State Employees Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 1994

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December 16, 1994

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, 1994.

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,

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State Employees Retirement Fund

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State Employees Retirement Fund

Report Highlights

(dollars in thousands)

	07/01/93 Valuation	07/01/94 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 352 % of Payroll	8.27%	8.27%
2. Required Contributions - Chapter 356 % of Payroll	8.93%	9.15%
3. Sufficiency (Deficiency): (A.1. - A.2.)	-0.66%	-0.88%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$2,905,578	$3,158,068
b. Current Benefit Obligations (Table 8)	$3,057,914	$3,376,267
c. Funding Ratio: (a/b)	95.02%	93.54%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$2,905,578	$3,158,068
b. Actuarial Accrued Liability (Table 9)	$3,563,492	$3,876,584
c. Funding Ratio: (a/b)	81.54%	81.47%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$4,349,352	$4,604,302
b. Current and Expected Future Benefit Obligations	$4,579,963	$4,872,195
c. Funding Ratio: (a/b)	94.96%	94.50%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	48,830	49,365
b. Projected Annual Earnings	$1,694,520	$1,789,033
c. Average Annual Earnings (Actual $)	$34,702	$36,241
d. Average Age	42.0	42.2
e. Average Service	10.6	10.8
2. Others		
a. Service Retirements (Table 4)	13,171	13,924
b. Disability Retirements (Table 5)	779	800
c. Survivors (Table 6)	1,117	1,207
d. Deferred Retirements (Table 7)	3,839	4,818
e. Terminated Other Non-vested (Table 7)	4,492	4,744
f. Total	23,398	25,493

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:

- ° 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 93.54%. The corresponding ratio for the prior year was 95.02%.

- ° 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 1994 the ratio is 81.47%, which is a decrease from the 1993 value of 81.54%.

- ° The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 94.50% 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, 1994 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	$1,373,458,000
Current Employees	
Accumulated employee contributions including allocated investment income	$779,128,000
Employer-financed vested	1,090,182,000
Employer-financed nonvested	133,499,000
Total Pension Benefit Obligation	$3,376,267,000
Net Assets Available for Benefits at Cost	$3,147,066,000
Total Benefit Obligation less Assets	$229,201,000
Funded Ratio	93.21%

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% 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. It has come to our attention as we have worked with Minnesota Retirement Funds that a source of gain/loss exists with respect to the repayment of refunds by members. As a result of legislation passed, a larger than normal amount of this activity has occurred during the past year. While not specifically quantified due to our concern about complete data, we believe that this item has had an impact on the overall gain/loss of the fund. The impact is included in the amount shown in line D.6. of 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 8.27% compared to the Required Contribution Rate of 9.15%.

Changes in Actuarial Assumptions

Mortality rates were updated to the 1983 Group Annuity Mortality table, salary increases were changed to an age-weighted table and payroll growth was changed from 6.5% to 5%. These changes were made to reflect experience of the plan. The table below illustrates the impact of these assumption changes on key results:

	Without Assumption Changes	With Assumption Changes
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 352 % of Payroll	8.27%	8.27%
2. Required Contributions - Chapter 356 % of Payroll	9.19%	9.15%
3. Sufficiency (Deficiency): (A.1. - A.2.)	-0.92%	-0.88%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$3,158,068	3,158,068
b. Current Benefit Obligations (Table 8)	$3,407,545	3,376,267
c. Funding Ratio: (a/b)	92.68%	93.54%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$3,158,068	3,158,068
b. Actuarial Accrued Liability (Table 9)	$3,938,112	3,876,584
c. Funding Ratio: (a/b)	80.19%	81.47%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$4,681,372	4,604,302
b. Current and Expected Future Benefit Obligations	$5,010,247	4,872,195
c. Funding Ratio: (a/b)	93.44%	94.50%

Changes in Plan Provisions

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

State Employees Retirement Fund

Accounting Balance Sheet

(dollars in thousands)

JULY 1, 1994

	Market Value	Cost Value
A. ASSETS		
1. Cash, Equivalents, Short-term Securities	$73,347	$73,347
2. Investments		
a. Fixed Income	532,881	552,843
b. Equity	1,251,499	1,185,044
c. Real Estate	82,285	95,773
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	1,265,096	1,265,096
4. Other	6,435	6,435
B. TOTAL ASSETS	$3,211,543	$3,178,538
C. AMOUNTS CURRENTLY PAYABLE	$31,472	$31,472
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	$500,436	$500,436
2. Employer Reserves	1,410,048	1,377,043
3. MPRIF Reserves	1,265,096	1,265,096
4. Non-MPRIF Reserves	4,491	4,491
5. Total Assets Available for Benefits	$3,180,071	$3,147,066
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	$3,211,543	$3,178,538

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available for Benefits (D5)		$3,147,066
2. Market Value (D5)	$3,180,071	
3. Cost Value (D5)	3,147,066	
4. Market Over Cost: (F2-F3)	$33,005	
5. 1/3 of Market Over Cost: (F4)/3		11,002
6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		$3,158,068

State Employees Retirement Fund

Change In Assets Available For Benefits

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

	Market Value	Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	$3,024,499	$2,846,117
B. OPERATING REVENUES		
1. Member Contributions	$62,555	$62,555
2. Employer Contributions	60,741	60,741
3. Investment Income	141,531	141,531
4. MPRIF Income	116,710	116,710
5. Net Realized Gain (Loss)	47,609	47,609
6. Other	1,544	1,544
7. Net Change in Unrealized Gain (Loss)	(145,377)	0
8. Total Revenue	$285,313	$430,690
C. OPERATING EXPENSES		
1. Service Retirements	$116,071	$116,071
2. Disability Benefits	0	0
3. Survivor Benefits	0	0
4. Refunds	6,047	6,047
5. Investment Fees	2,857	2,857
6. Administrative Expenses	1,978	1,978
7. Other	2,788	2,788
8. Total Disbursements	$129,741	$129,741
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	$3,180,071	$3,147,066

State Employees Retirement Fund

ACTIVE MEMBERS AS OF JUNE 30, 1994

AGE	YEARS OF SERVICE <1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	933	250	23						1,206
25-29	1,419	1,829	511	33					3,792
30-34	1,128	2,156	2,296	879	53				6,512
35-39	944	2,059	2,429	1,997	1,121	61			8,611
40-44	817	1,633	2,178	1,946	2,050	890	87		9,601
45-49	457	1,208	1,467	1,420	1,574	1,337	775	20	8,258
50-54	271	655	864	776	859	645	966	339	5,375
55-59	143	353	500	537	664	411	449	483	3,540
60-64	63	206	279	313	380	296	197	187	1,921
65+	27	81	92	112	96	70	36	35	549
ALL	6,202	10,430	10,639	8,013	6,797	3,710	2,510	1,064	49,365

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE <1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	16,022	22,416	20,482						17,433
25-29	21,511	28,160	29,587	26,484					25,850
30-34	21,593	30,812	33,867	32,270	28,855				30,473
35-39	22,325	31,717	35,299	35,915	35,011	33,370			33,112
40-44	22,541	33,126	35,873	37,926	39,899	37,590	38,027		35,726
45-49	23,813	32,653	35,708	36,943	41,418	43,786	42,066	38,382	37,815
50-54	25,179	31,625	35,553	37,160	40,079	42,986	44,752	44,663	38,626
55-59	19,344	32,196	34,654	34,753	38,459	41,020	42,064	47,824	37,995
60-64	13,803	30,020	34,490	34,274	38,373	38,917	41,260	46,617	36,622
65+	13,309	24,244	32,438	34,302	37,287	38,255	37,071	42,538	33,206
ALL	21,126	30,931	34,802	36,103	39,118	41,190	42,825	46,253	34,206

AGE	PRIOR FISCAL YEAR EARNINGS (IN MILLIONS) BY YEARS OF SERVICE <1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
ALL	131	322	370	289	265	152	107	49	1,688

TABLE 4

State Employees Retirement Fund

SERVICE RETIREMENTS AS OF JUNE 30, 1994

AGE	YEARS RETIRED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54	1	1						2
55-59	265	272	6					543
60-64	547	975	233					1,755
65-69	377	1,469	1,223	106				3,175
70-74	61	324	1,690	996	17			3,088
75-79	10	40	264	1,602	483	13		2,412
80-84			9	197	1,252	210	13	1,681
85+				3	178	732	355	1,268
ALL	1,261	3,081	3,425	2,904	1,930	955	368	13,924

AVERAGE ANNUAL BENEFIT

AGE	YEARS RETIRED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54	12,471	6,192						9,332
55-59	10,046	8,636	7,443					9,311
60-64	9,370	9,776	8,996					9,546
65-69	9,233	7,791	8,707	10,602				8,409
70-74	10,191	7,665	7,376	8,553	9,056			7,851
75-79	12,744	7,662	6,254	7,149	7,549	4,430		7,148
80-84			6,889	6,797	5,513	6,671	4,353	5,807
85+				7,062	5,389	5,746	4,397	5,321
ALL	9,540	8,478	7,874	7,733	6,042	5,932	4,395	7,650

AGE	TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	12,029	26,120	26,968	22,456	11,661	5,665	1,617	106,518

State Employees Retirement Fund

SURVIVORS AS OF JUNE 30, 1994

AGE	YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	10	13	15	1				39
50-54	10	22	8	4				44
55-59	11	37	15	3			1	67
60-64	18	53	46	11	2		2	132
65-69	26	64	68	49	4	2	1	214
70-74	21	74	50	65	35	2	2	249
75-79	21	56	31	42	30	13	6	199
80-84	3	26	10	13	36	32	10	130
85+	3	16	7	2	8	36	61	133
ALL	123	361	250	190	115	85	83	1,207

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	4,524	4,115	3,924	2,868				4,114
50-54	8,218	6,167	4,430	6,032				6,305
55-59	4,900	6,951	5,435	4,459			3,732	6,115
60-64	8,285	7,834	6,151	5,144	7,400		3,521	7,013
65-69	6,598	7,679	6,669	7,487	2,979	7,261	2,739	7,068
70-74	7,817	6,083	7,069	6,840	5,113	2,091	2,026	6,424
75-79	4,865	7,304	6,919	6,871	6,243	4,291	4,990	6,469
80-84	3,995	6,211	6,805	4,556	6,854	6,568	3,559	6,102
85+	6,102	4,661	6,761	2,287	7,085	6,103	3,914	4,962
ALL	6,493	6,782	6,382	6,636	6,056	5,934	3,878	6,318

AGE	TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	798	2,448	1,595	1,260	696	504	321	7,625

TABLE 6

State Employees Retirement Fund

DISABILITY RETIREMENTS AS OF JUNE 30, 1994

AGE	YEARS DISABLED							
	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	24	55	17	2	1			99
50-54	11	31	6	7	1			56
55-59	26	39	16	5	2	1		89
60-64	17	58	34	13	6			128
65-69	2	27	48	24	11	3		115
70-74			18	72	47	11	5	153
75-79				21	63	11	3	98
80-84				1	21	14	6	42
85+						8	12	20
ALL	80	210	139	145	152	48	26	800

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							
	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	5,312	4,331	3,446	3,685	3,619			4,397
50-54	7,372	6,922	5,078	6,008	5,064			6,665
55-59	5,584	6,285	5,750	4,237	3,559	1,783		5,757
60-64	5,834	6,188	6,030	4,047	4,865			5,820
65-69	6,125	5,911	4,627	5,892	6,619	3,440		5,378
70-74			4,957	6,203	4,361	4,504	4,986	5,329
75-79				5,055	5,143	4,687	3,233	5,015
80-84				3,789	5,083	4,386	5,542	4,885
85+						4,394	3,947	4,126
ALL	5,815	5,792	5,017	5,663	4,957	4,370	4,433	5,349

AGE	TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS DISABLED							
	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	465	1,216	697	821	753	209	115	4,279

State Employees Retirement Fund

Reconciliation Of Members

	Actives	Terminated: Deferred Retirement	Terminated: Other Non-Vested
A. ON JUNE 30, 1993	48,830	3,839	4,492
B. ADDITIONS	4,922	1,514	1,573
C. DELETIONS			
1. Service Retirement	(996)	(190)	0
2. Disability	(63)	(17)	0
3. Death	(57)	(11)	(2)
4. Terminated - Deferred	(842)	0	(26)
5. Terminated - Refund	(1,607)	(127)	(385)
6. Terminated - Other Non-Vested	(1,234)	0	0
7. Returned as Active	0	(190)	(179)
8. Transferred to Other Fund	0	0	(655)
D. DATA ADJUSTMENTS	412	0	(74)
Vested	38,295		
Non-Vested	11,070		
E. TOTAL ON JUNE 30, 1994	49,365	4,818	4,744

	Recipients: Retirement Annuitants	Recipients: Disabled	Recipients: Survivors
A. ON JUNE 30, 1993	13,171	779	1,117
B. ADDITIONS	1,285	87	134
C. DELETIONS			
1. Service Retirement	0	0	0
2. Death	(497)	(64)	(34)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	(35)	(2)	(10)
E. TOTAL ON JUNE 30, 1994	13,924	800	1,207

State Employees Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 1994

A. CURRENT ASSETS (TABLE 1, F6)			$3,158,068
B. EXPECTED FUTURE ASSETS			
1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			$450,623
2. Present Value of Future Normal Costs			995,611
3. Total Expected Future Assets			$1,446,234
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$4,604,302
D. CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
1. Benefit Recipients			
a. Retirement Annuities		$1,149,445	$1,149,445
b. Disability Benefits		40,790	40,790
c. Surviving Spouse and Child Benefits		79,647	79,647
2. Deferred Retirements with Future Augmentation		100,905	100,905
3. Former Members without Vested Rights		2,671	2,671
4. Active Members			
a. Retirement Annuities	11,574	1,551,737	1,563,311
b. Disability Benefits	67,587	0	67,587
c. Survivor's Benefits	48,568	0	48,568
d. Deferred Retirements	5,770	287,693	293,463
e. Refund Liability Due to Death or Withdrawal	0	29,880	29,880
5. Total Current Benefit Obligations	$133,499	$3,242,768	$3,376,267
E. EXPECTED FUTURE BENEFIT OBLIGATIONS			$1,495,928
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$4,872,195
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			$218,199
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			$267,893

State Employees Retirement Fund

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

(dollars in thousands)

JULY 1, 1994

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3)=(1)-(2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	$2,792,943	$616,841	$2,176,102
b. Disability Benefits	124,045	40,800	83,245
c. Survivor's Benefit	83,807	28,084	55,723
d. Deferred Retirements	448,002	196,121	251,881
e. Refunds Due to Death or Withdrawal	49,940	113,765	(63,825)
f. Total	$3,498,737	$995,611	$2,503,126
2. Deferred Retirements With Future Augmentation	100,905		100,905
3. Former Members Without Vested Rights	2,671		2,671
4. Annuitants in MPRIF	1,265,096		1,265,096
5. Recipients Not in MPRIF	4,786		4,786
6. Total	$4,872,195	$995,611	$3,876,584

B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)	
1. AAL (A6)	$3,876,584
2. Current Assets (Table 1, F6)	3,158,068
3. UAAL (B1-B2)	$718,516
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE	
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	$30,447,530
2. Supplemental Contribution Rate (B3/C1)	2.36%

State Employees Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

A. UAAL AT BEGINNING OF YEAR	$657,914
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	$117,467
2. Contribution	(123,296)
3. Interest on A, B1 and B2	55,675
4. Total (B1+B2+B3)	$49,846
C. EXPECTED UAAL AT END OF YEAR (A+B4)	$707,760
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	($11,546)
2. Investment Return	17,620
3. MPRIF Mortality	1,712
4. Mortality of Other Benefit Recipients	(343)
5. Repayment of Refunded Contributions	0
6. Other Items	64,843
7. Total	$72,286
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D7)	$780,046
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	0
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	(61,530)
H. UAAL AT END OF YEAR (E+F+G)	$718,516

State Employees Retirement Fund

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1994

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 352		
1. Employee Contributions	4.07%	$72,814
2. Employer Contributions	4.20%	75,139
3. Total	8.27%	$147,953
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	4.14%	$74,148
b. Disability benefits	0.26%	4,693
c. Survivors	0.18%	3,198
d. Deferred Retirement Benefits	1.29%	23,102
e. Refunds Due to Death or Withdrawal	0.80%	14,399
f. Total	6.67%	$119,540
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	2.36%	42,221
3. Allowance for Expenses	0.12%	2,147
4. Total	9.15%	$163,908
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-0.88%	($15,955)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1994 is $1,789,033.

State Employees Retirement Fund

Summary of Actuarial Assumptions and Methods

Interest:	**Pre-Retirement:** 8.5% per annum **Post-Retirement:** 5.0% per annum
Salary Increases:	Reported salary at valuation date increased according to the rate table below to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for new Members.
Mortality:	**Pre-Retirement:** Male - 1983 Group Annuity Mortality Table for males setback four years. Female - 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 - Combined Annuity Mortality Table Female - Combined Annuity Mortality Table
Retirement Age:	Graded rates beginning at age 58 as shown in rate table. Members who have attained the highest assumed retirement age will retire in one year. In addition, 25% of Members are assumed to retire each year that they are eligible for the Rule of 90.
Separation:	Graded rates based on actual experience developed by the June 30, 1971 experience 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.

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 Members are assumed to be married. 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.
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.

State Employees Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Pre-retirement Death		Withdrawal		Disability		Retirement		
Age	Male	Female	Male	Female	Male	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

State Employees Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Pre-retirement Death		Withdrawal		Disability		Retirement		
Age	Male	Female	Male	Female	Male	Female	Male	Female	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	10,00	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

State Employees Retirement Fund

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.
Salary:	Includes wages, allowances and fees. Excludes lump-sum payments at separation.
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;

OR

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 at any age or former Member if age 50 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.
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:	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.

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.	Number of Active Members	3
2.	Projected Annual Earnings	$116,056
3.	Normal Cost	
	a. Dollar Amount	$ 12,853
	b. Percent of Payroll	11.07%

State Employees Retirement Fund

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.	Number of Active Members	4
2.	Projected Annual Earnings	$244,347
3.	Normal Cost	
	a. Dollar Amount	$ 25,755
	b. Percent of Payroll	10.54%

State Patrol Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 1994

FILE COPY

MILLIMAN & ROBERTSON, INC.

MILLIMAN & ROBERTSON, INC.
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Stuart A. Robertson, F.S.A.
Chairman Emeritus

December 16, 1994

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, 1994.

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,

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

William V. Hogan
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TKC/WVH/bh

State Patrol Retirement Fund

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State Patrol Retirement Fund

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(Continued)

State Patrol Retirement Fund

Report Highlights

(dollars in thousands)

	07/01/93 Valuation	07/01/94 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 352B % of Payroll	23.38%	23.38%
2. Required Contributions - Chapter 356 % of Payroll	21.94%	21.79%
3. Sufficiency (Deficiency): (A.1. - A.2.)	1.44%	1.59%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$244,352	$262,570
b. Current Benefit Obligations (Table 8)	$247,633	$264,307
c. Funding Ratio: (a/b)	98.68%	99.34%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$244,352	$262,570
b. Actuarial Accrued Liability (Table 9)	$258,202	$275,377
c. Funding Ratio: (a/b)	94.64%	95.35%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$359,240	$376,089
b. Current and Expected Future Benefit Obligations	$347,253	$362,973
c. Funding Ratio: (a/b)	103.45%	103.61%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	781	788
b. Projected Annual Earnings	$40,654	$41,462
c. Average Annual Earnings (Actual $)	$52,054	$52,616
d. Average Age	41.8	41.9
e. Average Service	14.8	14.9
2. Others		
a. Service Retirements (Table 4)	377	391
b. Disability Retirements (Table 5)	15	18
c. Survivors (Table 6)	119	120
d. Deferred Retirements (Table 7)	18	21
e. Terminated Other Non-vested (Table 7)	3	3
f. Total	532	553

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:

- ° 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 99.34%. The corresponding ratio for the prior year was 98.68%.
- ° 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 1994 the ratio is 95.35%, which is an increase from the 1993 value of 94.64%.
- ° The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 103.61% 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, 1994 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	$125,240,000
Current Employees	
Accumulated employee contributions including allocated investment income	$49,191,000
Employer-financed vested	67,618,000
Employer-financed nonvested	22,258,000
Total Pension Benefit Obligation	$264,307,000
Net Assets Available for Benefits at Cost	$261,692,000
Total Benefit Obligation less Assets	$2,615,000
Funded Ratio	99.01%

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 6.5% 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 23.38% compared to the Required Contribution Rate of 21.79%.

Changes in Actuarial Assumptions

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

Changes in Plan Provisions

One change was made which resulted in a minor cost decrease. This change is summarized below:

The annual six percent benefit increase for pre-1973 annuitants ended with the July 1, 1994 increase. Increases granted through July 1, 1994 are considered part of the annuity and will be part of the base for post-retirement increases generated by the post-retirement fund.

State Patrol Retirement Fund

Accounting Balance Sheet

(dollars in thousands)

JULY 1, 1994

	Market Value	Cost Value
A. ASSETS		
1. Cash, Equivalents, Short-term Securities	$4,732	$4,732
2. Investments		
a. Fixed Income	40,486	41,991
b. Equity	95,082	90,154
c. Real Estate	6,247	7,035
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	118,567	118,567
4. Other	418	418
B. TOTAL ASSETS	$265,532	$262,897
C. AMOUNTS CURRENTLY PAYABLE	$1,205	$1,205
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	$28,908	$28,908
2. Employer Reserves	110,751	108,116
3. MPRIF Reserves	118,567	118,567
4. Non-MPRIF Reserves	6,101	6,101
5. Total Assets Available for Benefits	$264,327	$261,692
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	$265,532	$262,897

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		$261,692
2. Market Value (D5)	$264,327	
3. Cost Value (D5)	261,692	
4. Market Over Cost: (F2-F3)	$2,635	
5. 1/3 of Market Over Cost: (F4)/3		878
6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		$262,570

State Patrol Retirement Fund

Change In Assets Available For Benefits

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

	Market Value	Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	$252,907	$240,075
B. OPERATING REVENUES		
1. Member Contributions	$3,004	$3,004
2. Employer Contributions	5,159	5,159
3. Investment Income	10,480	10,480
4. MPRIF Income	11,728	11,728
5. Net Realized Gain (Loss)	2,895	2,895
6. Other	0	0
7. Net Change in Unrealized Gain (Loss)	(10,197)	0
8. Total Revenue	$23,069	$33,266
C. OPERATING EXPENSES		
1. Service Retirements	$11,272	$11,272
2. Disability Benefits	0	0
3. Survivor Benefits	0	0
4. Refunds	10	10
5. Investment Fees	214	214
6. Administrative Expenses	66	66
7. Other	87	87
8. Total Disbursements	$11,649	$11,649
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	$264,327	$261,692

State Patrol Retirement Fund
ACTIVE MEMBERS AS OF JUNE 30, 1994

AGE	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
	YEARS OF SERVICE								
<25	10	1							11
25-29	10	29	13						52
30-34	8	31	58	22					119
35-39	3	20	29	77	18				147
40-44	1	7	16	36	54	12			126
45-49		6	6	17	39	70	17		155
50-54		2	1	4	9	40	72	3	131
55-59		2			3	2	24	9	40
60-64								3	3
65+								4	4
ALL	32	98	123	156	123	124	113	19	788

AVERAGE ANNUAL EARNINGS

AGE	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
	YEARS OF SERVICE								
<25	1,030	38,788							4,463
25-29	1,144	41,185	46,128						34,721
30-34	1,145	42,295	47,313	51,252					43,630
35-39	1,245	43,456	47,965	51,451	55,427				49,138
40-44	43,831	51,462	49,730	51,381	52,059	59,990			52,226
45-49		49,801	53,652	52,192	54,928	54,862	51,472		53,971
50-54		50,971	58,283	51,616	56,589	54,611	54,224	52,852	54,375
55-59		51,857			56,872	58,025	57,294	52,083	55,855
60-64								52,443	52,443
65+								50,157	50,157
ALL	2,452	43,654	48,054	51,492	53,910	55,328	54,462	51,856	49,404

AGE	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
	PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE								
ALL	78	4,278	5,910	8,032	6,630	6,860	6,154	985	38,930

State Patrol Retirement Fund

SERVICE RETIREMENTS AS OF JUNE 30, 1994

AGE	YEARS RETIRED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54	1	1						2
55-59	14	41	1					56
60-64	3	18	57					78
65-69	1	6	38	66				111
70-74		2	7	44	25			78
75-79				12	18	11		41
80-84					1	5	7	13
85+						1	11	12
ALL	19	68	103	122	44	17	18	391

AVERAGE ANNUAL BENEFIT

AGE	YEARS RETIRED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54	18,288	27,406						22,847
55-59	25,334	26,629	18,729					26,164
60-64	32,337	31,490	25,143					26,884
65-69	22,726	22,451	28,776	24,661				25,933
70-74		23,027	24,040	28,650	19,252			25,080
75-79				17,879	22,515	17,600		19,840
80-84					21,655	25,812	15,202	19,779
85+						12,940	17,524	17,142
ALL	25,932	27,453	26,346	25,433	20,642	19,741	16,621	24,857

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED

AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	492	1,866	2,713	3,102	908	335	299	9,719

State Patrol Retirement Fund

SURVIVORS AS OF JUNE 30, 1994

	YEARS SINCE DEATH							
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50					1			1
50-54			1					1
55-59		4	1					5
60-64	1	3		3	2	2	1	12
65-69		7	2	6	3		2	20
70-74		5	2	2	4	1	2	16
75-79	1	9			3	5	6	24
80-84	1	1	2		1	2	12	19
85+		3	2			2	15	22
ALL	3	32	10	11	14	12	38	120

AVERAGE ANNUAL BENEFIT

	YEARS SINCE DEATH							
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50					4,794			4,794
50-54			14,136					14,136
55-59		5,666	16,062					7,745
60-64	13,535	12,066		22,415	10,475	11,100	8,725	14,071
65-69		12,317	19,087	24,578	16,515		11,148	17,185
70-74		12,356	19,285	23,672	16,628	5,865	9,329	14,921
75-79	10,310	11,042			10,261	14,556	10,050	11,398
80-84	15,688	14,078	13,671		13,684	15,064	11,812	12,772
85+		11,764	9,449			10,170	11,745	11,396
ALL	13,178	11,113	15,318	23,823	13,305	12,609	11,261	13,132

	TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH							
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	39	355	153	262	186	151	427	1,575

State Patrol Retirement Fund

DISABILITY RETIREMENTS AS OF JUNE 30, 1994

	YEARS DISABLED							
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	1	1						2
50-54	2	1	2	1				6
55-59		1	1					2
60-64			1		2			3
65-69					2	1		3
70-74					1	1		2
75-79								
80-84								
85+								
ALL	3	3	4	1	5	2		18

AVERAGE ANNUAL BENEFIT

	YEARS DISABLED							
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	18,636	16,334						17,485
50-54	24,804	20,326	12,991	12,532				18,075
55-59		27,404	22,442					24,923
60-64			28,355		16,895			20,715
65-69					21,792	21,128		21,571
70-74					21,970	10,091		16,031
75-79								
80-84								
85+								
ALL	22,748	21,355	19,195	12,532	19,869	15,610		19,566

	TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED							
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	68,244	64,065	76,780	12,532	99,345	31,220		352,188

State Patrol Retirement Fund

Reconciliation Of Members

	Actives	Terminated Deferred Retirement	Terminated Other Non-Vested
A. ON JUNE 30, 1993	781	18	3
B. ADDITIONS	32	7	0
C. DELETIONS			
1. Service Retirement	(17)	(2)	0
2. Disability	(3)	0	0
3. Death	0	0	0
4. Terminated - Deferred	(5)	0	0
5. Terminated - Refund	0	0	0
6. Terminated - Other Non-Vested	0	0	0
7. Returned as Active	0	(2)	0
8. Transferred to Other Fund	0	0	0
D. DATA ADJUSTMENTS	0	0	0
Vested	740		
Non-Vested	48		
E. TOTAL ON JUNE 30, 1994	788	21	3

	Recipients Retirement Annuitants	Recipients Disabled	Recipients Survivors
A. ON JUNE 30, 1993	377	15	119
B. ADDITIONS	19	3	5
C. DELETIONS			
1. Service Retirement	0	0	0
2. Death	(6)	0	(4)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	1	0	0
E. TOTAL ON JUNE 30, 1994	391	18	120

State Patrol Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 1994

A.	CURRENT ASSETS (TABLE 1, F6)			$262,570
B.	EXPECTED FUTURE ASSETS			
	1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			$25,923
	2. Present Value of Future Normal Costs			87,596
	3. Total Expected Future Assets			$113,519
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$376,089

D. CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
1. Benefit Recipients			
a. Retirement Annuities		$103,558	$103,558
b. Disability Benefits		4,330	4,330
c. Surviving Spouse and Child Benefits		14,620	14,620
2. Deferred Retirements with Future Augmentation		2,605	2,605
3. Former Members without Vested Rights		127	127
4. Active Members			
a. Retirement Annuities	223	107,616	107,839
b. Disability Benefits	11,375	0	11,375
c. Survivor's Benefits	10,631	0	10,631
d. Deferred Retirements	29	8,870	8,899
e. Refund Liability Due to Death or Withdrawal	0	323	323
5. Total Current Benefit Obligations	$22,258	$242,049	$264,307

E.	EXPECTED FUTURE BENEFIT OBLIGATIONS	$98,666
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS	$362,973
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)	$1,737
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)	($13,116)

State Patrol Retirement Fund

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

(dollars in thousands)

JULY 1, 1994

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3)=(1)-(2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	$186,866	$59,825	$127,041
b. Disability Benefits	18,681	9,754	8,927
c. Survivor's Benefit	17,289	9,938	7,351
d. Deferred Retirements	14,412	6,734	7,678
e. Refunds Due to Death or Withdrawal	485	1,345	(860)
f. Total	$237,733	$87,596	$150,137
2. Deferred Retirements With Future Augmentation	2,605		2,605
3. Former Members Without Vested Rights	127		127
4. Annuitants in MPRIF	118,567		118,567
5. Recipients Not in MPRIF	3,941		3,941
6. Total	$362,973	$87,596	$275,377

B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)	
1. AAL (A6)	$275,377
2. Current Assets (Table 1, F6)	262,570
3. UAAL (B1-B2)	$12,807
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE	
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	$825,563
2. Supplemental Contribution Rate (B3/C1)	1.55%

State Patrol Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

A. UAAL AT BEGINNING OF YEAR	$13,850
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	$8,180
2. Contribution	(8,163)
3. Interest on A, B1 and B2	1,178
4. Total (B1+B2+B3)	$1,195
C. EXPECTED UAAL AT END OF YEAR (A+B4)	$15,045
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	($1,851)
2. Investment Return	1,848
3. MPRIF Mortality	1,088
4. Mortality of Other Benefit Recipients	53
5. Repayment of Refunded Contributions	0
6. Other Items	(442)
7. Total	$696
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D7)	$15,741
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	(2,934)
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	0
H. UAAL AT END OF YEAR (E+F+G)	$12,807

State Patrol Retirement Fund

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1994

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 352B		
1. Employee Contributions	8.50%	$3,524
2. Employer Contributions	14.88%	6,169
3. Total	23.38%	$9,693
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	13.68%	$5,673
b. Disability benefits	2.27%	940
c. Survivors	2.35%	975
d. Deferred Retirement Benefits	1.53%	636
e. Refunds Due to Death or Withdrawal	0.25%	102
f. Total	20.08%	$8,326
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	1.55%	643
3. Allowance for Expenses	0.16%	66
4. Total	21.79%	$9,035
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	1.59%	$658

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1994 is $41,462.

State Patrol Retirement Fund

Summary of Actuarial Assumptions and Methods

Interest:	**Pre-Retirement**: 8.5% per annum **Post-Retirement**: 5.0% per annum
Salary Increases:	Reported salary at Valuation Date increased 6.5% to current fiscal year and 6.5% annually for each future year.
Mortality:	**Pre-Retirement**: Male - 1971 Group Annuity Mortality Table Female - 1971 Group Annuity Mortality Table male rates 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:	Age 58 for State Troopers and for State Police Officers hired after June 30, 1961 or age 63 for State Police Officers hired before July 1, 1961. If over assumed retirement age, one year from the valuation date.
Separation:	Graded rates starting at .03 at age 20 and decreasing to .005 at age 45-49 and .02 for ages 50-54. Adopted 1984.
Disability:	Rates adopted by MSRS as shown in rate table.
Administrative and Investment Expenses:	Prior year expenses expressed as percentage of prior year payroll.
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*:**	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 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.

State Patrol Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement	
Age	Male	Female	Male	Female	Male	Female	Male	Female
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

State Patrol Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement	
Age	Male	Female	Male	Female	Male	Female	Male	Female
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

State Patrol Retirement Fund

Summary of Plan Provisions

GENERAL

Eligibility:	State trooper, conservation officers and certain crime bureau officers.
***Contributions*:**	
Member:	8.50% of salary.
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:	2.5% 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.

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.

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 55 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 55 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 55 with continued disability.

Amount: Optional annuity continues. Otherwise, a normal retirement 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.
Amount:	50% of Annual Salary if member was active or occupational disability and either had less than three years of Allowable Service or was under age 55. Payment for life. 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:	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

The annual six percent increase for pre-1973 annuitants ended with the July 1, 1994 increase. Increases granted through July 1, 1994 are considered part of the annuity and will be part of the base for post-retirement increases generated by the post-retirement fund.

Correctional Employees Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 1994

MILLIMAN & ROBERTSON, INC.

FILE COPY

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December 16, 1994

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, 1994.

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,

Thomas K. Custis

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

William V. Hogan

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

TKC/WVH/bh

Correctional Employees Retirement Fund

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(Continued)

Correctional Employees Retirement Fund

Report Highlights
(dollars in thousands)

	07/01/93 Valuation	07/01/94 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 352 % of Payroll	11.17%	11.17%
2. Required Contributions - Chapter 356 % of Payroll	10.97%	11.30%
3. Sufficiency (Deficiency): (A.1. - A.2.)	0.20%	-0.13%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$135,939	$148,163
b. Current Benefit Obligations (Table 8)	$115,888	$131,466
c. Funding Ratio: (a/b)	117.30%	112.70%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$135,939	$148,163
b. Actuarial Accrued Liability (Table 9)	$134,280	$152,702
c. Funding Ratio: (a/b)	101.24%	97.03%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$191,688	$212,753
b. Current and Expected Future Benefit Obligations	$187,555	$214,622
c. Funding Ratio: (a/b)	102.20%	99.13%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	1,618	1,761
b. Projected Annual Earnings	$60,330	$70,562
c. Average Annual Earnings (Actual $)	$37,287	$40,070
d. Average Age	38.5	38.5
e. Average Service	8.3	8.1
2. Others		
a. Service Retirements (Table 4)	374	393
b. Disability Retirements (Table 5)	20	21
c. Survivors (Table 6)	15	17
d. Deferred Retirements (Table 7)	225	248
e. Terminated Other Non-vested (Table 7)	51	44
f. Total	685	723

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:

° 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 112.70%. The corresponding ratio for the prior year was 117.30%.

° 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 1994 the ratio is 97.03%, which is a decrease from the 1993 value of 101.24%.

° The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 99.13% 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, 1994 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	$53,109,000
Current Employees	
Accumulated employee contributions including allocated investment income	$28,794,000
Employer-financed vested	43,041,000
Employer-financed nonvested	6,522,000
Total Pension Benefit Obligation	$131,466,000
Net Assets Available for Benefits at Cost	$147,472,000
Total Benefit Obligation less Assets	($16,006,000)
Funded Ratio	112.18%

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 6.5% 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 11.30%.

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, 1994

	Market Value	Cost Value
A. ASSETS		
1. Cash, Equivalents, Short-term Securities	$3,973	$3,973
2. Investments		
a. Fixed Income	28,938	29,961
b. Equity	67,962	64,407
c. Real Estate	4,466	4,925
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	44,186	44,186
4. Other	313	313
B. TOTAL ASSETS	$149,838	$147,765
C. AMOUNTS CURRENTLY PAYABLE	$293	$293
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	$20,451	$20,451
2. Employer Reserves	84,908	82,835
3. MPRIF Reserves	44,186	44,186
4. Non-MPRIF Reserves	0	0
5. Total Assets Available for Benefits	$149,545	$147,472
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	$149,838	$147,765

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		$147,472
2. Market Value (D5)	$149,545	
3. Cost Value (D5)	147,472	
4. Market Over Cost: (F2-F3)	$2,073	
5. 1/3 of Market Over Cost: (F4)/3		691
6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		$148,163

Correctional Employees Retirement Fund

Change In Assets Available For Benefits

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

	Market Value	Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	$142,166	$132,825
B. OPERATING REVENUES		
1. Member Contributions	$2,679	$2,679
2. Employer Contributions	3,355	3,355
3. Investment Income	7,462	7,462
4. MPRIF Income	4,298	4,298
5. Net Realized Gain (Loss)	2,007	2,007
6. Other	9	9
7. Net Change in Unrealized Gain (Loss)	(7,268)	0
8. Total Revenue	$12,542	$19,810
C. OPERATING EXPENSES		
1. Service Retirements	$4,557	$4,557
2. Disability Benefits	0	0
3. Survivor Benefits	0	0
4. Refunds	238	238
5. Investment Fees	153	153
6. Administrative Expenses	101	101
7. Other	114	114
8. Total Disbursements	$5,163	$5,163
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	$149,545	$147,472

Correctional Employees Retirement Fund
ACTIVE MEMBERS AS OF JUNE 30, 1994

AGE	YEARS OF SERVICE <1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	25	16							41
25-29	82	144	26						252
30-34	42	154	110	38					344
35-39	32	101	78	108	28				347
40-44	26	76	50	73	80	16			321
45-49	12	51	36	56	65	39	5		264
50-54	2	18	15	24	37	16	15	4	131
55-59		8	7	8	14	5	3		45
60-64	1	3	3	2	3	3			15
65+					1				1
ALL	222	571	325	309	228	79	23	4	1,761

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE <1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25	25,251	34,940							29,032
25-29	26,353	35,590	37,126						32,743
30-34	27,329	36,166	37,771	40,285					36,055
35-39	27,484	35,782	38,789	41,280	43,522				38,028
40-44	28,031	35,899	38,717	41,206	42,302	43,434			38,879
45-49	27,507	34,770	41,643	39,150	43,727	46,066	42,488		40,326
50-54	27,992	38,158	40,416	41,085	43,069	45,078	44,636	38,560	41,784
55-59		37,967	46,357	42,273	44,875	46,669	48,122		43,831
60-64	28,447	27,260	45,880	45,506	39,912	46,020			39,778
65+					46,924				46,924
ALL	26,860	35,800	38,920	40,792	43,129	45,369	44,624	38,560	37,624

AGE	PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE <1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
ALL	5,962	20,441	12,649	12,604	9,833	3,584	1,026	154	66,255

Correctional Employees Retirement Fund

SERVICE RETIREMENTS AS OF JUNE 30, 1994

AGE	YEARS RETIRED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54		2						2
55-59	19	41	2					62
60-64	3	11	59					73
65-69	3	12	13	52				80
70-74			4	27	45			76
75-79				5	39	13		57
80-84					27	14		41
85+						2		2
ALL	25	66	78	84	111	29		393

AVERAGE ANNUAL BENEFIT

AGE	YEARS RETIRED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54		12,165						12,165
55-59	15,306	17,395	11,379					16,561
60-64	16,333	18,454	14,196					14,925
65-69	10,473	10,052	10,527	11,662				11,192
70-74			8,717	9,635	9,183			9,319
75-79				5,476	7,029	7,761		7,060
80-84					4,729	7,185		5,568
85+						6,611		6,611
ALL	14,849	16,078	13,231	10,642	7,343	7,404		11,166

AGE	TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	371	1,061	1,032	893	815	214		4,388

Correctional Employees Retirement Fund

SURVIVORS AS OF JUNE 30, 1994

AGE	YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	1	1						2
50-54		1	1	1				3
55-59		1	1	1				3
60-64			1	2				3
65-69								
70-74			1		1	1		3
75-79	1					1		2
80-84		1						1
85+								
ALL	2	4	4	4	1	2		17

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	6,551	6,326						6,439
50-54		5,281	7,010	11,725				8,005
55-59		4,679	11,282	17,623				11,195
60-64			5,238	4,800				4,946
65-69								
70-74			3,499		5,246	6,409		5,051
75-79	1,521					4,508		3,015
80-84		352						352
85+								
ALL	4,036	4,160	6,757	9,737	5,246	5,459		6,285

AGE	TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	8,072	16,640	27,028	38,948	5,246	10,918		106,845

Correctional Employees Retirement Fund

DISABILITY RETIREMENTS AS OF JUNE 30, 1994

	YEARS DISABLED							
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	3	6	3					12
50-54			1					1
55-59		2	1					3
60-64			1	1				2
65-69				1				1
70-74					2			2
75-79								
80-84								
85+								
ALL	3	8	6	2	2			21

AVERAGE ANNUAL BENEFIT

	YEARS DISABLED							
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50	9,034	12,850	10,185					11,230
50-54			13,505					13,505
55-59		13,280	16,110					14,223
60-64			8,942	8,249				8,596
65-69				16,093				16,093
70-74					3,055			3,055
75-79								
80-84								
85+								
ALL	9,034	12,958	11,519	12,171	3,055			10,968

	TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED							
AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	27,102	103,664	69,114	24,342	6,110			230,328

Correctional Employees Retirement Fund

Reconciliation Of Members

	Actives	Terminated: Deferred Retirement	Terminated: Other Non-Vested
A. ON JUNE 30, 1993	1,618	225	51
B. ADDITIONS	202	40	5
C. DELETIONS			
1. Service Retirement	(18)	(6)	0
2. Disability	(1)	(1)	(1)
3. Death	0	(2)	0
4. Terminated - Deferred	(28)	0	(2)
5. Terminated - Refund	(14)	(1)	(3)
6. Terminated - Other Non-Vested	(5)	0	0
7. Returned as Active	7	(7)	(3)
8. Transferred to Other Fund	0	0	(3)
D. DATA ADJUSTMENTS	0	0	0
Vested	1,249		
Non-Vested	512		
E. TOTAL ON JUNE 30, 1994	1,761	248	44

	Recipients: Retirement Annuitants	Recipients: Disabled	Recipients: Survivors
A. ON JUNE 30, 1993	374	20	15
B. ADDITIONS	25	3	2
C. DELETIONS			
1. Service Retirement	0	(2)	0
2. Death	(6)	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	0	0	0
E. TOTAL ON JUNE 30, 1994	393	21	17

Correctional Employees Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 1994

A.	CURRENT ASSETS (TABLE 1, F6)			$148,163
B.	EXPECTED FUTURE ASSETS			
	1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			$2,670
	2. Present Value of Future Normal Costs			61,920
	3. Total Expected Future Assets			$64,590
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$212,753
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
	1. Benefit Recipients			
	a. Retirement Annuities		$40,030	$40,030
	b. Disability Benefits		2,840	2,840
	c. Surviving Spouse and Child Benefits		1,316	1,316
	2. Deferred Retirements with Future Augmentation		8,812	8,812
	3. Former Members without Vested Rights		111	111
	4. Active Members			
	a. Retirement Annuities	1,130	53,382	54,512
	b. Disability Benefits	1,579	0	1,579
	c. Survivor's Benefits	3,288	0	3,288
	d. Deferred Retirements	525	16,174	16,699
	e. Refund Liability Due to Death or Withdrawal	0	2,279	2,279
	5. Total Current Benefit Obligations	$6,522	$124,944	$131,466
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			$83,156
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$214,622
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			($16,697)
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			$1,869

Correctional Employees Retirement Fund

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

(dollars in thousands)

JULY 1, 1994

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3)=(1)-(2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	$116,905	$38,378	$78,527
b. Disability Benefits	3,084	1,287	1,797
c. Survivor's Benefit	6,135	2,466	3,669
d. Deferred Retirements	31,400	13,352	18,048
e. Refunds Due to Death or Withdrawal	3,989	6,437	(2,448)
f. Total	$161,513	$61,920	$99,593
2. Deferred Retirements With Future Augmentation	8,812		8,812
3. Former Members Without Vested Rights	111		111
4. Annuitants in MPRIF	44,186		44,186
5. Recipients Not in MPRIF	0		0
6. Total	$214,622	$61,920	$152,702

B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)	
1. AAL (A6)	$152,702
2. Current Assets (Table 1, F6)	148,163
3. UAAL (B1-B2)	$4,539
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE	
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	$1,405,004
2. Supplemental Contribution Rate (B3/C1)	0.32%

Correctional Employees Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

A. UAAL AT BEGINNING OF YEAR	($1,659)
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	$6,528
2. Contribution	(6,034)
3. Interest on A, B1 and B2	(120)
4. Total (B1+B2+B3)	$374
C. EXPECTED UAAL AT END OF YEAR (A+B4)	($1,285)
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	$2,198
2. Investment Return	1,387
3. MPRIF Mortality	159
4. Mortality of Other Benefit Recipients	0
5. Repayment of Refunded Contributions	0
6. Other Items	2,080
7. Total	$5,824
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D7)	$4,539
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)	$4,539

Correctional Employees Retirement Fund

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1994

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 352		
1. Employee Contributions	4.90%	$3,458
2. Employer Contributions	6.27%	4,424
3. Total	11.17%	$7,882
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	6.80%	$4,800
b. Disability benefits	0.23%	165
c. Survivors	0.41%	289
d. Deferred Retirement Benefits	2.27%	1,602
e. Refunds Due to Death or Withdrawal	1.10%	776
f. Total	10.81%	$7,632
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	0.32%	226
3. Allowance for Expenses	0.17%	120
4. Total	11.30%	$7,978
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-0.13%	($96)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1994 is $70,562.

Correctional Employees Retirement Fund

Summary of Actuarial Assumptions and Methods

Interest:	**Pre-Retirement:** 8.5% per annum **Post-Retirement:** 5.0% per annum
Salary Increases:	Reported salary at valuation date increased 6.5% to current fiscal year and 6.5% annually for each future year. Prior fiscal year salary is annualized for new Members.
Mortality:	**Pre-Retirement:** Male - 1971 Group Annuity Mortality Table Female - 1971 Group Annuity Mortality Table male rates set back 8 years **Post-Retirement:** Male - Same as above Female - Same as above **Post-Disability:** Male - Combined Annuity Mortality Table Female - Combined Annuity Mortality Table
Retirement Age:	Age 58 or if over age 58, one year from valuation date.
Separation:	Graded rates based on actual experience developed by the June 30, 1971 experience analysis. Rates are shown in rate table.
Disability:	Rates adopted by MSRS as shown in rate table.
Administrative and Investment 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 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.
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 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.

Correctional Employees Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement	
Age	Male	Female	Male	Female	Male	Female	Male	Female
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

Correctional Employees Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement	
Age	Male	Female	Male	Female	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

Correctional Employees Retirement Fund

Summary of Plan Provisions

GENERAL

Eligibility:	State employees in covered correctional service.
Contributions:	
Member:	4.90% of salary.
Employer:	6.27% of salary. (Amended 1990)
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.
Salary:	Includes wages, allowances and fees. Excludes lump-sum payments at separation and reduced salary while receiving Worker's Compensation benefits.
Average Salary:	Average of the five highest successive years of salary. Average Salary is based on all Allowable Service if less than five years.

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.

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 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:	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.

Legislators Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 1994

FILE COPY

MILLIMAN & ROBERTSON, INC.

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December 16, 1994

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, 1994.

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,

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

William V. Hogan

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

TKC/WVH/bh

Legislators Retirement Fund

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Legislators Retirement Fund

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(Continued)

Legislators Retirement Fund

Report Highlights
(dollars in thousands)

	07/01/93 Valuation	07/01/94 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 3A % of Payroll	9.00%	9.00%
2. Required Contributions - Chapter 356 % of Payroll	31.12%	38.34%
3. Sufficiency (Deficiency): (A.1. - A.2.)	-22.12%	-29.34%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$17,169	$18,738
b. Current Benefit Obligations (Table 8)	$34,994	$43,356
c. Funding Ratio: (a/b)	49.06%	43.22%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$17,169	$18,738
b. Actuarial Accrued Liability (Table 9)	$36,801	$45,448
c. Funding Ratio: (a/b)	46.65%	41.23%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$26,248	$28,044
b. Current and Expected Future Benefit Obligations	$45,881	$54,754
c. Funding Ratio: (a/b)	57.21%	51.22%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	200	201
b. Projected Annual Earnings	$6,891	$6,926
c. Average Annual Earnings (Actual $)	$34,455	$34,522
d. Average Age	48.6	49.4
e. Average Service	7.9	8.7
2. Others		
a. Service Retirements (Table 4)	147	149
b. Disability Retirements (Table 5)	0	0
c. Survivors (Table 6)	53	56
d. Deferred Retirements (Table 7)	137	133
e. Terminated Other Non-vested (Table 7)	6	6
f. Total	343	344

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:

° 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 43.22%. The corresponding ratio for the prior year was 49.06%.

° 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 1994 the ratio is 41.23%, which is a decrease from the 1993 value of 46.65%.

° The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 51.22% 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, 1994 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	$30,705,000
Current Employees	
Accumulated employee contributions including allocated investment income	$4,527,000
Employer-financed vested	6,515,000
Employer-financed nonvested	1,609,000
Total Pension Benefit Obligation	$43,356,000
Net Assets Available for Benefits at Cost	$18,738,000
Total Benefit Obligation less Assets	$24,618,000
Funded Ratio	43.22%

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 6.5% 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. This year the "other gain" includes a significant increase in liabilities for retired and deferred vested members produced by a more appropriate reflection of the fully subsidized automatic 50% survivor pension for spouses.

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 38.34%.

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.

Legislators Retirement Fund

Accounting Balance Sheet

(dollars in thousands)

JULY 1, 1994

	Market Value	Cost Value
A. ASSETS		
1. Cash, Equivalents, Short-term Securities	$0	$0
2. Investments		
a. Fixed Income	0	0
b. Equity	0	0
c. Real Estate	0	0
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	13,181	13,181
4. Other *	5,668	5,668
B. TOTAL ASSETS	$18,849	$18,849
C. AMOUNTS CURRENTLY PAYABLE	$111	$111
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	$5,620	$5,620
2. Employer Reserves	(2,490)	(2,490)
3. MPRIF Reserves	13,181	13,181
4. Non-MPRIF Reserves	2,427	2,427
5. Total Assets Available for Benefits	$18,738	$18,738
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	$18,849	$18,849

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		$18,738
2. Market Value (D5)	$18,738	
3. Cost Value (D5)	18,738	
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")		$18,738

* Includes $5,620 of Member Reserves not segregated from general funds.

TABLE 2

Legislators Retirement Fund

Change In Assets Available For Benefits

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

	Market Value	Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	$17,169	$17,169
B. OPERATING REVENUES		
1. Member Contributions	$593	$593
2. Employer Contributions	0	0
3. Investment Income	(1)	(1)
4. MPRIF Income	1,278	1,278
5. Net Realized Gain (Loss)	0	0
6. Other	1,618	1,618
7. Net Change in Unrealized Gain (Loss)	0	0
8. Total Revenue	$3,488	$3,488
C. OPERATING EXPENSES		
1. Service Retirements	$1,887	$1,887
2. Disability Benefits	0	0
3. Survivor Benefits	0	0
4. Refunds	0	0
5. Investment Fees	0	0
6. Administrative Expenses	24	24
7. Other	8	8
8. Total Disbursements	$1,919	$1,919
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	$18,738	$18,738

TABLE 3

Legislators Retirement Fund

ACTIVE MEMBERS AS OF JUNE 30, 1994

AGE	YEARS OF SERVICE <1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25									
25-29		2							2
30-34	1	7	2						10
35-39	1	10	6	2					19
40-44	1	13	12	4	2				32
45-49		16	16	5	5	2			44
50-54		11	9	4	4	5			33
55-59		8	4	3	8	3			26
60-64		5	4	6	5	3			23
65+		2	3	2	2	3			12
ALL	3	74	56	26	26	16			201

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE <1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25									
25-29		34,458							34,458
30-34	34,458	34,458	34,458						34,458
35-39	34,458	34,458	34,458	34,458					34,458
40-44	34,458	34,458	34,458	34,458	34,458				34,458
45-49		34,458	34,458	34,458	34,458	34,458			34,458
50-54		34,458	34,458	34,458	34,458	34,458			34,458
55-59		34,458	34,458	34,458	34,458	34,458			34,458
60-64		34,458	34,458	34,458	34,458	34,458			34,458
65+		34,458	34,458	34,458	34,458	34,458			34,458
ALL	34,458	34,458	34,458	34,458	34,458	34,458			34,458

AGE	PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE <1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
ALL	103	2,549	1,929	895	895	551			6,926

Legislators Retirement Fund
SERVICE RETIREMENTS AS OF JUNE 30, 1994

AGE	YEARS RETIRED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54								
55-59								
60-64	7	19						26
65-69	1	15	23					39
70-74		4	5	32				41
75-79		1	1	12	7			21
80-84					5	5		10
85+					1	9	2	12
ALL	8	39	29	44	13	14	2	149

AVERAGE ANNUAL BENEFIT

AGE	YEARS RETIRED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54								
55-59								
60-64	11,813	9,014						9,768
65-69	5,625	13,570	8,034					10,102
70-74		11,210	9,492	10,842				10,713
75-79		5,953	18,731	18,848	12,646			16,161
80-84					5,659	10,972		8,316
85+					8,903	11,831	6,548	10,707
ALL	11,040	10,913	8,654	13,026	9,671	11,524	6,548	10,995

AGE	TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	88	425	250	573	125	161	13	1,638

Legislators Retirement Fund
SURVIVORS AS OF JUNE 30, 1994

AGE	YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54			1	2	1			4
55-59		3	1					4
60-64	1	2					1	4
65-69	3	3		2		1		9
70-74	1	2	3		1	1		8
75-79		4	3		1	3		11
80-84		2	2	1	3	3		11
85+		2	1			1	1	5
ALL	5	18	11	5	6	9	2	56

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54			21,963	5,511	6,801			9,947
55-59		8,935	5,258					8,016
60-64	4,296	5,653					2,822	4,606
65-69	4,076	2,024		2,346		5,658		3,183
70-74	3,730	1,527	3,586		2,805	5,185		3,192
75-79		7,309	5,671		1,718	4,300		5,533
80-84		8,857	2,375	9,001	6,179	4,566		5,791
85+		3,083	6,445			3,444	2,916	3,794
ALL	4,051	5,575	6,017	4,943	4,977	4,543	2,869	5,143

AGE	TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	20,255	100,350	66,187	24,715	29,862	40,887	5,738	288,008

Legislators Retirement Fund

DISABILITY RETIREMENTS AS OF JUNE 30, 1994

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

AVERAGE ANNUAL BENEFIT

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

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED

AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL								

Legislators Retirement Fund

Reconciliation Of Members

	Actives	Terminated: Deferred Retirement	Terminated: Other Non-Vested
A. ON JUNE 30, 1993	200	137	6
B. ADDITIONS	3	4	0
C. DELETIONS			
1. Service Retirement	0	(7)	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated - Deferred	(3)	0	0
5. Terminated - Refund	0	0	0
6. Terminated - Other Non-Vested	0	0	0
7. Returned as Active	1	(1)	0
8. Transferred to Other Fund	0	0	0
D. DATA ADJUSTMENTS	0	0	0
Vested	109		
Non-Vested	92		
E. TOTAL ON JUNE 30, 1994	201	133	6

	Recipients: Retirement Annuitants	Recipients: Disabled	Recipients: Survivors
A. ON JUNE 30, 1993	147	NA	53
B. ADDITIONS	8	0	5
C. DELETIONS			
1. Service Retirement	0	0	0
2. Death	(6)	0	(2)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	0	0	0
E. TOTAL ON JUNE 30, 1994	149	NA	56

TABLE 8

Legislators Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 1994

A.	CURRENT ASSETS (TABLE 1, F6)			$18,738
B.	EXPECTED FUTURE ASSETS			
	1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			$0
	2. Present Value of Future Normal Costs			9,306
	3. Total Expected Future Assets			$9,306
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$28,044
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
	1. Benefit Recipients			
	a. Retirement Annuities		$16,082	$16,082
	b. Disability Benefits		0	0
	c. Surviving Spouse and Child Benefits		3,009	3,009
	2. Deferred Retirements with Future Augmentation		11,570	11,570
	3. Former Members without Vested Rights		44	44
	4. Active Members			
	a. Retirement Annuities	982	9,461	10,443
	b. Disability Benefits	0	0	0
	c. Survivor's Benefits	359	0	359
	d. Deferred Retirements	268	1,435	1,703
	e. Refund Liability Due to Death or Withdrawal	0	146	146
	5. Total Current Benefit Obligations	$1,609	$41,747	$43,356
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			$11,398
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$54,754
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			$24,618
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			$26,710

Legislators Retirement Fund

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

(dollars in thousands)

JULY 1, 1994

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3)=(1)-(2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	$19,825	$6,735	$13,090
b. Disability Benefits	0	0	0
c. Survivor's Benefit	676	368	308
d. Deferred Retirements	3,266	1,737	1,529
e. Refunds Due to Death or Withdrawal	281	466	(185)
f. Total	$24,048	$9,306	$14,742
2. Deferred Retirements With Future Augmentation	11,570		11,570
3. Former Members Without Vested Rights	44		44
4. Annuitants in MPRIF	13,181		13,181
5. Recipients Not in MPRIF	5,911		5,911
6. Total	$54,754	$9,306	$45,448

B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)	
1. AAL (A6)	$45,448
2. Current Assets (Table 1, F6)	18,738
3. UAAL (B1-B2)	$26,710
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE	
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	$142,041
2. Supplemental Contribution Rate (B3/C1)	18.80%

Note: If non-segregated member reserves were not counted as assets, the UAAL would be $32,330, resulting in a Supplemental Contribution Rate of 22.76%.

Legislators Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

A. UAAL AT BEGINNING OF YEAR	$19,633
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	$1,221
2. Contribution	(593)
3. Interest on A, B1 and B2	1,695
4. Total (B1+B2+B3)	$2,323
C. EXPECTED UAAL AT END OF YEAR (A+B4)	$21,956
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	($678)
2. Investment Return	446
3. MPRIF Mortality	87
4. Mortality of Other Benefit Recipients	86
5. Repayment of Refunded Contributions	0
6. Other Items	4,813
7. Total	$4,754
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D7)	$26,710
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)	$26,710

Legislators Retirement Fund

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1994

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 3A		
1. Employee Contributions	9.00%	$623
2. Employer Contributions	0.00%	0 *
3. Total	9.00%	$623

* 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.

	Percent of Payroll	Dollar Amount
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	14.67%	$1,016
b. Disability benefits	0.00%	0
c. Survivors	0.72%	50
d. Deferred Retirement Benefits	2.92%	202
e. Refunds Due to Death or Withdrawal	0.88%	61
f. Total	19.19%	$1,329
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	18.80%	1,302
3. Allowance for Expenses	0.35%	24
4. Total	38.34%	$2,655
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-29.34%	($2,032)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1994 is $5,951 in salaries and $965 in per diem payments.
The deficiency shown above is calculated based on reported assets which include a receivable of $5,620 for member contributions 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 36.81%.

Legislators Retirement Fund

Summary of Actuarial Assumptions and Methods

GENERAL

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, with a 3% increase for the 1992-93 fiscal year and 6.5% per year thereafter. Per diem payments were assumed to remain constant each year in the future.

Mortality:

Pre-Retirement:
Male - 1971 Group Annuity Mortality Table
Female - 1971 Group Annuity Mortality Table male rates set back eight years

Post-Retirement:
Male - Same as above
Female - Same as above

Post-Disability:
Male - N/A
Female - N/A

Retirement Age:

Age 62 or if over age 62, one year from valuation date.

Separation:

Rates based on years of service.

Year	House	Senate
1	0%	0%
2	30	0
3	0	0
4	20	25
5	0	0
6	10	0
7	0	0
8	5	10

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.

Legislators Retirement Fund

Summary of Plan Providers

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.

***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.

Elective State Officers Retirement Fund
ACTUARIAL VALUATION REPORT

July 1, 1994

FILE COPY

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December 16, 1994

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, 1994.

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,

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

William V. Hogan

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

TKC/WVH/bh

Elective State Officers Retirement Fund

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(Continued)

Elective State Officers Retirment Fund

Report Highlights

(dollars in thousands)

	07/01/93 Valuation	07/01/94 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 352C % of Payroll	9.00%	9.00%
2. Required Contributions - Chapter 356 % of Payroll	38.64%	42.00%
3. Sufficiency (Deficiency): (A.1. - A.2.)	-29.64%	-33.00%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$322	$361
b. Current Benefit Obligations (Table 8)	$2,548	$2,718
c. Funding Ratio: (a/b)	12.64%	13.28%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$322	$361
b. Actuarial Accrued Liability (Table 9)	$2,689	$2,848
c. Funding Ratio: (a/b)	11.97%	12.68%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$572	$571
b. Current and Expected Future Benefit Obligations	$2,939	$3,058
c. Funding Ratio: (a/b)	19.46%	18.67%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	6	6
b. Projected Annual Earnings	$462	$462
c. Average Annual Earnings (Actual $)	$77,000	$77,000
d. Average Age	52.7	53.7
e. Average Service	9.7	10.5
2. Others		
a. Service Retirements (Table 4)	6	5
b. Disability Retirements (Table 5)	0	0
c. Survivors (Table 6)	4	6
d. Deferred Retirements (Table 7)	4	4
e. Terminated Other Non-vested (Table 7)	0	0
f. Total	14	15

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:

- ° 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 13.28%. The corresponding ratio for the prior year was 12.64%.

- ° 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 1994 the ratio is 12.68%, which is an increase from the 1993 value of 11.97%.

- ° The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 18.67% 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.

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, 1994 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	$1,618,000
Current Employees	
Accumulated employee contributions including allocated investment income	$438,000
Employer-financed vested	529,000
Employer-financed nonvested	133,000
Total Pension Benefit Obligation	$2,718,000
Net Assets Available for Benefits at Cost	$361,000
Total Benefit Obligation less Assets	$2,357,000
Funded Ratio	13.28%

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 6.5% 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 42.00%.

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.

TABLE 1

Elective State Officers Retirement Fund

Accounting Balance Sheet

(dollars in thousands)

JULY 1, 1994

	Market Value	Cost Value
A. ASSETS		
1. Cash, Equivalents, Short-term Securities	$0	$0
2. Investments		
a. Fixed Income	0	0
b. Equity	0	0
c. Real Estate	0	0
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	0	0
4. Other *	362	362
B. TOTAL ASSETS	$362	$362
C. AMOUNTS CURRENTLY PAYABLE	$1	$1
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	$359	$359
2. Employer Reserves	(1,210)	(1,210)
3. MPRIF Reserves	0	0
4. Non-MPRIF Reserves	1,212	1,212
5. Total Assets Available for Benefits	$361	$361
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	$362	$362

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available for Benefits (D5)		$361
2. Market Value (D5)	$361	
3. Cost Value (D5)	361	
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")		$361

* Includes $359 of Member Reserves not segregated from general funds.

TABLE 2

Elective State Officers Retirement Fund

Change In Assets Available For Benefits

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

	Market Value	Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	$322	$322
B. OPERATING REVENUES		
1. Member Contributions	$37	$37
2. Employer Contributions	0	0
3. Investment Income	0	0
4. MPRIF Income	0	0
5. Net Realized Gain (Loss)	0	0
6. Other	164	164
7. Net Change in Unrealized Gain (Loss)	0	0
8. Total Revenue	$201	$201
C. OPERATING EXPENSES		
1. Service Retirements	$161	$161
2. Disability Benefits	0	0
3. Survivor Benefits	0	0
4. Refunds	0	0
5. Investment Fees	0	0
6. Administrative Expenses	1	1
7. Other	0	0
8. Total Disbursements	$162	$162
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	$361	$361

Elective State Officers Retirement Fund
ACTIVE MEMBERS AS OF JUNE 30, 1994

	YEARS OF SERVICE								
AGE	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25									
25-29									
30-34									
35-39									
40-44									
45-49		1							1
50-54		1	1	1					3
55-59					1				1
60-64					1				1
65+									
ALL		2	1	1	2				6

AVERAGE ANNUAL EARNINGS

	YEARS OF SERVICE								
AGE	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25									
25-29									
30-34									
35-39									
40-44									
45-49		68,710							68,710
50-54		62,981	62,981	89,455					71,806
55-59					62,981				62,981
60-64					114,507				114,507
65+									
ALL		65,846	62,981	89,455	88,744				76,936

	PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE								
AGE	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
ALL		131,692	62,981	89,455	177,488				461,616

Elective State Officers Retirement Fund

SERVICE RETIREMENTS AS OF JUNE 30, 1994

AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
	YEARS RETIRED							
<50								
50-54								
55-59								
60-64		3						3
65-69		1						1
70-74								
75-79								
80-84					1			1
85+								
ALL		4			1			5

AVERAGE ANNUAL BENEFIT

AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
	YEARS RETIRED							
<50								
50-54								
55-59								
60-64		12,096						12,096
65-69		43,013						43,013
70-74								
75-79								
80-84					17,206			17,206
85+								
ALL		19,825			17,206			19,301

AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
	TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS RETIRED							
ALL		79,300			17,206			96,505

Elective State Officers Retirement Fund

SURVIVORS AS OF JUNE 30, 1994

AGE	YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54								
55-59		1						1
60-64								
65-69								
70-74								
75-79	1				1			2
80-84		1			1			2
85+							1	1
ALL	1	2			2		1	6

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54								
55-59		3,696						3,696
60-64								
65-69								
70-74								
75-79	10,391				16,462			13,427
80-84		19,296			4,854			12,075
85+							9,388	9,388
ALL	10,391	11,496			10,658		9,388	10,681

AGE	TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	10,391	22,992			21,316		9,388	64,086

Elective State Officers Retirement Fund

DISABILITY RETIREMENTS AS OF JUNE 30, 1994

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

AVERAGE ANNUAL BENEFIT

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

AGE	TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL								

Elective State Officers Retirement Fund

Reconciliation Of Members

	Actives	Terminated: Deferred Retirement	Terminated: Other Non-Vested
A. ON JUNE 30, 1993	6	4	0
B. ADDITIONS	0	0	0
C. DELETIONS			
1. Service Retirement	0	0	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	3		
Non-Vested	3		
E. TOTAL ON JUNE 30, 1994	6	4	0

	Recipients: Retirement Annuitants	Recipients: Disabled	Recipients: Survivors
A. ON JUNE 30, 1993	6	NA	4
B. ADDITIONS	0	0	1
C. DELETIONS			
1. Service Retirement	0	0	0
2. Death	(1)	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. DATA ADJUSTMENTS	0	0	1
E. TOTAL ON JUNE 30, 1994	5	NA	6

Elective State Officers Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 1994

	Non-Vested	Vested	Total
A. CURRENT ASSETS (TABLE 1, F6)			$361
B. EXPECTED FUTURE ASSETS			
1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			$0
2. Present Value of Future Normal Costs			210
3. Total Expected Future Assets			$210
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$571
D. CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
1. Benefit Recipients			
a. Retirement Annuities		$877	$877
b. Disability Benefits		0	0
c. Surviving Spouse and Child Benefits		500	500
2. Deferred Retirements with Future Augmentation		241	241
3. Former Members without Vested Rights		0	0
4. Active Members			
a. Retirement Annuities	41	671	712
b. Disability Benefits	0	0	0
c. Survivor's Benefits	14	0	14
d. Deferred Retirements	78	275	353
e. Refund Liability Due to Death or Withdrawal	0	21	21
5. Total Current Benefit Obligations	$133	$2,585	$2,718
E. EXPECTED FUTURE BENEFIT OBLIGATIONS			$340
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$3,058
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			$2,357
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			$2,487

TABLE 9

Elective State Officers Retirment Fund

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

(dollars in thousands)

JULY 1, 1994

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3)=(1)-(2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	$949	$73	$876
b. Disability Benefits	0	0	0
c. Survivor's Benefit	19	8	11
d. Deferred Retirements	444	96	348
e. Refunds Due to Death or Withdrawal	28	33	(5)
f. Total	$1,440	$210	$1,230
2. Deferred Retirements With Future Augmentation	241		241
3. Former Members Without Vested Rights	0		0
4. Annuitants in MPRIF	0		0
5. Recipients Not in MPRIF	1,377		1,377
6. Total	$3,058	$210	$2,848

B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)	
1. AAL (A6)	$2,848
2. Current Assets (Table 1, F6)	361
3. UAAL (B1-B2)	$2,487
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE	
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	$9,421
2. Supplemental Contribution Rate (B3/C1)	26.40%

Note: If non-segregated member reserves were not counted as assets, the UAAL would be $2,846, resulting in a Supplemental Contribution Rate of 30.21%.

Elective State Officers Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

A.	UAAL AT BEGINNING OF YEAR	$2,367
B.	CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
	1. Normal Cost and Expenses	$68
	2. Contribution	(37)
	3. Interest on A, B1 and B2	203
	4. Total (B1+B2+B3)	$234
C.	EXPECTED UAAL AT END OF YEAR (A+B4)	$2,601
D.	INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
	1. Salary Increases	($89)
	2. Investment Return	28
	3. MPRIF Mortality	0
	4. Mortality of Other Benefit Recipients	4
	5. Repayment of Refunded Contributions	0
	6. Other Items	(57)
	7. Total	($114)
E.	UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D7)	$2,487
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)	$2,487

Elective State Officers Retirement Fund

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1994

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 352C		
1. Employee Contributions	9.00%	$42
2. Employer Contributions	0.00%	0 *
3. Total	9.00%	$42

* 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.

	Percent of Payroll	Dollar Amount
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	5.20%	$24
b. Disability benefits	0.00%	0
c. Survivors	0.65%	3
d. Deferred Retirement Benefits	7.15%	33
e. Refunds Due to Death or Withdrawal	2.38%	11
f. Total	15.38%	$71
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	26.40%	122
3. Allowance for Expenses	0.22%	1
4. Total	42.00%	$194
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	-33.00%	($152)

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1994 is $462.

The deficiency shown above is calculated based on reported assets which include a receivable of $359 for member contributions 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 36.81%.

Elective State Officers Retirement Fund

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, with a 2.5% increase for the 1992-93 fiscal year and 6.5% per year thereafter.

Mortality:

Pre-Retirement:

Male - 1971 Group Annuity Mortality Table

Female - 1971 Group Annuity Mortality Table male rates set back 8 years

Post-Retirement:

Male - Same as above

Female - Same as above

Post-Disability:

Male - N/A

Female - N/A

Retirement Age: Age 62 or if over age 62, one year from valuation date.

Separation: Rates based on years of service:

Year	Rate
1	0%
2	0
3	0
4	50
5	0
6	0
7	0
8	50

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.

Elective State Officers Retirement Fund

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 commencement 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.

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.

Judges Retirement Fund

ACTUARIAL VALUATION REPORT

July 1, 1994

MILLIMAN & ROBERTSON, INC.

MILLIMAN & ROBERTSON, INC.
Actuaries and Consultants

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December 16, 1994

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, 1994.

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,

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

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

TKC/WVH/bh

Judges Retirement Fund

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(Continued)

Report Highlights
(dollars in thousands)

	07/01/93 Valuation	07/01/94 Valuation
A. CONTRIBUTIONS (Table 11)		
1. Statutory Contributions - Chapter 490 % of Payroll	28.36%	28.36%
2. Required Contributions - Chapter 356 % of Payroll	26.29%	28.27%
3. Sufficiency (Deficiency): (A.1. - A.2.)	2.07%	0.09%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	$44,156	$50,428
b. Current Benefit Obligations (Table 8)	$87,432	$94,884
c. Funding Ratio: (a/b)	50.50%	53.15%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	$44,156	$50,428
b. Actuarial Accrued Liability (Table 9)	$90,509	$98,313
c. Funding Ratio: (a/b)	48.79%	51.29%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	$140,830	$141,481
b. Current and Expected Future Benefit Obligations	$130,668	$141,066
c. Funding Ratio: (a/b)	107.78%	100.29%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	267	265
b. Projected Annual Earnings	$22,469	$22,302
c. Average Annual Earnings (Actual $)	$84,154	$84,158
d. Average Age	53.1	53.0
e. Average Service	10.6	10.7
2. Others		
a. Service Retirements (Table 4)	123	127
b. Disability Retirements (Table 5)	8	8
c. Survivors (Table 6)	69	72
d. Deferred Retirements (Table 7)	6	6
e. Terminated Other Non-vested (Table 7)	0	0
f. Total	206	213

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:

- ° 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 53.15%. The corresponding ratio for the prior year was 50.50%.

- ° 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 1994 the ratio is 51.29%, which is an increase from the 1993 value of 48.79%.

- ° The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 100.29% 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, 1994 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	$54,329,000
Current Employees	
Accumulated employee contributions including allocated investment income	$14,953,000
Employer-financed vested	16,559,000
Employer-financed nonvested	9,043,000
Total Pension Benefit Obligation	$94,884,000
Net Assets Available for Benefits at Cost	$50,554,000
Total Benefit Obligation less Assets	$44,330,000
Funded Ratio	53.28%

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 6.5% 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 28.27%.

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.

Judges Retirement Fund

Accounting Balance Sheet

(dollars in thousands)

JULY 1, 1994

	Market Value	Cost Value
A. ASSETS		
1. Cash, Equivalents, Short-term Securities	$814	$814
2. Investments		
a. Fixed Income	2,588	2,775
b. Equity	6,078	6,202
c. Real Estate	399	467
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	40,854	40,854
4. Other	101	101
B. TOTAL ASSETS	$50,834	$51,213
C. AMOUNTS CURRENTLY PAYABLE	$659	$659
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	$7,460	$7,460
2. Employer Reserves	(9,233)	(8,854)
3. MPRIF Reserves	40,854	40,854
4. Non-MPRIF Reserves	11,094	11,094
5. Total Assets Available for Benefits	$50,175	$50,554
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	$50,834	$51,213

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available for Benefits (D5)		$50,554
2. Market Value (D5)	$50,175	
3. Cost Value (D5)	50,554	
4. Market Over Cost: (F2-F3)	($379)	
5. 1/3 of Market Over Cost: (F4)/3		(126)
6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		$50,428

Judges Retirement Fund

Change In Assets Available For Benefits

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

	Market Value	Cost Value
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	$44,256	$44,106
B. OPERATING REVENUES		
1. Member Contributions	$1,416	$1,416
2. Employer Contributions	4,912	4,912
3. Investment Income	644	644
4. MPRIF Income	3,818	3,818
5. Net Realized Gain (Loss)	62	62
6. Other	1,467	1,467
7. Net Change in Unrealized Gain (Loss)	(529)	0
8. Total Revenue	$11,790	$12,319
C. OPERATING EXPENSES		
1. Service Retirements	$5,773	$5,773
2. Disability Benefits	0	0
3. Survivor Benefits	0	0
4. Refunds	28	28
5. Investment Fees	11	11
6. Administrative Expenses	27	27
7. Other	32	32
8. Total Disbursements	$5,871	$5,871
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	$50,175	$50,554

Judges Retirement Fund

ACTIVE MEMBERS AS OF JUNE 30, 1994

AGE	YEARS OF SERVICE ≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25									
25-29									
30-34	1								1
35-39		3							3
40-44	3	19	8	1					31
45-49	2	21	31	15	2				71
50-54	1	12	9	21	9				52
55-59		1	14	6	14	10	3	1	49
60-64		3	6	3	4	7	3		26
65+		3	4	6	4	11	2	2	32
ALL	7	62	72	52	33	28	8	3	265

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE ≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
<25									
25-29									
30-34	83,495								83,495
35-39		83,495							83,495
40-44	83,495	83,781	84,698	83,495					83,981
45-49	83,495	84,014	83,846	83,495	86,220				83,879
50-54	83,495	84,403	83,495	83,754	84,100				83,914
55-59		83,495	83,495	83,495	84,663	83,912	83,495	83,495	83,914
60-64		85,312	83,495	83,495	86,220	83,495	83,495		84,124
65+		83,495	89,943	88,037	86,220	83,990	83,495	86,220	85,834
ALL	83,495	84,022	84,138	84,124	84,981	83,838	83,495	85,312	84,158

AGE	PRIOR FISCAL YEAR EARNINGS (IN THOUSANDS) BY YEARS OF SERVICE ≤1	1-4	5-9	10-14	15-19	20-24	25-29	30+	ALL
ALL	584	5,209	6,057	4,374	2,804	2,347	667	255	22,301

TABLE 4

Judges Retirement Fund
SERVICE RETIREMENTS AS OF JUNE 30, 1994

AGE	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
	YEARS RETIRED							
<50								
50-54								
55-59	1							1
60-64	1	2						3
65-69	6	10	6					22
70-74	4	27	16	2				49
75-79			15	6				21
80-84				13	6			19
85+					8	3	1	12
ALL	12	39	37	21	14	3	1	127

AVERAGE ANNUAL BENEFIT

AGE	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
	YEARS RETIRED							
<50								
50-54								
55-59	26,994							26,994
60-64	21,200	22,049						21,766
65-69	34,829	34,845	25,181					32,205
70-74	32,102	35,470	28,918	24,383				32,603
75-79			33,480	44,275				36,564
80-84				41,895	26,645			37,079
85+					38,011	29,802	39,192	36,057
ALL	32,131	34,622	30,162	40,907	33,140	29,802	39,192	33,885

AGE	≤1	1-4	5-9	10-14	15-19	20-24	25+	ALL
	TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS RETIRED							
ALL	385	1,350	1,115	859	463	89	39	4,303

Judges Retirement Fund
SURVIVORS AS OF JUNE 30, 1994

AGE	YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50			4					4
50-54								
55-59			2					2
60-64	1							1
65-69		4	2	2	2	1	1	12
70-74	2	1	1	3	1		1	9
75-79	2		2	1	2	1	1	9
80-84	1	2	2	1	2	3	4	15
85+	1	1	2		5	4	7	20
ALL	7	8	15	7	12	9	14	72

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50			24,154					24,154
50-54								
55-59			18,808					18,808
60-64	26,182							26,182
65-69		23,070	16,034	17,604	10,311	12,507	19,596	17,690
70-74	22,563	30,752	33,859	25,876	11,508		19,596	24,274
75-79	22,382		17,151	35,892	11,893	13,838	38,834	21,268
80-84	12,050	17,215	13,748	27,104	13,468	25,312	11,239	16,594
85+	13,064	24,731	19,596		17,643	17,725	16,532	17,591
ALL	20,169	22,774	20,077	25,119	14,256	19,242	17,050	19,213

AGE	TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL	141	182	301	175	171	173	238	1,383

Judges Retirement Fund

DISABILITY RETIREMENTS AS OF JUNE 30, 1994

AGE	YEARS DISABLED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54								
55-59			1					1
60-64								
65-69			1		1			2
70-74			1	1				2
75-79			2		1			3
80-84								
85+								
ALL			5	1	2			8

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED <1	1-4	5-9	10-14	15-19	20-24	25+	ALL
<50								
50-54								
55-59			21,728					21,728
60-64								
65-69			40,553		28,741			34,647
70-74			33,206	56,558				44,882
75-79			27,943		21,952			25,946
80-84								
85+								
ALL			30,275	56,558	25,347			32,328

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS DISABLED

AGE	<1	1-4	5-9	10-14	15-19	20-24	25+	ALL
ALL			151,375	56,558	50,694			258,624

Judges Retirement Fund

Reconciliation Of Members

		Actives	Terminated: Deferred Retirement	Terminated: Other Non-Vested
A.	ON JUNE 30, 1993	267	6	0
B.	ADDITIONS	11	0	0
C.	DELETIONS			
	1. Service Retirement	(12)	0	0
	2. Disability	0	0	0
	3. Death	0	0	0
	4. Terminated - Deferred	0	0	0
	5. Terminated - Refund	(1)	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	196		
	Non-Vested	69		
E.	TOTAL ON JUNE 30, 1994	265	6	0

		Recipients: Retirement Annuitants	Recipients: Disabled	Recipients: Survivors
A.	ON JUNE 30, 1993	123	8	69
B.	ADDITIONS	12	0	7
C.	DELETIONS			
	1. Service Retirement	0	0	0
	2. Death	(8)	0	(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, 1994	127	8	72

Judges Retirement Fund

Actuarial Balance Sheet

(dollars in thousands)

JULY 1, 1994

A.	CURRENT ASSETS (TABLE 1, F6)			$50,428
B.	EXPECTED FUTURE ASSETS			
	1. Present Value of Expected Future Statutory Supplemental Contributions (See Table 11)			$48,300
	2. Present Value of Future Normal Costs			42,753
	3. Total Expected Future Assets			$91,053
C.	TOTAL CURRENT AND EXPECTED FUTURE ASSETS			$141,481
D.	CURRENT BENEFIT OBLIGATIONS	Non-Vested	Vested	Total
	1. Benefit Recipients			
	a. Retirement Annuities		$37,963	$37,963
	b. Disability Benefits		2,806	2,806
	c. Surviving Spouse and Child Benefits		12,434	12,434
	2. Deferred Retirements with Future Augmentation		1,126	1,126
	3. Former Members without Vested Rights		0	0
	4. Active Members			
	a. Retirement Annuities	2,089	31,185	33,274
	b. Disability Benefits	2,349	0	2,349
	c. Survivor's Benefits	4,605	0	4,605
	d. Deferred Retirements	0	0	0
	e. Refund Liability Due to Death or Withdrawal	0	327	327
	5. Total Current Benefit Obligations	$9,043	$85,841	$94,884
E.	EXPECTED FUTURE BENEFIT OBLIGATIONS			$46,182
F.	TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			$141,066
G.	CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)			$44,456
H.	CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)			($415)

Judges Retirement Fund

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

(dollars in thousands)

JULY 1, 1994

	Actuarial Present Value of Projected Benefits (1)	Actuarial Present Value of Future Normal Costs (2)	Actuarial Accrued Liability (3)=(1)-(2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	$72,092	$33,861	$38,231
b. Disability Benefits	4,794	2,899	1,895
c. Survivor's Benefit	9,252	5,653	3,599
d. Deferred Retirements	0	0	0
e. Refunds Due to Death or Withdrawal	599	340	259
f. Total	$86,737	$42,753	$43,984
2. Deferred Retirements With Future Augmentation	1,126		1,126
3. Former Members Without Vested Rights	0		0
4. Annuitants in MPRIF	40,854		40,854
5. Recipients Not in MPRIF	12,349		12,349
6. Total	$141,066	$42,753	$98,313

B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)	
1. AAL (A6)	$98,313
2. Current Assets (Table 1, F6)	50,428
3. UAAL (B1-B2)	$47,885
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE	
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2020	$457,385
2. Supplemental Contribution Rate (B3/C1)	10.47%

Judges Retirement Fund

Changes In Unfunded Actuarial Accrued Liability (UAAL)

(dollars in thousands)

YEAR ENDING JUNE 30, 1994

A. UAAL AT BEGINNING OF YEAR	$46,353
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	$3,746
2. Contribution	(6,328)
3. Interest on A, B1 and B2	3,830
4. Total (B1+B2+B3)	$1,248
C. EXPECTED UAAL AT END OF YEAR (A+B4)	$47,601
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	($2,857)
2. Investment Return	258
3. MPRIF Mortality	618
4. Mortality of Other Benefit Recipients	(40)
5. Repayment of Refunded Contributions	0
6. Other Items	2,305
7. Total	$284
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTION (C+D7)	$47,885
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)	$47,885

Judges Retirement Fund

Determination Of Contribution Sufficiency

(dollars in thousands)

JULY 1, 1994

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 490		
1. Employee Contributions	6.36%	$1,418
2. Employer Contributions	22.00%	4,906
3. Total	28.36%	$6,324
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	14.07%	$3,138
b. Disability benefits	1.11%	248
c. Survivors	2.30%	512
d. Deferred Retirement Benefits	0.00%	0
e. Refunds Due to Death or Withdrawal	0.20%	45
f. Total	17.68%	$3,943
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL	10.47%	2,335
3. Allowance for Expenses	0.12%	27
4. Total	28.27%	$6,305
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) [A3-B4]	0.09%	$19

Note: Projected Annual Payroll for Fiscal Year Beginning on JULY 1, 1994 is $22,302.

Judges Retirement Fund

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	**Pre-Retirement**: 8.5% per annum **Post-Retirement**: 5.0% per annum
Salary Increases:	Statutory salary rate as prescribed in Chapter 345, Article I, Sec. 28, with a 3% increase for the 1992-93 fiscal year and 6.5% per year thereafter.
Mortality:	**Pre-Retirement**: Male - 1971 Group Annuity Mortality Table Female - 1971 Group Annuity Mortality Table male rates 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:	*Judges*: 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.

Judges Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement	
Age	Male	Female	Male	Female	Male	Female	Male	Female
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

Judges Retirement Fund

Summary of Actuarial Assumptions and Methods

Separation Expressed as Number of Occurrences Per 10,000:

	Death		Withdrawal		Disability		Retirement	
Age	Male	Female	Male	Female	Male	Female	Male	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

Judges Retirement Fund

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 depending 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.

Judges Retirement Fund

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 depending 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.

***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.