. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3)803777b. Projected Annual Earnings c. Average Annual Earnings (Actual \$)\$49,613\$51,993d. Average Age e. Average Service42.342.8e. Average Service15.115.62. Others a. Service Retirements (Table 4)401416b. Survivors (Table 5) c. Disability Retirements (Table 7)1922e. Terminated Other Non-vested (Table 7)56f. Total564588		b. Actuarial Accrued Liability (Table 9)	\$283,078	\$303,941
3. Projected Benefit Funding Ratio (Table 8)a. Current and Expected Future Assets\$392,684\$431,196b. Current and Expected Future Benefit Obligations\$371,920\$392,611c. Funding Ratio: (a/b)105.58%109.83%C. PLAN PARTICIPANTS1. Active Members803777b. Projected Annual Earnings\$39,839\$40,399c. Average Annual Earnings (Actual \$)\$49,613\$51,993d. Average Age42.342.8e. Average Service15.115.62. Others121126a. Service Retirements (Table 4)401416b. Survivors (Table 5)121126c. Disability Retirements (Table 7)1922e. Terminated Other Non-vested (Table 7)56f. Total564588		c. Funding Ratio: (a/b)	100.65%	106.56%
a. Current and Expected Future Assets\$392,684\$431,196b. Current and Expected Future Benefit Obligations\$371,920\$392,611c. Funding Ratio: (a/b)105.58%109.83%C. PLAN PARTICIPANTS105.58%109.83%1. Active Members803777b. Projected Annual Earnings\$39,839\$40,399c. Average Annual Earnings (Actual \$)\$49,613\$51,993d. Average Age42.342.8e. Average Service15.115.62. Others121126a. Service Retirements (Table 4)401416b. Survivors (Table 5)121126c. Disability Retirements (Table 7)1922e. Terminated Other Non-vested (Table 7)56f. Total564588		3. Projected Benefit Funding Ratio (Table 8)		
b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) C. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Actual \$) d. Average Age e. Average Service 2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) f. Total 2. Other Non-vested (Table 7) f. Total 2. Other Non-vested (Table 7) f. Total 2. Other Non-vested (Table 7) f. Total 339,839 803 777 803 803 777 803 803 777 803 803 777 803 803 803 777 803 803 803 803 803 803 803 803 803 803		a. Current and Expected Future Assets	\$392,684	\$431,196
c. Funding Ratio: (a/b) 105.58% 109.83% C. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) 803 777 b. Projected Annual Earnings (Actual \$) \$39,839 \$40,399 c. Average Annual Earnings (Actual \$) \$49,613 \$51,993 d. Average Age 42.3 42.8 e. Average Service 15.1 15.6 2. Others a. Service Retirements (Table 4) 401 416 b. Survivors (Table 5) 121 126 c. Disability Retirements (Table 6) 18 18 d. Deferred Retirements (Table 7) 5 6 f. Total 58%		b. Current and Expected Future Benefit Obligations	\$371,920	\$392,611
C. PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Actual \$) c. Average Annual Earnings (Actual \$) c. Average Age c. Average Service c. Average Service c. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) c. Disability Retirements (Table 7) c. Terminated Other Non-vested (Table 7) c. Total c. Disability Retirements (Table 7) c. Total c. Disability Retirem		c. Funding Ratio: (a/b)	105.58%	109.83%
1. Active Membersa. Number (Table 3) 803 777 b. Projected Annual Earnings $$39,839$ $$40,399$ c. Average Annual Earnings (Actual \$) $$49,613$ \$51,993d. Average Age 42.3 42.8 e. Average Service 15.1 15.6 2. Others 15.1 15.6 2. Others 121 126 c. Disability Retirements (Table 4) 401 416 b. Survivors (Table 5) 121 126 c. Disability Retirements (Table 6) 18 18 d. Deferred Retirements (Table 7) 19 22 e. Terminated Other Non-vested (Table 7) 5 6 f. Total 564 588	C.	PLAN PARTICIPANTS		
b. Projected Annual Earnings\$39,839\$40,399c. Average Annual Earnings (Actual \$)\$49,613\$51,993d. Average Age42.342.8e. Average Service15.115.62. Others121126a. Service Retirements (Table 4)401416b. Survivors (Table 5)121126c. Disability Retirements (Table 6)1818d. Deferred Retirements (Table 7)1922e. Terminated Other Non-vested (Table 7)56f. Total564588		a Number (Table 3)	803	777
c. Average Annual Earnings (Actual \$)\$49,613\$51,993d. Average Age42.342.8e. Average Service15.115.62. Others15.115.6a. Service Retirements (Table 4)401416b. Survivors (Table 5)121126c. Disability Retirements (Table 6)1818d. Deferred Retirements (Table 7)1922e. Terminated Other Non-vested (Table 7)56f. Total564588		b. Projected Annual Earnings	\$39.839	\$40,399
d. Average Age42.342.8e. Average Service15.115.62. Others115.6a. Service Retirements (Table 4)401416b. Survivors (Table 5)121126c. Disability Retirements (Table 6)1818d. Deferred Retirements (Table 7)1922e. Terminated Other Non-vested (Table 7)56f. Total564588		c. Average Annual Earnings (Actual \$)	\$49,613	\$51,993
e. Average Service15.115.62. Othersa. Service Retirements (Table 4)401416b. Survivors (Table 5)c. Disability Retirements (Table 6).18d. Deferred Retirements (Table 7)e. Terminated Other Non-vested (Table 7)f. Total		d. Average Age	42.3	42.8
2. Othersa. Service Retirements (Table 4)b. Survivors (Table 5)c. Disability Retirements (Table 6)d. Deferred Retirements (Table 7)e. Terminated Other Non-vested (Table 7)f. Total5		e. Average Service	15.1	15.6
a. Service Retirements (Table 4)401416b. Survivors (Table 5)121126c. Disability Retirements (Table 6)1818d. Deferred Retirements (Table 7)1922e. Terminated Other Non-vested (Table 7)56f. Total564588		2. Others		
b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7) f. Total 121 126 18 18 19 22 6 564 588		a. Service Retirements (Table 4)	401	416
c. Disability Retirements (Table 6) 18 18 d. Deferred Retirements (Table 7) 19 22 e. Terminated Other Non-vested (Table 7) <u>5</u> 6 f. Total 564 588		b. Survivors (Table 5)	121	126
e. Terminated Other Non-vested (Table 7) f. Total 19 19 19 22 19 22 5 5 5 5 5 5 5 5		c. Disability Ketirements (Table 6)	18	18
f. Total 564 588		e. Terminated Other Non-vested (Table 7)	19	6
		f. Total	564	588

Commentary

Purpose

The purpose of this valuation is to determine the financial status of the Plan. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The financial status of the Plan can be measured by three different funding ratios:

- ^o The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 110.78%. The corresponding ratio for the prior year was 104.82%.
- ^o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 1996 the ratio is 106.56%, which is an increase from the 1995 value of 100.65%.
- [°] The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 109.83% verifies that the current statutory contributions are sufficient.

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gain and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F1 to F6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets", the latter phrase will be used in the remainder of this report.

This Plan participates in the Minnesota Post Retirement Investment Fund (i.e. MPRIF). After the MPRIF liability has been calculated for each participating Plan, the State Board of Investments, (i.e. SBI), will determine each Plan's portion of the excess earnings for the January benefit increase as well as the Plan's allocated market share of MPRIF.

Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

The Current Benefit Obligation used to measure current funding levels is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

- ° For Active Members salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.
- ° For Non-active Members the discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

The Current Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 uses the terms "Actuarial Present Value of Credited Projected Benefits" and "Pension Benefit Obligation" rather than "Current Benefit Obligation".

The JULY 1, 1996 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the following table:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$146,314,000		
Current Employees			
Accumulated employee contributions including allocated investment income	\$50,687,000		
Employer-financed vested	72,985,000		
Employer-financed nonvested	22,362,000		
Total Pension Benefit Obligation	\$292,348,000		
Net Assets Available for Benefits at Cost	\$318,334,000		
Total Benefit Obligation less Assets	(\$25,986,000)		
Funded Ratio	108.89%		

Actuarial Cost Method (Table 9)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level percentage of payroll.

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

The payments will increase 6.50% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years, the annual payment will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. For a detailed analysis of the major components, refer to Table 10.

Contribution Sufficiency (Table 11)

This report determines the adequacy of Statutory Contributions by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

- [°]Normal costs based on the Entry Age Normal Actuarial Cost Method.
- °A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability.
- [°] An Allowance for Expenses.

Table 11 shows the Plan has a contribution sufficiency since the Statutory Contribution Rate is 23.80% compared to the Required Contribution Rate of 21.33%.

Changes in Actuarial Assumptions

There were no changes in actuarial assumptions since the last valuation.

Changes in Plan Provisions

There were no changes in plan provisions since the last valuation which impacted funding costs.

Accounting Balance Sheet

(dollars in thousands)

JULY 1, 1996

		Market Value	Cost Value
А.	ASSETS		
	1. Cash, Equivalents, Short-term Securities	\$4,192	\$4,192
	2. Investments		
	a. Fixed Income	44,137	44,761
	b. Equity	137,404	119,794
	c. Real Estate	7,212	7,596
	3. Equity in Minnesota Post-Retirement	142,325	142,325
	Investment Fund (MPRIF)		<i>.</i>
	4. Other	468	468
В.	TOTAL ASSETS	\$335,738	\$319,136
		. <u> </u>	
C.	AMOUNTS CURRENTLY PAYABLE	\$802	\$802
D.	ASSETS AVAILABLE FOR BENEFITS		
	1. Member Reserves	\$32,981	\$32,981
	2. Employer Reserves	158,905	142,303
	3. MPRIF Reserves	142,325	142,325
	4. Non-MPRIF Reserves	725	725
	5. Total Assets Available for Benefits	\$334,936	\$318,334
E.	TOTAL AMOUNTS CURRENTLY PAYABLE	\$335,738	\$319,136
	AND ASSETS AVAILABLE FOR BENEFITS		

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available		\$318,334
for Benefits (D5)		
2. Market Value (D5)	\$334,936	
3. Cost Value (D5)	318,334	
4. Market Over Cost: (F2-F3)	\$16,602	
5. 1/3 of Market Over Cost: (F4)/3		5,534
6. Actuarial Value of Assets (F1+F5)		\$323,868
(Same as "Current Assets")	. —	

Change In Assets Available For Benefits (dollars in thousands)

YEAR ENDING JUNE 30, 1996

		Market Value	Cost Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$293,909	\$280,423
B.	OPERATING REVENUES		
	1. Member Contributions	\$3,484	\$3,484
	2. Employer Contributions	5,742	5,742
	3. Investment Income	23,474	23,474
	4. MPRIF Income	14,458	14,458
	5. Net Realized Gain (Loss)	4,525	4,525
	6. Other	0	0
	7. Net Change in Unrealized Gain (Loss)	3,116	0
	8. Total Revenue	\$54,799	\$51,683
C.	OPERATING EXPENSES		
	1. Service Retirements	\$13,279	\$13,279
	2. Disability Benefits	0	0
	3. Survivor Benefits	0	0
	4. Refunds	6	6
	5. Investment Fees	267	267
	6. Administrative Expenses	57	57
	7. Other	163	163
	8. Total Disbursements	\$13,772	\$13,772
D.	OTHER CHANGES IN RESERVES	0	0
E.	ASSETS AVAILABLE AT END OF PERIOD	\$334,936	\$318,334

STATE PATROL RETIREMENT FUND

ACTIVE	MEMBERS	AS OF	JUNE 30	, 1996
the second se	And a second s			

	Years of Service									
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>	
<25	0	2	0	0	0	0	0	0	2	
25-29	3	25	16	0	0	0	0	0	44	
30-34	2	26	59	16	0	0	0	0	103	
35-39	2	16	42	61	24	0	0	0	145	
40-44	1	4	24	39	66	12	0	0	146	
45-49	0	2	14	13	36	49	23	0	137	
50-54	0	1	6	2	12	33	97	2	153	
55-59	0	1	0	0	5	1	22	7	36	
60-64	0	0	0	0	0	1	3	2	6	
65+	0	0	0	0	0	0	0	5	5	
ALL	8	77	161	131	143	96	145	16	777	

AVERAGE ANNUAL EARNINGS

	Years of Service								
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	ALL
<25	0	38,486	0	0	0	0	0	0	38,486
25-29	7,110	37,477	44,391	0	0	0	0	0	37,921
30-34	7,359	38,989	46,574	48,355	0	0	0	0	44,175
35-39	7,945	37,197	46,908	49,478	51,968	0	0	0	47,218
40-44	7,701	41,444	48,277	49,841	50,736	50,818	0	0	49,550
45-49	0	51,016	50,450	48,042	51,802	52,659	55,435	0	52,212
50-54	0	48,956	52,028	50,611	51,599	54,339	51,457	52,266	52,095
55-59	0	49,188	0	0	50,985	49,039	52,297	50,898	51,666
60-64	0	0	0	0	0	51,079	60,283	49,059	55,008
65+	0	0	0	0	0	0	0	48,744	48,744
ALL	7,455	38,815	47,238	49,324	51,292	52,952	52,398	50,166	48,820

PRIOR FISCAL YEA	R EARNINGS (IN THOUSANDS)) BY YEARS OF SERVICE

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25-29</u>	<u>30+</u>	ALL
All	59	2,988	7,605	6,461	7,334	5,083	7,597	802	37,933

Page 8

TABLE 4

STATE PATROL RETIREMENT FUND

	YEARS RETIRED										
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL			
<50	0	0	0	0	0	0	0	0			
50-54	1	3	0	0	0	0	0	4			
55-59	23	39	4	0	0	0	0	66			
60-64	2	7	67	0	0	0	0	76			
65-69	0	3	31	64	0	0	0	98			
70-74	0	1	5	52	29	1	0	88			
75-79	0	0	1	15	22	13	0	51			
80-84	0	0	0	1	6	10	6	23			
85+	0	0	0	- 0	0	0	10	10			
ALL	26	53	108	132	57	24	16	416			

SERVICE RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

				YEARS R	ETIRED			
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	0	0	0	0	0	0	0	0
50-54	16,242	19,222	0	0	0	0	0	18,477
55-59	30,290	27,959	23,709	0	0	0	0	28,514
60-64	31,411	30,731	30,009	0	0	0	0	30,112
65-69	0	22,777	30,801	27,464	0	0	0	28,376
70-74	0	24,259	23,865	30,741	23,319	17,797	0	27,684
75-79	0	0	22,876	30,404	25,509	18,196	0	25,033
80-84	0	0	0	23,887	25,609	23,853	18,734	22,977
85+	0	0	0	0	0	0	18,930	18,930
ALL	29,836	27,467	29,653	29,062	24,405	20,537	18,857	27,538

	TOTAL ANNUA	L BENEFIT (II	N THOUSANDS)	BY YEARS RETIRED
--	-------------	---------------	--------------	-------------------------

.

						,		
<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
All	775	1,455	3,202	3,836	1,391	492	301	11,455

Page 9

STATE PATROL RETIREMENT FUND

			Y	EARS SIN	CE DEATH	ł					
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL			
<50	0	0	0	0	0	1	0	1			
50-54	2	1	1	0	0	0	0	4			
55-59	1	0	2	0	0	0	0	3			
60-64	0	4	2	1	2	0	1	10			
65-69	3	5	3	1	5	3	1	21			
70-74	0	0	2	1	5	2	2	12			
75-79	2	9	4	2	3	3	3	26			
80-84	1	4	3	0	0	4	10	22			
85+	0	0	5	. 0	0	2	20	27			
ALL	9	23	22	5	15	15	37	126			

SURVIVORS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

		YEARS SINCE DEATH						
<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<50	0	0	0	0	0	5,304	0	5,304
50-54	21,359	4,018	13,776	0	0	0	0	15,128
55-59	18,812	0	4,665	0	0	0	0	9,381
60-64	0	11,928	15,272	24,157	25,170	0	9,495	16,225
65-69	25,438	13,516	12,636	25,712	25,983	10,486	9,625	18,024
70-74	0	0	13,153	17,315	22,553	18,236	12,470	18,150
75-79	7,477	9,638	17,347	23,110	16,133	8,420	17,433	13,202
80-84	12,134	16,020	14,653	0	0	16,142	11,137	13,460
85+	0	0	12,879	0	0	11,144	13,040	12,870
ALL	18,326	11,745	13,437	22,681	22,761	12,357	12,663	14,598

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
All	164	270	295	113	341	185	468	1,839

Page 10

TABLE 6

STATE PATROL RETIREMENT FUND

				YEARS D	ISABLED			
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL
<50	1	1	1	0	0	0	0	3
50-54	0	3	1	0	0	0	0	4
55-59	0	0	1	1	1	0	0	3
60-64	0	0	1	1	0	0	0	2
65 - 69	0	0	0	0	1	1	0	2
70-74	0	0	0	0	2	2	0	4
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	· 0	0	0	0	0
ALL	1	4	4	2	4	3	0	18

DISABILITY RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

		YEARS DISABLED						
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	27,859	20,157	18,071	0	0	0	0	22,029
50-54	0	25,547	6,129	0	0	0	0	20,693
55-59	0	0	24,829	22,617	18,929	0	0	22,125
60-64	0	0	30,318	31,370	0	0	0	30,844
65-69	0	0	0	0	20,836	16,548	0	18,692
70-74	0	0	0	0	24,110	17,076	0	20,593
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	27,859	24,200	19,837	26,994	21,996	16,900	0	22,038

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
All	27,859	96,800	79,348	53,988	87,984	50,700	0	396,684

Page 11

Reconciliation Of Members

			Termi	nated
		-	Deferred	Other
		Actives	Retirement	Non-Vested
A.	ON JUNE 30, 1995	803	19	5
B.	ADDITIONS	8	5	1
C.	DELETIONS			
	1. Service Retirement	(25)	(1)	0
	2. Disability	(1)	0	0
	3. Death	. 0	0	0
	4. Terminated - Deferred	(5)	0	0
	5. Terminated - Refund	(2)	(1)	0
	6. Terminated - Other Non-Vested	(1)	0	0
	7. Returned as Active	1	(1)	0
	8. Transferred to Other Fund	0	0	0
D.	DATA ADJUSTMENTS	(1)	1	0
	Vested	708		
	Non-Vested	69		
E.	TOTAL ON JUNE 30, 1996	777	22	6

		Recipients				
		Retirement Annuitants	Disabled	Survivors		
A.	ON JUNE 30, 1995	401	18	121		
B.	ADDITIONS	26	1	9		
C.	DELETIONS					
	1. Service Retirement	0	0	0		
	2. Death	(11)	(1)	(4)		
	3. Annuity Expired	0	0	0		
	4. Returned as Active	0	0	0		
D.	DATA ADJUSTMENTS	0	0	0		
E.	TOTAL ON JUNE 30, 1996	416	18	126		

	State Patrol	Retirement Fund		TABLE 8		
	Actuarial (dollars	Balance Sheet in thousands)				
	JUL	Y 1, 1996				
A.	CURRENT ASSETS (TABLE 1, F6)			\$323,868		
В.	 B. EXPECTED FUTURE ASSETS 1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11) 2. Present Value of Future Normal Costs 					
	2. Present Value of Future Normal Costs					
			-	<i>Q101,320</i>		
C.	TOTAL CURRENT AND EXPECTED FU	JTURE ASSETS	=	\$431,196		
D.	CURRENT BENEFIT OBLIGATIONS 1. Benefit Recipients	Non-Vested	Vested	Total		
	a. Retirement Annuities		\$121,023	\$121,023		
	b. Disability Benefits		4,854	4,854		
	c. Surviving Spouse and Child Benefits		17,173	17,173		
	2. Deferred Retirements with Future Augm	entation	3,096	3,096		
	3. Former Members without Vested Rights		168	168		
	4. Active Members					
	a. Retirement Annuities	472	114,438	114,910		
	b. Disability Benefits	11,500	0	11,500		
	c. Survivor's Benefits	10,314	0	10,314		
	d. Deferred Retirements	76	8,975	9,051		
	e. Refund Liability Due to Death or Withdrawal	0		259		
	5. Total Current Benefit Obligations	\$22,362	\$269,986	\$292,348		
E.	EXPECTED FUTURE BENEFIT OBLIGA	TIONS		\$100,263		
F.	TOTAL CURRENT AND EXPECTED FU	TURE BENEFIT O	BLIGATIONS	\$392,611		
G.	CURRENT UNFUNDED ACTUARIAL L	IABILITY (D5-A)		(\$31,520)		
H.	CURRENT AND FUTURE UNFUNDED	(\$38,585)				

/

Page 13

Determination Of Unfunded Actuarial Accrued Liability (UAAL) And Supplemental Contribution Rate

(dollars in thousands)

JULY 1, 1996

		Actuarial	Actuarial	
		Present Value	Present Value	Actuarial
		of Projected	of Future	Accrued
		Benefits	Normal Costs	Liability
A.	DETERMINATION OF ACTUARIAL	(1)	(2)	(3)=(1)-(2)
	ACCRUED LIABILITY (AAL)			
	1. Active Members			
	a. Retirement Annuities	\$195,715	\$61,200	\$134,515
	b. Disability Benefits	18,850	9,841	9,009
	c. Survivor's Benefit	16,676	9,483	7,193
	d. Deferred Retirements	14,662	6,945	7,717
	e. Refunds Due to Death or Withdrawal	394	1,201	(807)
	f. Total	\$246,297	\$88,670	\$157,627
	2. Deferred Retirements With Future Augmentation	3,096		3,096
	 Former Members Without Vested Rights 	168		168
	4. Annuitants in MPRIF	142,325		142,325
	5. Recipients Not in MPRIF	725		725
	6. Total	\$392,611	\$88,670	\$303,941
B	DETERMINATION OF UNFUNDED ACT		UED LIABILITY	(UAAL)
2.	1 AAL (A6)			\$303.941
	2. Current Assets (Table 1, F6)			323.868
	3. UAAL (B1-B2)			(\$19,927)
C.	DETERMINATION OF SUPPLEMENTAL 1. Present Value of Future Payrolls Through		ON RATE	\$755,383
	the Amortization Date of July 1, 2020			
	2. Supplemental Contribution Rate (B3/C1)			0.00%

Page 14

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 1996

A.	UAAL AT BEGINNING OF YEAR	(\$1,840)
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	 Normal Cost and Expenses Contribution Interest on A, B1 and B2 	\$8,498 (9,226) (187)
	4. Total (B1+B2+B3)	(\$915)
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	(\$2,755)
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	 Salary Increases Investment Return MPRIF Mortality Mortality of Other Benefit Recipients Other Items 	(\$3,140) (15,425) 689 (10) 714
	6. Total	(\$17,172)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	(\$19,927)
F.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	0
G.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR (E+F+G)	(\$19,927)

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1996

		Percent of Payroll	Dollar
A.	STATUTORY CONTRIBUTIONS - CHAPTER 352B	Taylon	
	 Employee Contributions Employer Contributions 	8.92% 14.88%	\$3,604
	3. Total	23.80%	\$9,615
B.	REQUIRED CONTRIBUTIONS - CHAPTER 356		
	 Normal Cost Retirement Benefits Disability benefits Survivors Deferred Retirement Benefits Refunds Due to Death or Withdrawal f. Total 	14.56% 2.39% 2.36% 1.65% 0.23% 21.19%	\$5,883 965 953 665 92 \$8,558
	 Supplemental Contribution Amortization by July 1, 2020 of UAAL 	0.00%	0
	3. Allowance for Expenses	0.14%	57
	4. Total	21.33%	\$8,615
C.	CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	2.47%	\$1,000

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1996 is \$40,399.

Summary of Actuarial Assumptions and Methods

Interest:	Pre-Retirement	8.5% per annum
	Post-Retirement	t: 5.0% per annum
Salary Increases:	Reported salary a fiscal year and 6.	at Valuation Date increased 6.5% to current 5% annually for each future year.
Mortality:	Pre-Retirement Male - Female -	1971 Group Annuity Mortality Table 1971 Group Annuity Mortality Table male rates set back eight years
	Post-Retirement	t:
	Male -	Same as above
	Female -	Same as above
	Post-Disability:	
	Male -	Same as above
	Female -	Same as above
Retirement Age:	Age 58 for State after June 30, 190 before July 1, 190 from the valuatio	Troopers and for State Police Officers hired 61 or age 63 for State Police Officers hired 61. If over assumed retirement age, one year n date.
Separation:	Graded rates star age 45-49 and .02	ting at .03 at age 20 and decreasing to .005 at 2 for ages 50-54. Adopted 1984.
Disability:	Rates adopted by	MSRS as shown in rate table.
Administrative and Investment Expenses:	Prior year expens payroll.	ses expressed as percentage of prior year
Return of Contributions:	All employees w deferred benefit t lated with interes	ithdrawing after becoming eligible for a ake the larger of their contributions accumu- t or the value of their deferred benefit.

Family Composition:	100% of Members are married. Female is three years younger than male. Each Member is assumed to have two children whose ages are dependent upon the Member's age. Assumed first child is born at Member's age 28 and second child is born at Member's age 31.		
Social Security:	N/A		
Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.		
Special Consideration:	Married Members assumed to elect subsidized joint and survivor form of annuity as follows:		
	Males -	25% elect 50% J&S option 25% elect 100% J&S option	
	Females -	5% elect 50% J&S option 5% elect 100% J&S option	
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method based on earnings and the date the employee entered the plan is applied to all plan benefits. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.		
Asset Valuation Method:	Cost Value plus Losses.	one-third Unrealized Gains or	
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.5% per annum.		

Page 18

Summary of Actuarial Assumptions and Methods

	Death		Withdrawal		Disability		Retirement	
Age	Male	<u>Female</u>	<u>Male</u>	Female	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
20	5	4	300	300	4	4	0	0
21	5	4	290	290	4	4	0	0
22	5	4	280	280	5	5	0	0
23	6	4	270	270	5	5	0	0
24	6	4	260	260	6	6	0	0
25	6	5	250	250	6	6	0	0
26	7	5	240	240	6	6	0	0
27	7	5	230	230	7	7	0	0
28	7	5	220	220	7	7	0	0
29	8	5	210	210	8	8	0	0
30	8	5	200	200	8	8	0	0
31	9	6	190	190	9	9	0	0
32	9	6	180	180	9	9	0	0
33	10	6	170	170	10	10	0	0
34	10	7	160	160	10	10	0	0
35	11	7	150	150	11	11	0	0
36	12	7	140	140	12	12	0	0
37	13	8	130	130	13	13	0	0
38	14	8	120	120	15	15	0	0
39	15	9	110	110	16	16	0	0
40	16	9	100	100	18	18	0	0
41	18	10	90	90	20	20	0	0
42	20	10	80	80	22	22	0	0
43	23	11	70	70	24	24	0	0
44	26	12	60	60	26	26	0	0
45	29	13	50	50	29	29	0	0
46	33	14	50	50	32	32	0	0
47	38	15	50	50	36	36	0	0
48	42	16	50	50	41	41	0	0
49	47	18	50	50	46	46	0	0

Separation Expressed as Number of Occurrences Per 10,000:

Page 19

Summary of Actuarial Assumptions and Methods

Death		eath	Withdrawal		Disability		Retirement	
Age	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	Male	<u>Female</u>	Male	<u>Female</u>
50	53	20	200	200	50	50	0	0
51	59	23	200	200	57	57	0	0
52	65	26	200	200	64	64	0	0
53	71	29	200	200	72	72	0	0
54	78	33	200	200	80	80	0	0
55	85	38	0	0	88	88	0	0
56	93	42	0	0	98	98	0	0
57	100	47	0	0	108	108	0	0
58	109	53	0	0	118	118	10,000	10,000
59	119	59	0	0	129	129	0	0
60	131	65	0	0	141	141	0	0
61	144	71	0	0	154	154	0	0
62	159	78	0	0	167	167	0	0
63	174	85	0	0	0	0	0	0
64	192	93	0	0	0	0	0	0
65	213	100	0	0	0	0	0	0
66	236	109	0	0	0	0	0	0
67	263	119	0	0	0	0	0	0
68	292	131	0	0	0	0	0	0
69	324	144	0	0	0	0	0	0
70	361	159	0	0	0	0	0	0

Separation Expressed as Number of Occurrences Per 10,000:

Summary of Plan Provisions

GENERAL

Eligibility:	State trooper, conservation officers and certain crime bureau officers.		
Contributions:			
Member:	8.92% of salary. (Amended 1995)		
Employer:	14.88% of salary. (Amended 1990)		
Allowable Service:	Service during which Member contributions were deducted. Includes period receiving temporary Workers' Compensation.		
Salary:	Salaries excluding lump-sum payments at separation.		
Average Salary:	Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.		

RETIREMENT

Normal Retirement Benefit:

Eligibility:	Age 55 and three years of Allowable Service.
Amount:	2.65% of Average Salary for each year of Allowable Service.

Early Retirement Benefit:

Eligibility:	Age 50 and three years of Allowable Service.
Amount:	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement reduced to the actuarial equivalent of the benefit that would be payable if the
	Member deferred the benefit until age 55.

Page 21

Form of Payment:

Life annuity.

Actuarially equivalent options are:

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

Benefit Increases:Benefits may be increased each January 1 depending on the
investment performance of the Minnesota Post Retirement
Investment Fund (MPRIF). A benefit recipient who has
been receiving a benefit for at least 12 full months as of
June 30 will receive a full increase. Benefit recipients
receiving benefits for at least one full month but less than
12 full months will receive a partial increase.

For members retired under laws in effect before June 1, 1973 receive an additional 6% supplement through July 1, 1994. For each of those years, the supplement increases by 6% of the total annuity which includes both MPRIF and supplemental amounts. Thereafter, regular MPRIF increases apply.

Members retired under law in effect before June 1, 1973 receive an additional lump-sum payment each year. In 1989, this lump-sum payment is \$25 times each full year of Allowable Service or \$400 per year of service less any Social Security benefits received or annuity from a Minnesota public employee pension plan. In each following year, the lump-sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF.

DISABILITY

Occupational Disability Benefit:

Eligibility:

Member who cannot perform his duties because of a disability directly resulting from an act of duty.

Page 22

Amount:	Normal Retirement Benefit based on Allowable Service (minimum of 20 years) and Average Salary at disability without reduction for commencement before age 55.
	Payments cease at age 65 or 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.

Non-Duty Disability Benefit:

Eligibility:	At least one year of Allowable Service and disability not related to covered employment.
Amount:	Normal Retirement Benefit based on Allowable Service (minimum of 15 years) and Average Salary at disability without reduction for commencement before age 55.
	Payments cease at age 65 or 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.
Form of Payment:	Same as for retirement.
Benefit Increases:	Adjusted by MSRS to provide same increase as MPRIF.

Retirement After Disability:

Eligibility:	Age 65 with continued disability.
Amount:	Optional annuity continues. Otherwise, a normal retire- ment annuity equal to disability benefit paid, or an actuarially equivalent option.
Form of Payment:	Same as for retirement.
Benefit Increases:	Same as for retirement.

DEATH

Surviving Spouse Benefit:

Eligibility:	Member who is active or receiving a disability benefit. 50% of Annual Salary if member was active or occupa- tional disability and either had less than three years of Allowable Service or was under age 55. Payment for life.			
Amount:				
	Surviving spouse receives the 100% joint and survivor benefit commencing on the Member's 55th birthday if Member was active or a disability with three years of Allowable Service. A spouse who had been receiving the 50% benefit shall be entitled to the larger of the two. Payment for life.			
Benefit Increases:	Adjusted by MSRS to provide same increase as MPRIF.			
Surviving Dependent Children's Benefit:				
Eligibility:	Member who is active or receiving a disability benefit. Child must be unmarried, under age 18 (or 23 if full-time student) and dependent upon the Member.			
Amount:	10% of Average Salary for each child and \$20 per month prorated among all dependent children. Benefit must not be less than 50% nor exceed 70% of Average Salary.			

Refund of Contributions:

Eligibility:	Member dies before receiving any retirement benefits and survivor benefits are not payable.
Amount:	Member's contributions with 5% interest if death occurred before May 16, 1989 and 6% interest if death occurred on or after May 16, 1989.

TERMINATION

Refund of Contributions:

Eligibility:	<i>lity</i> : Termination of state service.	
Amount:	Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989 and 6% interest if termination occurred on or after May 16, 1989.	
Deferred Benefit:		
Eligibility:	Three years of Allowable Service.	
Amount:	Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before $7/1/71$; 5% from $7/1/71$ to $1/1/81$; and 3% thereafter until the annuity begins. Amount is payable as a normal or early retirement.	

SIGNIFICANT CHANGES

NONE

R:\CLIENT\06MSP\REPORTS\MSP.DOC

Correctional Employees Retirement Fund ACTUARIAL VALUATION REPORT

July 1, 1996





Internationally WOODROW MILLIMAN

Suite 400, 15800 Bluemound Road, Brookfield, Wisconsin 53005-6069 Telephone: 414/784-2250 Fax: 414/784-7287

November 19, 1996

Legislative Commission on Pensions and Retirement 55 State Office Building St. Paul, Minnesota 55155

RE: Correctional Employees Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 1996.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Minnesota State Retirement System.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on July 8, 1992.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

home of and

Thomas K. Custis, F.S.A., M.A.A.A. Consulting Actuary

William V. Hogan, F.S.A., M.A.A.A.

William V. Hogan, F.S.A., M.A.A.A. Consulting Actuary

TKC/WVH/bh

Albany, Atlanta, Boston, Chicago, Dallas, Denver, Hartford, Houston, Indianapolis, Irvine, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Phoenix, Portland, ME, Portland, OR, St. Louis, Salt Lake City, San Diego, San Francisco, Seattle, Tampa, Washington, D.C., Bermuda, Tokyo

Table of Contents

			Page
R	EPORT HIG	HLIGHTS	1
С	OMMENTAF	RY	
	Purpose		2
	Report Hi	ghlights	2
	Asset Info	prmation	2
	Actuarial	Balance Sheet	3
	GASB Dis	Sciosure	3
	Sources of	f Actuarial Gains and Losses	4
	Contributi	ion Sufficiency	4
	Changes in	n Actuarial Assumptions	5
	Changes in	n Plan Provisions	5
A	SSET INFOR	RMATION	
	Table 1 -	Accounting Balance Sheet	6
	Table 2 -	Changes in Assets Available for Benefits	7
M	EMBERSHII	P DATA	
	Table 3 -	Active Members	8
	Table 4 -	Service Retirements	9
	Table 5 -	Survivors	10
	Table 6 -	Disability Retirements	11
	Table 7 -	Reconciliation of Members	12

Table of Contents

(Continued)

FUNDING STATUS

Table 8 -	Actuarial Balance Sheet	13
Table 9 -	Determination of Unfunded Actuarial Accrued Liability (UAAL)	
	and Supplemental Contribution Rate	14
Table 10 -	Changes in Unfunded Actuarial Accrued Liability (UAAL)	15
Table 11 -	Determination of Contribution Sufficiency	16
ACTUARIAL AS	Summers of Actuarial Assumptions and Mathada	17
Table 12 -	Summary of Actuarial Assumptions and Methods	17
PLAN PROVISI	ONS	
Table 13 -	Summary of Plan Provisions	21

Report Highlights (dollars in thousands)

		07/01/95 Valuation	07/01/96 Valuation
A.	CONTRIBUTIONS (Table 11)		
	 Statutory Contributions - Chapter 352 % of Payroll 	11.17%	11.17%
	 Required Contributions - Chapter 356 % of Payroll 	11.11%	11.21%
	3. Sufficiency (Deficiency): (A.1 A.2.)	0.06%	-0.04%
B.	FUNDING RATIOS 1. Accrued Benefit Funding Ratio		
	a. Current Assets (Table 1)	\$165,427	\$193,833
	b. Current Benefit Obligations (Table 8)	\$133,923	\$149,557
	c. Funding Ratio: (a/b)	123.52%	129.60%
	2. Accrued Liability Funding Ratio		
	a. Current Assets (Table 1)	\$165,427	\$193.833
	b. Actuarial Accrued Liability (Table 9)	\$153,491	\$170,959
	c. Funding Ratio: (a/b)	107.78%	113.38%
	3. Projected Benefit Funding Ratio (Table 8)		
	a. Current and Expected Future Assets	\$228,847	\$262.424
	b. Current and Expected Future Benefit Obligations	\$216,088	\$239,550
	c. Funding Ratio: (a/b)	105.90%	109.55%
C.	PLAN PARTICIPANTS		
	1. Active Members		
	a. Number (Table 3)	2,117	2,264
	b. Projected Annual Earnings	\$71,022	\$78,030
	c. Average Annual Earnings (Actual 5)	\$33,548	\$34,400 29 <i>4</i>
	a. Average Age	58.0 7 2	50.4 73
	c. Average service	1.2	1.5
	2. Others	200	(1)
	a. Service Retirements (Table 4)	399	413
	D. SURVIVORS (1able 5) a. Disability Patiroments (Table 6)	20	27
	d Deferred Retirements (Table 7)	25	33
	e. Terminated Other Non-vested (Table 7)	74	84
	f. Total	819	881

Commentary

Purpose

The purpose of this valuation is to determine the financial status of the Plan. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The financial status of the Plan can be measured by three different funding ratios:

- ^o The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 129.60%. The corresponding ratio for the prior year was 123.52%.
- ^o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 1996 the ratio is 113.38%, which is an increase from the 1995 value of 107.78%.
- ^o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 109.55% verifies that the current statutory contributions are sufficient.

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gain and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F1 to F6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets", the latter phrase will be used in the remainder of this report.

Page 2

This Plan participates in the Minnesota Post Retirement Investment Fund (i.e. MPRIF). After the MPRIF liability has been calculated for each participating Plan, the State Board of Investments, (i.e. SBI), will determine each Plan's portion of the excess earnings for the January benefit increase as well as the Plan's allocated market share of MPRIF.

Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

The Current Benefit Obligation used to measure current funding levels is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

- ° For Active Members salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.
- ° For Non-active Members the discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

The Current Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 uses the terms "Actuarial Present Value of Credited Projected Benefits" and "Pension Benefit Obligation" rather than "Current Benefit Obligation".

The JULY 1, 1996 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the following table:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$67,576,000	
Current Employees		
Accumulated employee contributions including allocated investment income	\$29,620,000	
Employer-financed vested	44,921,000	
Employer-financed nonvested	7,440,000	
Total Pension Benefit Obligation	\$149,557,000	
Net Assets Available for Benefits at Cost	\$189,459,000	
Total Benefit Obligation less Assets	(\$39,902,000)	
Funded Ratio	126.68%	

Actuarial Cost Method (Table 9)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level percentage of payroll.

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

The payments will increase 6.50% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years, the annual payment will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. For a detailed analysis of the major components, refer to Table 10.

Contribution Sufficiency (Table 11)

This report determines the adequacy of Statutory Contributions by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

- ° Normal costs based on the Entry Age Normal Actuarial Cost Method.
- °A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability.
- [°] An Allowance for Expenses.

Table 11 shows the Plan has a contribution deficiency since the Statutory Contribution Rate is 11.17% compared to the Required Contribution Rate of 11.21%.

Changes in Actuarial Assumptions

There were no changes in actuarial assumptions since the last valuation.

Changes in Plan Provisions

There were no changes in plan provisions since the last valuation which impacted funding costs.

Correctional Employees Retirement Fund

Accounting Balance Sheet

(dollars in thousands)

JULY 1, 1996

		Market Value	Cost Value
Α.	ASSETS		
	1. Cash, Equivalents, Short-term Securities	\$4,167	\$4,167
	2. Investments		
	a. Fixed Income	33,621	34,014
	b. Equity	104,671	90,966
	c. Real Estate	5,494	5,683
	3. Equity in Minnesota Post-Retirement	54,942	54,942
	Investment Fund (MPRIF)		
	4. Other	435	435
В.	TOTAL ASSETS	\$203,330	\$190,207
C.	AMOUNTS CURRENTLY PAYABLE	\$748	\$748
D.	ASSETS AVAILABLE FOR BENEFITS		
	1. Member Reserves	\$25,440	\$25,440
	2. Employer Reserves	122,200	109,077
	3. MPRIF Reserves	54,942	54,942
	4. Non-MPRIF Reserves	0	0
	5. Total Assets Available for Benefits	\$202,582	\$189,459
E.	TOTAL AMOUNTS CURRENTLY PAYABLE	\$203,330	\$190,207
	AND ASSETS AVAILABLE FOR BENEFITS		

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available		\$189,459
for Benefits (D5)		
2. Market Value (D5)	\$202,582	
3. Cost Value (D5)	189,459	
4. Market Over Cost: (F2-F3)	\$13,123	
5. 1/3 of Market Over Cost: (F4)/3		4,374
6. Actuarial Value of Assets (F1+F5)		\$193,833
(Same as "Current Assets")		·

Correctional Employees Retirement Fund

Change In Assets Available For Benefits

(dollars in thousands)

YEAR ENDING JUNE 30, 1996

		Market Value	Cost Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$172,107	\$162,084
B.	OPERATING REVENUES		
	1. Member Contributions	\$3,575	\$3,575
	2. Employer Contributions	4,559	4,559
	3. Investment Income	17,473	17,473
	4. MPRIF Income	5,392	5,392
	5. Net Realized Gain (Loss)	2,565	2,565
	6. Other	(7)	(7)
	7. Net Change in Unrealized Gain (Loss)	3,100	00
	8. Total Revenue	\$36,657	\$33,557
C.	OPERATING EXPENSES		
	1. Service Retirements	\$5,460	\$5,460
	2. Disability Benefits	0	0
	3. Survivor Benefits	0	0
	4. Refunds	244	244
	5. Investment Fees	199	199
	6. Administrative Expenses	112	112
	7. Other	167	167
	8. Total Disbursements	\$6,182	\$6,182
D.	OTHER CHANGES IN RESERVES	0	0
E.	ASSETS AVAILABLE AT END OF PERIOD	\$202,582	\$189,459
CORRECTIONAL EMPLOYEES RETIREMENT FUND

	Years of Service									
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>	
<25	30	44	0	0	0	0	0	0	74	
25-29	72	258	22	0	0	0	0	0	352	
30-34	40	206	139	23	0	0	0	0	408	
35-39	36	151	128	93	28	0	0	0	436	
40-44	32	115	55	79	72	22	0	0	375	
45-49	23	82	60	60	52	54	8	0	339	
50-54	7	43	30	23	42	39	15	4	203	
55-59	8	10	8	7	8	5	3	2	51	
60-64	1	5	3	5	6	4	1	0	25	
65+	0	1	0	0	0	0	0	0	1	
ALL	249	915	445	290	208	124	27	6	2,264	

ACTIVE MEMBERS AS OF JUNE 30, 1996

AVERAGE ANNUAL EARNINGS

Years of Service										
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>	
<25	20,242	28,388	0	0	0	0	0	0	25,086	
25-29	20,403	28,982	32,705	0	0	0	0	0	27,460	
30-34	22,657	29,993	33,218	35,950	0	0	0	0	30,708	
35-39	20,997	30,130	33,913	36,620	37,569	0	0	0	32,349	
40-44	24,218	30,989	34,541	36,274	39,844	40,429	0	0	34,300	
45-49	19,088	30,990	35,916	37,354	38,096	41,344	38,831	0	35,105	
50-54	22,783	31,197	34,196	37,518	39,369	41,557	43,973	36,588	36,798	
55-59	20,282	33,810	42,425	36,628	45,158	45,330	41,411	45,655	37,247	
60-64	24,730	33,102	31,740	44,211	40,808	39,473	34,932	0	37,768	
65+	0	38,048	0	0	0	0	0	0	38,048	
ALL	21,281	29,992	34,141	36,827	39,237	41,349	41,830	39,610	32,363	

PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE

								2	
1 ~~~	/1	1 4	50	10 14	15 10	20.24	25 20	201	
Age	\sim	1-4	3-9	10-14	12-19	20-24	23-29	50+	
			<u> </u>						
		tatyanten per erentetatat erent							
A 11	5 200	77 117	15 100	10 (70	0.171	E 107	1 1 1 1 1	0.00	
All	2.298	Z1.44Z	15.192	10.0/9	8.101	3.121	11/9	2.5	/

Page 8 R:\CLIENT\06MLC\ACTSHL.DOC

CORRECTIONAL EMPLOYEES RETIREMENT FUND

	YEARS RETIRED										
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL			
<50	0	0	0	0	0	0	0	0			
50-54	1	1	0	0	0	0	0	2			
55-59	19	46	4	0	0	0	0	69			
60-64	3	11	62	0	0	0	0	76			
65-69	0	10	26	44	0	0	0	80			
70-74	0	0	5	19	42	0	0	66			
75-79	0	0	0	6	17	44	0	67			
80-84	0	0	0	0	5	39	0	44			
85+	0	0	0	· 0	0	9	0	9			
ALL	23	68	97	69	64	92	0	413			

SERVICE RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

	YEARS RETIRED										
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>			
<50	0	0	0	0	0	0	0	0			
50-54	12,639	11,402	0	0	0	0	0	12,021			
55-59	19,784	18,378	14,282	0	0	0	0	18,528			
60-64	9,324	15,264	14,518	0	0	0	0	14,421			
65-69	0	11,935	9,006	13,204	0	0	0	11,681			
70-74	0	0	7,695	13,953	11,787	0	0	12,101			
75-79	0	0	0	7,729	9,103	8,467	0	8,562			
80-84	0	0	0	0	5,602	6,746	0	6,616			
85+	0	0	0	0	0	7,518	0	7,518			
ALL	18,109	16,824	12,679	12,934	10,591	7,645	0	12,262			

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
			na a l'anna an tha	and a property of the second second	ay fangawa siya sa		2000 Developed developed and a set of	
All	416	1,144	1,229	892	677	703	0	5,064
ant and distributed		 A second s second second s second second se	 and the state of t		e de la companya de l	10.000 (10.000 / 1	nga () - na na sha sha sha sha	AND A REPORT OF

TABLE 5

CORRECTIONAL EMPLOYEES RETIREMENT FUND

	YEARS SINCE DEATH											
Age	<1	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>				
<50	1	1	1	0	0	0	0	3				
50-54	2	1	1	1	0	0	0	5				
55-59	0	4	0	0	0	0	0	4				
60-64	0	1	2	2	0	0	0	5				
65-69	0	0	0	1	0	0	0	1				
70-74	0	2	1	0	1	0	0	4				
75-79	0	1	0	0	0	1	1	3				
80-84	0	0	0	0	0	1	0	1				
85+	0	0	1	• 0	0	0	0	1				
ALL	3	10	6	4	1	2	1	27				

SURVIVORS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

	YEARS SINCE DEATH											
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL				
<50	419	2,410	6,999	0	0	0	0	3,276				
50-54	4,916	9,054	7,756	6,739	0	0	0	6,676				
55-59	0	6,340	0	0	0	0	0	6,340				
60-64	0	5,897	5,781	13,609	0	0	0	8,935				
65-69	0	0	0	2,899	0	0	0	2,899				
70-74	0	6,609	3,871	0	5,804	0	0	5,723				
75-79	0	1,683	0	0	0	7,090	1,796	3,523				
80-84	0	0	0	0	0	4,988	0	4,988				
85+	0	0	390	0	0	0	0	390				
ALL	3,417	5,762	5,096	9,214	5,804	6,039	1,796	5,740				

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

				(<i>)</i> = = = = = = = = = = = = = = = = = = =		
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
All	10,251	57,620	30,576	36,856	5,804	12,078	1,796	154,980

Page 10

TABLE 6

CORRECTIONAL EMPLOYEES RETIREMENT FUND

_	YEARS DISABLED										
<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL			
<50	6	8	1	0	0	0	0	15			
50-54	2	4	3	0	0	0	0	9			
55-59	0	2	1	0	0	0	0	3			
60-64	0	0	1	1	1	0	0	3			
65-69	0	0	0	1	0	0	0	1			
70-74	0	0	0	0	0	1	0	1			
75-79	0	0	0	0	1	0	0	1			
80-84	0	0	0	0	0	0	0	0			
85+	0	0	0	· 0	0	0	0	0			
ALL	8	14	6	2	2	1	0	33			

DISABILITY RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

	YEARS DISABLED									
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>		
<50	15,222	12,018	12,070	0	0	0	0	13,303		
50-54	17,882	16,985	11,609	0	0	0	0	15,392		
55-59	0	14,693	14,941	0	0	0	0	14,776		
60-64	0	0	9,893	17,824	9,127	0	0	12,281		
65-69	0	0	0	17,805	0	0	0	17,805		
70-74	0	0	0	0	0	3,996	0	3,996		
75-79	0	0	0	0	2,764	0	0	2,764		
80-84	0	0	0	0	0	0	0	0		
85+	0	0	0	0	0	0	0	0		
ALL	15,887	13,819	11,955	17,815	5,946	3,996	0	13,449		

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	20-24	25+	ALL
All	127,096	193,466	71,730	35,630	11,892	3,996	0	443,817

Page 11

Reconciliation Of Members

			Termin	nated
		Actives	Deferred Retirement	Other Non-Vested
A.	ON JUNE 30, 1995	2,117	296	74
B.	ADDITIONS	276	41	26
C.	DELETIONS			
	1. Service Retirement	(24)	(3)	0
	2. Disability	(8)	0	0
	3. Death	. (2)	0	0
	4. Terminated - Deferred	(41)	0	0
	5. Terminated - Refund	(43)	(3)	(9)
	6. Terminated - Other Non-Vested	(21)	0	0
	7. Returned as Active	7	(7)	0
	8. Transferred to Other Fund	0	0	(7)
D.	DATA ADJUSTMENTS	3	0	0
	Vested	1,372		
	Non-Vested	892		
E.	TOTAL ON JUNE 30, 1996	2,264	324	84

			Recipients		
		Retirement Annuitants	Disabled	Survivors	
A.	ON JUNE 30, 1995	399	25	25	
B.	ADDITIONS	23	8	3	
C.	DELETIONS				
	1. Service Retirement	0	0	0	
	2. Death	(9)	0	(1)	
	3. Annuity Expired	0	0	0	
	4. Returned as Active	0	0	0	
D.	DATA ADJUSTMENTS	0	0	0	
E.	TOTAL ON JUNE 30, 1996	413	33	27	

	Correctional Emp	ployees Retirement F	und	
	Actuarial (dollar:	Balance Sheet s in thousands)		
	JUI	LY 1, 1996		
A.	CURRENT ASSETS (TABLE 1, F6)			\$193,833
B.	 EXPECTED FUTURE ASSETS 1. Present Value of Expected Future Statutory Supplemental Contribution 2. Present Value of Future Normal Costs 3. Total Expected Future Assets 	ns (See Table 11)		\$0 <u>68,591</u> \$68,591
C.	TOTAL CURRENT AND EXPECTED F	UTURE ASSETS	=	\$262,424
D.	 CURRENT BENEFIT OBLIGATIONS 1. Benefit Recipients a. Retirement Annuities b. Disability Benefits c. Surviving Spouse and Child Benefits 	Non-Vested	Vested \$47,506 5,463 1,974	Total \$47,506 5,463 1,974
	2. Deferred Retirements with Future Augr	mentation	12,484	12,484
	3. Former Members without Vested Right	ts	149	149
	 4. Active Members a. Retirement Annuities b. Disability Benefits c. Survivor's Benefits d. Deferred Retirements e. Refund Liability Due to Death or Withdrawal 	1,646 1,670 3,350 774 0	56,142 0 0 16,119 2,280	57,788 1,670 3,350 16,893 2,280
	5. Total Current Benefit Obligations	\$7,440	\$142,117	\$149,557
E.	EXPECTED FUTURE BENEFIT OBLIG	ATIONS	-	\$89,993
F.	TOTAL CURRENT AND EXPECTED F	UTURE BENEFIT O	BLIGATIONS =	\$239,550
G.	CURRENT UNFUNDED ACTUARIAL	LIABILITY (D5-A)		(\$44,276)
H.	CURRENT AND FUTURE UNFUNDED	ACTUARIAL LIAB	ILITY (F-C)	(\$22,874)

TABLE 8

Determination Of Unfunded Actuarial Accrued Liability (UAAL) And Supplemental Contribution Rate

(dollars in thousands)

JULY 1, 1996

		Actuarial	Actuarial	
		Present Value	Present Value	Actuarial
		of Projected	of Future	Accrued
		Benefits	Normal Costs	Liability
А.	DETERMINATION OF ACTUARIAL	(1)	(2)	(3)=(1)-(2)
	ACCRUED LIABILITY (AAL)			
	1. Active Members			
	a. Retirement Annuities	\$125,430	\$43,396	\$82.034
	b. Disability Benefits	3,326	1,457	1.869
	c. Survivor's Benefit	6.362	2.666	3.696
	d. Deferred Retirements	32.606	14.611	17.995
	e. Refunds Due to Death or Withdrawal	4.251	6.461	(2.210)
	f. Total	\$171,975	\$68,591	\$103,384
	2. Deferred Retirements With Future Augmentation	12,484		12,484
	 Former Members Without Vested Rights 	149		149
	4. Annuitants in MPRIF	54,942		54,942
	5. Recipients Not in MPRIF	0		0_
	6. Total	\$239,550	\$68,591	\$170,959
B.	DETERMINATION OF UNFUNDED ACT	UARIAL ACCRU	JED LIABILITY	(UAAL)
	1. AAL (A6)			\$170,959
	2. Current Assets (Table 1, F6)			193.833
	3. UAAL (B1-B2)			(\$22,874)
C.	DETERMINATION OF SUPPLEMENTAL 1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	CONTRIBUTIO	N RATE	\$1,459,012
	2. Supplemental Contribution Rate (B3/C1)			0.00%

Correctional Employees Retirement Fund Changes In Unfunded Actuarial Accrued Liability (UAAL) (dollars in thousands) YEAR ENDING JUNE 30, 1996 A. UAAL AT BEGINNING OF YEAR (\$11,936) B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING 1. Normal Cost and Expenses \$7,889 2. Contribution (8,134)3. Interest on A, B1 and B2 (1,025)4. Total (B1+B2+B3) (\$1,270) C. EXPECTED UAAL AT END OF YEAR (A+B4) (\$13,206) D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED 1. Salary Increases (\$3,478) 2. Investment Return (10,764)3. MPRIF Mortality 586 4. Mortality of Other Benefit Recipients 0 5. Other Items 3,988 6. Total (\$9,668) E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS (\$22,874) AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6) F. CHANGE IN ACTUARIAL ACCRUED LIABILITY 0 DUE TO PLAN AMENDMENTS G. CHANGE IN ACTUARIAL ACCRUED LIABILITY 0 DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS H. UAAL AT END OF YEAR (E+F+G)(\$22,874)

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1996

		Percent of Payroll	Dollar Amount
A	. STATUTORY CONTRIBUTIONS - CHAPTER 352		
	 Employee Contributions Employer Contributions 	4.90% 6.27%	\$3,823 4,892
	3. Total	11.17%	\$8,715
E	8. REQUIRED CONTRIBUTIONS - CHAPTER 356		
	 Normal Cost a. Retirement Benefits b. Disability benefits c. Survivors d. Deferred Retirement Benefits e. Refunds Due to Death or Withdrawal f. Total 	7.07% 0.25% 0.41% 2.27% 1.05%	\$5,518 192 317 1,772 816 \$8,615
	 Supplemental Contribution Amortization by July 1, 2020 of UAAL 	0.00%	0
	3. Allowance for Expenses	0.16%	125
	4. Total	11.21%	\$8,740
C	C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-0.04%	(\$25)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1996 is \$78,030.

Summary of Actuarial Assumptions and Methods

Interest:	Pre-Retireme Post-Retirem	ent: 8.5% per annum ent: 5.0% per annum		
Salary Increases:	Reported salar fiscal year and year salary is a	ry at valuation date increased 6.5% to current 1 6.5% annually for each future year. Prior fiscal annualized for new Members.		
Mortality:	Pre-Retireme Male - Female -	ent: 1971 Group Annuity Mortality Table 1971 Group Annuity Mortality Table male rates set back 8 years		
	Post-Retirem	ent:		
	Male -	Same as above		
	Female -	Same as above		
	Post-Disabili	ty:		
	Male -	Combined Annuity Mortality Table		
	Female -	Combined Annuity Mortality Table		
Retirement Age:	Age 58 or if o	ver age 58, one year from valuation date.		
Separation:	Graded rates b 30, 1971 expe	Graded rates based on actual experience developed by the June 30, 1971 experience analysis. Rates are shown in rate table.		
Disability:	Rates adopted	Rates adopted by MSRS as shown in rate table.		
Administrative and Investment Expenses:	Prior year adn prior year pay	Prior year administration expenses expressed as percentage of prior year payroll.		
Return of Contributions:	All employees deferred benet lated with inte	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.		

Family Composition:	85% of Member years younger th	85% of Members are assumed to be married. Female is three years younger than male.				
Social Security:	Based on the present law and 6.5% salary scale. Only earnings history while in state service is used. Future Social Security benefits replace the same proportion of salary as at present.					
Benefit Increases After Retirement:	Payment of earn of 5% accounted	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.				
Special Consideration:	Married Members assumed to elect subsidized joint and survivor form of annuity as follows:					
	Males -	25% elect 50% J&S option 25% elect 100% J&S option				
	Females -	5% elect 50% J&S option 5% elect 100% J&S option				
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.					
Asset Valuation Method:	Cost Value plus one-third Unrealized Gains or Losses.					
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.5% per annum.					

Summary of Actuarial Assumptions and Methods

	<u>r</u>	<u>leath</u>	Witl	<u>hdrawal</u>	<u> </u>	<u>ability</u>	<u>Reti</u>	rement
Age	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	Male	<u>Female</u>	Male	<u>Female</u>
20	5	4	2,400	3,700	0	0	0	0
21	5	4	2,250	3,550	0	0	0	0
22	5	4	2,080	3,390	0	0	0	0
23	6	4	1,920	3,230	0	0	0	0
24	6	4	1,760	3,070	0	0	0	0
25	6	5	1,600	2,910	0	0	0	0
26	7	5	1,470	2,750	0	0	0	0
27	7	5	1,340	2,600	0	0	0	0
28	7	5	1,230	2,430	0	0	0	0
29	8	5	1,130	2,270	0	0	0	0
30	8	5	1,040	2,120	2	0	0	0
31	9	6	950	1,970	2	0	0	0
32	9	6	890	1,820	2	0	0	0
33	10	6	830	1,680	2	0	0	0
34	10	7	770	1,540	2	0	0	0
35	11	7	720	1,410	2	1	0	0
36	12	7	680	1,300	2	1	0	0
37	13	8	640	1,190	2	1	0	0
38	14	8	600	1,090	2	1	0	0
39	15	9	560	1,000	2	2	0	0
40	16	9	530	920	2	2	0	0
41	18	10	500	850	2	2	0	0
42	20	10	480	780	2	4	0	0
43	23	11	460	720	3	4	0	0
44	26	12	430	680	3	4	0	0
45	29	13	410	630	3	5	0	0
46	33	14	390	590	5	6	0	0
47	38	15	370	560	7	7	0	0
48	42	16	350	530	9	7	0	0
49	47	18	340	500	11	10	0	0

Separation Expressed as Number of Occurrences Per 10,000:

Page 19

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	D	eath	Wit	<u>hdrawal</u>	<u> </u>	<u>ability</u>	Retir	ement
<u>Age</u>	<u>Male</u>	<u>Female</u>	Male	<u>Female</u>	Male	Female	Male	Female
50	53	20	320	470	14	10	0	0
51	59	23	300	440	16	12	0	0
52	65	26	280	410	20	14	0	0
53	71	29	260	390	24	16	0	0
54	78	33	240	360	28	20	0	0
55	85	38	210	330	34	24	0	0
56	93	42	170	290	40	30	0	0
57	100	47	140	230	46	36	0	0
58	109	53	90	170	56	44	10,000	10,000
59	119	59	40	90	66	52	0	0
60	131	65	0	0	76	62	0	0
61	144	71	0	0	90	74	0	0
62	159	78	0	0	110	88	0	0
63	174	85	0	0	136	104	0	0
64	192	93	0	0	174	122	0	0
65	213	100	0	0	0	0	0	0
66	236	109	0	0	0	0	0	0
67	263	119	0	0	0	0	0	0
68	292	131	0	0	0	0	0	0
69	324	144	0	0	0	0	0	0
70	361	159	0	0	0	0	0	0

Summary of Plan Provisions

GENERAL

Eligibility:		State employees in covered correctional service.			
Contri	ibutions:				
	Member:	4.90% of salary.			
	Employer:	6.27% of salary. (Amended 1990)			
Allow	able Service:	Service during which Member contributions were made. May also include certain leaves of absence, military service and periods while temporary Worker's Compensation is paid.			
Salary:		Includes wages, allowances and fees. Excludes lump-sum payments at separation and reduced salary while receiving Worker's Compensation benefits.			
Averaş	ge Salary:	Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.			

RETIREMENT

Normal Retirement Benefit:

Eligibility:	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.
Amount:	2.5% of average salary for each year of Allowable Service, pro rata for completed months. Maximum of 75% of Average Salary.

TABLE 13

(Continued)

After 84 months or normal retirement age if earlier, benefit changes to unreduced General Plan benefit. For Members hired prior to July 1, 1989, normal retirement age is 65; for Members hired after June 30, 1989, normal retirement age is the age first eligible for nonreduced Social Security benefits. If combined General Plan benefit and Social security (based on State service) are less than the Correctional benefit, an additional benefit will be paid to prevent a decrease.

Early Retirement Benefit:

Eligibility:	Age 50 and three years of Allowable Service.
Amount:	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date reduced to the actuarial equivalent of the benefit that would be payable if the Member deferred the benefit until age 55.
Form of Payment:	Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are:
	50% or 100% joint and survivor with bounce back feature without additional reduction. 15 year certain and life benefits.
Benefit Increases:	Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one full month but less than 12 full months will receive a partial increase.

DISABILITY

Occupational Disability:

Eligibility: Member who cannot perform his duties as a direct result of a disability related to an act of duty.

Amount:50% of Average Salary plus 2.5% of Average Salary for
each year in excess of 20 years of Allowable Service pro
rata for completed months. Maximum of 75% of Average
Salary.

Payment begins at disability and stops at age 62 or 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.

Non-Occupational Disability:

Eligibility:	At least one year of Correctional service and disability not related to covered employment.
Amount:	Normal Retirement Benefit based on Allowable Service (minimum of 15 years) and average salary at disability.
	Payment begins at disability and ends at age 62 or 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.
Form of Payment:	Same as for retirement.
Benefit Increases:	Adjusted by MSRS to provide same increase as MPRIF.

Retirement Benefits:

Eligibility:	Age 62 with continued disability.
Amount:	Benefit computed as a normal retirement benefit under General Plan based on same Allowable Service and without reduction for age.
Form of Payment:	Same as for retirement.
Benefit Increases:	Same as for retirement.

DEATH

Surviving Spouse Benefit:

Eligibility:	Member at any age or former Member age 50 or older who dies before retirement or disability benefits commence 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 benefit using general state employees formula. If com- mencement 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.
Benefit Increases:	Adjusted by MSRS to provide same income as MPRIF.

Surviving Dependent Children's Benefit:

Eligibility:	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.

Refund of Contributions With Interest:

Eligibility:	Active employee dies and survivor benefits are not payable or a former employee dies before annuity begins.		
Amount:	The Member's contributions with 5% interest if death occurred before May 16, 1989 and 6% interest if death occurred on or after May 16, 1989.		

TERMINATION

Refund of Contributions:

Eligibility:	Termination of state service.		
Amount:	Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989 and 6% 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 Annuity:			
Eligibility:	Three years of Correctional and General Service.		
Amount:	Benefit computed under law in effect at termination.		

SIGNIFICANT CHANGES

None.

R:\CLIENT\06MSD\REPORTS\MSD.DOC

Legislators Retirement Fund ACTUARIAL VALUATION REPORT

July 1, 1996





Internationally WOODROW MILLIMAN

Suite 400, 15800 Bluemound Road, Brookfield, Wisconsin 53005-6069 Telephone: 414/784-2250 Fax: 414/784-7287

November 19, 1996

Legislative Commission on Pensions and Retirement 55 State Office Building St. Paul, Minnesota 55155

RE: Legislators Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 1995.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Minnesota State Retirement System.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on July 8, 1992.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

phones & Caro

Thomas K. Custis, F.S.A., M.A.A.A. Consulting Actuary

William V. Hogan

William V. Hogan, F.S.A., M.A.A. Consulting Actuary

TKC/WVH/bh

Albany, Atlanta, Boston, Chicago, Dallas, Denver, Hartford, Houston, Indianapolis, Irvine, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Phoenix, Portland, ME, Portland, OR, St. Louis, Salt Lake City, San Diego, San Francisco, Seattle, Tampa, Washington, D.C., Bermuda, Tokyo

Table of Contents

.

REPORT HIGH	ILIGHTS	1
COMMENTAR	Y	
Purpose Report Hig Asset Infor Actuarial E GASB Dis Actuarial C Sources of Contributio Changes in Changes in	shlights mation Balance Sheet closure Cost Method Actuarial Gains and Losses on Sufficiency Actuarial Assumptions Plan Provisions	2 2 2 3 3 4 4 4 5 5
ASSET INFORM	MATION	
Table 1 - Table 2 -	Accounting Balance Sheet Changes in Assets Available for Benefits	6 7
MEMBERSHIP	DATA	
Table 3 - Table 4 - Table 5 - Table 6 - Table 7 -	Active Members Service Retirements Survivors Disability Retirements Reconciliation of Members	8 9 10 11 12
FUNDING STA	TUS	
Table 8 - Table 9 - Table 10 - Table 11 -	Actuarial Balance Sheet Determination of Unfunded Actuarial Accrued Liability (UAAL) and Supplemental Contribution Rate Changes in Unfunded Actuarial Accrued Liability (UAAL) Determination of Contribution Sufficiency	13 14 15 16

<u>Page</u>

Table of Contents (Continued)

	Page
ACTUARIAL ASSUMPTIONS	
Table 12 - Summary of Actuarial Assumptions and Methods	17
PLAN PROVISIONS	
Table 13 - Summary of Plan Provisions	19

Report Highlights (dollars in thousands)

		07/01/95 Valuation	07/01/96 Valuation
A.	CONTRIBUTIONS (Table 11)1. Statutory Contributions - Chapter 3A% of Payroll	9.00%	9.00%
	 Required Contributions - Chapter 356 % of Payroll 	41.54%	43.96%
	3. Sufficiency (Deficiency): (A.1 A.2.)	-32.54%	-34.96%
B.	FUNDING RATIOS 1. Accrued Benefit Funding Ratio		
	a. Current Assets (Table 1)	\$21,213	\$22,532
	b. Current Benefit Obligations (Table 8)	\$48,114	\$51,404
	c. Funding Ratio: (a/b)	44.09%	43.83%
	2. Accrued Liability Funding Ratio		
	a. Current Assets (Table 1)	\$21,213	\$22,532
	b. Actuarial Accrued Liability (Table 9)	\$50,255	\$54,225
	c. Funding Ratio: (a/b)	42.21%	41.55%
	3. Projected Benefit Funding Ratio (Table 8)		
	a. Current and Expected Future Assets	\$31,697	\$32,862
	b. Current and Expected Future Benefit Obligations	\$60,739	\$64,555
	c. Funding Ratio: (a/b)	52.19%	50.91%
C.	PLAN PARTICIPANTS		
	a Number (Table 3)	198	201
	b. Projected Annual Earnings	\$7,193	\$7,423
	c. Average Annual Earnings (Actual \$)	\$36,328	\$36,930
	d. Average Age	49.3	50.2
	e. Average Service	8.0	9.1
	2. Others		
	a. Service Retirements (Table 4)	155	163
	b. Survivors (Table 5)	61	65
	c. Disability Retirements (Table 6)	U 1 <i>4</i> 1	0
	a. Deterred Keurements (Table 7)	141 0	127
	f Total	366	
	1. 1000	200	202

Commentary

Purpose

The purpose of this valuation is to determine the financial status of the Plan. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The financial status of the Plan can be measured by three different funding ratios:

- ^o The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 43.83%. The corresponding ratio for the prior year was 44.09%.
- ^o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 1996 the ratio is 41.55%, which is a decrease from the 1995 value of 42.21%.
- ^o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 50.91% shows that the current statutory contributions are inadequate.

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gain and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F1 to F6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets", the latter phrase will be used in the remainder of this report.

Page 2

This Plan participates in the Minnesota Post Retirement Investment Fund (i.e. MPRIF). After the MPRIF liability has been calculated for each participating Plan, the State Board of Investments, (i.e. SBI), will determine each Plan's portion of the excess earnings for the January benefit increase as well as the Plan's allocated market share of MPRIF.

Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

The Current Benefit Obligation used to measure current funding levels is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

- ° For Active Members salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.
- ° For Non-active Members the discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

The Current Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 uses the terms "Actuarial Present Value of Credited Projected Benefits" and "Pension Benefit Obligation" rather than "Current Benefit Obligation".

The JULY 1, 1996 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the following table:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$36,289,000
Current Employees	
Accumulated employee contributions including allocated investment income	\$5,689,000
Employer-financed vested	6,721,000
Employer-financed nonvested	2,705,000
Total Pension Benefit Obligation	\$51,404,000
Net Assets Available for Benefits at Cost	\$22,532,000
Total Benefit Obligation less Assets	\$28,872,000
Funded Ratio	43.83%

Actuarial Cost Method (Table 9)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level percentage of payroll.

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

The payments will increase 6.50% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years, the annual payment will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. For a detailed analysis of the major components, refer to Table 10.

Contribution Sufficiency (Table 11)

This report determines the adequacy of Statutory Contributions by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

° Normal costs based on the Entry Age Normal Actuarial Cost Method.

° A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability.

[°] An Allowance for Expenses.

Table 11 shows the Plan has a contribution deficiency since the Statutory Contribution Rate is 9.00% compared to the Required Contribution Rate of 43.96%.

Changes in Actuarial Assumptions

There were no changes in actuarial assumptions since the last valuation.

Changes in Plan Provisions

There were no changes in plan provisions since the last valuation which impacted funding costs.

Accounting Balance Sheet

(dollars in thousands)

JULY 1, 1996

		Market Value	Cost Value
A.	ASSETS 1. Cash, Equivalents, Short-term Securities 2. Investments	\$0	\$0
	a. Fixed Income	0	0
	b. Equity	0	0
	c. Real Estate	0	0
	3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	16,481	16,481
	4. Other *	6,265	6,265
B.	TOTAL ASSETS	\$22,746	\$22,746
C.	AMOUNTS CURRENTLY PAYABLE	\$214	\$214
D.	ASSETS AVAILABLE FOR BENEFITS		
	1. Member Reserves	\$6,205	\$6,205
	2. Employer Reserves	(7,516)	(7,516)
	3. MPRIF Reserves	16,481	16,481
	4. Non-MPRIF Reserves	/,362	7,362
	5. Total Assets Available for Benefits	\$22,332	\$22,532
E.	TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	\$22,746	\$22,746
F.	DETERMINATION OF ACTUARIAL VALUE OF ASS	SETS	
	1. Cost Value of Assets Available for Benefits (D5)		\$22,532
	2 Market Value (D5)	\$22,532	
	3. Cost Value (D5)	22.532	
	4. Market Over Cost: (F2-F3)	<u> </u>	
	5. $1/3$ of Market Over Cost: $(F4)/3$	~ ~	0
	6. Actuarial Value of Assets (F1+F5)		\$22,532
	(Same as "Current Assets")		<u></u>

* Includes \$6,205 of Member Reserves not segregated from general funds.

Change In Assets Available For Benefits

(dollars in thousands)

YEAR ENDING JUNE 30, 1996

		Market Value	Cost Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$21,212	\$21,212
B.	OPERATING REVENUES		
	1. Member Contributions	\$564	\$564
	2. Employer Contributions	0	0
	3. Investment Income	0	0
	4. MPRIF Income	1,611	1,611
	5. Net Realized Gain (Loss)	0	0
	6. Other	1,511	1,511
	7. Net Change in Unrealized Gain (Loss)	0	0
	8. Total Revenue	\$3,686	\$3,686
C.	OPERATING EXPENSES		
	1. Service Retirements	\$2,318	\$2,318
	2. Disability Benefits	0	0
	3. Survivor Benefits	0	0
	4. Refunds	6	6
	5. Investment Fees	0	0
	6. Administrative Expenses	25	25
	7. Other	17	17
	8. Total Disbursements	\$2,366	\$2,366
D.	OTHER CHANGES IN RESERVES	0	0
E.	ASSETS AVAILABLE AT END OF PERIOD	\$22,532	\$22,532

TABLE 3

LEGISLATORS RETIREMENT PLAN ACTIVE MEMBERS AS OF JUNE 30, 1996

				Yea	ars of Servi	ce		
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u> <u>ALL</u>
<25	0	0	0	0	0	0	0	0 0
25-29	0	0	0	0	0	0	0	0
30-34	1	9	1	0	0	0	0	0 11
35-39	0	9	9	0	0	0	0	0 18
40-44	0	17	10	1	0	0	0	0 28
45-49	0	17	15	5	4	3	0	0 44
50-54	2	5	15	3	4	4	2	0 35
55-59	0	7	8	4	6	4	0	0 29
60-64	0	6	2	3	1	2	1	0 15
65+	0	4	5	2	5	2	3	0 21
ALL	3	74	65	18	20	15	6	0 201

AVERAGE ANNUAL EARNINGS

	Years of Service										
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	ALL		
<25	0	0	0	0	0	0	0	0	0		
25-29	0	0	0	0	0	0	0	0	0		
30-34	38,179	35,237	38,154	0	0	0	0	0	35,770		
35-39	0	35,250	35,899	0	0	0	0	0	35,575		
40-44	0	36,468	35,354	35,587	0	0	0	0	36,039		
45-49	0	35,827	35,640	35,893	36,834	35,587	0	0	35,846		
50-54	37,774	36,400	35,950	34,978	35,811	36,192	35,512	0	36,022		
55-59	0	35,706	35,889	37,499	36,058	35,700	0	0	36,076		
60-64	0	35,828	35,587	36,134	38,154	34,650	35,587	0	35,839		
65+	0	35,688	35,509	38,154	36,100	36,824	34,208	0	35,875		
ALL	37,909	35,852	35,761	36,372	36,279	35,819	34,873	0	35,910		

PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE

Δαe	<1	1-1	5.0	10-14	15-10	20-24	25-20	30+	Δ.	TI
<u>Age</u>	<u>~1</u>	<u>1-</u>	<u> <u> </u></u>	10-14	<u>15-17</u>	20-24	<u> 45-47</u>	<u> 30 -</u>		
All	113	2,653	2,324	654	725	537	209	()) - ¹ 1923 -	7,217

Page 8 R:\CLIENT\06MLC\ACTSHL.DOC

LEGISTATORS RETIREMENT PLAN

				YEARS R	ETIRED			
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	20-24	<u>25+</u>	<u>ALL</u>
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	8	14	0	0	0	0	0	22
65-69	3	25	22	0	0	0	0	50
70-74	1	3	6	29	1	0	0	40
75-79	0	0	2	9	17	0	0	28
80-84	0	0	1	0	4	7	0	12
85+	0	0	0	- 0	0	8	3	11
ALL	12	42	31	38	22	15	3	163

SERVICE RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

				YEARS R	ETIRED			
Age	<1	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	<u>ALL</u>
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	13,424	13,092	0	0	0	0	0	13,213
65-69	5,122	14,459	10,082	0	0	0	0	11,973
70-74	21,480	5,480	5,723	10,939	12,750	0	0	10,056
75-79	0	0	19,757	14,101	17,329	0	0	16,465
80-84	0	0	6,586	0	18,168	9,254	0	12,003
85+	0	0	0	. 0	0	12,099	11,189	11,851
ALL	12,020	13,362	9,750	11,688	17,273	10,771	11,189	12,436

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
All	144	561	302	444	380	161	33	2,027

Page 9

LEGISTATORS RETIREMENT PLAN

		YEARS SINCE DEATH										
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL				
<50	0	0	0	0	0	0	0	0				
50-54	1	0	0	1	2	0	0	4				
55-59	0	3	1	0	1	0	0	5				
60-64	0	2	0	0	0	0	0	2				
65-69	0	6	1	1	0	1	1	10				
70-74	1	2	2	1	1	1	0	8				
75-79	1	3	4	0	1	1	0	10				
80-84	1	3	6	0	1	6	0	17				
85+	1	2	1	· 0	1	1	3	9				
ALL	5	21	15	3	7	10	4	65				

SURVIVORS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

	YEARS SINCE DEATH										
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>			
<50	0	0	0	0	0	0	0	0			
50-54	4,981	0	0	24,299	3,843	0	0	9,242			
55-59	0	9,885	5,817	0	12,177	0	0	9,530			
60-64	0	4,005	0	0	0	0	0	4,005			
65-69	0	4,200	9,252	3,282	0	6,260	3,346	4,734			
70-74	3,949	4,985	3,291	3,752	1,911	5,915	0	4,010			
75-79	9,782	5,743	8,650	0	3,103	1,900	0	6,661			
80-84	4,553	6,375	5,371	0	9,958	6,082	0	6,021			
85+	5,431	4,419	7,130	0	6,281	3,768	3,475	4,653			
ALL	5,739	5,620	6,374	10,444	5,874	5,434	3,443	5,891			

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
All	28,695	118,020	95,610	31,332	41,118	54,340	13,772	382,915

Page 10

TABLE 6

LEGISTATORS RETIREMENT PLAN

	YEARS DISABLED										
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL			
<50	0	0	0	0	0	0	0	0			
50-54	0	0	0	0	0	0	0	0			
55-59	0	0	0	0	0	0	0	0			
60-64	0	0	0	0	0	0	0	0			
65-69	0	0	0	0	0	0	0	0			
70-74	0	0	0	0	0	0	0	0			
75-79	0	0	0	0	0	0	0	0			
80-84	0	0	0	0	0	0	0	0			
85+	0	0	0	- 0	0	0	0	0			
ALL	0	0	0	0	0	0	0	0			

DISABILITY RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

				I LAKS DI	SADLED			
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	0	. 0
65-69	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	0	0
85+	0	0	0	0	0	0	0	0
ALL	0	0	0	0		0	0	0

YEARS DISABLED

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED

				(.,		
Age	<1	1-4	<u>5-9</u>	<u>10-14</u>	15-19	20-24	<u>25+</u>	ALL
All	0	0	0	0	0	0	0	0

Reconciliation Of Members

			Terminated	
		Actives	Deferred Retirement	Other Non-Vested
A.	ON JUNE 30, 1995	198	141	9
B.	ADDITIONS	3	2	0
C.	DELETIONS			
	1. Service Retirement	0	(13)	0
	2. Disability	0	0	0
	3. Death	. 0	0	0
	4. Terminated - Deferred	(2)	0	0
	5. Terminated - Refund	0	(1)	0
	6. Terminated - Other Non-Vested	(4)	0	0
	7. Returned as Active	2	0	(2)
	8. Transferred to Other Fund	0	0	0
D.	DATA ADJUSTMENTS	4	(2)	0
	Vested	98		
	Non-Vested	103		
E.	TOTAL ON JUNE 30, 1996	201	. 127	7

		Recipients		
		Retirement Annuitants	Disabled	Survivors
A.	ON JUNE 30, 1995	155	0	61
В.	ADDITIONS	12	0	7
C.	DELETIONS			
	1. Service Retirement	0	0	0
	2. Death	(4)	0	(1)
	3. Annuity Expired	0	0	0
	4. Returned as Active	0	0	0
D.	DATA ADJUSTMENTS	0	0	(2)
E.	TOTAL ON JUNE 30, 1996	163	0	65

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 1996

A.	CURRENT ASSETS (TABLE 1, F6)			\$22,532
B.	 EXPECTED FUTURE ASSETS 1. Present Value of Expected Future Statutory Supplemental Contributions 2. Present Value of Future Normal Costs 3. Total Expected Future Assets 	s (See Table 11)	_	\$0 10,330 \$10,330
C.	TOTAL CURRENT AND EXPECTED FU	TURE ASSETS		\$32,862
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
	a. Retirement Annuities		\$20,098	\$20,098
	b. Disability Benefits		0	0
	c. Surviving Spouse and Child Benefits		3,745	3,745
	2. Deferred Retirements with Future Augmentation			12,391
	3. Former Members without Vested Rights		55	55
	4. Active Members			
	a. Retirement Annuities	1,846	10,615	12,461
	b. Disability Benefits	0	0	0
	c. Survivor's Benefits	435	0	435
	d. Deferred Retirements	424	1,629	2,053
	e. Refund Liability Due to Death or Withdrawal	0	166	166
	5. Total Current Benefit Obligations	\$2,705	\$48,699	\$51,404
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS		•	\$13,151
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			\$64,555
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			\$28,872
H.	. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			\$31,693

Determination Of Unfunded Actuarial Accrued Liability (UAAL) And Supplemental Contribution Rate

(dollars in thousands)

JULY 1, 1996

		Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A.	DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)	(1)	(2)	(3)=(1)-(2)
	a. Retirement Annuities	\$23.336	\$7.472	\$15.864
	b. Disability Benefits	0	•••••• <u>0</u>	0
	c. Survivor's Benefit	803	433	370
	d. Deferred Retirements	3,838	2,004	1,834
	e. Refunds Due to Death or Withdrawal	289	421	(132)
	f. Total	\$28,266	\$10,330	\$17,936
	2. Deferred Retirements With Future Augmentation	12,391		12,391
	 Former Members Without Vested Rights 	55		55
	4. Annuitants in MPRIF	16,481		16,481
	5. Recipients Not in MPRIF	7,362		7,362
	6. Total	\$64,555	\$10,330	\$54,225
В.	DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
	1. AAL (A6)			\$54,225
	2. Current Assets (Table 1, F6)			22,532
	3. UAAL (B1-B2)			\$31,693
C.	DETERMINATION OF SUPPLEMENTAL 1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	CONTRIBUTIO	N RATE	\$138,795
	2. Supplemental Contribution Rate (B3/C1)			22.83%
Not	te: If non-segregated member reserves were no uld be \$37,898, resulting in a Supplemental C	ot counted as asse ontribution Rate of	ts, the UAAL of 27.30%.	

Page 14
Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 1996

UAAL AT BEGINNING OF YEAR	\$29,042
CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
 Normal Cost and Expenses Contribution Interest on A, B1 and B2 	\$1,483 (564) 2,508
4. Total (B1+B2+B3)	\$3,427
EXPECTED UAAL AT END OF YEAR (A+B4)	\$32,469
INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
 Salary Increases Investment Return MPRIF Mortality Mortality of Other Benefit Recipients Other Items 	(\$854) 553 189 (428) (236)
6. Total	(\$776)
UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	\$31,693
CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	0
CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
UAAL AT END OF YEAR (E+F+G)	\$31,693
	UAAL AT BEGINNING OF YEAR CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING 1. Normal Cost and Expenses 2. Contribution 3. Interest on A, B1 and B2 4. Total (B1+B2+B3) EXPECTED UAAL AT END OF YEAR (A+B4) INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED 1. Salary Increases 2. Investment Return 3. MPRIF Mortality 4. Mortality of Other Benefit Recipients 5. Other Items 6. Total UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6) CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS UAAL AT END OF YEAR (E+F+G)

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1996

		Percent of Payroll	Dollar Amount
A.	STATUTORY CONTRIBUTIONS - CHAPTER 3A		
	1. Employee Contributions	9.00%	\$668
	2. Employer Contributions	0.00%	
	3. Total	9.00%	\$668

* Employer contributions are required to cover the portion of the benefit liabilities which are not funded by the member's accumulated contribution at the time of benefit commencement.

B. REQUIRED CONTRIBUTIONS - CHAPTER 356

C.

1. Normal Cost		
a. Retirement Benefits	15.94%	\$1,183
b. Disability benefits	0.00%	0
c. Survivors	0.86%	64
d. Deferred Retirement Benefits	3.23%	240
e. Refunds Due to Death or Withdrawal	0.75%	56
f. Total	20.78%	\$1,543
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	22.83%	1,695
3. Allowance for Expenses	0.35%	26
4. Total	43.96%	\$3,264
CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-34.96%	(\$2,596)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1996 is \$7,423.

The deficiency amount shown above is calculated based on reported assets which include a receivable of \$6,205 for member contribution that are held in the State's general fund. If this amount was not considered as an asset of the fund in these calculations, the deficiency would be 39.43%.

Page 16

Summary of Actuarial Assumptions and Methods

GENERAL

Interest:	Pre-Retiremen Post-Retireme	nt: 8.5% nt: 5.0%	per annum per annum		
Salary Increases:	The statutory sa Sec. 28, through Per diem payme in the future.	llary rate and January ents were	as prescribed 1, 1996 and assumed to r	in Chapter 34 6.5% per year remain consta	45, Article I, r thereafter. nt each year
Mortality:	Pre-Retiremen	t:			
,	Male - Female -	1971 (1971 (rates s	Group Annui Group Annui et back eight	ty Mortality T ty Mortality T years	Table Table male
	Post-Retireme	nt:			
	Male -	Same	as above		
	Female -	Same a	as above		
	Post-Disability	:			
	Male -	N/A			
	Female -	N/A			
Retirement Age:	Age 62 or if ove	er age 62,	one year from	m valuation d	ate.
Separation: Rates based on years of service.					
		<u>Year</u>	House	Senate	
		1	0%	0%	
		2	30	0	
		3	0	0	
		4	20	25	
		5	0	0	
		6	10	0	
		7	0	0	
		8	5	10	

Disability:	None
Expenses:	Prior year administration expenses expressed as percentage of prior year payroll.
Return of Contributions:	All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Family Composition:	85% of Members are assumed to be married. Female is three years younger than male. Each Member may have up to two dependent children depending on Member's age. Assumed first child born at Member's age 28 and second child born at member's age 31.
Social Security:	N/A
Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.
Special Consideration:	Per diem payments for regular and special sessions were included in salary. The annual amount of per diem that is recognized in this valuation is \$4,800 per Member. This is based on \$48 per day times an average session of 100 days.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method based on earnings and the date the employee entered the plan is applied to all plan benefits. Under this method, actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.
Asset Valuation Method:	Cost Value plus one-third Unrealized Gains or losses.
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.5% per annum.

.

Summary of Plan Provisions

GENERAL

Eligibility:	Members of the State Legislature. A Member of PERA who is elected to the Legislature may elect to remain a Member of PERA and receive credit under PERA for service as a legislator.	
Contributions:		
Member:	9% of salary.	
Employer:	No specified statutory contribution rate. State must contribute an amount equal to the full annuity value at benefit commencement less accumulated member contributions.	
Service:	Granted for the full term unless termination occurs before the end of the term. Service during all or part of four regular legislative sessions is deemed to be eight years of service.	
Salary:	Compensation received for service as a Member of the legislature. Salary includes the monthly compensation paid to a legislator and the per diem payments paid during a regular or special session. Salary does not include additional compensation attributable to a leadership position.	
Average Salary:	Average of the five highest successive years of salary.	

RETIREMENT

Normal Retirement Benefit:

Eligibility: Age 62 and either six full years of service or service during all or part of four regular legislative sessions. For eligibility purposes, service does not include credit for time not served when a Member does not serve a full term of office.

Amount:	A percentage of Average Salary for each year of service as follows:
	Prior to 1/1/79 - 5% for the first eight years - 2.5% for subsequent years After 12/31/78 - 2.5%

Early Retirement Benefit:

Eligibility:	Age 60 and either six full years of Service or Service during all or part of four regular legislative sessions.
Amount:	Normal Retirement Benefit based on service and Average Salary at retirement date assuming augmentation to age 62 at 3% per year and actuarial reduction for each month the Member is under age 62.
Form of Payment:	Paid as a joint and survivor annuity to Member, spouse and dependent children. Combined service annuitants with less than six years of Legislator service may elect 100% joint and survivor bounceback annuity or a term certain and life annuity on an actuarially equivalent basis.
Benefit Increases:	Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF).

DISABILITY

None

DEATH BENEFITS

Surviving Spouse Benefit:

Eligibility: Death while active, or after termination if service requirements for a Normal Retirement Benefit are met but payments have not begun.

Amount:	Survivor's payments of 50% of the retirement benefit of the
	Member assuming the Member had attained normal
	retirement age and had a minimum of eight years of
	service. Benefit is paid for life. A former Member's
	benefit is augmented as a Deferred Annuity to date of death
	before determining the portion payable to the spouse. If the
	legislator was at least age 60 at death, the surviving spouse
	may elect an optional joint and survivor annuity.

Surviving Dependent Children's Benefit:

Eligibility:	Same as spouse's benefit.
Amount:	Benefit for first child is 25% of the retirement benefit (computed as for surviving spouse) with 12.5% for each additional child. Maximum payable (including spouse) is 100% of the retirement benefit. Benefits cease when a child marries or attains age 18 (22 if a full-time student).
Benefit Increases:	Adjusted by MSRS to provide same increase as MPRIF.
Refund of Contributions :	
Eligibility:	Member dies before receiving any retirement benefits and survivor benefits are not payable.

Amount: Member's contributions without interest.

TERMINATION

Refund of Contributions:

Eligibility:	Termination of service.
Amount:	Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989 and 6% interest if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund.

Deferred Benefit:

Eligibility:	Same service requirement as for Normal Retirement.
Amount:	Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before $7/1/73$; 5% from $7/1/73$ to $1/1/81$; and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

SIGNIFICANT CHANGES

None.

R:\CLIENT\06MSL\REPORTS\MSL.DOC

.

Elective State Officers Retirement Fund ACTUARIAL VALUATION REPORT

July 1, 1996





Internationally WOODROW MILLIMAN

Suite 400, 15800 Bluemound Road, Brookfield, Wisconsin 53005-6069 Telephone: 414/784-2250 Fax: 414/784-7287

November 19, 1996

Legislative Commission on Pensions and Retirement 55 State Office Building St. Paul, Minnesota 55155

RE: Elective State Officers Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 1996.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Minnesota State Retirement System.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on July 8, 1992.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

my & Conts

Thomas K. Custis, F.S.A., M.A.A.A. **Consulting Actuary**

William V. Hogan, F.S.A., M.A.A.A.

Consulting Actuary

TKC/WVH/bh

Albany, Atlanta, Boston, Chicago, Dallas, Denver, Hartford, Houston, Indianapolis, Irvine, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Phoenix, Portland, ME, Portland, OR, St. Louis, Salt Lake City, San Diego, San Francisco, Seattle, Tampa, Washington, D.C., Bermuda, Tokyo

Table of Contents

			Page
REPOR	T HIGH	LIGHTS	1
COMM	ENTARY	Ž	
Pu	rpose		2
Re	port High	lights	2
As	set Inform	nation	2
Ac	tuarial B	alance Sheet	3
GA	ASB Disc	losure	3
Ac	tuarial C	ost Method	4
So	urces of A	Actuarial Gains and Losses	4
Co	ontributio	n Sufficiency	4
Ch	anges in	Actuarial Assumptions	5
Ch	anges in	Plan Provisions	5
ASSET	INFORM	1ATION	
Ta	ble 1 -	Accounting Balance Sheet	6
Та	ble 2 -	Changes in Assets Available for Benefits	7
MEMBI	ERSHIP	DATA	
Ta	ble 3 -	Active Members	8
Ta	ble 4 -	Service Retirements	9
Ta	ble 5 -	Survivors	10
Та	ble 6 -	Disability Retirements	11
Ta	ble 7 -	Reconciliation of Members	12
FUNDIN	NG STAT	ſUS	
Ta	ble 8 -	Actuarial Balance Sheet	13
Ta	ble 9 -	Determination of Unfunded Actuarial Accrued Liability (UAAL) and Supplemental Contribution Rate	14
Ta	ble 10 -	Changes in Unfunded Actuarial Accrued Liability (UAAL) Determination of Contribution Sufficiency	15
14		Determination of controlation burneteney	10

Table of Contents (Continued)

	Page
ACTUARIAL ASSUMPTIONS	
Table 12 - Summary of Actuarial Assumptions and Methods	17
PLAN PROVISIONS	
Table 13 - Summary of Plan Provisions	19

Report Highlights

(dollars in thousands)

		07/01/95 Valuation	07/01/96 Valuation
A.	CONTRIBUTIONS (Table 11)1. Statutory Contributions - Chapter 352C% of Payroll	9.00%	9.00%
	 Required Contributions - Chapter 356 % of Payroll 	43.58%	43.49%
	3. Sufficiency (Deficiency): (A.1 A.2.)	-34.58%	-34.49%
B.	 FUNDING RATIOS 1. Accrued Benefit Funding Ratio a. Current Assets (Table 1) b. Current Benefit Obligations (Table 8) c. Funding Ratio: (a/b) 	\$378 \$2,800 13.50%	\$412 \$2,843 14.49%
	 2. Accrued Liability Funding Ratio a. Current Assets (Table 1) b. Actuarial Accrued Liability (Table 9) c. Funding Ratio: (a/b) 	\$378 \$2,948 12.82%	\$412 \$2,983 13.81%
	 3. Projected Benefit Funding Ratio (Table 8) a. Current and Expected Future Assets b. Current and Expected Future Benefit Obligations c. Funding Ratio: (a/b) 	\$627 \$3,197 19.61%	\$633 \$3,204 19.76%
C.	 PLAN PARTICIPANTS 1. Active Members a. Number (Table 3) b. Projected Annual Earnings c. Average Annual Earnings (Actual \$) d. Average Age e. Average Service 	6 \$452 \$75,333 52.0 10.3	6 \$475 \$79,128 53.0 11.3
	 2. Others a. Service Retirements (Table 4) b. Survivors (Table 5) c. Disability Retirements (Table 6) d. Deferred Retirements (Table 7) e. Terminated Other Non-vested (Table 7) f. Total 	5 6 0 5 0	5 7 0 4 0

Commentary

Purpose

The purpose of this valuation is to determine the financial status of the Plan. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The financial status of the Plan can be measured by three different funding ratios:

- ^o The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 14.49%. The corresponding ratio for the prior year was 13.50%.
- ^o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 1996 the ratio is 13.81%, which is an increase from the 1995 value of 12.82%.
- ^o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 19.76% shows that the current statutory contributions are inadequate.

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gain and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F1 to F6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets", the latter phrase will be used in the remainder of this report.

This Plan participates in the Minnesota Post Retirement Investment Fund (i.e. MPRIF). After the MPRIF liability has been calculated for each participating Plan, the State Board of Investments, (i.e. SBI), will determine each Plan's portion of the excess earnings for the January benefit increase as well as the Plan's allocated market share of MPRIF.

Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

The Current Benefit Obligation used to measure current funding levels is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

- ° For Active Members salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.
- ° For Non-active Members the discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

The Current Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 uses the terms "Actuarial Present Value of Credited Projected Benefits" and "Pension Benefit Obligation" rather than "Current Benefit Obligation".

The JULY 1, 1996 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the following table:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$1,554,000
Current Employees	
Accumulated employee contributions including allocated investment income	\$462,000
Employer-financed vested	797,000
Employer-financed nonvested	30,000
Total Pension Benefit Obligation	\$2,843,000
Net Assets Available for Benefits at Cost	\$412,000
Total Benefit Obligation less Assets	\$2,431,000
Funded Ratio	14.49%

Actuarial Cost Method (Table 9)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level percentage of payroll.

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

The payments will increase 6.50% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years, the annual payment will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. For a detailed analysis of the major components, refer to Table 10.

Contribution Sufficiency (Table 11)

This report determines the adequacy of Statutory Contributions by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

° Normal costs based on the Entry Age Normal Actuarial Cost Method.

°A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability.

° An Allowance for Expenses.

Table 11 shows the Plan has a contribution deficiency since the Statutory Contribution Rate is 9.00% compared to the Required Contribution Rate of 43.49%.

Changes in Actuarial Assumptions

There were no changes in actuarial assumptions since the last valuation.

Changes in Plan Provisions

There were no changes in plan provisions since the last valuation which impacted funding costs.

Accounting Balance Sheet

(dollars in thousands)

JULY 1, 1996

A. ASSETS 1. Cash, Equivalents, Short-term Securities \$0 \$0 1. Cash, Equivalents, Short-term Securities \$0 \$0 2. Investments 0 0 a. Fixed Income 0 0 b. Equity 0 0 c. Real Estate 0 0 1. Vestment Fund (MPRIF) 4 415 4. Other * 415 415 B. TOTAL ASSETS \$415 \$415 C. AMOUNTS CURRENTLY PAYABLE \$3 \$3 D. ASSETS AVAILABLE FOR BENEFITS 1. Member Reserves \$414 \$414 2. Employer Reserves \$414 \$414 2. Employer Reserves \$1,312 \$1,312 3. MPRIF Reserves 0 0 0 4. Non-MPRIF Reserves \$1,312 \$1,312 5. Total Assets Available for Benefits \$412 \$412 5. Ocst Value (D5) \$412 \$412			Market Value	Cost Value
1. Cash, Equivalents, Short-term Securities \$0 \$0 2. Investments 0 0 a. Fixed Income 0 0 b. Equity 0 0 c. Real Estate 0 0 J. Equity in Minnesota Post-Retirement 0 0 Investment Fund (MPRIF) 415 415 4. Other * 415 415 5. TOTAL ASSETS \$415 \$415 C. AMOUNTS CURRENTLY PAYABLE \$3 \$3 D. ASSETS AVAILABLE FOR BENEFITS 1. Member Reserves (1,314) 1. Member Reserves 0 0 4. Non-MPRIF Reserves 0 0 4. Non-MPRIF Reserves 1,312 1,312 5. Total Assets Available for Benefits \$415 \$412 F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS 412 \$412 for Benefits (D5) \$412 \$412 5. Cost Value (D5) \$412 \$412 4. Market Over Cost: (F2-F3) \$0 \$0 5. 1/3 of Market Over Cost: (F4//3 \$412 \$412 6. Actuarial Value of Assets (F1+F5) \$412 \$4	A.	ASSETS	\$.	•
2. Investments 0 0 a. Fixed Income 0 0 b. Equity 0 0 c. Real Estate 0 0 1. Equity in Minnesota Post-Retirement 0 0 Investment Fund (MPRIF) 4.15 415 4. Other * 415 415 5. TOTAL ASSETS \$415 \$415 C. AMOUNTS CURRENTLY PAYABLE \$3 \$3 D. ASSETS AVAILABLE FOR BENEFITS 1. Member Reserves \$414 2. Employer Reserves 0 0 4. Non-MPRIF Reserves 0 0 4. Non-MPRIF Reserves 0 0 4. Non-MPRIF Reserves 1,312 1,312 5. Total Assets Available for Benefits \$412 \$412 F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS \$412 6. Cost Value of Assets Available \$412 for Benefits (D5) \$412 3. Cost Value (D5) \$412 4. Market Over Cost: (F2-F3) \$0 5. 1/3 of Market Over Cost: (F4)/3 0 6. Actuarial Value of Assets (F1+F5) \$412 (Samea a"Current As		1. Cash, Equivalents, Short-term Securities	\$0	\$0
a. Fixed income000b. Equity00c. Real Estate001. Sequity in Minnesota Post-Retirement00Investment Fund (MPRIF)4. Other *4154. Other *4154155. TOTAL ASSETS\$415\$415C. AMOUNTS CURRENTLY PAYABLE\$3\$3D. ASSETS AVAILABLE FOR BENEFITS1. Member Reserves\$4142. Employer Reserves\$414\$4142. Employer Reserves(1,314)(1,314)3. MPRIF Reserves004. Non-MPRIF Reserves1,3121,3125. Total Assets Available for Benefits\$412\$412E. TOTAL AMOUNTS CURRENTLY PAYABLE\$415\$415AND ASSETS AVAILABLE FOR BENEFITS\$415\$415F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS1. Cost Value of Assets Available\$412for Benefits (D5)\$412\$4123. Cost Value (D5)\$412\$04. Market Over Cost: (F2-F3)\$0\$05. 1/3 of Market Over Cost: (F2-F3)\$0\$4126. Actuarial Value of Assets (F1+F5)\$412\$412(Same as "Current Assets")\$412\$412		2. Investments	Â	<u>_</u>
b. Equity 0 0 0 c. Real Estate 0 0 0 3. Equity in Minnesota Post-Retirement 0 0 Investment Fund (MPRIF) 4. Other * 415 415 B. TOTAL ASSETS $\underline{$415}$ 5415 C. AMOUNTS CURRENTLY PAYABLE \$3 \$3 D. ASSETS AVAILABLE FOR BENEFITS 1. Member Reserves \$414 \$414 2. Employer Reserves (1,314) (1,314) 3. MPRIF Reserves 0 0 0 4. Non-MPRIF Reserves 1,312 1,312 5. Total Assets Available for Benefits \$412 \$412 E. TOTAL AMOUNTS CURRENTLY PAYABLE \$415 \$415 AND ASSETS AVAILABLE FOR BENEFITS 1. Cost Value of Assets Available for BENEFITS 3. Cost Value (D5) \$412 4. Market Over Cost: (F2-F3) \$0 5. 1/3 of Market Over Cost: (F2-F3) \$0 5. 1/3 of Market Over Cost: (F2-F3) \$0 6. Actuarial Value of Assets (F1+F5) \$412 (Same as "Current Assets")		a. Fixed Income	0	0
c. Real Estate 0 0 0 3. Equity in Minnesota Post-Retirement 0 0 0 Investment Fund (MPRIF) 4. Other * 415 415 415 B. TOTAL ASSETS \$\frac{\frac{1}{5}}{\frac{1}{5}}\$ C. AMOUNTS CURRENTLY PAYABLE \$\frac{5}{3}}\$ D. ASSETS AVAILABLE FOR BENEFITS 1. Member Reserves \$\frac{5}{414}\$ 2. Employer Reserves \$\frac{5}{414}\$ 3. MPRIF Reserves \$\frac{1}{312}\$ 5. Total Assets Available for Benefits \$\frac{5}{412}\$ 4. Non-MPRIF Reserves \$\frac{1}{312}\$ 5. Total Assets Available for Benefits \$\frac{5}{412}\$ 4. TOTAL AMOUNTS CURRENTLY PAYABLE \$\frac{5}{412}\$ 5. Total ASSETS AVAILABLE FOR BENEFITS \$\frac{5}{412}\$ 4. Non-MPRIF Reserves \$\frac{1}{312}\$ 5. Total ASSETS AVAILABLE FOR BENEFITS \$\frac{5}{412}\$ 5. Total ASSETS AVAILABLE FOR BENEFITS \$\frac{5}{412}\$ 5. Cost Value of Assets Available \$\frac{5}{412}\$ 6. Cost Value of Assets Available \$\frac{5}{412}\$ 4. Market Over Cost: (F2-F3) \$\frac{5}{30}\$ 5. 1/3 of Market Over Cost: (F4)/3 \$\frac{0}{6}\$ 6. Actuarial Value of Assets (F1+F5)\$ (Same as "Current Assets")		b. Equity	0	0
3. Equity in Minnesota Post-Retirement 0 0 Investment Fund (MPRIF) 415 415 4. Other * 415 415 B. TOTAL ASSETS \$415 \$415 C. AMOUNTS CURRENTLY PAYABLE \$3 \$3 D. ASSETS AVAILABLE FOR BENEFITS 1. Member Reserves \$414 \$414 2. Employer Reserves \$414 \$414 2. Employer Reserves \$413 \$1,314 \$1,314 3. MPRIF Reserves 0 0 0 4. Non-MPRIF Reserves 1,312 1,312 \$412 5. Total Assets Available for Benefits \$412 \$412 E. TOTAL AMOUNTS CURRENTLY PAYABLE \$415 \$415 AND ASSETS AVAILABLE FOR BENEFITS \$415 \$415 F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS \$412 \$412 1. Cost Value of Assets Available \$412 \$412 for Benefits (D5) \$412 \$412 2. Market Value (D5) \$412 \$412 4. Market Over Cost: (F2-F3) \$0 \$0 5. 1/3 of Market Over Cost: (F4)/3 \$412 \$412 6. Actuaria		c. Real Estate	0	0
4. Other *415415B. TOTAL ASSETS\$415\$415C. AMOUNTS CURRENTLY PAYABLE\$3\$3D. ASSETS AVAILABLE FOR BENEFITS1Member Reserves1. Member Reserves\$414\$4142. Employer Reserves $(1,314)$ $(1,314)$ 3. MPRIF Reserves004. Non-MPRIF Reserves $1,312$ $1,312$ 5. Total Assets Available for Benefits\$412\$412E. TOTAL AMOUNTS CURRENTLY PAYABLE\$415\$415AND ASSETS AVAILABLE FOR BENEFITS\$415\$415F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS\$412\$4126. Cost Value of Assets Available\$412\$4127. Oct Value of Assets Available\$412\$4128. Cost Value (D5)\$412\$4129. Cost Value (D5)\$412\$09. Cost Value (D5)\$412\$09. Actuarial Value of Assets (F1+F5)\$0\$09. Cost Value of Assets (F1+F5)\$412\$412		3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	0	0
B.TOTAL ASSETS\$415\$415C.AMOUNTS CURRENTLY PAYABLE\$3\$3D.ASSETS AVAILABLE FOR BENEFITS.1.Member Reserves\$414\$4142.Employer Reserves\$414\$4143.MPRIF Reserves004.Non-MPRIF Reserves1,3121,3125.Total Assets Available for Benefits\$412\$412E.TOTAL AMOUNTS CURRENTLY PAYABLE\$415\$415AND ASSETS AVAILABLE FOR BENEFITS.\$415\$415F.DETERMINATION OF ACTUARIAL VALUE OF ASSETS\$412\$4126.Cost Value of Assets Available\$412\$4129.Market Value (D5)\$412\$4124.Market Over Cost: (F2-F3)\$0\$05.1/3 of Market Over Cost: (F4)/3006.Actuarial Value of Assets (F1+F5)\$412(Same as "Current Assets")\$412		4. Other *	415	415
C. AMOUNTS CURRENTLY PAYABLE \$3 \$3 D. ASSETS AVAILABLE FOR BENEFITS 1. Member Reserves \$414 \$414 2. Employer Reserves (1,314) (1,314) 3. MPRIF Reserves 0 0 0 4. Non-MPRIF Reserves 1,312 1,312 5. Total Assets Available for Benefits \$412 \$412 8. TOTAL AMOUNTS CURRENTLY PAYABLE \$415 \$415 AND ASSETS AVAILABLE FOR BENEFITS F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS 1. Cost Value of Assets Available for BENEFITS \$415 5. Cost Value of Assets Available \$412 5. Cost Value (D5) \$412 5. Cost Value (D5) \$412 5. Cost Value (D5) \$412 6. Market Over Cost: (F2-F3) \$0 5. 1/3 of Market Over Cost: (F4)/3 \$0 6. Actuarial Value of Assets (F1+F5) \$0 6. Actuarial Value of Assets")	B.	TOTAL ASSETS	\$415	\$415
D.ASSETS AVAILABLE FOR BENEFITS1.Member Reserves\$414\$4142.Employer Reserves(1,314)(1,314)3.MPRIF Reserves004.Non-MPRIF Reserves1,3121,3125.Total Assets Available for Benefits\$412\$412E.TOTAL AMOUNTS CURRENTLY PAYABLE\$415\$415AND ASSETS AVAILABLE FOR BENEFITS	C.	AMOUNTS CURRENTLY PAYABLE	\$3	\$3
1. Member Reserves\$414\$4142. Employer Reserves $(1,314)$ $(1,314)$ 3. MPRIF Reserves 0 0 4. Non-MPRIF Reserves $1,312$ $1,312$ 5. Total Assets Available for Benefits $$412$ $$412$ E. TOTAL AMOUNTS CURRENTLY PAYABLE $$415$ $$415$ AND ASSETS AVAILABLE FOR BENEFITS $$415$ $$415$ F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS1. Cost Value of Assets Available $$412$ for Benefits (D5) $$412$ 2. Market Value (D5) $$412$ 4. Market Over Cost: (F2-F3) $$0$ 5. 1/3 of Market Over Cost: (F4)/3 0 6. Actuarial Value of Assets (F1+F5) $$412$ (Same as "Current Assets") $$412$	D.	ASSETS AVAILABLE FOR BENEFITS		
2. Employer Reserves $(1,314)$ $(1,314)$ 3. MPRIF Reserves004. Non-MPRIF Reserves $1,312$ $1,312$ 5. Total Assets Available for Benefits\$412\$412E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS\$415\$415F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS\$412\$4126. Cost Value of Assets Available for Benefits (D5)\$412\$4123. Cost Value (D5)\$412\$4124. Market Over Cost: (F2-F3)\$0\$05. 1/3 of Market Over Cost: (F4)/3 (Same as "Current Assets") 0		1. Member Reserves	\$414	\$414
3. MPRIF Reserves004. Non-MPRIF Reserves1,3121,3125. Total Assets Available for Benefits\$412\$412E. TOTAL AMOUNTS CURRENTLY PAYABLE\$415\$415AND ASSETS AVAILABLE FOR BENEFITS\$415\$415F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS\$412\$4121. Cost Value of Assets Available for Benefits (D5)\$412\$4122. Market Value (D5)\$412\$4123. Cost Value (D5)\$412\$605. 1/3 of Market Over Cost: (F2-F3)\$60\$605. 1/3 of Market Over Cost: (F4)/30\$412(Same as "Current Assets")\$412		2. Employer Reserves	(1,314)	(1,314)
4. Non-MPRIF Reserves 1,312 1,312 5. Total Assets Available for Benefits \$412 \$412 E. TOTAL AMOUNTS CURRENTLY PAYABLE \$415 \$415 AND ASSETS AVAILABLE FOR BENEFITS \$415 \$415 F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS \$412 \$412 I. Cost Value of Assets Available \$412 \$412 for Benefits (D5) \$412 \$412 3. Cost Value (D5) \$412 \$412 4. Market Over Cost: (F2-F3) \$0 \$0 5. 1/3 of Market Over Cost: (F4)/3 0 \$412 (Same as "Current Assets") \$412		3. MPRIF Reserves	0	0
5. Total Assets Available for Benefits \$412 \$412 E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS \$415 \$415 F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS \$412 \$412 for Benefits (D5) \$412 \$412 3. Cost Value (D5) \$412 \$412 4. Market Over Cost: (F2-F3) \$0 \$0 5. 1/3 of Market Over Cost: (F4)/3 0 \$412 6. Actuarial Value of Assets (F1+F5) \$412 (Same as "Current Assets") \$412		4. Non-MPRIF Reserves	1,312	1,312
E. TOTAL AMOUNTS CURRENTLY PAYABLE \$415 \$415 AND ASSETS AVAILABLE FOR BENEFITS \$415 \$415 F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS \$412 \$412 1. Cost Value of Assets Available \$412 \$412 for Benefits (D5) \$412 \$412 3. Cost Value (D5) \$412 \$412 4. Market Over Cost: (F2-F3) \$0 \$0 5. 1/3 of Market Over Cost: (F4)/3 \$412 \$412 (Same as "Current Assets") \$412 \$412		5. Total Assets Available for Benefits	\$412	\$412
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS 1. Cost Value of Assets Available for Benefits (D5) \$412 2. Market Value (D5) \$412 3. Cost Value (D5) \$412 4. Market Over Cost: (F2-F3) \$0 5. 1/3 of Market Over Cost: (F4)/3 0 6. Actuarial Value of Assets (F1+F5) \$412 (Same as "Current Assets") \$412	E.	TOTAL AMOUNTS CURRENTLY PAYABLE	\$415	\$415
1. Cost Value of Assets Available for Benefits (D5)\$4122. Market Value (D5)\$4123. Cost Value (D5)4124. Market Over Cost: (F2-F3)\$05. 1/3 of Market Over Cost: (F4)/306. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")\$412	F.	DETERMINATION OF ACTUARIAL VALUE OF ASS	SETS	
2. Market Value (D5) \$412 3. Cost Value (D5) 412 4. Market Over Cost: (F2-F3) \$0 5. 1/3 of Market Over Cost: (F4)/3 0 6. Actuarial Value of Assets (F1+F5) \$412 (Same as "Current Assets") \$412		1. Cost Value of Assets Available		\$412
2. Market Value (D5) 3412 3. Cost Value (D5) 412 4. Market Over Cost: (F2-F3) $\$0$ 5. 1/3 of Market Over Cost: (F4)/3 $\$0$ 6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets") $\$412$		2 Market Value (D5)	\$412	
4. Market Over Cost: (F2-F3)\$05. 1/3 of Market Over Cost: (F4)/306. Actuarial Value of Assets (F1+F5)\$412(Same as "Current Assets")\$412		3 Cost Value (D5)	Δ12 Δ12	
5. 1/3 of Market Over Cost: (F4)/3 6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		4. Market Over Cost: (F2-F3)	\$0	
6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		5. $1/3$ of Market Over Cost: (F4)/3	ΦΟ	0
(Same as "Current Assets")		6. Actuarial Value of Assets (F1+F5)		\$412
		(Same as "Current Assets")	=	ψΤΙΖ

* Includes \$379 of Member Reserves not segregated from general funds.

Elective State Officers Retirement Fund

Change In Assets Available For Benefits

(dollars in thousands)

YEAR ENDING JUNE 30, 1996

		Market Value	Cost Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$379	\$379
B.	OPERATING REVENUES		
	1. Member Contributions	\$41	\$41
	2. Employer Contributions	0	0
	3. Investment Income	0	0
	4. MPRIF Income	0	0
	5. Net Realized Gain (Loss)	0	0
	6. Other	151	151
	7. Net Change in Unrealized Gain (Loss)	0	0
	8. Total Revenue	\$192	\$192
C.	OPERATING EXPENSES		
	1. Service Retirements	\$156	\$156
	2. Disability Benefits	0	0
	3. Survivor Benefits	0	0
	4. Refunds	0	0
	5. Investment Fees	0	0
	6. Administrative Expenses	3	3
	7. Other	0	0
	8. Total Disbursements	\$159	\$159
D.	OTHER CHANGES IN RESERVES	0	0
E.	ASSETS AVAILABLE AT END OF PERIOD	\$412	\$412

ELECTIVE STATE OFFICERS RETIREMENT PLAN

				Yez	ars of Servi	ce			
Age	<u><1</u>	1-4	<u>5-9</u>	<u>10-14</u>	15-19	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
<25	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0
30-34	0	1	0	0	0	0	0	0	1
35-39	0	0	0	0	0	0	0	0	0
40-44	0	0	0	0	0	0	0	0	0
45-49	0	0	0	0	0	0	0	0	0
50-54	0	1	1	1	0	0	0	0	3
55-59	0	0	0	Q	0	0	0	0	0
60-64	0	0	0	0	1	1	0	0	2
65+	0	0	0	0	0	0	0	0	0
ALL	0	2	1	1	1	1	0	0	6

ACTIVE MEMBERS AS OF JUNE 30, 1996

AVERAGE ANNUAL EARNINGS

				Yea	ars of Servi	ce		
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u> <u>ALL</u>
<25	0	0	0	0	0	0	0	0 0
25-29	0	0	0	0	0	0	0	0 0
30-34	0	68,453	0	0	0	0	0	0 68,453
35-39	0	0	0	0	0	0	0	0 0
40-44	0	0	0	0	0	0	0	0 0
45-49	0	0	0	0	0	0	0	0 0
50-54	0	62,733	62,733	89,108	0	0	0	0 71,525
55-59	0	0	0	0	0	0	0	0
60-64	0	0	0	0	114,068	62,733	0	0 88,401
65+	0	0	0	0	0	0	0	0 0
ALL	0	65,593	62,733	89,108	114,068	62,733	0	0 76,638

PRIOR FISCAL YEAR EARNINGS (IN ACTUAL DOLLARS) BY YEARS OF SERVICE

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	15-19	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>
All	0	131,186	62,733	89,108	114,068	62,733	0		0 459,828

Page 8 R:\CLIENT\06MLC\ACTSHL.DOC

ELECTIVE STATE OFFICERS RETIREMENT PLAN

			Y	EARS I	RETIRED			
Age	<1	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	1	0	0	0	0	0	1
65-69	1	2	0	0	0	0	0	3
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	1	0	0	1
85+	0	0	0	. 0	0	0	0	0
ALL	1	3	0	0	1	0	0	. 5

SERVICE RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

				YEARS F	RETIRED			
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	4,089	0	0	0	0	0	4,089
65-69	1,948	18,029	0	0	0	0	0	12,669
70-74	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0
80-84	0	0	0	0	19,035	0	0	19,035
85+	0	0	0	0	0	0	0	0
ALL	1,948	13,382	0	0	19,035	0	0	12,226

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS RETIRED

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
All	1,948	40,146	0	0	19,035	0	0	61,130

ELECTIVE STATE OFFICERS RETIREMENT PLAN

	YEARS SINCE DEATH									
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL		
<50	0	0	0	0	0	0	0	0		
50-54	0	0	0	0	0	0	0	0		
55-59	0	1	0	0	0	0	0	1		
60-64	0	0	0	0	0	0	0	0		
65-69	1	0	0	0	0	0	0	1		
70-74	0	0	0	0	0	0	0	0		
75-79	0	1	0	0	0	0	0	1		
80-84	0	0	1	0	1	1	0	3		
85+	0	0	0	. 0	0	0	1			
ALL	1	2		0			1	7		

SURVIVORS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

	YEARS SINCE DEATH								
<u>Age</u>	<1	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>	
<50	0	0	0	0	0	0	0	0	
50-54	0	0	0	0	0	0	0	0	
55-59	0	4,089	0	0	0	0	0	4,089	
60-64	0	0	0	0	0	0	0	0	
65-69	23,794	0	0	0	0	0	0	23,794	
70-74	0	0	0	0	0	0	0	0	
75-79	0	11,496	0	0	0	0	0	11,496	
80-84	0	0	21,348	0	5,370	18,213	0	14,977	
85+	0	0	0	0	0	0	10,387	10,387	
ALL	23,794	7,793	21,348	0	5,370	18,213	10,387	13,528	

TOTAL ANNUAL	BENEFIT	(ACTUAL	DOLLARS)	BV VEARS	SINCE DEATH
IVIALANIVA		ACIUAL	DULLAND		

<u>Age</u>	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20</u>	<u>0-24</u>	<u>25+</u>	ALL
All	23,794	15,586	21,348	0	5,370	18	3,213	10,387	94,696

Page 10

ELECTIVE STATE OFFICERS RETIREMENT PLAN

	YEARS DISABLED									
Age	<u><1</u>	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>		
<50	0	0	0	0	0	0	0	0		
50-54	0	0	0	0	0	0	0	0		
55-59	0	0	0	0	0	0	0	0		
60-64	0	0	0	0	0	0	0	0		
65-69	0	0	0	0	0	0	0	0		
70-74	0	0	0	0	0	0	0	0		
75-79	0	0	0	0	0	0	0	0		
80-84	0	0	0	0	0	0	0	0		
85+	0	0	0	. 0	0	0	0	0		
ALL	0	0	0	0	0	0	0	0		

DISABILITY RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

	YEARS DISABLED								
Age	<u><1</u>	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL	
<50	0	0	0	0	0	0	0	0	
50-54	0	0	0	0	0	0	0	0	
55-59	0	0	0	0	0	0	0	0	
60-64	0	0	0	0	0	0	0	0	
65-69	0	0	0	0	0	0	0	0	
70-74	0	0	0	0	0	0	0	0	
75-79	0	0	0	0	0	0	0	0	
80-84	0	0	0	0	0	0	0	0	
85+	0	0	0	0	0	0	0	0	
ALL	0	0	0	0	0	0	0	0	

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL
All	0	0	0	0	0	0.0	0	. 0

Reconciliation Of Members

			Terminated			
			Deferred	Other		
		Actives	Retirement	Non-Vested		
A.	ON JUNE 30, 1995	6	5	0		
В.	ADDITIONS	0	0	0		
C.	DELETIONS					
	1. Service Retirement	0	(1)	0		
	2. Disability	0	0	0		
	3. Death	· 0	0	0		
	4. Terminated - Deferred	0	0	0		
	5. Terminated - Refund	0	0	0		
	6. Terminated - Other Non-Vested	0	0	0		
	7. Returned as Active	0	0	0		
	8. Transferred to Other Fund	0	0	0		
D.	DATA ADJUSTMENTS	0	0	0		
	Vested	4				
	Non-Vested	2				
E.	TOTAL ON JUNE 30, 1996	6	4	0		

		Recipients				
		Retirement Annuitants	Disabled	Survivors		
A.	ON JUNE 30, 1995	5	0	6		
B.	ADDITIONS	1	0	1		
C.	DELETIONS 1. Service Retirement 2. Death 3. Appuits Expired	0 (1) 0	0 0	0 0 0		
	 Annulty Expired Returned as Active 	0	0	0		
D.	DATA ADJUSTMENTS	0	0	0		
E.	TOTAL ON JUNE 30, 1996	5	0	7		

	Elective State Off	icers Retirement F	und	TABLE 8		
	Actuarial I (dollars	Balance Sheet in thousands)				
	JUL	Y 1, 1996				
A.	CURRENT ASSETS (TABLE 1, F6)			\$412		
B.	 EXPECTED FUTURE ASSETS 1. Present Value of Expected Future Statutory Supplemental Contributions 2. Present Value of Future Normal Costs 3. Total Expected Future Assets 	s (See Table 11)		\$0 		
C.	TOTAL CURRENT AND EXPECTED FU	TURE ASSETS		\$633		
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total		
	 a. Retirement Annuities b. Disability Benefits c. Surviving Spouse and Child Benefits 		\$503 0 809	\$503 0 809		
	2. Deferred Retirements with Future Augm	entation	242	242		
	3. Former Members without Vested Rights		0	0		
	 4. Active Members a. Retirement Annuities b. Disability Benefits c. Survivor's Benefits d. Deferred Retirements e. Refund Liability Due to Death or Withdrawal 	6 0 15 9 0	1,089 0 0 161 9	1,095 0 15 170 9		
	5. Total Current Benefit Obligations	\$30	\$2,813	\$2,843		
E.	EXPECTED FUTURE BENEFIT OBLIGA	TIONS	-	\$361		
F.	TOTAL CURRENT AND EXPECTED FU	TURE BENEFIT O	BLIGATIONS	\$3,204		
G.	CURRENT UNFUNDED ACTUARIAL LI	ABILITY (D5-A)		\$2,431		
H.	H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)					

Page 13

Determination Of Unfunded Actuarial Accrued Liability (UAAL) And Supplemental Contribution Rate

(dollars in thousands)

JULY 1, 1996

		Actuarial	Actuarial	
		Present Value	Present Value	Actuarial
		of Projected	of Future	Accrued
		Benefits	Normal Costs	Liability
A.	DETERMINATION OF ACTUARIAL	(1)	(2)	(3)=(1)-(2)
	ACCRUED LIABILITY (AAL)			
	1. Active Members			
	a. Retirement Annuities	\$1,340	\$67	\$1,273
	b. Disability Benefits	0	0	0
	c. Survivor's Benefit	20	7	13
	d. Deferred Retirements	266	112	154
	e. Refunds Due to Death or Withdrawal	24	35	(11)
	f. Total	\$1,650	\$221	\$1,429
	2. Deferred Retirements	242		242
	With Future Augmentation			
	 Former Members Without Vested Rights 	0		0
	4. Annuitants in MPRIF	0		0
	5. Recipients Not in MPRIF	1,312		1,312
	6. Total	\$3,204	\$221	\$2,983
л	DETERMINATION OF UNITUNDED ACT			
В.	DETERMINATION OF UNFUNDED ACT	UANIAL ACCK		(UAAL) \$7 083
	1. AAL (A0) 2. Comment Agents (Table 1, E6)			412
	2. Current Assets (Table 1, r_0) 2. LIAAL (D1 D2)			\$2 571
	$\mathbf{5. UAAL} (\mathbf{b1} \mathbf{\cdot b2})$			\$2,371
C.	DETERMINATION OF SUPPLEMENTAL 1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	ON RATE	\$8,877	
	2. Supplemental Contribution Rate (B3/C1))		28.96%
No wo	te: If non-segregated member reserves were n uld be \$2,950, resulting in a Supplemental Co	ot counted as asso ontribution Rate o	ets, the UAAL f 33.23%.	
. 5				Page 14

Changes In Unfunded Actuarial Accrued Liability (UAAL) (dollars in thousands)

YEAR ENDING JUNE 30, 1996

A.	UAAL AT BEGINNING OF YEAR	\$2,570
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	 Normal Cost and Expenses Contribution Interest on A, B1 and B2 	\$64 (41) 219
	4. Total (B1+B2+B3)	\$242
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	\$2,812
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	 Salary Increases Investment Return MPRIF Mortality Mortality of Other Benefit Recipients Other Items 	(\$111) 34 0 (95) (69)
	6. Total	(\$241)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	\$2,571
F.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	0
G.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR (E+F+G)	\$2,571

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1996

		Percent of Payroll	Dollar Amount	
A.	STATUTORY CONTRIBUTIONS - CHAPTER 352C			
	1. Employee Contributions	9.00%	\$43	
	2. Employer Contributions	0.00%	0;	*
	3. Total	9.00%	\$43	

* Employer contributions are required to cover the portion of the benefit liabilities which are not funded by the member's accumulated contribution at the time of benefit commencement.

B. REQUIRED CONTRIBUTIONS - CHAPTER 356

C.

1. Normal Cost		
a. Retirement Benefits	4.21%	\$20
b. Disability benefits	0.00%	0
c. Survivors	0.42%	2
d. Deferred Retirement Benefits	7.16%	34
e. Refunds Due to Death or Withdrawal	2.11%	10
f. Total	13.90%	\$66
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	28.96%	137
3. Allowance for Expenses	0.63%	3
4. Total	43.49%	\$206
CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-34.49%	(\$163)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1996 is \$475.

The deficiency amount shown above is calculated based on reported assets which include a receivable of\$379 for member contribution that are held in the State's general fund. If this amount was not considered as an asset of the fund in these calculations, the deficiency would be 38.76%.

Page 16

Summary of Actuarial Assumptions and Methods

Interest:	Pre-Retirement:	8.5% per annum	
	Post-Retirement:	5.0% per annum	
Salary Increases:	The statutory salary rate as prescribed in Chapter 345, Article I. Sec. 28, through January 1, 1996 and 6.5% per year thereafter.		
Mortality:	Pre-Retirement : Male - Female -	nt: 1971 Group Annuity Mortality Table e - 1971 Group Annuity Mortality Table male rates set back 8 years	
	Post-Retirement : Male - Female -	Same as above Same as above	
	Post-Disability : Male - Female -	N/A N/A	
Retirement Age:	Age 62 or if over ag	ge 62, one year from valuation date.	
Separation:	Rates based on year	s of service:	
		$\begin{array}{c cc} \underline{Year} & \underline{Rate} \\ 1 & 0\% \\ 2 & 0 \\ 3 & 0 \\ 4 & 50 \\ 5 & 0 \\ 6 & 0 \\ 7 & 0 \\ 8 & 50 \\ \end{array}$	
Disability:	None		

Expenses:	Prior year administration expenses expressed as percentage of prior year payroll.
Return of Contributions:	All employees withdrawing after eight years of service were assumed to leave their contributions on deposit and receive a deferred annuitant benefit.
Family Composition:	85% of Members are assumed to be married. Female is three years younger than male. Each Member may have up to two dependent children depending on the Member's age. Assume first child born at Member's age 28 and second child born at Member's age 31.
Social Security:	N/A
Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method based on earnings and the date the employee entered the plan is applied to all plan benefits. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.
Asset Valuation Method:	Cost Value plus one-third Unrealized Gains or Losses.
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.5% per annum.

Summary of Plan Provisions

GENERAL

Eligibility:	Employment as a "Constitutional Officer".	
Contributions:		
Member:	9% of salary.	
Employer:	No specified statutory contribution rate. State must contribute an amount equal to the full annuity value at benefit commence- ment less accumulated member contributions.	
Allowable Service:	Service while in an eligible position.	
Salary:	Salary upon which Elective State Officers Retirement Plan contributions have been made.	
Average Salary:	Average of the five highest successive years of salary.	

RETIREMENT

Normal Retirement Benefit:

Eligibility:	Age 62 and eight years of Allowable Service.
Amount:	2.5% of Average Salary for each year of Allowable Service.

Early Retirement Benefit:

Eligibility:	Age 60 and eight years of Allowable Service.
Amount:	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with reduction of 0.5% for each month the Member is under age 62 at time of retirement.
Form of Payment:	Life annuity
Benefit Increases:	Adjusted by MSRS to provide same increase as MPRIF.

Page 19

DISABILITY

None

DEATH

Surviving Spouse Benefit:

Eligibility:	Death while active or after retirement or with at least eight years of Allowable Service.
Amount:	Survivor's payment of 50% of the retirement benefit of the Member assuming the Member had attained age 62 and had a minimum of eight years of Allowable Service. Benefit is paid for life. A former Member's benefit is augmented the same as a Deferred Annuity to date of death before determining the portion payable to the spouse.

Surviving Dependent Child Benefit:

Eligibility:	Same as spouse's benefit.
Amount:	Benefit for first child is 25% of the retirement benefit (computed as for surviving spouse) with 12.5% for each additional child. Maximum payable (including spouse) is 100% of the retirement benefit. Benefits cease when a child marries or attains age 18 (22 if a full-time student).
Benefit Increases:	Adjusted by MSRS to provide same increase as MPRIF.

TERMINATION

Refund of Contributions:

Eligibility:	Termination of service.
Amount:	Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989 and 6% interest compounded annually if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund.

Deferred Benefit:			
Eligibility:	Eight years of Allowable Service.		
Amount:	Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before $7/1/79$; 5% from $7/1/79$ to $1/1/81$; and 3% until age 55; and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.		

SIGNIFICANT CHANGES

None.

R:\CLIENT\06MSE\REPORTS\MSE.DOC

Judges Retirement Fund ACTUARIAL VALUATION REPORT

July 1, 1996





\$

MILLIMAN & ROBERTSON, INC. Actuaries & Consultants

Internationally WOODROW MILLIMAN

Suite 400, 15800 Bluemound Road, Brookfield, Wisconsin 53005-6069 Telephone: 414/784-2250 Fax: 414/784-7287

November 19, 1996

Legislative Commission on Pensions and Retirement 55 State Office Building St. Paul, Minnesota 55155

RE: Judges Retirement Fund

Commission Members:

Pursuant to the terms of our Actuarial Services Contract, we have performed an actuarial valuation of the Fund as of July 1, 1996.

The results of our calculations are set forth in the following report, as are the actuarial assumptions upon which our calculations have been made. We have relied on the basic employee data and asset figures as submitted by the Minnesota State Retirement System.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on July 8, 1992.

Respectfully submitted,

MILLIMAN & ROBERTSON, INC.

how K. Cut

Thomas K. Custis, F.S.A., M.A.A.A. Consulting Actuary

William V, Abgan

William V. Hogan, F.S.A., M.A.A.A. Consulting Actuary

TKC/WVH/bh

Albany, Atlanta, Boston, Chicago, Dallas, Denver, Hartford, Houston, Indianapolis, Irvine, Los Angeles, Milwaukee, Minneapolis, New York, Omaha, Philadelphia, Phoenix, Portland, ME, Portland, OR, St. Louis, Salt Lake City, San Diego, San Francisco, Seattle, Tampa, Washington, D.C., Bermuda, Tokyo

Judges Retirement Fund

Table of Contents

Page

1

REPORT	HIGHLIGHTS

COMMENTARY

Purpose	2
Report Highlights	2
Asset Information	2
Actuarial Balance Sheet	3
GASB Disclosure	3
Actuarial Cost Method	4
Sources of Actuarial Gains and Losses	4
Contribution Sufficiency	4
Changes in Actuarial Assumptions	5
Changes in Plan Provisions	5
SET INFORMATION	

ASSET INFORMATION

Table 1 -	Accounting Balance Sheet	6
Table 2 -	Changes in Assets Available for Benefits	7

MEMBERSHIP DATA

Table 3 -	Active Members	8
Table 4 -	Service Retirements	9
Table 5 -	Survivors	10
Table 6 -	Disability Retirements	11
Table 7 -	Reconciliation of Members	12

FUNDING STATUS

Table 8 -	Actuarial Balance Sheet	13
Table 9 -	Determination of Unfunded Actuarial Accrued Liability	
	(UAAL) and Supplemental Contribution Rate	14
Table 10 -	Changes in Unfunded Actuarial Accrued Liability (UAAL)	15
Table 11 -	Determination of Contribution Sufficiency	16
Table of Contents (Continued)

ACTUARIAL A	SSUMPTIONS	Page
Table 12 -	Summary of Actuarial Assumptions and Methods	17
PLAN PROVISI	IONS	
Table 13 -	Summary of Plan Provisions - Basic Summary of Plan Provisions - Coordinated	21 25

Report Highlights

(dollars in thousands)

		07/01/95 Valuation	07/01/96 Valuation
А.	CONTRIBUTIONS (Table 11)1. Statutory Contributions - Chapter 490% of Payroll	28.36%	28.36%
	 Required Contributions - Chapter 356 % of Payroll 	27.32%	27.01%
	3. Sufficiency (Deficiency): (A.1 A.2.)	1.04%	1.35%
B.	FUNDING RATIOS 1. Accrued Benefit Funding Ratio		
	a. Current Assets (Table 1)	\$56,813	\$64,851
	b. Current Benefit Obligations (Table 8)	\$98,797	\$104,517
	c. Funding Ratio: (a/b)	57.50%	62.05%
	2. Accrued Liability Funding Ratio		
	a. Current Assets (Table 1)	\$56,813	\$64,851
	b. Actuarial Accrued Liability (Table 9)	\$102,238	\$108,150
	c. Funding Ratio: (a/b)	55.57%	59.96%
	3. Projected Benefit Funding Ratio (Table 8)		
	a. Current and Expected Future Assets	\$150,654	\$158,805
	b. Current and Expected Future Benefit Obligations	\$145,951	\$152,679
	c. Funding Ratio: (a/b)	103.22%	104.01%
C.	PLAN PARTICIPANTS 1. Active Members		
	a. Number (Table 3)	271	279
	b. Projected Annual Earnings	\$23,429	\$24,206
	c. Average Annual Earnings (Actual \$)	\$86,454	\$86,761
	d. Average Age	53.0	53.6
	e. Average Service	10.6	10.9
	2. Others		
	a. Service Retirements (Table 4)	131	133
	 D. Survivors (Table 5) Dissbility Definements (Table 6) 		76
	d. Deformed Patirements (Table 7)	7	
	e Terminated Other Non-vested (Table 7)	/ 1	0 1
	f. Total	223	223

Commentary

Purpose

The purpose of this valuation is to determine the financial status of the Plan. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The financial status of the Plan can be measured by three different funding ratios:

- ^o The Accrued Benefit Funding Ratio is a measure of current funding status and, when viewed over a period of years, presents a view of the funding progress. It is based upon benefits which have been earned by service to the valuation date. This year's ratio is 62.05%. The corresponding ratio for the prior year was 57.50%.
- ^o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 1996 the ratio is 59.96%, which is an increase from the 1995 value of 55.57%.
- ^o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 104.01% verifies that the current statutory contributions are sufficient.

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gain and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is shown in Table 1 on lines F1 to F6. It combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets", the latter phrase will be used in the remainder of this report.

This Plan participates in the Minnesota Post Retirement Investment Fund (i.e. MPRIF). After the MPRIF liability has been calculated for each participating Plan, the State Board of Investments, (i.e. SBI), will determine each Plan's portion of the excess earnings for the January benefit increase as well as the Plan's allocated market share of MPRIF.

Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

The Current Benefit Obligation used to measure current funding levels is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

- ° For Active Members salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.
- ° For Non-active Members the discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

The Current Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 uses the terms "Actuarial Present Value of Credited Projected Benefits" and "Pension Benefit Obligation" rather than "Current Benefit Obligation".

The JULY 1, 1996 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the following table:

Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$61,237,000
Current Employees	
Accumulated employee contributions including allocated investment income	\$15,834,000
Employer-financed vested	18,368,000
Employer-financed nonvested	9,078,000
Total Pension Benefit Obligation	\$104,517,000
Net Assets Available for Benefits at Cost	\$64,515,000
Total Benefit Obligation less Assets	\$40,002,000
Funded Ratio	61.73%

Actuarial Cost Method (Table 9)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level percentage of payroll.

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active Members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

The payments will increase 6.50% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years, the annual payment will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. For a detailed analysis of the major components, refer to Table 10.

Contribution Sufficiency (Table 11)

This report determines the adequacy of Statutory Contributions by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

- ° Normal costs based on the Entry Age Normal Actuarial Cost Method.
- ° A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability.
- [°] An Allowance for Expenses.

Table 11 shows the Plan has a contribution sufficiency since the Statutory Contribution Rate is 28.36% compared to the Required Contribution Rate of 27.01%.

Changes in Actuarial Assumptions

There were no changes in actuarial assumptions since the last valuation.

Changes in Plan Provisions

There were no changes in plan provisions since the last valuation which impacted funding costs.

Accounting Balance Sheet (dollars in thousands)

JULY 1, 1996

		Market Value	Cost Value
Α.	ASSETS		
	1. Cash, Equivalents, Short-term Securities	\$2,499	\$2,499
	2. Investments		
	a. Fixed Income	3,640	3,745
	b. Equity	11,336	10,182
	c. Real Estate	595	635
	3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	48,462	48,462
	4. Other	135	135
B.	TOTAL ASSETS	\$66,667	\$65,658
C.	AMOUNTS CURRENTLY PAYABLE	\$1,143	\$1,143
D.	ASSETS AVAILABLE FOR BENEFITS		
	1. Member Reserves	\$9,535	\$9,535
	2. Employer Reserves	(4,488)	(5,497)
	3. MPRIF Reserves	48,462	48,462
	4. Non-MPRIF Reserves	12,015	12,015
	5. Total Assets Available for Benefits	\$65,524	\$64,515
E.	TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	\$66,667	\$65,658
F.	DETERMINATION OF ACTUARIAL VALUE OF ASSET	S	
	1. Cost Value of Assets Available		\$64,515
	for Benefits (D5)		
	2. Market Value (D5)	\$65,524	
	3. Cost Value (D5)	64,515	
	4. Market Over Cost: (F2-F3)	\$1,009	
	5. $1/3$ of Market Over Cost: $(F4)/3$		336
	6. Actuarial Value of Assets (F1+F5)		\$64,851

(Same as "Current Assets")

Change In Assets Available For Benefits

(dollars in thousands)

YEAR ENDING JUNE 30, 1996

		Market Value	Cost Value
A.	ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$57,169	\$56,636
B.	OPERATING REVENUES		
	 Member Contributions Employer Contributions Investment Income MPRIF Income Net Realized Gain (Loss) Other 	\$1,426 4,972 1,860 4,895 77 1,483	\$1,426 4,972 1,860 4,895 77 1,483
	7. Net Change in Unrealized Gain (Loss)	476	0
~	8. Total Revenue	\$15,189	\$14,713
C.	OPERATING EXPENSES		
	 Service Retirements Disability Benefits Survivor Benefits Refunds Investment Fees Administrative Expenses Other Total Disbursements 	\$6,761 0 0 20 32 21 \$6,834	\$6,761 0 0 20 32 21 \$6,834
D.	OTHER CHANGES IN RESERVES	0	0
E.	ASSETS AVAILABLE AT END OF PERIOD	\$65,524	\$64,515

JUDGES RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1996

	Years of Service									
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>	
<25	0	0	0	0	0	0	0	0	0	
25-29	0	0	0	0	0	0	0	0	0	
30-34	0	0	0	0	0	0	0	0	0	
35-39	0	5	1	0	0	0	0	0	6	
40-44	2	14	5	1	0	0	0	0	22	
45-49	6	14	32	13	2	0	0	0	67	
50-54	2	10	22	20	7	1	0	0	62	
55-59	3	6	12	15	12	8	1	0	57	
60-64	0	3	6	6	7	9	5	1	37	
65+	0	1	9	1	4	8	3	2	28	
ALL	13	53	87	56	32	26	9 9	3	279	

AVERAGE ANNUAL EARNINGS

	Years of Service									
Age	<1	<u>1-4</u>	<u>5-9</u>	10-14	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>ALL</u>	
<25	0	0	0	0	0	0	0	0	0	
25-29	0	0	0	0	0	0	0	0	0	
30-34	0	0	0	0	0	0	0	0	0	
35-39	0	83,495	83,495	0	0	0	0	0	83,495	
40-44	78,717	83,380	84,585	80,283	0	0	0	0	83,089	
45-49	74,482	84,065	83,593	84,458	83,495	0	0	0	83,041	
50-54	79,096	86,064	83,495	81,994	84,302	88,945	0	0	83,392	
55-59	66,424	85,083	87,890	84,210	83,842	84,016	83,495	0	84,023	
60-64	0	87,128	84,860	83,495	84,906	85,169	93,750	83,495	86,071	
65+	0	83,495	86,521	94,396	87,582	84,855	83,495	83,495	85,829	
ALL	74,347	84,485	84,607	83,511	84,621	84,863	89,192	83,495	84,012	

PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE

Age	<u><1</u>	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	ALL
All	1,041	4,477	7,360	4,676	2,707	2,206	802	250	23,523

Page 8 R\CLIENT\06MLC\ACTSHL DOC

TABLE 4

JUDGES RETIREMENT FUND

	YEARS RETIRED									
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL		
<50	0	0	0	0	0	0	0	0		
50-54	0	0	0	0	0	0	0	0		
55-59	1	1	0	0	0	0	0	2		
60-64	1	0	0	0	0	0	0	1		
65-69	4	16	5	0	0	0	0	25		
70-74	0	22	20	2	0	0	0	44		
75-79	0	0	18	5	0	0	0	23		
80-84	0	0	0	15	10	0	0	25		
85+	0	0	0	· 1	5	6	1	13		
ALL	6	39	43	23	15	6	1	133		

SERVICE RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

	YEARS RETIRED									
<u>Age</u>	<1	1-4	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL		
<50	0	0	0	0	0	0	0	0		
50-54	0	0	0	0	0	0	0	0		
55-59	47,113	31,801	0	0	0	0	0	39,457		
60-64	14,672	0	0	0	0	0	0	14,672		
65-69	29,772	38,723	31,231	0	0	0	0	35,792		
70-74	0	40,495	33,083	46,566	0	0	0	37,402		
75-79	0	0	36,200	30,731	0	0	0	35,011		
80-84	0	0	0	43,312	52,306	0	0	46,910		
85+	0	0	0	9,608	39,586	38,080	43,361	36,875		
ALL	30,146	39,545	34,172	39,395	48,066	38,080	43,361	38,282		

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
All	180	1,542	1,469	906	720	228	43	5,091

JUDGES RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1996

_	I EARS SINCE DEATH										
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>			
<50	1	0	0	2	0	0	0	3			
50-54	0	0	1	1	0	0	0	2			
55-59	0	0	1	1	0	0	0	2			
60-64	0	1	0	0	0	0	0				
65-69	1	5	4	1	1	1	0	13			
70-74	1	2	1	2	0	2	1	9			
75-79	0	4	2	2	0	1	1	10			
80-84	0	4	2	0	2	4	2	14			
85+	0	1	3	- 0	2	7 1919 - 1919 - 1940	9 1. 1919 - 1919 - 1	22			
ALL	3	17	14	9	5	15	13	76			

YEARS SINCE DEATH

AVERAGE ANNUAL BENEFIT

			Y	EARS SIN	CE DEATH	H		
Age	<1	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
<50	22,245	0	0	24,465	0	0	0	23,725
50-54	0	0	21,277	36,684	0	0	0	28,981
55-59	0	0	21,352	20,265	0	0	0	20,809
60-64	0	28,966	0	0	0	0	0	28,966
65-69	7,441	21,125	23,453	14,815	14,438	13,837	0	19,228
70-74	17,674	24,139	37,460	23,811	0	10,554	21,681	21,536
75-79	0	29,212	18,974	31,186	0	7,079	42,965	26,721
80-84	0	17,435	15,210	0	26,799	15,604	13,772	17,408
85+	0	14,454	23,573	0	18,396	22,721	16,692	19,602
ALL	15,787	22,583	22,356	25,632	20,966	17,566	18,648	20,864

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	ALL
All	47	383	312	230	104	263	242	1,585

TABLE 6

JUDGES RETIREMENT FUND

				YEARS D	ISABLED			
Age	<1	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>ALL</u>
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	- 11 0
60-64	0	0	1	0	0	0	0	1
65-69	0	0	0	0	0	0	0	0
70-74	0	0	1	1	1	0	0	3
75-79	0	0	0	2	0	0	0	2
80-84	0	0	0	1	0	0	0	1
85+	0	0	0	· 0	0	0	0	0
ALL	0	0	2	4	1	0	0	алар суластика 7 алар суластика 7

DISABILITY RETIREMENTS AS OF JUNE 30, 1996

AVERAGE ANNUAL BENEFIT

			•	YEARS I	DISABLED			
Age	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	20-24	<u>25+</u>	ALL
<50	0	0	0	0	0	0	0	0
50-54	0	0	0	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0
60-64	0	0	24,039	0	0	0	0	24,039
65-69	0	0	0	0	0	0	0	0
70-74	0	0	36,737	44,866	31,798	0	0	37,800
75-79	0	0	0	46,075	0	0	0	46,075
80-84	0	0	0	32,253	0	0	0	32,253
85+	0	0	0	0	0	0	0	0
ALL	0	0	30,388	42,317	31,798	0	0	37,406

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED

_							a	
Age	<1	1-4	<u>5-9</u>	10-14	15-19	20-24	25+	ALL
A 11	- <u> </u>	0	60 776	160 260	21 700		^	261 042
Ali	U U	U	00,770	109,208	51,798	U	U.,	201,842

Reconciliation Of Members

			Terminated		
			Deferred	Other	
		Actives	Retirement	Non-Vested	
A.	ON JUNE 30, 1995	271	7	1	
B.	ADDITIONS	16	0	0	
C.	DELETIONS				
	1. Service Retirement	(5)	(1)	0	
	2. Disability	0	0	0	
	3. Death	. (1)	0	0	
	4. Terminated - Deferred	(2)	0	0	
	5. Terminated - Refund	0	0	0	
	6. Terminated - Other Non-Vested	0	0	0	
	7. Returned as Active	0	0	0	
	8. Transferred to Other Fund	0	0	0	
D.	DATA ADJUSTMENTS	0	0	0	
	Vested	213			
	Non-Vested	66			
E.	TOTAL ON JUNE 30, 1996	279	6	1	

		Recipients			
		Retirement	D'1.1.1	<u> </u>	
		Annuitants	Disabled	Survivors	
A.	ON JUNE 30, 1995	131	7	77	
B.	ADDITIONS	6	0	4	
C.	DELETIONS				
	1. Service Retirement	0	0	0	
	2. Death	(4)	0	(4)	
	3. Annuity Expired	0	0	0	
	4. Returned as Active	0	0	0	
D.	DATA ADJUSTMENTS	0	0	(1)	
E.	TOTAL ON JUNE 30, 1996	133	7	76	

	Judges R	letirement Fund		
	Actuarial (dollar.	Balance Sheet s in thousands)		
	JUI	LY 1, 1996		
A.	CURRENT ASSETS (TABLE 1, F6)			\$64,851
В.	 EXPECTED FUTURE ASSETS 1. Present Value of Expected Future Statutory Supplemental Contribution 2. Present Value of Future Normal Costs 3. Total Expected Future Assets 	ns (See Table 11)	_	\$49,425
C.	TOTAL CURRENT AND EXPECTED F	UTURE ASSETS		\$158,805
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
	 a. Retirement Annuities b. Disability Benefits c. Surviving Spouse and Child Benefits 		\$43,649 2,765 14,064	\$43,649 2,765 14,064
	2. Deferred Retirements with Future Augr	mentation	759	759
	3. Former Members without Vested Right	S	0	0
	 4. Active Members a. Retirement Annuities b. Disability Benefits c. Survivor's Benefits d. Deferred Retirements e. Refund Liability Due to Death or Withdrawal 	1,673 2,583 4,822 0 0	33,809 0 0 0 393	35,482 2,583 4,822 0 393
	5. Total Current Benefit Obligations	\$9,078	\$95,439	\$104,517
E.	EXPECTED FUTURE BENEFIT OBLIG	ATIONS		\$48,162
F.	TOTAL CURRENT AND EXPECTED F	UTURE BENEFIT O	BLIGATIONS _	\$152,679
G.	CURRENT UNFUNDED ACTUARIAL I	LIABILITY (D5-A)		\$39,666
H.	CURRENT AND FUTURE UNFUNDED	ACTUARIAL LIAB	ILITY (F-C)	(\$6,126)

Page 13

.

Determination Of Unfunded Actuarial Accrued Liability (UAAL) And Supplemental Contribution Rate

(dollars in thousands)

JULY 1, 1996

	Actuarial	Actuarial	
	Present Value	Present Value	Actuarial
	of Projected	of Future	Accrued
	(I) Benefits	<u>(2)</u>	$\frac{1.1ability}{(3)=(1)-(2)}$
A. DETERMINATION OF ACTUARIAL $ACCOULD I IADH ITV(AAT)$.,		
ACCRUED LIABILITY (AAL)			
a Detirement Annuities	\$76 365	\$35 558	\$40 807
h Disability Benefits	5 006	2 939	2 067
c Survivor's Benefit	9,000	5 684	3 728
d Deferred Retirements	9,112	0	0
e. Refunds Due to Death or Withdrawal	660	348	312
f. Total	\$91,443	\$44,529	\$46,914
2. Deferred Retirements With Future Augmentation	759		759
3. Former Members Without Vested Rights	0		0
4. Annuitants in MPRIF	48,462		48,462
5. Recipients Not in MPRIF	12,015		12,015
6. Total	\$152,679	\$44,529	\$108,150
R DETERMINATION OF UNFUNDED AC?	TIARIAL ACCR		$(\Pi \Delta \Delta I)$
1 AAL (A6)	I UAIGAL ACCK		\$108 150
2. Current Assets (Table 1, F6)			64.851
3. UAAL (B1-B2)			\$43,299
C DETERMINATION OF SUDDI EMENTAL	CONTRIBUTIO	NRATE	
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	h	IN KATE	\$452,612
2. Supplemental Contribution Rate (B3/C1))		9.57%

Page 14

Changes In Unfunded Actuarial Accrued Liability (UAAL) (dollars in thousands)

YEAR ENDING JUNE 30, 1996

А.	UAAL AT BEGINNING OF YEAR	\$45,425
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	 Normal Cost and Expenses Contribution Interest on A, B1 and B2 	\$4,048 (6,398) 3,761
	4. Total (B1+B2+B3)	\$1,411
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	\$46,836
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	 Salary Increases Investment Return MPRIF Mortality Mortality of Other Benefit Recipients Other Items 	(\$3,220) (905) 1,057 150 (619)
	6. Total	(\$3,537)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D6)	\$43,299
F.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	0
G.	CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H.	UAAL AT END OF YEAR (E+F+G)	\$43,299

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1996

		Percent of	Dollar A mount
A.	STATUTORY CONTRIBUTIONS - CHAPTER 490	rayion	Amount
	1. Employee Contributions	6.36%	\$1,540
	2. Employer Contributions	22.00%	5,325
	3. Total	28.36%	\$6,865
B.	REQUIRED CONTRIBUTIONS - CHAPTER 356		
	1. Normal Cost		
	a. Retirement Benefits	13.86%	\$3,354
	b. Disability benefits	1.07%	258
	c. Survivors	2.19%	529
	d. Deferred Retirement Benefits	0.00%	0
	e. Refunds Due to Death or Withdrawal	0.18%	44
	f. Total	17.30%	\$4,185
	2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	9.57%	2,317
	3. Allowance for Expenses	0.14%	34
	4. Total	27.01%	\$6,536
C.	CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	1.35%	\$329

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1996 is \$24,206.

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	Pre-Retirement: 8.5% per annum
	Post-Ketifement: 5.0% per annum
Salary Increases:	Statutory salary rate as prescribed in Chapter 345, Article I, Sec. 28, through January 1, 1996 and 6.5% per year thereafter.
Mortality:	Pre-Retirement:
,	Male -1971 Group Annuity Mortality TableFemale -1971 Group Annuity Mortality Table malerates set back eight years
	Post-Retirement:
	Male - Same as above
	Female - Same as above
	Post-Disability:
	Male - Same as above
	Female - Same as above
Retirement Age:	<i>Judges</i> : Age 68 or, if over age 68, one year from the valuation date.
	Supreme Court Justices in Pre-1974 Plan: Latest of age 70, 12 years of service, or one year from valuation date.
Separation:	None
Disability:	Rates adopted by MSRS based on actual experience, most recently adjusted in 1979, as shown in rate table.
Expenses:	Prior year administration expenses expressed as percentage of prior year payroll.
Return of	
Contributions:	N/A
Family Composition:	Marital status as indicated by data. Female is three years younger than male.

Social Security:	N/A
Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method based on earnings and the date the employee entered the plan is applied to all plan benefits. Under this method, Actuarial Gains (Losses) reduce (increase) the Unfunded Actuarial Accrued Liability.
Asset Valuation Method:	Cost Value plus one-third Unrealized Gains or Losses.
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.5% per annum.

Summary of Actuarial Assumptions and Methods

	Death		Withdrawal		Disability		Retirement	
Age	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
20	5	4	0	0	0	0	0	0
21	5	4	0	0	0	0	0	0
22	5	4	0	0	0	0	0	0
23	6	4	0	0	0	0	0	0
24	6	4	0	0	0	0	0	0
25	6	5	0	0	0	0	0	0
26	7	5	0	0	0	0	0	0
27	7	5	0	0	0	0	0	0
28	7	5	0	0	0	0	0	0
29	8	5	0	0	0	0	0	0
30	8	5	0	0	2	0	0	0
31	9	6	0	0	2	0	0	0
32	9	6	0	0	2	0	0	0
33	10	6	0	0	2	0	0	0
34	10	7	0	0	2	0	0	0
35	11	7	0	0	2	1	0	0
36	12	7	0	0	2	1	0	0
37	13	8	0	0	2	1	0	0
38	14	8	0	0	2	1	0	0
39	15	9	0	0	2	2	0	0
40	16	9	0	0	2	2	0	0
41	18	10	0	0	2	2	0	0
42	20	10	0	0	2	4	0	0
43	23	11	0	0	3	4	0	0
44	26	12	0	0	3	4	0	0
45	29	13	0	0	3	5	0	0
46	33	14	0	0	5	6	0	0
47	38	15	0	0	7	7	0	0
48	42	16	0	0	9	7	0	0
49	47	18	0	0	11	10	0	0

Separation Expressed as Number of Occurrences Per 10,000:

Page 19

Summary of Actuarial Assumptions and Methods

	Death		<u>Withdrawal</u>		Disability		Retirement	
<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	Female	<u>Male</u>	Female
50	53	20	0	0	14	10	0	0
51	59	23	0	0	16	12	0	0
52	65	26	0	0	20	14	0	0
53	71	29	0	0	24	16	0	0
54	78	33	0	0	28	20	0	0
55	85	38	0	0	34	24	0	0
56	93	42	0	0	40	30	0	0
57	100	47	0	0	46	36	0	0
58	109	53	0	0	56	44	0	0
59	119	59	0	0	66	52	0	0
60	131	65	0	0	76	62	0	0
61	144	71	0	0	90	74	0	0
62	159	78	0	0	110	88	0	0
63	174	85	0	0	136	104	0	0
64	192	93	0	0	174	122	0	0
65	213	100	0	0	0	0	0	0
66	236	109	0	0	0	0	0	0
67	263	119	0	0	0	0	0	0
68	292	131	0	0	0	0	10,000	10,000
69	324	144	0	0	0	0	0	0
70	361	159	0	0	0	0	0	0

Separation Expressed as Number of Occurrences Per 10,000:

Summary of Plan Provisions

GENERAL

Eligibility:	A judge or justice of any court who is not covered under the Social Security Act. If the Member was active prior to 1/1/74, benefits may be computed according to provisions of the prior plan.
Contributions:	
Member:	8.15% of salary. Members who were active prior to 1/1/74 may contribute 4% to a special survivor retirement account.
Employer:	22% of salary.
Allowable Service:	Service as a judge. Half credit is received for service not compensated at an annual salary or for service while entitled to practice law. Credit may also be earned for uncredited judicial service if the appropriate employee contributions, with interest, are made.
Salary:	Salary set by law.
Average Salary:	Average of the five highest years of salary of the last 10 years prior to retirement.

RETIREMENT

Normal Retirement Benefit:

Eligibility:	Age 65 and five years of Allowable Service. Age 70.
Amount:	2.5% of average salary for each year of Allowable Service prior to 7/1/80 and 3% of Average Salary for each year of Allowable Service after 6/30/80. Maximum benefit of 65% of salary for the 12 months preceding retirement.

Early Retirement Benefit:

Eligibility:	Age 62 and five years of Allowable Service.
Amount:	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with reduction of 0.5% for each month the Member is under age 65 at time of retirement.
Form of Payment:	Life annuity. Actuarial equivalent options are:
	 - 50% or 100% joint and survivor - 50% or 100% bounce back joint and survivor - 10 or 15 year certain and life
Benefit Increases:	Benefits may be increased each January 1 de- pending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF).

DISABILITY

Disability Benefit:

Eligibility:	Permanent inability to perform the functions of judge.
Amount:	No benefit is paid by the Fund. Instead salary is continued for one year but not beyond age 70. Employee contributions continue and Allowable Service is earned.

Retirement After Disability:

Eligibility:	Member is still disabled after salary payments cease after one year or at age 70, if earlier.
Amount:	Larger of 25% of Average Salary or the Normal Retirement Benefit, without reduction.
Benefit Increases:	Same as for retirement.

DEATH

Survivor's	Benefit:
------------	----------

Eligibility:	Active or disabled Member dies before retirement or a former Member eligible for a deferred annuity dies.
Amount:	Larger of 25% of Average Salary or 60% of Normal Retirement Benefit had the Member retired at date of death.
	Benefit paid to spouse for life. If no spouse, benefit is paid to surviving dependent children until child marries, dies, or attains age 18 (age 22 if full-time student).
Benefit Increases:	Same as for retirement.
Prior Survivors' Benefit:	
Eligibility:	Retired Member dies who did not elect an optional annuity and such Member retired prior to $1/1/74$ or was in office prior to $1/1/74$ and continued contributing 4% of pay to provide this post-retirement death benefit.
Amount:	50% of the retired Member's benefit continues to the surviving spouse if married three years. Benefit begins immediately unless spouse is not yet age 40 and continues to death.
Benefit Increases:	Adjusted by MSRS to provide same increase as MPRIF.
Refund of Contributions :	
Eligibility:	Member dies prior to retirement or former Member eligible for a deferred annuity dies and survivors' benefits are not payable.
Amount:	Member's contributions with 5% interest.

TERMINATION

Refund of Contributions:

Eligibility:	Termination of service as a judge.
Amount:	Member's contributions with 5% interest. A deferred annuity may be elected in lieu of a refund.
Deferred Benefit:	
Eligibility:	Five years of Allowable Service.
Amount:	Benefit computed under law in effect at termination. Amount is payable as a normal or early retirement annuity.

SIGNIFICANT CHANGES:

None.

Summary of Plan Provisions

GENERAL

Eligibility:	A judge or justice of any court who is covered under the Social Security Act.		
Contributions:			
Member:	6.27% of salary. (Amended 1992)		
Employer:	22% of salary.		
Allowable Service:	Service as a judge. Half credit is received for service not compensated at an annual salary or for service while entitled to practice law. Credit may also be earned for uncredited judicial service if the appropriate employee contributions, with interest, are made.		
Salary:	Salary set by law.		
Average Salary:	Average of the five highest years of salary of the last 10 years prior to retirement.		

RETIREMENT

Normal Retirement Benefit:

Eligibility:	Age 65 and five years of Allowable Service. Age 70.
Amount:	2.5% of average salary for each year of Allowable Service prior to 7/1/80 and 3% of Average Salary for each year of Allowable Service after 6/30/80. Maximum benefit of 65% of salary for the 12 months preceding retirement. (Amended 1992)

Early Retirement Benefit:

Eligibility:	Age 62 and five years of Allowable Service.
Amount:	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with reduction of 0.5% for each month the Member is under age 65 at time of retirement.

Form of Payment:	Life annuity:
	 - 50% or 100% joint and survivor - 50% or 100% bounce back joint and survivor - 10 or 15 year certain and life
Benefit Increases:	Benefits may be increased each January 1 de- pending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF).

.

DISABILITY

Disability Benefit:

Eligibility:	Permanent inability to perform the functions of judge.
Amount:	No benefit is paid by the Fund. Instead salary is continued for one year but not beyond age 70. Employee contributions continue and Allowable Service is earned.

Retirement After Disability:

Eligibility:	Member is still disabled after salary payments cease after one year or at age 70, if earlier.
Amount:	Larger of 25% of Average Salary or the Normal Retirement Benefit, without reduction.
Benefit Increases:	Same as for retirement.

DEATH

Eligibility:	Active or disabled Member dies before retirement or a former Member eligible for a deferred annuity dies.	
Amount:	Larger of 25% of Average Salary or 60% of Normal Retirement Benefit had the Member retired at date of death.	
	Benefit paid to spouse for life. If no spouse, benefit is paid to surviving dependent children until child marries, dies, or attains age 18 (age 22 if full-time student).	
Benefit Increases:	Same as for retirement.	
Refund of Contributions :		
Eligibility:	Member dies prior to retirement or former Member eligible for a deferred annuity dies and survivors' benefits are not payable.	
Amount:	Member's contributions with 5% interest.	

TERMINATION

Refund of Contributions:

Eligibility:	Termination of service as a judge.	
Amount:	Member's contributions with 5% interest. may be elected in lieu of a refund.	A deferred annuity

TABLE 13COORDINATED(Continued)

Deferred Benefit:

Eligibility:	Five years of Allowable Service.
Amount:	Benefit computed under law in effect at termination. Amount is payable as a normal or early retirement annuity.

.

SIGNIFICANT CHANGES:

None.

\ر

R:\CLIENT\06MSJ\REPORTS\MSJ.DOC