

THE *Wyatt* COMPANY

ACTUARIES AND CONSULTANTS

EMPLOYEE BENEFITS
COMPENSATION PROGRAMS
EMPLOYEE COMMUNICATIONS
ADMINISTRATIVE SYSTEMS
RISK MANAGEMENT
INTERNATIONAL SERVICES

NORTHWESTERN FINANCIAL CENTER
7900 XERXES AVENUE SOUTH, SUITE 1200
MINNEAPOLIS, MINNESOTA 55431
(612) 835-1500

OFFICES IN PRINCIPAL CITIES
AROUND THE WORLD

December 17, 1986

PERSONAL AND CONFIDENTIAL

Ms. Zona DeWitt
State Documents
Legislative Reference Library
645 State Office Building
St. Paul, Minnesota 55155

Re: Judges Retirement Fund -
1986 Actuarial Valuation Report

Dear Ms. DeWitt:

We discovered that Table 10 in our actuarial report included some incorrect numbers in Section D. A revised table is enclosed. Please destroy the original table and replace with this revision.

Our apologies for the inconvenience.

Very truly yours,

REP

Robert E. Perkins
Consulting Actuary

REP/sh
Enc.

JUDGES RETIREMENT FUND

CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
(DOLLARS IN THOUSANDS)

TABLE 10

YEAR ENDING JUNE 30, 1986

A. UAAL AT BEGINNING OF YEAR	\$32,877
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$1,920
2. Contribution	(2,735)
3. Interest on A, B1, and B2	2,598
4. Total (B1+B2+B3)	----- \$1,783 -----
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$34,660
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	\$110
2. Investment Return	(464)
3. MPRIF Mortality	(33)
4. Mortality of Other Benefit Recipients	(459)
5. Other Items	1,564
6. Total	----- \$718 -----
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D6)	\$35,378
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)	----- \$35,378 =====

Revised 12/17/86

TABLE 10

JUDGES RETIREMENT FUND

CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

A. UAAL AT BEGINNING OF YEAR	\$30,586
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$2,014
2. Contribution	(2,726)
3. Interest on A, B1, and B2	2,418
4. Total (B1+B2+B3)	\$1,706
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$32,292
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	\$1,024
2. Investment Return	200
3. MPRIIF Mortality	263
4. Mortality of Other Benefit Recipients	699
5. Active Members' Turnover, Retirement, Mortality and Disability	(155)
6. Other Items	(1,446)
7. Total	\$585
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D7)	\$32,877
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)	\$32,877

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OFFICES IN PRINCIPAL CITIES
AROUND THE WORLD

June 2, 1986

PERSONAL AND CONFIDENTIAL

Mr. John C. Chenoweth
Executive Director
Minneapolis Employees' Retirement Fund
332 Midland Bank Bldg.
Minneapolis, Minnesota 55401

Re: State Contribution to MERF

Dear John:

You will recall that during my presentation to the MERF Board, I mentioned that the calculation of the State contribution might be changed. Based on conversations I have had with Bob Trushenski, Larry Martin and Ron Hackett, I have made a revision in the calculation of the State contribution that is shown in our 1985 report.

The revision increases the State contribution by \$115,000. There is a corresponding decrease in the contribution by the Airport Commission of \$111,000 and by the Waste Control Commission of \$4,000.

By making this revision, the calculation will be more consistent with the Statute. The steps involved in the calculation are shown on page 4 of our report.

Enclosed are ten sets of revised pages 2, 3, 4, and 20.

If you have any questions, please give me a call.

Very truly yours,

REP

Robert E. Perkins
Consulting Actuary

REP/sh
Enc.

cc: Ron Hackett
Larry Martin
Rick Pietrick
Bob Trushenski

✓ *Reference Library*

MINNEAPOLIS EMPLOYEES RETIREMENT FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine the financial status of the Fund. 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 employee and employer statutory contributions for the Minneapolis Employees Retirement Fund are 27.23%. The remaining 9.51% needed to reach the required contribution level of 36.74% will be paid by the State according to Chapter 422A of Minnesota Statutes.

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

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This ratio is based on recently published Governmental Accounting Standards Board proposals. This year's ratio is 69.02%. The corresponding ratio for the prior year was not calculated.
- o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that

has historically been used. For 1985 the ratio is 66.86%, which is an increase from the 1984 value of 62.79%.

- o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This Funding Ratio is 100% since any deficiency in contributions required to amortize the unfunded liabilities will be paid by the State each year.

Employer Contributions (Dollars in Thousands)

The employer contributions consist of the following four components:

- o The difference between the normal cost plus administrative cost (net of amounts charged against investment income) and the employee contributions, which is
 $20.11\% + .36\% - 9.75\% = 10.72\%$ of payroll.
- o 2.5% of payroll.
- o \$3,900, which equals 3.91% of payroll for this fiscal year.
- o The remaining portion of the payment required to amortize by 2017 the unfunded liability which is attributed to the Metropolitan Airport Commission and the Waste Control Commission. This amount is \$350, which equals .35% of payroll (for all six employers) for this fiscal year.

State Contributions (Dollars in Thousands)

The State shall pay the remaining portion of the payment required to amortize by 2017 the unfunded liability which is attributed to the City of Minneapolis, Minneapolis Special School District No. 1, City of Minneapolis Water Department, and the Municipal Building Commission.

The assets below were taken from the 1985 Comprehensive Annual Financial Report of the Fund and adjusted to equal Current Assets for active members.

	Accrued Liability	Assets		Unfunded \$	Liability Portion
		Employee	Employer		
City	\$230,978	\$54,814	\$13,486	\$162,678	62.03%
School	84,906	22,559	181	62,166	23.70%
Water	29,304	7,241	846	21,217	8.09%
Building	4,649	1,177	(874)	4,346	1.66%
	-----	-----	-----	-----	-----
	\$349,837	\$85,791	\$13,639	\$250,407	95.48%
Airport	\$20,068	\$5,125	\$8,903	\$6,040	2.30%
Waste	10,824	2,394	2,618	5,812	2.22%
	-----	-----	-----	-----	-----
	\$380,729	\$93,310	\$25,160	\$262,259	100.00%

The following table shows the three components of the Supplemental Contribution. The remaining portion of \$9,484 for the first four employers is to be paid by the State.

	Supplemental Contribution	2.5% of Payroll	\$3,900 Portion	Remaining Portion
City	\$10,067	\$1,476	\$2,418	\$6,173
School	3,846	596	924	2,326
Water	1,313	185	316	812
Building	269	31	65	173
	-----	-----	-----	-----
	\$15,495	\$2,288	\$3,723	\$9,484
Airport	\$373	\$151	\$90	\$132
Waste	360	55	87	218
	-----	-----	-----	-----
	\$16,228	\$2,494	\$3,900	\$9,834

MINNEAPOLIS EMPLOYEES RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

TABLE 11

JULY 1, 1985

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 422A		
1. Employee Contributions	9.75%	\$9,725
2. Employer Contributions	17.48%	17,439
3. State Contributions	9.51%	9,484
4. Total	----- 36.74% =====	----- \$36,648 =====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	12.77%	\$12,740
b. Disability Benefits	3.84%	3,829
c. Survivors	0.94%	933
d. Deferred Retirement Benefits	1.93%	1,928
e. Refunds Due to Death or Withdrawal	0.63%	631
f. Total	----- 20.11% -----	----- \$20,061 -----
2. Supplemental Contribution Amortization by July 1, 2017 of UAAL of \$262,259	16.27%	\$16,228
3. Allowance for Expenses	0.36%	\$359
4. Total	----- 36.74%	----- \$36,648
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A4-B4)	0.00%	\$0

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$99,740

STATE EMPLOYEES RETIREMENT FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1985

December 30, 1985

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

RE: STATE EMPLOYEES RETIREMENT FUND

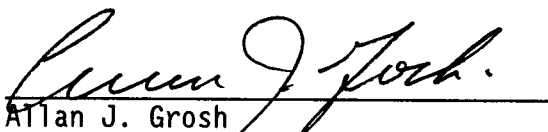
Gentlemen:

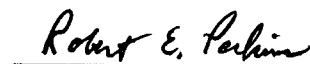
We have prepared an actuarial valuation of the Fund as of July 1, 1985 based on membership and financial data supplied by the Fund.

We certify that to the best of our knowledge and belief this actuarial valuation was performed 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 June 11, 1985.

Respectfully submitted,

THE WYATT COMPANY


Allan J. Grosh
Vice President


Robert E. Perkins
Consulting Actuary

STATE EMPLOYEES RETIREMENT FUND

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STATE EMPLOYEES RETIREMENT FUND

REPORT HIGHLIGHTS (DOLLARS IN THOUSANDS)

	<u>06/30/84</u> <u>VALUATION</u>	<u>07/01/85</u> <u>VALUATION</u>
A. CONTRIBUTIONS (TABLE 11)		
1. Statutory Contributions - Chapter 352 % of Payroll	7.64%	7.80%
2. Required Contributions - Chapter 356 % of Payroll	8.02%	7.24%
3. Sufficiency (Deficiency) (A1-A2)	-0.38%	0.56%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	NA	\$1,158,383
b. Current Benefit Obligations (Table 8)	NA	\$1,285,197
c. Funding Ratio (a/b)	NA	90.13%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$996,003	\$1,158,383
b. Actuarial Accrued Liability (Table 9)	\$1,311,550	\$1,542,559
c. Funding Ratio (a/b)	75.94%	75.09%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	NA	\$2,195,123
b. Current and Expected Future Benefit Obligations	NA	\$2,068,864
c. Funding Ratio (a/b)	NA	106.10%
C. PLAN PARTICIPANTS		
1. Active Members (Table 3)		
a. Number	45,332	45,590
b. Projected Annual Earnings	\$949,841	\$1,078,983
c. Average Annual Earnings (Actual \$)	\$20,953	\$23,667
d. Average Age	NA	39.6
e. Average Service	NA	8.9
2. Others		
a. Service Retirements (Table 4)	10,001	10,464
b. Disability Retirements (Table 5)	699	695
c. Survivors (Table 6)	469	537
d. Deferred Retirements (Table 7)	877	940
e. Terminated Other Non-vested (Table 7)	5,590	4,957
f. Total	17,636	17,593

STATE EMPLOYEES RETIREMENT FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine the financial status of the Fund. 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 statutory contributions for the State Employees Retirement Fund are sufficient for 1985 by an amount of 0.56% of payroll. According to this valuation a contribution rate of 7.24% is required to comply with Minnesota Law.

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

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This ratio is based on recently published Governmental Accounting Standards Board proposals. This year's ratio is 90.13%. The corresponding ratio for the prior year was not calculated.
- o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that

) has historically been used. For 1985 the ratio is 75.09%, which is a decrease from the 1984 value of 75.94%.

- o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This ratio, which is more than 100%, verifies that the current statutory contributions are adequate.

Asset Information

Beginning in 1984, changes in Section 356.215 of Minnesota Statutes require that the asset value used for actuarial purposes reflect a portion of the unrealized gains and losses. Only a portion of these gains and losses are considered because market values are typically volatile and could produce erratic changes in the contribution requirements from year to year.

) The calculation of assets for actuarial purposes begins with the reporting of Total Assets by the Fund (Table 1, line B). These Total Assets, reduced by any Amounts Currently Payable (line C), produce the Assets Available for Benefits (line D5), which is the starting value for determining the Actuarial Value of Assets.

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

) 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.

Since this Fund participates in the Minnesota Post Retirement Investment Fund, referred to as MPRIF, the asset value shown on line A3 is initially calculated by the State Board of Investment(SBI), and is the expected amount of MPRIF participation assuming the Fund earns 5% interest. The actual amount is determined by calculating the liability based on annuitant information supplied by the Fund. If the actual liability is larger than expected, the difference is labelled a mortality loss and if smaller a gain.

Investment performance by SBI above the 5% level is not shown in the assets but will be added in on January 1, 1986 when benefits will be increased for those annuitants who have been receiving payments for 18 months. Next year's valuation will include the 1986 benefit increase in determining the MPRIF value.

Membership Data

Tables 3 through 6 summarize statistical information on members by category. Active members are grouped by age and completed years of service in Table 3. The earnings shown for these members are for the prior fiscal year except in the case of fulltime new hires where earnings have been annualized.

The service retirements are shown in Table 4 and disabled members are shown in Table 5. The survivors category (Table 6) includes spouses and children of deceased members.

Actuarial Balance Sheet

An actuarial balance sheet is required by Section 356.215, Subdivision 4f of Minnesota Law. This balance sheet (Table 8) establishes a method for evaluating both current and future levels of funding.

Current funding levels are evaluated by comparing Current Assets on line A to Current Benefit Obligations on line D5. The difference between the obligations and the assets is shown as Current Unfunded Liability on line G.

The measurement of the Current Benefit Obligation is based on the Proposed Statement of Governmental Accounting Standards published by the Governmental Accounting Standards Board (GASB) in August 1985. This value is known as the Actuarial Present Value of Credited Projected Benefits.

The first step in the GASB calculation for active members involves projecting salaries and service to determine future benefits payable under the plan and then discounting those projected benefits to the date of the valuation. The second step is to determine the discounted value of benefits for the non-active members. For those non-active members whose benefits have not commenced, the liability includes augmentation of benefits to date of commencement. The result of the first two steps is shown on line F, Total Current and Expected Future Benefit Obligations.

The third step is to determine the portion that represents Current Benefit Obligations. In the case of active members the Current Benefit Obligation is computed by attributing an equal benefit amount to each year of credited and expected future employee service. For all others, their entire liability is

) considered a Current Benefit Obligation.

Current and future funding levels are evaluated by comparing Current and Future Expected Assets on line C to Current and Expected Future Benefit Obligations on line F. The difference between the obligations and the assets is shown as the Current and Future Unfunded Liability on line H.

) Since line F has already been calculated, the remaining step is to determine the Expected Future Assets . The statutory contribution rate in excess of the combined normal cost rate and expense rate is first calculated. The amount of assets for line B1 can be determined by projecting from the valuation date to the amortization date (the date for paying off all unfunded liabilities) on the assumption that total payroll is increasing at 6.5% annually and then discounted to the date of the valuation.

) The Current Unfunded Liability, line G, is a measurement of the status of the funding to the date of the valuation. The Current and Future Unfunded Liability is a measurement of the adequacy of the current statutory contribution level.

Contribution Sufficiency

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal 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) shows similarities and differences. The similarity is that both approaches calculate the value of all future benefits the same way. This can be

) verified by comparing line F of Table 8 to line A6, column 1, of Table 9. The difference arises from the technique for allocating liabilities between 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.

) An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal 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. Prior to 1984 these payments were calculated to be a level dollar amount similar to a fixed interest rate mortgage. The method of funding was changed in 1984 to produce a series of payments that remain a constant percentage of payroll each year.

Under this new approach the payments will increase 6.5% each year since 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 begin to cover not only the interest but also repay a portion of the unfunded.

Projected Cash Flow

) Table 12 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Non-MPRIF Assets, which are the Current Assets reduced by the MPRIIF Reserves. Contributions are then added based on the

) present statutory rates for employers and employees. As members become eligible for payments from MPRIF an amount of reserve is transferred to MPRIF. The other disbursements represent benefit payments made directly by the Fund.

This projected cash flow assumes that future payrolls increase by 6.5%. For purposes of this table only, new members are assumed to be hired in order to replace those who terminate from the active group. This open group method provides a more realistic picture of future cash flow. The statutory interest rate of 8% is used to project future investment return.

) The amounts transferred to MPRIF will be affected by the number of members who reach the assumed retirement age during a given year. The amount for 1987 is large because it includes those already over age 65 (age 58 for Correctional) who are assumed to retire a year from the valuation date.

General and Correctional

Table 2 allocates the Current Assets between the General and Correctional Plans. This allocation is performed by separating the assets between MPRIF and Non-MPRIF. The MPRIF portion is allocated automatically as a result of the liability calculations at the beginning of the year.

) The Non-MPRIF portion, referred to in Table 2 as the Allocable Assets, is determined by starting with last year's allocation and projecting to the current valuation date based on the receipts and disbursements by Plan. Numbers marked with an asterisk represent approximations based on the following assumptions:

- o Lines G1 and G2 - Allocates contributions based on prior fiscal year salaries.
- o Line G3 - Assumes all State appropriations are for the General Plan.
- o Line H1 - Allocates new MPRIF annuitants in proportion to liabilities for those retired on or after July 1, 1984.
- o Line H2 - Places all of the State appropriation and the Non-MPRIF payouts in the General Plan.
- o Line H3 - Allocates refunds in proportion to the payroll of members who received refunds during the prior fiscal year.
- o Line H4 - Assumes expenses in proportion to prior fiscal year salary.
- o Line H5 - Allocates the MPRIF mortality loss in proportion to the MPRIF reserves at the end of the year.

Additional tables at the end of this report show contributions and liabilities for the General and Correctional Plans.

TABLE 1

STATE EMPLOYEES RETIREMENT FUND

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1985

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash and Cash Equivalents	\$60,627	\$60,627
2. Investments		
a. Fixed Income	188,203	183,873
b. Equity	525,751	466,693
c. Real Estate	0	0
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	424,583	424,583
4. Other	4,159	4,159
	-----	-----
B. TOTAL ASSETS	\$1,203,323	\$1,139,935
	=====	=====
C. AMOUNTS CURRENTLY PAYABLE	\$2,681	\$2,681
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$225,879	\$225,879
2. Employer Reserves	549,976	486,588
3. MPRIF Reserves	424,583	424,583
4. Non-MPRIF Reserves	204	204
	-----	-----
5. Total Assets Available for Benefits	\$1,200,642	\$1,137,254
	-----	-----
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	\$1,203,323	\$1,139,935
	=====	=====

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available for Benefits (D5)		\$1,137,254
2. Market Value (D5)	\$1,200,642	
3. Cost Value (D5)	1,137,254	

4. Market Over Cost (F2-F3)	\$63,388	
5. 1/3 of Market Over Cost(F4)/3		21,129

6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		\$1,158,383
		=====

TABLE 2

STATE EMPLOYEES RETIREMENT FUND

CHANGES IN ASSETS AVAILABLE FOR BENEFITS AND ASSET ALLOCATION
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF YEAR	\$973,727	\$1,006,536
B. OPERATING REVENUES		
1. Member Contributions	\$35,220	\$35,220
2. Employer Contributions	37,625	37,625
3. Investment Income	62,859	62,859
4. MPRIF Income	41,294	41,294
5. Net Realized Gain (Loss)	4,378	4,378
6. Other	1,331	1,331
7. Net Change in Unrealized Gain (Loss)	96,197	0
	-----	-----
8. Total Revenue	\$278,904	\$182,707
	-----	-----
C. OPERATING EXPENSES		
1. Service Retirements	\$40,809	\$40,809
2. Disability Benefits	2,122	2,122
3. Survivor Benefits	25	25
4. Refunds	7,500	7,500
5. Expenses	2,598	2,598
6. Other	0	0
	-----	-----
7. Total Disbursements	\$53,054	\$53,054
	-----	-----
D. CHANGES IN ACCOUNTING METHOD	1,065	1,065
E. ASSETS AVAILABLE AT END OF YEAR	\$1,200,642	\$1,137,254
	=====	=====

TABLE 2
(cont)

STATE EMPLOYEES RETIREMENT FUND

CHANGES IN ASSETS AVAILABLE FOR BENEFITS AND ASSET ALLOCATION
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

	<u>GENERAL</u>	<u>CORRECTIONAL</u>	<u>TOTAL</u>
F. BEGINNING OF YEAR			
1. Current Assets	\$955,850	\$40,153	\$996,003
2. MPRIF Reserves	340,559	15,820	356,379
3. Allocable Assets(F1-F2)	615,291	24,333	639,624
G. RECEIPTS			
1. Member Contributions	33,852 *	1,368 *	35,220
2. Employer Contributions	35,208 *	2,417 *	37,625
3. Other	1,331 *	0 *	1,331
4. Total	70,391	3,785	74,176
H. DISBURSEMENTS			
1. MPRIF New Annuitants	63,373 *	2,764 *	66,137
2. Non-MPRIF Benefits	1,356 *	0 *	1,356
3. Refunds	6,539 *	158 *	6,697
4. Expenses	2,520 *	78 *	2,598
5. Other	2,291 *	112 *	2,403
6. Total	76,079	3,112	79,191
I. EXPECTED INVESTMENT RETURN 8% OF (F3+.5XG4-.5XH6)	48,996	1,973	50,969
J. ALLOCATION OF REMAINING ASSETS IN PROPORTION TO LINE I	46,355	1,867	48,222
K. END OF YEAR			
1. Allocable Assets	704,954	28,846	733,800
2. MPRIF Reserves	404,861	19,722	424,583
3. Current Assets	1,109,815	48,568	1,158,383

* Allocated by Wyatt

TABLE 3

STATE EMPLOYEES RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1985

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	1,383	972	236						2,591
25-29	1,870	3,194	1,730	47					6,841
30-34	1,450	2,566	3,171	1,395	80				8,662
35-39	1,021	1,746	2,476	1,856	946	79			8,124
40-44	546	942	1,305	970	1,017	464	21		5,265
45-49	320	679	925	692	645	473	294	19	4,047
50-54	215	410	700	606	543	409	385	239	3,507
55-59	127	386	594	584	684	312	303	389	3,379
60-64	45	187	514	459	565	332	181	327	2,610
65+	14	29	112	124	140	60	43	42	564
TOTAL	6,991	11,111	11,763	6,733	4,620	2,129	1,227	1,016	45,590

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	7,415	14,082	16,271						10,723
25-29	9,705	17,353	18,836	19,920					15,655
30-34	9,939	18,320	21,275	21,893	20,829				18,598
35-39	10,190	19,060	22,844	25,500	24,410	23,763			21,238
40-44	10,726	18,352	23,432	26,072	27,029	27,871	23,813		22,779
45-49	8,899	17,253	22,308	24,611	25,929	28,475	29,114	25,573	22,601
50-54	8,172	18,040	21,565	23,592	24,647	27,053	30,133	28,891	23,239
55-59	7,515	17,639	21,031	22,176	23,380	25,086	27,647	29,706	22,775
60-64	4,332	16,075	20,183	22,259	23,084	24,288	25,168	29,521	22,646
65+	2,620	10,921	17,689	21,486	21,634	21,507	24,969	29,303	20,607
ALL	9,278	17,634	21,390	23,950	24,766	26,549	28,253	29,361	19,941

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

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
64,864	195,935	251,605	161,256	114,417	56,524	34,667	29,830	909,098

TABLE 4

STATE EMPLOYEES RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1985

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	4							4
55-59	63	111	6					180
60-64	360	863	72	2				1,297
65-69	158	1,827	773	41				2,799
70-74	18	261	1,894	421	18	1		2,613
75-79	1	9	363	1,244	124	21	1	1,763
80-84			7	407	567	72	26	1,079
85+			1	14	232	301	181	729
TOTAL	604	3,071	3,116	2,129	941	395	208	10,464

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	7,489							7,489
55-59	5,675	7,113	7,611					6,626
60-64	5,365	5,279	5,237	5,249				5,301
65-69	4,190	4,336	4,654	3,818				4,408
70-74	4,834	4,019	3,435	3,650	1,975	1,075		3,527
75-79	2,951	4,667	2,969	3,311	2,281	2,049	1,138	3,159
80-84			5,619	2,970	2,189	2,306	1,990	2,509
85+			11,634	2,424	2,453	2,018	2,448	2,284
ALL	5,084	4,675	3,741	3,319	2,262	2,069	2,385	3,784

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
3,071	14,360	11,655	7,066	2,128	817	496	39,593

TABLE 5

STATE EMPLOYEES RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1985

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	2	16	4	2				24
50-54	7	20	7	2				36
55-59	10	37	21	7	1			76
60-64	10	80	77	20	9	2		198
65-69		22	126	29	6	2		185
70-74			47	40	13	1	2	103
75-79				19	16	5		40
80-84					8	11	3	22
85+						4	7	11
TOTAL	29	175	282	119	53	25	12	695

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	3,262	4,060	2,208	1,454				3,467
50-54	4,281	2,949	3,573	1,837				3,268
55-59	2,925	4,176	3,869	2,062	1,384			3,695
60-64	3,120	3,391	3,335	2,318	2,223	2,549		3,186
65-69		2,532	2,835	2,566	1,702	1,877		2,710
70-74			2,956	2,475	2,048	782	2,437	2,623
75-79				2,146	2,116	1,608		2,067
80-84					1,254	1,631	2,397	1,598
85+						2,831	2,732	2,768
TOTAL	3,343	3,460	3,078	2,366	1,926	1,877	2,599	2,924

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
97	605	868	282	102	47	31	2,032

TABLE 6

STATE EMPLOYEES RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1985

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	5	6	1		1			13
50-54	1	10			1			12
55-59	5	31	2	3			1	42
60-64	9	48	23	7	1	1		89
65-69	2	21	36	15	1	2	2	79
70-74		8	35	39	6	4	3	95
75-79		1	8	40	18	14	7	88
80-84			1	10	22	24	8	65
85+				3	11	13	27	54
TOTAL	22	125	106	117	61	58	48	537

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	4,043	3,704	1,849		1,606			3,530
50-54	3,442	3,887			1,015			3,610
55-59	6,233	3,935	4,090	3,354			1,515	4,117
60-64	4,394	3,761	2,605	2,296	410	1,502		3,348
65-69	3,024	3,038	3,775	2,379	1,993	1,206	1,038	3,138
70-74		2,464	3,489	3,046	1,663	1,367	1,284	2,947
75-79		672	3,781	3,157	1,553	1,795	1,150	2,481
80-84			2,419	2,716	1,701	1,710	1,403	1,835
85+				2,191	2,229	1,609	1,525	1,725
ALL	4,564	3,582	3,402	2,911	1,720	1,663	1,414	2,828

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH							
<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
100	448	361	341	105	96	68	1,519

TABLE 7

STATE EMPLOYEES RETIREMENT FUND

RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1984	45,332	877	5,590
B. Additions	5,483	130	NA
C. Deletions:			
1. Service Retirement	(744)	(69)	
2. Disability	(41)		
3. Death	(64)	0	
4. Terminated-Deferred	(86)		
5. Terminated-Refund	(3,090)	0	NA
6. Terminated-Other Non-vested	(1,004)		
7. Returned as Active		0	NA
D. Data Adjustments	(196)	2	NA
	Vested	15,725	
	Non-Vested	29,865	
E. Total on June 30, 1985	45,590	940	4,957

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1984	10,001	699	469
B. Additions	898	46	82
C. Deletions:			
1. Service Retirement		0	
2. Death	(436)	(54)	(22)
3. Annuity Expired	0	(1)	0
4. Returned as Active	0	0	
D. Data Adjustments	1	5	8
E. Total on June 30, 1985	10,464	695	537

TABLE 8

STATE EMPLOYEES RETIREMENT FUND

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1985

A. CURRENT ASSETS (TABLE 1, F6)			\$1,158,383
B. EXPECTED FUTURE ASSETS			
1. Present Value of Expected Future Supplemental Contributions			510,435
2. Present Value of Future Normal Costs			526,305
3. Total Expected Future Assets			1,036,740
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS			\$2,195,123
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>
1. Benefit Recipients			
a. Retirement Annuities		\$389,034	\$389,034
b. Disability Benefits		19,104	19,104
c. Surviving Spouse's Benefits		16,649	16,649
d. Surviving Children's Benefits		0	0
2. Deferred Retirements with Future Augmentation		14,712	14,712
3. Former Members without Vested Rights		2,384	2,384
4. Active Members			
a. Retirement Annuities	79,221	514,077	593,298
b. Disability Benefits	6,882	35,664	42,546
c. Survivors' Benefits	5,822	42,351	48,173
d. Deferred Retirements	17,937	51,302	69,239
e. Refund Liability Due to Death or Withdrawal	47,376	42,682	90,058
5. Total Current Benefit Obligations	\$157,238	\$1,127,959	\$1,285,197
E. EXPECTED FUTURE BENEFIT OBLIGATIONS			\$783,667
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			\$2,068,864
G. CURRENT UNFUNDED LIABILITY (D5-A)			\$126,814
H. CURRENT AND FUTURE UNFUNDED LIABILITY (F-C)			(\$126,259)

TABLE 9

STATE EMPLOYEES RETIREMENT FUND

**DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
AND SUPPLEMENTAL CONTRIBUTION RATE
(DOLLARS IN THOUSANDS)**

JULY 1, 1985

	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	\$1,181,633	\$323,714	\$857,919
b. Disability Benefits	81,630	24,145	57,485
c. Survivors Benefits	90,906	23,594	67,312
d. Deferred Retirements	117,970	38,341	79,629
e. Refunds Due to Death or Withdrawal	154,842	116,511	38,331
f. Total	<u>\$1,626,981</u>	<u>\$526,305</u>	<u>\$1,100,676</u>
2. Deferred Retirements with Future Augmentation	\$14,712		\$14,712
3. Former Members Without Vested Rights	2,384		2,384
4. Annuitants in MPRIF	424,583		424,583
5. Recipients Not in MPRIF	204		204
6. Total AAL	<u>\$2,068,864</u>	<u>\$526,305</u>	<u>\$1,542,559</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$1,542,559
2. Current Assets (Table 1,F6)			1,158,383
3. UAAL (B1-B2)			<u>\$384,176</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of July 1, 2010			\$21,989,675
2. Supplemental Contribution Rate (B3/C1)			1.75%

TABLE 10

STATE EMPLOYEES RETIREMENT FUND

CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
(DOLLARS IN THOUSANDS)

SIX MONTH PERIOD ENDING JUNE 30, 1985

A. UAAL AT BEGINNING OF YEAR	\$315,547
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$59,966
2. Contribution	(72,845)
3. Interest on A, B1, and B2	24,728
4. Total (B1+B2+B3)	<u>\$11,849</u>
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$327,396
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	\$127,810
2. Investment Return	(48,222)
3. MPRIF Mortality	2,403
4. Mortality of Other Benefit Recipients	0
5. Active Members' Turnover, Retirement, Mortality and Disability	13,649
6. Other Items	(38,860)
7. Total	<u>\$56,780</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D7)	\$384,176
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)	<u><u>\$384,176</u></u>

TABLE 11

STATE EMPLOYEES RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

JULY 1, 1985

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 352		
1. Employee Contributions	3.76%	\$40,610
2. Employer Contributions	4.04%	43,571
3. Total	----- 7.80% =====	----- \$84,181 =====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	3.21%	\$34,585
b. Disability Benefits	0.24%	2,564
c. Survivors	0.23%	2,497
d. Deferred Retirement Benefits	0.38%	4,095
e. Refunds Due to Death or Withdrawal	1.15%	12,418
f. Total	----- 5.21% -----	----- \$56,159 -----
2. Supplemental Contribution Amortization by July 1, 2010 of UAAL of \$384,176	1.75%	\$18,886
3. Allowance for Expenses	0.28%	\$3,021
4. Total	----- 7.24%	----- \$78,066
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)	0.56%	\$6,115

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$1,078,983

TABLE 12

STATE EMPLOYEES RETIREMENT FUND

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

<u>FISCAL YEAR</u>	<u>STATUTORY CONTRIBUTIONS</u>	<u>TRANSFERS TO MPRIF</u>	<u>OTHER DISBURSEMENTS</u>	<u>INVESTMENT RETURN</u>	<u>NON-MPRIF ASSETS YEAR END</u>
1985					\$733,800
1986	\$84,180	\$28,392	\$14,969	\$60,336	834,955
1987	89,652	76,239	30,809	66,100	883,659
1988	95,479	32,760	41,623	71,536	976,291
1989	101,686	47,773	49,893	78,264	1,058,575
1990	108,295	56,499	57,054	84,475	1,137,792
1991	115,335	64,866	62,963	90,524	1,215,822
1992	122,831	72,188	68,313	96,559	1,294,711
1993	130,815	74,289	73,190	102,910	1,380,957
1994	139,318	79,158	77,776	109,772	1,473,113
1995	148,374	80,061	82,238	117,292	1,576,480
1996	158,018	87,136	86,255	125,503	1,686,610
1997	168,289	100,220	89,118	134,087	1,799,648
1998	179,228	115,010	92,204	142,852	1,914,514
1999	190,878	119,649	95,239	152,201	2,042,705
2000	203,285	137,864	98,755	162,083	2,171,454
2001	216,498	148,257	102,168	172,359	2,309,886
2002	230,571	161,319	105,640	183,335	2,456,833
2003	245,558	177,651	109,243	194,894	2,610,391
2004	261,519	194,943	112,893	206,979	2,771,053
2005	278,518	233,253	117,133	218,810	2,917,995
2006	296,622	249,293	121,254	230,483	3,074,553
2007	315,902	281,358	125,654	242,320	3,225,763
2008	336,436	317,305	130,286	253,615	3,368,223
2009	358,304	332,913	134,995	265,074	3,523,693
2010	381,594	390,983	140,407	275,904	3,649,801

STATE EMPLOYEES RETIREMENT FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	Pre-Retirement: 8% per annum
	Post-Retirement: 5% 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:	Graded rates beginning at age 58 as shown in rate table plus 50% of those eligible to retire under the Rule of 85, and members who have attained the highest assumed retirement age will retire in one year. For Correctional employees a single retirement age of 58 replaces the graded rates and all other retirement age assumptions remain the same.
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 expenses expressed as a percentage of prior year payroll. (.28% of payroll)
Return of Contributions:	60% of General members and 100% of Correctional members separating before retirement elect return of contributions in lieu of deferred benefit.
Family Composition:	85% of members are married. Female is three years younger than male. Married families have 1 child.

TABLE 13
(cont)

Social Security: (Correctional only)	Law: Present Law Wage Base: 3% per annum Cost of Living: 3% per annum
Benefit Increases after Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.
Special Consideration:	N/A
Actuarial Cost Method:	Entry Age Normal 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.
Projected Cash Flow Method:	Cash flows from the Non-MPRIF portion of the Fund were projected based on the current plan benefits, participant data, and actuarial assumptions. In addition, new entrants were assumed so that the total payroll would increase by 6.5% per annum.

TABLE 13
(cont)SEPARATIONS EXPRESSED AS THE
NUMBER OF OCCURRENCES PER 10,000

Age	<u>Death</u>		<u>Withdrawal</u>		<u>Disability</u>		<u>Retirement</u>	
	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
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

TABLE 13
(cont)

Age	Death		Withdrawal		Disability		Retirement	
	Male	Female	Male	Female	Male	Female	Male	Female
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	30	50
59	119	59	40	90	66	52	30	50
60	131	65	0	0	76	62	40	150
61	144	71	0	0	90	74	150	150
62	159	78	0	0	110	88	500	200
63	174	85	0	0	136	104	500	350
64	192	93	0	0	174	122	2,000	1,100
65	213	100	0	0	0	0	10,000	10,000
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

TABLE 15

STATE EMPLOYEES RETIREMENT FUND

MEMBERSHIP CHANGES
(DOLLARS IN THOUSANDS)

JUNE 30, 1985

A. ACTIVE MEMBERS	<u>NUMBER</u>	<u>PAYROLL</u>
1. As of the Last Valuation Date	45,332	\$949,841
2. New Entrants	5,483	NA
3. Total	50,815	NA
4. Separations from Active Service		
a. Refund of Contributions	(3,090)	(51,054)
b. Separation with Deferred Annuity	(86)	(1,801)
c. Separation with neither Refund nor Deferred Annuity	(1,004)	(10,216)
d. Disability	(41)	(847)
e. Death	(64)	(1,229)
f. Retirement with Service Annuity	(744)	(17,812)
5. Total Separations	(5,029)	(82,959)
6. Data Adjustments	(196)	NA
7. As of Current Valuation Date	45,590	\$1,013,130
B. SERVICE RETIREMENT ANNUITANTS	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	10,001	\$34,316
2. New Entrants	898	4,968
3. Total	10,899	39,284
4. Terminations		
a. Deaths	(436)	(1,332)
b. Others	0	0
5. Total Terminations	(436)	(1,332)
6. Data Adjustments	1	2,090
7. As of Current Valuation Date	10,464	\$40,042
C. DISABLED ANNUITANTS	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	699	\$1,935
2. New Entrants	46	142
3. Total	745	2,077
4. Terminations		
a. Deaths	(54)	(161)
b. Others	(1)	(4)
5. Total Terminations	(55)	(165)
6. Data Adjustments	5	121
7. As of Current Valuation Date	695	\$2,033

TABLE 15

(cont)

D. SURVIVING SPOUSE ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	469	\$1,164
2. New Entrants	82	306
3. Total	551	1,470
4. Terminations		
a. Deaths	(22)	(49)
b. Others	0	0
5. Total Terminations	(22)	(49)
6. Data Adjustments	8	109
7. As of Current Valuation Date	537	\$1,530
E. SURVIVING CHILDREN ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	0	\$0
2. New Entrants	0	0
3. Total	0	0
4. Terminations		
a. Deaths	0	0
b. Others	0	0
5. Total Terminations	0	0
6. Data Adjustments	0	0
7. As of Current Valuation Date	0	\$0
F. DEFERRED ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	877	\$3,466
2. New Entrants	130	642
3. Total	1,007	4,108
4. Terminations		
a. Deaths	0	(5)
b. Others	(69)	(143)
5. Total Terminations	(69)	(148)
6. Data Adjustments	2	(471)
7. As of Current Valuation Date	940	\$3,489

STATE EMPLOYEES RETIREMENT FUND

GENERAL

REPORT HIGHLIGHTS
(DOLLARS IN THOUSANDS)

	<u>06/30/84</u> <u>VALUATION</u>	<u>07/01/85</u> <u>VALUATION</u>
A. CONTRIBUTIONS (TABLE 11A)		
1. Statutory Contributions - Chapter 352 % of Payroll	7.63%	7.63%
2. Required Contributions - Chapter 356 % of Payroll	7.95%	7.18%
3. Sufficiency (Deficiency) (A1-A2)	-0.32%	0.45%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 2)	NA	\$1,109,815
b. Current Benefit Obligations (Table 8A)	NA	\$1,239,375
c. Funding Ratio (a/b)	NA	89.55%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 2)	\$955,850	\$1,109,815
b. Actuarial Accrued Liability (Table 9A)	\$1,267,662	\$1,489,214
c. Funding Ratio (a/b)	75.40%	74.52%
3. Projected Benefit Funding Ratio (Table 8A)		
a. Current and Expected Future Assets	NA	\$2,089,415
b. Current and Expected Future Benefit Obligations	NA	\$1,992,556
c. Funding Ratio (a/b)	NA	104.86%
C. PLAN PARTICIPANTS		
1. Active Members (Table 3A)		
a. Number	44,158	44,399
b. Projected Annual Earnings	\$922,847	\$1,047,928
c. Average Annual Earnings (Actual \$)	\$20,899	\$23,603
d. Average Age	39.5	39.7
e. Average Service	8.8	9.0
2. Others		
a. Service Retirements (Table 4A)	9,693	10,155
b. Disability Retirements (Table 5A)	687	683
c. Survivors (Table 6A)	463	529
d. Deferred Retirements (Table 7A)	852	910
e. Terminated Other Non-vested (Table 7A)	5,495	4,878
f. Total	17,190	17,155

STATE EMPLOYEES RETIREMENT FUND

TABLE 3A
GENERAL

ACTIVE MEMBERS AS OF JUNE 30, 1985

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	1,356	912	235						2,503
25-29	1,842	2,999	1,687	47					6,575
30-34	1,432	2,462	3,051	1,367	80				8,392
35-39	1,009	1,680	2,389	1,798	935	78			7,889
40-44	545	918	1,263	947	998	456	21		5,148
45-49	318	662	899	668	625	465	292	19	3,948
50-54	212	407	684	587	527	397	375	236	3,425
55-59	127	385	587	576	678	308	301	388	3,350
60-64	45	187	514	458	562	331	181	327	2,605
65+	14	29	112	124	140	60	43	42	564
TOTAL	6,900	10,641	11,421	6,572	4,545	2,095	1,213	1,012	44,399

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	7,349	13,809	16,247						10,538
25-29	9,629	17,155	18,703	19,920					15,463
30-34	9,873	18,206	21,144	21,781	20,829				18,459
35-39	10,118	18,953	22,768	25,414	24,354	23,783			21,139
40-44	10,706	18,258	23,263	26,056	26,994	27,917	23,813		22,693
45-49	8,822	17,124	22,224	24,501	25,861	28,472	29,157	25,573	22,515
50-54	8,096	18,016	21,460	23,425	24,552	26,949	30,174	28,933	23,142
55-59	7,515	17,627	20,971	22,096	23,326	25,077	27,616	29,711	22,733
60-64	4,332	16,075	20,183	22,237	23,065	24,263	25,168	29,521	22,634
65+	2,620	10,921	17,689	21,486	21,634	21,507	24,969	29,303	20,607
ALL	9,216	17,502	21,275	23,855	24,705	26,524	28,253	29,374	19,853

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

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
63,591	186,243	242,978	156,773	112,286	55,569	34,271	29,726	881,437

STATE EMPLOYEES RETIREMENT FUND

TABLE 4A
GENERAL

SERVICE RETIREMENTS AS OF JUNE 30, 1985

AGE	YEARS RETIRED							TOTAL
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50								0
50-54	2							2
55-59	56	66						122
60-64	358	836	19					1,213
65-69	158	1,819	713	16				2,706
70-74	18	261	1,873	377	18	1		2,548
75-79	1	9	363	1,237	124	21	1	1,756
80-84			7	407	567	72	26	1,079
85+			1	14	232	301	181	729
TOTAL	593	2,991	2,976	2,051	941	395	208	10,155

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50								0
50-54	2,768							2,768
55-59	5,425	6,892						6,218
60-64	5,377	5,223	5,840					5,278
65-69	4,190	4,339	4,739	2,352				4,424
70-74	4,834	4,019	3,445	3,668	1,975	1,075		3,535
75-79	2,951	4,667	2,969	3,308	2,281	2,049	1,138	3,156
80-84			5,619	2,970	2,189	2,306	1,990	2,509
85+			11,634	2,424	2,453	2,018	2,448	2,284
ALL	5,036	4,615	3,720	3,294	2,262	2,069	2,385	3,748

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT							
<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
2,986	13,805	11,070	6,756	2,128	817	496	38,058

STATE EMPLOYEES RETIREMENT FUND

TABLE 5A
GENERAL

DISABILITY RETIREMENTS AS OF JUNE 30, 1985

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	2	14	4	2				22
50-54	6	19	6	2				33
55-59	10	36	18	7	1			72
60-64	10	80	76	19	9	2		196
65-69		22	126	28	6	2		184
70-74			47	40	13	1	2	103
75-79				19	16	5		40
80-84					8	11	3	22
85+						4	7	11
TOTAL	28	171	277	117	53	25	12	683

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	3,262	3,639	2,208	1,454				3,146
50-54	3,320	2,830	3,645	1,837				3,007
55-59	2,925	3,896	3,603	2,062	1,384			3,475
60-64	3,120	3,391	3,356	2,330	2,223	2,549		3,199
65-69		2,532	2,835	2,525	1,702	1,877		2,704
70-74			2,956	2,475	2,048	782	2,437	2,623
75-79				2,146	2,116	1,608		2,067
80-84					1,254	1,631	2,397	1,598
85+						2,831	2,732	2,768
TOTAL	3,103	3,345	3,057	2,357	1,926	1,877	2,599	2,872

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
87	572	847	276	102	47	31	1,962

STATE EMPLOYEES RETIREMENT FUND

TABLE 6A
GENERAL

SURVIVORS AS OF JUNE 30, 1985

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	4	5	1		1			11
50-54	1	8			1			10
55-59	5	31	2	3			1	42
60-64	9	48	22	6	1	1		87
65-69	2	21	36	14	1	2	2	78
70-74		8	35	38	6	4	3	94
75-79		1	8	40	18	14	7	88
80-84			1	10	22	24	8	65
85+				3	11	13	27	54
TOTAL	21	122	105	114	61	58	48	529

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	3,225	2,972	1,849		1,606			2,838
50-54	3,442	3,199			1,015			3,005
55-59	6,233	3,935	4,090	3,354			1,515	4,117
60-64	4,394	3,761	2,586	2,061	410	1,502		3,347
65-69	3,024	3,038	3,775	2,362	1,993	1,206	1,038	3,145
70-74		2,464	3,489	3,039	1,663	1,367	1,284	2,942
75-79		672	3,781	3,157	1,553	1,795	1,150	2,481
80-84			2,419	2,716	1,701	1,710	1,403	1,835
85+				2,191	2,229	1,609	1,525	1,725
ALL	4,433	3,501	3,406	2,903	1,720	1,663	1,414	2,794

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
93	427	358	331	105	96	68	1,478

STATE EMPLOYEES RETIREMENT FUND

TABLE 7A
GENERAL

RECONCILIATION OF MEMBERS

		<u>TERMINATED</u>	
	<u>ACTIVES</u>	<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1984	44,158	852	5,495
B. Additions	5,327	127	NA
C. Deletions:			
1. Service Retirement	(720)	(68)	
2. Disability	(40)		
3. Death	(62)	0	
4. Terminated-Deferred	(84)		
5. Terminated-Refund	(3,014)	0	NA
6. Terminated-Other Non-vested	(982)		
7. Returned as Active		0	NA
D. Data Adjustments	(184)	(1)	NA
	Vested		
	Non-Vested		
	15,437		
	28,962		
E. Total on June 30, 1985	44,399	910	4,878

		<u>RECIPIENTS</u>	
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1984	9,693	687	463
B. Additions	885	45	81
C. Deletions:			
1. Service Retirement		0	
2. Death	(424)	(53)	(22)
3. Annuity Expired	0	(1)	0
4. Returned as Active	0	0	
D. Data Adjustments	1	5	7
E. Total on June 30, 1985	10,155	683	529

STATE EMPLOYEES RETIREMENT FUND

TABLE 8A
GENERAL

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1985

A. CURRENT ASSETS (TABLE 2, K3)				\$1,109,815
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Supplemental Contributions				476,258
2. Present Value of Future Normal Costs				503,342
3. Total Expected Future Assets				979,600
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				\$2,089,415
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>	
1. Benefit Recipients				
a. Retirement Annuities		\$370,847		\$370,847
b. Disability Benefits		18,207		18,207
c. Surviving Spouse's Benefits		16,011		16,011
d. Surviving Children's Benefits		0		0
2. Deferred Retirements with Future Augmentation		12,955		12,955
3. Former Members without Vested Rights		2,177		2,177
4. Active Members				
a. Retirement Annuities	74,378	499,498		573,876
b. Disability Benefits	6,681	35,308		41,989
c. Survivors' Benefits	5,822	42,351		48,173
d. Deferred Retirements	17,937	51,302		69,239
e. Refund Liability Due to Death or Withdrawal	44,869	41,032		85,901
5. Total Current Benefit Obligations	\$149,687	\$1,089,688		\$1,239,375
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				\$753,181
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				\$1,992,556
G. CURRENT UNFUNDED LIABILITY (D5-A)				\$129,560
H. CURRENT AND FUTURE UNFUNDED LIABILITY (F-C)				(\$96,859)

STATE EMPLOYEES RETIREMENT FUND

TABLE 9A
GENERAL

DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
AND SUPPLEMENTAL CONTRIBUTION RATE
(DOLLARS IN THOUSANDS)

JULY 1, 1985

	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	\$1,136,459	\$306,724	\$829,735
b. Disability Benefits	80,433	23,594	56,839
c. Survivors Benefits	90,906	23,594	67,312
d. Deferred Retirements	117,970	38,341	79,629
e. Refunds Due to Death or Withdrawal	146,591	111,089	35,502
f. Total	<u>\$1,572,359</u>	<u>\$503,342</u>	<u>\$1,069,017</u>
2. Deferred Retirements with Future Augmentation	\$12,955		\$12,955
3. Former Members Without Vested Rights	2,177		2,177
4. Annuitants in MPRIF	404,861		404,861
5. Recipients Not in MPRIF	204		204
6. Total AAL	<u>\$1,992,556</u>	<u>\$503,342</u>	<u>\$1,489,214</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$1,489,214
2. Current Assets (Table 2, K3)			1,109,815
3. UAAL (B1-B2)			<u>\$379,399</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls to the Amortization Date of July 1, 2010			\$21,356,772
2. Supplemental Contribution Rate (B3/C1)			1.78%

STATE EMPLOYEES RETIREMENT FUND

TABLE 10A
GENERAL

CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

A. UAAL AT BEGINNING OF YEAR	\$311,812
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$57,266
2. Contribution	(69,060)
3. Interest on A, B1, and B2	24,473
4. Total (B1+B2+B3)	----- \$12,679 -----
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$324,491
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	\$125,143
2. Investment Return	(46,355)
3. MPRIF Mortality	2,291
4. Mortality of Other Benefit Recipients	0
5. Active Members' Turnover, Retirement, Mortality and Disability	13,410
6. Other Items	(39,581)
7. Total	----- \$54,908 -----
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D7)	\$379,399
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)	----- \$379,399 =====

STATE EMPLOYEES RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

TABLE 11A
GENERAL

JULY 1, 1985

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 352		
1. Employee Contributions	3.73%	\$39,088
2. Employer Contributions	3.90%	40,869
	-----	-----
3. Total	7.63%	\$79,957
	=====	=====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	3.12%	\$32,764
b. Disability Benefits	0.24%	2,506
c. Survivors	0.24%	2,497
d. Deferred Retirement Benefits	0.39%	4,095
e. Refunds Due to Death or Withdrawal	1.13%	11,838
	-----	-----
f. Total	5.12%	\$53,700
	-----	-----
2. Supplemental Contribution Amortization by July 1, 2010 of UAAL of \$379,399	1.78%	\$18,653
3. Allowance for Expenses	0.28%	\$2,934
	-----	-----
4. Total	7.18%	\$75,287
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)		
	0.45%	\$4,670

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$1,047,928

STATE EMPLOYEES RETIREMENT FUND

TABLE 12A
GENERAL

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

<u>FISCAL YEAR</u>	<u>STATUTORY CONTRIBUTIONS</u>	<u>TRANSFERS TO MPRIF</u>	<u>OTHER DISBURSEMENTS</u>	<u>INVESTMENT RETURN</u>	<u>NON-MPRIF ASSETS YEAR END</u>
1985					\$704,954
1986	\$79,957	\$27,721	\$14,385	\$57,910	800,715
1987	85,154	74,232	30,175	63,287	844,749
1988	90,689	31,793	40,933	68,298	931,010
1989	96,584	45,938	49,149	74,541	1,007,048
1990	102,862	54,847	56,252	80,234	1,079,045
1991	109,548	62,496	62,103	85,722	1,149,716
1992	116,668	70,024	67,388	91,148	1,220,120
1993	124,252	70,866	72,202	96,857	1,298,161
1994	132,328	75,982	76,720	103,038	1,380,825
1995	140,930	77,258	81,104	109,769	1,473,162
1996	150,090	83,219	85,041	117,126	1,572,118
1997	159,846	96,649	87,817	124,785	1,672,283
1998	170,236	111,636	90,809	132,494	1,772,568
1999	181,301	115,444	93,746	140,690	1,885,369
2000	193,086	133,681	97,157	149,319	1,996,936
2001	205,636	143,147	100,462	158,236	2,117,199
2002	219,003	154,476	103,824	167,804	2,245,706
2003	233,238	170,098	107,314	177,890	2,379,422
2004	248,398	187,732	110,839	188,347	2,517,596
2005	264,544	221,548	114,964	198,529	2,644,157
2006	281,740	237,390	118,962	208,548	2,778,093
2007	300,053	271,203	123,219	218,473	2,902,197
2008	319,556	301,372	127,723	227,794	3,020,452
2009	340,327	318,245	132,286	237,228	3,147,476
2010	362,449	375,269	137,540	245,784	3,242,900

STATE EMPLOYEES RETIREMENT FUND

TABLE 14A
GENERAL

SUMMARY OF PLAN PROVISIONS

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	3.73% of Salary.
Employer	3.90% of Salary.
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 5 highest successive years (60 successive months) of Salary.

RETIREMENT

Normal Retirement Benefit

Eligibility	Age 65 and 10 years of Allowable Service. Age 62 and 30 years of Allowable Service. Rule of 85: Age 55 and age plus Allowable Service totals 85 and retirement prior to 1/1/87.
Amount	1% of Average Salary for the first 10 years of Allowable Service and 1.5% of Average Salary for each subsequent year.

Early Retirement Benefit

Eligibility	Age 55 and 10 years of Allowable Service. Any age with 30 years of Allowable Service.
Amount	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date with augmentation to age 65 (or age 62 if 30 years of Allowable Service) and actuarial reduction for each month the Member is under age 65 (or age 62 if 30 years of Allowable Service) at the time of retirement.

Form of Payment

Life annuity.
Actuarially equivalent options are:
50% or 100% joint and survivor
15 year certain and life thereafter.

TABLE 14A
GENERAL
(cont)

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	Total and permanent disability before age 65 with 5 years of Allowable Service if age 50 or older, or with 10 years of Allowable Service if younger than age 50.
Amount	Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before age 65. Payments stop at age 65, or earlier if disability ceases or death occurs. 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	Age 65 with continued disability.
Amount	Any optional annuity continues. Otherwise a normal retirement benefit equal to the disability benefit paid before age 65 or an actuarially equivalent optional annuity.
Benefit Increases	Same as for retirement.
DEATH	
Surviving Spouse Benefit Eligibility	Member or former member who dies before retirement or disability benefits commence if age 55 with 10 years of Allowable Service or any age with 30 years of Allowable Service.
Amount	Surviving spouse receives the 100% joint and survivor benefit the member could have elected if terminated. In lieu of this benefit the surviving spouse may elect a refund of contributions with interest.
Benefit Increases	Same as for retirement.

TABLE 14A
GENERAL
(cont)

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.

Refund of Contributions
Without Interest
Eligibility

Former employee who is not entitled to an annuity dies, or a 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 without interest over all benefits paid.

TERMINATION

Refund of Member's Contributions

Eligibility

Termination of state service.

Amount

Member's contributions with 5% interest. A deferred annuity may be elected in lieu of a refund.

Deferred Benefit
Eligibility

10 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.

STATE EMPLOYEES RETIREMENT FUND

TABLE 15A
GENERAL

MEMBERSHIP CHANGES
(DOLLARS IN THOUSANDS)

JUNE 30, 1985

		<u>NUMBER</u>	<u>PAYROLL</u>
A. ACTIVE MEMBERS			
1. As of the Last Valuation Date		44,158	\$922,847
2. New Entrants		5,327	NA
3. Total		49,485	NA
4. Separations from Active Service			
a. Refund of Contributions	(3,014)		(49,856)
b. Separation with Deferred Annuity	(84)		(1,744)
c. Separation with neither Refund nor Deferred Annuity	(982)		(9,885)
d. Disability	(40)		(829)
e. Death	(62)		(1,176)
f. Retirement with Service Annuity	(720)		(17,512)
5. Total Separations	(4,902)		(81,002)
6. Data Adjustments	(184)		NA
7. As of Current Valuation Date		44,399	\$983,970
B. SERVICE RETIREMENT ANNUITANTS		<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date		9,693	\$32,475
2. New Entrants		885	4,808
3. Total		10,578	37,283
4. Terminations			
a. Deaths	(424)		(1,275)
b. Others	0		0
5. Total Terminations	(424)		(1,275)
6. Data Adjustments	1		2,050
7. As of Current Valuation Date		10,155	\$38,058
C. DISABLED ANNUITANTS		<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date		687	\$1,870
2. New Entrants		45	132
3. Total		732	2,002
4. Terminations			
a. Deaths	(53)		(153)
b. Others	(1)		(4)
5. Total Terminations	(54)		(157)
6. Data Adjustments	5		117
7. As of Current Valuation Date		683	\$1,962

TABLE 15A
GENERAL
(cont)

D. SURVIVING SPOUSE ANNUITANTS	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	463	\$1,127
2. New Entrants	81	298
3. Total	544	1,425
4. Terminations		
a. Deaths	(22)	(49)
b. Others	0	0
5. Total Terminations	(22)	(49)
6. Data Adjustments	7	102
7. As of Current Valuation Date	529	\$1,478
E. SURVIVING CHILDREN ANNUITANTS	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	0	\$0
2. New Entrants	0	0
3. Total	0	0
4. Terminations		
a. Deaths	0	0
b. Others	0	0
5. Total Terminations	0	0
6. Data Adjustments	0	0
7. As of Current Valuation Date	0	\$0
F. DEFERRED ANNUITANTS	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	852	\$3,288
2. New Entrants	127	621
3. Total	979	3,909
4. Terminations		
a. Deaths	0	0
b. Others	(68)	(143)
5. Total Terminations	(68)	(143)
6. Data Adjustments	(1)	(541)
7. As of Current Valuation Date	910	\$3,225

STATE EMPLOYEES RETIREMENT FUND

CORRECTIONAL

REPORT HIGHLIGHTS
(DOLLARS IN THOUSANDS)

	<u>06/30/84</u> <u>VALUATION</u>	<u>07/01/85</u> <u>VALUATION</u>
A. CONTRIBUTIONS (TABLE 11B)		
1. Statutory Contributions - Chapter 352 % of Payroll	13.60%	13.60%
2. Required Contributions - Chapter 356 % of Payroll	10.33%	8.95%
3. Sufficiency (Deficiency) (A1-A2)	3.27%	4.65%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 2)	NA	\$48,568
b. Current Benefit Obligations (Table 8B)	NA	\$45,822
c. Funding Ratio (a/b)	NA	105.99%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 2)	\$40,153	\$48,568
b. Actuarial Accrued Liability (Table 9B)	\$43,888	\$53,345
c. Funding Ratio (a/b)	91.49%	91.05%
3. Projected Benefit Funding Ratio (Table 8B)		
a. Current and Expected Future Assets	NA	\$105,708
b. Current and Expected Future Benefit Obligations	NA	\$76,308
c. Funding Ratio (a/b)	NA	138.53%
C. PLAN PARTICIPANTS		
1. Active Members (Table 3B)		
a. Number	1,174	1,191
b. Projected Annual Earnings	\$26,994	\$31,055
c. Average Annual Earnings (Actual \$)	\$22,993	\$26,075
d. Average Age	35.7	36.0
e. Average Service	6.4	7.0
2. Others		
a. Service Retirements (Table 4B)	308	309
b. Disability Retirements (Table 5B)	12	12
c. Survivors (Table 6B)	6	8
d. Deferred Retirements (Table 7B)	25	30
e. Terminated Other Non-vested (Table 7B)	95	79
f. Total	446	438

STATE EMPLOYEES RETIREMENT FUND

TABLE 3B
CORRECTIONAL

ACTIVE MEMBERS AS OF JUNE 30, 1985

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	27	60	1						88
25-29	28	195	43						266
30-34	18	104	120	28					270
35-39	12	66	87	58	11	1			235
40-44	1	24	42	23	19	8			117
45-49	2	17	26	24	20	8	2		99
50-54	3	3	16	19	16	12	10	3	82
55-59		1	7	8	6	4	2	1	29
60-64				1	3	1			5
65+									0
TOTAL	91	470	342	161	75	34	14	4	1,191

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	10,708	18,231	21,756						15,963
25-29	14,687	20,400	24,035						20,386
30-34	15,174	21,027	24,614	27,373					22,889
35-39	16,249	21,798	24,911	28,185	29,181	22,179			24,591
40-44	21,583	21,957	28,510	26,728	28,858	25,274			26,591
45-49	21,119	22,307	25,205	27,679	28,037	28,666	22,851		26,029
50-54	13,555	21,237	26,057	28,761	27,780	30,477	28,584	25,573	27,323
55-59		22,466	26,032	27,947	29,493	25,799	32,299	27,777	27,613
60-64				32,544	26,555	32,544			28,950
65+									0
ALL	13,989	20,617	25,228	27,843	28,415	28,093	28,295	26,124	23,225

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

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
1,273	9,692	8,627	4,483	2,131	955	396	104	27,661

STATE EMPLOYEES RETIREMENT FUND

TABLE 4B
CORRECTIONAL

SERVICE RETIREMENTS AS OF JUNE 30, 1985

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	2							2
55-59	7	45	6					58
60-64	2	27	53	2				84
65-69		8	60	25				93
70-74			21	44				65
75-79				7				7
80-84								0
85+								0
TOTAL	11	80	140	78	0	0	0	309

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	12,210							12,210
55-59	7,676	7,438	7,611					7,484
60-64	3,346	7,026	5,020	5,249				5,631
65-69		3,700	3,648	4,757				3,951
70-74			2,618	3,503				3,217
75-79				3,793				3,793
80-84								0
85+								0
ALL	7,713	6,925	4,183	3,976	0	0	0	4,966

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
85	555	585	310	0	0	0	1,535

STATE EMPLOYEES RETIREMENT FUND

TABLE 5B
CORRECTIONAL

DISABILITY RETIREMENTS AS OF JUNE 30, 1985

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		2						2
50-54	1	1	1					3
55-59		1	3					4
60-64			1	1				2
65-69				1				1
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	1	4	5	2	0	0	0	12

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		7,004						7,004
50-54	10,048	5,215	3,138					6,134
55-59		14,271	5,462					7,664
60-64			1,692	2,088				1,890
65-69				3,708				3,708
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	10,048	8,373	4,243	2,898	0	0	0	5,879

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
10	34	21	6	0	0	0	71

STATE EMPLOYEES RETIREMENT FUND

TABLE 6B
CORRECTIONAL

SURVIVORS AS OF JUNE 30, 1985

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	1	1						2
50-54		2						2
55-59								0
60-64			1	1				2
65-69				1				1
70-74				1				1
75-79								0
80-84								0
85+								0
TOTAL	1	3	1	3	0	0	0	8

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	7,313	7,362						7,338
50-54		6,638						6,638
55-59								0
60-64			3,033	3,705				3,369
65-69				2,606				2,606
70-74				3,331				3,331
75-79								0
80-84								0
85+								0
ALL	7,313	6,879	3,033	3,214	0	0	0	5,078

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	7	21	3	10	0	0	0	41

STATE EMPLOYEES RETIREMENT FUND
RECONCILIATION OF MEMBERS

TABLE 7B
CORRECTIONAL

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1984	1,174	25	95
B. Additions	156	3	NA
C. Deletions:			
1. Service Retirement	(24)	(1)	
2. Disability	(1)		
3. Death	(2)	0	
4. Terminated-Deferred	(2)		
5. Terminated-Refund	(76)	0	NA
6. Terminated-Other Non-vested	(22)		
7. Returned as Active		0	NA
D. Data Adjustments	(12)	3	NA
	Vested 288		
	Non-Vested 903		
E. Total on June 30, 1985	1,191	30	79

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1984	308	12	6
B. Additions	13	1	1
C. Deletions:			
1. Service Retirement		0	
2. Death	(12)	(1)	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	1
E. Total on June 30, 1985	309	12	8

STATE EMPLOYEES RETIREMENT FUND

TABLE 8B
CORRECTIONAL

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1985

A. CURRENT ASSETS (TABLE 2, K3)			\$48,568
B. EXPECTED FUTURE ASSETS			
1. Present Value of Expected Future Supplemental Contributions			34,177
2. Present Value of Future Normal Costs			22,963

3. Total Expected Future Assets			57,140

C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS			\$105,708
			=====
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>
1. Benefit Recipients			
a. Retirement Annuities		\$18,187	\$18,187
b. Disability Benefits		897	897
c. Surviving Spouse's Benefits		638	638
d. Surviving Children's Benefits		0	0
2. Deferred Retirements with Future Augmentation		1,757	1,757
3. Former Members without Vested Rights		207	207
4. Active Members			
a. Retirement Annuities	4,843	14,579	19,422
b. Disability Benefits	201	356	557
c. Survivors' Benefits	0	0	0
d. Deferred Retirements	0	0	0
e. Refund Liability Due to Death or Withdrawal	2,507	1,650	4,157
	-----	-----	-----
5. Total Current Benefit Obligations	\$7,551	\$38,271	\$45,822
	-----	-----	-----
E. EXPECTED FUTURE BENEFIT OBLIGATIONS			\$30,486

F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			\$76,308
			=====
G. CURRENT UNFUNDED LIABILITY (D5-A)			(\$2,746)
H. CURRENT AND FUTURE UNFUNDED LIABILITY (F-C)			(\$29,400)

STATE EMPLOYEES RETIREMENT FUND

TABLE 9B
CORRECTIONALDETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
AND SUPPLEMENTAL CONTRIBUTION RATE
(DOLLARS IN THOUSANDS)

JULY 1, 1985

	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	\$45,174	\$16,990	\$28,184
b. Disability Benefits	1,197	551	646
c. Survivors Benefits	0	0	0
d. Deferred Retirements	0	0	0
e. Refunds Due to Death or Withdrawal	8,251	5,422	2,829
f. Total	<u>\$54,622</u>	<u>\$22,963</u>	<u>\$31,659</u>
2. Deferred Retirements with Future Augmentation	\$1,757		\$1,757
3. Former Members Without Vested Rights	207		207
4. Annuitants in MPRIF	19,722		19,722
5. Recipients Not in MPRIF	0		0
6. Total AAL	<u>\$76,308</u>	<u>\$22,963</u>	<u>\$53,345</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$53,345
2. Current Assets (Table 2, K3)			48,568
3. UAAL (B1-B2)			<u>\$4,777</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls to the Amortization Date of July 1, 2010			\$632,903
2. Supplemental Contribution Rate (B3/C1)			0.75%

STATE EMPLOYEES RETIREMENT FUND

CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
(DOLLARS IN THOUSANDS)

TABLE 10B
CORRECTIONAL

YEAR ENDING JUNE 30, 1985

A. UAAL AT BEGINNING OF YEAR	\$3,735
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$2,700
2. Contribution	(3,785)
3. Interest on A, B1, and B2	255

4. Total (B1+B2+B3)	(\$830)

C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$2,905
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	\$2,667
2. Investment Return	(1,867)
3. MPRIF Mortality	112
4. Mortality of Other Benefit Recipients	0
5. Active Members' Turnover, Retirement, Mortality and Disability	239
6. Other Items	721

7. Total	\$1,872

E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D7)	\$4,777
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)	\$4,777
	=====

STATE EMPLOYEES RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

TABLE 11B
CORRECTIONAL

JULY 1, 1985

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 352		
1. Employee Contributions	4.90%	\$1,522
2. Employer Contributions	8.70%	2,702
	-----	-----
3. Total	13.60%	\$4,224
	=====	=====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	5.86%	\$1,821
b. Disability Benefits	0.19%	58
c. Survivors	0.00%	0
d. Deferred Retirement Benefits	0.00%	0
e. Refunds Due to Death or Withdrawal	1.87%	580
	-----	-----
f. Total	7.92%	\$2,459
	-----	-----
2. Supplemental Contribution Amortization by July 1, 2010 of UAAL of \$4,777	0.75%	\$233
3. Allowance for Expenses	0.28%	\$87
	-----	-----
4. Total	8.95%	\$2,779
	-----	-----
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)	4.65%	\$1,445

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$31,055

STATE EMPLOYEES RETIREMENT FUND

TABLE 12B
CORRECTIONALPROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

<u>FISCAL YEAR</u>	<u>STATUTORY CONTRIBUTIONS</u>	<u>TRANSFERS TO MPRIF</u>	<u>OTHER DISBURSEMENTS</u>	<u>INVESTMENT RETURN</u>	<u>NON-MPRIF ASSETS YEAR END</u>
1985					\$28,846
1986	\$4,223	\$671	\$584	\$2,426	34,240
1987	4,498	2,007	634	2,813	38,910
1988	4,790	967	690	3,238	45,281
1989	5,102	1,835	744	3,723	51,527
1990	5,433	1,652	802	4,241	58,747
1991	5,787	2,370	860	4,802	66,106
1992	6,163	2,164	925	5,411	74,591
1993	6,563	3,423	988	6,053	82,796
1994	6,990	3,176	1,056	6,734	92,288
1995	7,444	2,803	1,134	7,523	103,318
1996	7,928	3,917	1,214	8,377	114,492
1997	8,443	3,571	1,301	9,302	127,365
1998	8,992	3,374	1,395	10,358	141,946
1999	9,577	4,205	1,493	11,511	157,336
2000	10,199	4,183	1,598	12,764	174,518
2001	10,862	5,110	1,706	14,123	192,687
2002	11,568	6,843	1,816	15,531	211,127
2003	12,320	7,553	1,929	17,004	230,969
2004	13,121	7,211	2,054	18,632	253,457
2005	13,974	11,705	2,169	20,281	273,838
2006	14,882	11,903	2,292	21,935	296,460
2007	15,849	10,155	2,435	23,847	323,566
2008	16,880	15,933	2,563	25,821	347,771
2009	17,977	14,668	2,709	27,846	376,217
2010	19,145	15,714	2,867	30,120	406,901

STATE EMPLOYEES RETIREMENT FUND

TABLE 14B
CORRECTIONAL

SUMMARY OF PLAN PROVISIONS

Eligibility	State employees in covered correctional service.
Contributions	
Member	4.90% of Salary.
Employer	8.70% of Salary.
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 5 highest successive years of Salary.
RETIREMENT	
Normal Retirement Benefit	
Eligibility	Age 55 and 10 years of Allowable Service under the Correctional and General Plans.
Amount	2.5% of Average Salary for the first 25 years of Allowable Service and 2.0% of Average Salary for each subsequent year, pro rata for completed months. Maximum of 75% of Average Salary. After 84 months, or age 65 if earlier, benefit changes to unreduced General Plan benefit. If combined General Plan benefit and Social Security (based on State service) are less than the Correctional benefit then an additional benefit will be paid to prevent a decrease.
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 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).

TABLE 14B
CORRECTIONAL
(cont)

DISABILITY

Occupational Disability Benefit

Eligibility	Member under age 55 who cannot perform his duties as a direct result of disability related to an act of duty.
Amount	50% of Average Salary plus 2.5% of Average Salary for the first 5 years after 20 years of Allowable Service and 2.0% of Average Salary for each subsequent year, pro rata for completed months. Maximum of 75% Average Salary. Payment begins at disability and stops at age 62 or earlier if disability ceases or death occurs. Benefits may be paid upon reemployment in order to attain previous salary level.
Form of Payment	Same as for retirement.
Benefit Increases	Adjusted by MSRS to provide same increase as MPRIF.

Normal Disability Benefit

Eligibility	Under age 55 with at least 5 years of Correctional service and disability not related to covered employment.
Amount	Normal Retirement Benefit based on Allowable Service (minimum 10 years) and Average Salary at disability. Payment begins at disability and stops at age 62 or earlier if disability ceases or death occurs. Benefits may be paid upon reemployment in order to attain previous salary level.
Form of Payment	Same as for retirement.
Benefit Increases	Adjusted by MSRS to provide same increase as MPRIF.

Retirement Benefits

Eligibility	Age 62 if still totally and permanently disabled.
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.

TABLE 14B
CORRECTIONAL
(cont)

DEATH

Surviving Spouse Benefit
Eligibility

Member or former member who dies before retirement or disability benefits commence if age 55 with 10 years of Allowable Service or any age with 30 years of Allowable Service.

Amount

Surviving spouse receives the 100% joint and survivor benefit the member could have elected if terminated. In lieu of this benefit the surviving spouse may elect a refund of contributions with interest.

Benefit Increases

Adjusted by MSRS to provide same increase as MPRIF.

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.

TERMINATION

Refund of Member's Contributions
Eligibility

Termination of state service.

Amount

Member's contributions with 5% interest. A deferred annuity may be elected in lieu of a refund.

Deferred Benefit
Eligibility

10 years of Correctional and General Service.

Amount

Benefit computed under law in effect at termination.

STATE EMPLOYEES RETIREMENT FUND

TABLE 15B
CORRECTIONAL

MEMBERSHIP CHANGES
(DOLLARS IN THOUSANDS)

JUNE 30, 1985

A. ACTIVE MEMBERS		
	<u>NUMBER</u>	<u>PAYROLL</u>
1. As of the Last Valuation Date	1,174	\$26,994
2. New Entrants	156	NA
3. Total	1,330	NA
4. Separations from Active Service		
a. Refund of Contributions	(76)	(1,198)
b. Separation with Deferred Annuity	(2)	(57)
c. Separation with neither Refund nor Deferred Annuity	(22)	(331)
d. Disability	(1)	(18)
e. Death	(2)	(53)
f. Retirement with Service Annuity	(24)	(300)
5. Total Separations	(127)	(1,957)
6. Data Adjustments	(12)	NA
7. As of Current Valuation Date	1,191	\$29,160
B. SERVICE RETIREMENT ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	308	\$1,841
2. New Entrants	13	160
3. Total	321	2,001
4. Terminations		
a. Deaths	(12)	(57)
b. Others	0	0
5. Total Terminations	(12)	(57)
6. Data Adjustments	0	40
7. As of Current Valuation Date	309	\$1,984
C. DISABLED ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	12	\$65
2. New Entrants	1	10
3. Total	13	75
4. Terminations		
a. Deaths	(1)	(8)
b. Others	0	0
5. Total Terminations	(1)	(8)
6. Data Adjustments	0	4
7. As of Current Valuation Date	12	\$71

TABLE 15B
CORRECTIONAL
(cont)

D. SURVIVING SPOUSE ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	6	\$37
2. New Entrants	1	8
3. Total	7	45
4. Terminations		
a. Deaths	0	0
b. Others	0	0
5. Total Terminations	0	0
6. Data Adjustments	1	7
7. As of Current Valuation Date	8	\$52
E. SURVIVING CHILDREN ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	0	\$0
2. New Entrants	0	0
3. Total	0	0
4. Terminations		
a. Deaths	0	0
b. Others	0	0
5. Total Terminations	0	0
6. Data Adjustments	0	0
7. As of Current Valuation Date	0	\$0
F. DEFERRED ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	25	\$178
2. New Entrants	3	21
3. Total	28	199
4. Terminations		
a. Deaths	0	(5)
b. Others	(1)	0
5. Total Terminations	(1)	(5)
6. Data Adjustments	3	70
7. As of Current Valuation Date	30	\$264

STATE PATROL RETIREMENT FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1985

THE *Wyatt* COMPANY

ACTUARIES AND CONSULTANTS

NORTHWESTERN FINANCIAL CENTER
7900 XERXES AVENUE SOUTH, SUITE 1200
MINNEAPOLIS, MINNESOTA 55431
(612) 835-1500

EMPLOYEE BENEFITS
COMPENSATION PROGRAMS
EMPLOYEE COMMUNICATIONS
ADMINISTRATIVE SYSTEMS
RISK MANAGEMENT
INTERNATIONAL SERVICES

OFFICES IN PRINCIPAL CITIES
AROUND THE WORLD

December 3, 1985

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

RE: STATE PATROL RETIREMENT FUND

Gentlemen:

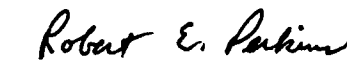
We have prepared an actuarial valuation of the Fund as of July 1, 1985 based on membership and financial data supplied by the Fund.

We certify that to the best of our knowledge and belief this actuarial valuation was performed 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 June 11, 1985.

Respectfully submitted,

THE WYATT COMPANY


Allan J. Grosh
Vice President


Robert E. Perkins
Consulting Actuary

STATE PATROL RETIREMENT FUND

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STATE PATROL RETIREMENT FUND

REPORT HIGHLIGHTS (DOLLARS IN THOUSANDS)

	<u>06/30/84</u> <u>VALUATION</u>	<u>07/01/85</u> <u>VALUATION</u>
A. CONTRIBUTIONS (TABLE 11)		
1. Statutory Contributions - Chapter 352B % of Payroll	27.40%	27.40%
2. Required Contributions - Chapter 356 % of Payroll	25.95%	25.92%
3. Sufficiency (Deficiency) (A1-A2)	1.45%	1.48%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	NA	\$100,486
b. Current Benefit Obligations (Table 8)	NA	\$128,874
c. Funding Ratio (a/b)	NA	77.97%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$86,785	\$100,486
b. Actuarial Accrued Liability (Table 9)	\$119,682	\$134,508
c. Funding Ratio (a/b)	72.51%	74.71%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$178,674	\$202,389
b. Current and Expected Future Benefit Obligations	\$170,074	\$194,860
c. Funding Ratio (a/b)	105.06%	103.86%
C. PLAN PARTICIPANTS		
1. Active Members (Table 3)		
a. Number	741	764
b. Projected Annual Earnings	\$23,016	\$25,846
c. Average Annual Earnings (Actual \$)	\$31,061	\$33,830
d. Average Age	NA	40.5
e. Average Service	NA	13.7
2. Others		
a. Service Retirements (Table 4)	280	285
b. Disability Retirements (Table 5)	5	13
c. Survivors (Table 6)	112	109
d. Deferred Retirements (Table 7)	21	21
e. Terminated Other Non-vested (Table 7)	10	9
f. Total	428	437

STATE PATROL RETIREMENT FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine the financial status of the Fund. 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 statutory contributions for the State Patrol Retirement Fund continue to be sufficient. The margin of sufficiency has increased from 1.45% in 1984 to 1.48% in 1985. According to this valuation a contribution rate of 25.92% is required to comply with Minnesota Law.

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

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This ratio is based on recently published Governmental Accounting Standards Board proposals. This year's ratio is 77.97%. The corresponding ratio for the prior year was not calculated.

- o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used. For 1985 the ratio is 74.71%, which is an increase from the 1984 value of 72.51%.
- o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This ratio exceeds 100% and verifies that the current statutory contributions are adequate.

Asset Information

Beginning in 1984, changes in Section 356.215 of Minnesota Statutes require that the asset value used for actuarial purposes reflect a portion of the unrealized gains and losses. Only a portion of these gains and losses are considered because market values are typically volatile and could produce erratic changes in the contribution requirements from year to year.

The calculation of assets for actuarial purposes begins with the reporting of Total Assets by the Fund (Table 1, line B). These Total Assets, reduced by any Amounts Currently Payable (line C), produce the Assets Available for Benefits (line D5), which is the starting value for determining the Actuarial Value of Assets.

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

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.

Since this Fund participates in the Minnesota Post Retirement Investment Fund, referred to as MPRIF, the asset value shown on line A3 is initially calculated by the State Board of Investment(SBI), and is the expected amount of MPRIF participation assuming the Fund earns 5% interest. The actual amount is determined by calculating the liability based on annuitant information supplied by the Fund. If the actual liability is larger than expected, the difference is labelled a mortality loss and if smaller a gain.

Investment performance by SBI above the 5% level is not shown in the assets but will be added in on January 1, 1986 when benefits will be increased for those annuitants who have been receiving payments for 18 months. Next year's valuation will include the 1986 benefit increase in determining the MPRIF value.

The non-MPRIF Reserves amount of \$1,091,000 on line D4 of Table 1 represents the liability for disability and survivor benefits that are paid directly by the Fund. The liability on line A5 of Table 9 would normally show the same \$1,091,000 for recipients not in MPRIF. But this report displays a larger liability of \$6,477,000 which contains an amount of \$5,386,000 for the 6% supplement provided pre-1973 retirees. MSRS classifies this liability as part of the State Reserves in Table 1.

Membership Data

Tables 3 through 6 summarize statistical information on members by category. Active members are grouped by age and completed years of service in Table 3. The earnings shown for these members are for the prior fiscal year except in the case of new hires where earnings have been annualized.

The service retirements in Table 4 include not only those retiring from active status but also disabled members who have attained retirement age. Disabled members under retirement age are shown in Table 5. The survivors category (Table 6) includes spouses and children of deceased members.

Actuarial Balance Sheet

An actuarial balance sheet is required by Section 356.215, Subdivision 4f of Minnesota Law. This balance sheet (Table 8) establishes a method for evaluating both current and future levels of funding.

Current funding levels are evaluated by comparing Current Assets on line A to Current Benefit Obligations on line D5. The difference between the obligations and the assets is shown as Current Unfunded Liability on line G.

The measurement of the Current Benefit Obligation is based on the Proposed Statement of Governmental Accounting Standards published by the Governmental Accounting Standards Board (GASB) in August 1985. This value is known as the Actuarial Present Value of Credited Projected Benefits.

) The first step in the GASB calculation for active members involves projecting salaries and service to determine future benefits payable under the plan and then discounting those projected benefits to the date of the valuation. The second step is to determine the discounted value of benefits for the non-active members. For those non-active members whose benefits have not commenced, the liability includes augmentation of benefits to date of commencement. The result of the first two steps is shown on line F, Total Current and Expected Future Benefit Obligations.

) The third step is to determine the portion that represents Current Benefit Obligations. In the case of active members the Current Benefit Obligation is computed by attributing an equal benefit amount to each year of credited and expected future employee service. For all others, their entire liability is considered a Current Benefit Obligation.

) Current and future funding levels are evaluated by comparing Current and Future Expected Assets on line C to Current and Expected Future Benefit Obligations on line F. The difference between the obligations and the assets is shown as the Current and Future Unfunded Liability on line H.

) Since line F has already been calculated, the remaining step is to determine the Expected Future Assets . The statutory contribution rate in excess of the combined normal cost rate and expense rate is first calculated. The amount of assets for line B1 can be determined by projecting from the valuation date to the amortization date (the date for paying off all unfunded liabilities) on the assumption that total payroll is increasing at 6.5% annually and then discounted to the date of the valuation.

) The Current Unfunded Liability, line G, is a measurement of the status of the funding to the date of the valuation. The Current and Future Unfunded Liability is a measurement of the adequacy of the current statutory contribution level.

Contribution Sufficiency

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal 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) shows similarities and differences. The similarity is that both approaches calculate the value of all future benefits the same way. This can be verified by comparing line F of Table 8 to line A6, column 1, of Table 9. The difference arises from the technique for allocating liabilities between 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.

) An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal 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. Prior to 1984 these payments were calculated to be a level dollar amount similar to a fixed interest rate mortgage. The method of funding was changed in 1984 to

) produce a series of payments that remain a constant percentage of payroll each year.

Under this new approach the payments will increase 6.5% each year since 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 begin to cover not only the interest but also repay a portion of the unfunded.

Projected Cash Flow

) Table 12 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Non-MPRIF Assets, which are the Current Assets reduced by the MPRIIF Reserves. Contributions are then added based on the present statutory rates for employers and employees. As members become eligible for payments from MPRIIF an amount of reserve is transferred to SBI. The other disbursements represent benefit payments made directly by the Fund.

This projected cash flow assumes that future payrolls increase by 6.5%. For purposes of this table only, new members are assumed to be hired in order to replace those who terminate from the active group. This open group method provides a more realistic picture of future cash flow. The statutory interest rate of 8% is used to project future investment return.

) The amounts transferred to MPRIIF will be affected by the number of members who reach the assumed retirement age during a given year. The amount for 1987 is

) large because it includes those already over age 58 who are assumed to retire a year from the valuation date.

TABLE 1

STATE PATROL RETIREMENT FUND

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1985

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash and Cash Equivalents	\$6,969	\$6,969
2. Investments		
a. Fixed Income	14,291	13,967
b. Equity	37,148	32,982
c. Real Estate	0	0
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	44,193	44,193
4. Other	934	934
	-----	-----
B. TOTAL ASSETS	\$103,535	\$99,045
	=====	=====
C. AMOUNTS CURRENTLY PAYABLE	\$56	\$56
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$14,213	\$14,213
2. State Reserves	43,982	39,492
3. MPRIF Reserves	44,193	44,193
4. Non-MPRIF Reserves	1,091	1,091
	-----	-----
5. Total Assets Available for Benefits	\$103,479	\$98,989
	-----	-----
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	\$103,535	\$99,045
	=====	=====
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		\$98,989
2. Market Value (D5)	\$103,479	
3. Cost Value (D5)	98,989	

4. Market Over Cost (F2-F3)	\$4,490	
5. 1/3 of Market Over Cost(F4)/3		1,497

6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		\$100,486
		=====

TABLE 2

STATE PATROL RETIREMENT FUND
CHANGES IN ASSETS AVAILABLE FOR BENEFITS
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$85,194	\$87,566
B. OPERATING REVENUES		
1. Member Contributions	\$1,964	\$1,964
2. Employer Contributions	4,362	4,362
3. Investment Income	4,727	4,727
4. MPRIF Income	4,312	4,312
5. Net Realized Gain (Loss)	106	106
6. Other	63	63
7. Net Change in Unrealized Gain (Loss)	6,862	0
	-----	-----
8. Total Revenue	\$22,396	\$15,534
	-----	-----
C. OPERATING EXPENSES		
1. Service Retirements	\$3,730	\$3,730
2. Disability Benefits	69	69
3. Survivor Benefits	172	172
4. Refunds	6	6
5. Expenses	134	134
6. Other	0	0
	-----	-----
7. Total Disbursements	\$4,111	\$4,111
	-----	-----
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	\$103,479	\$98,989
	=====	=====

TABLE 3

STATE PATROL RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1985

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	6	15							21
25-29	3	59	34						96
30-34	1	34	67	15					117
35-39	1	13	35	71	28				148
40-44		2	12	30	94	6			144
45-49	1		2	5	47	42			97
50-54				3	6	25	34	7	75
55-59			1	1	5	14	14	20	55
60-64				1	2	2	2	2	9
65+							1	1	2
TOTAL	12	123	151	126	182	89	51	30	764

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	15,868	21,595							19,959
25-29	9,492	23,356	27,667						24,450
30-34	11,648	24,743	27,990	31,708					27,384
35-39	8,432	23,705	29,336	31,534	30,942				30,058
40-44		25,628	31,259	32,963	30,676	32,763			31,218
45-49	4,563		27,996	33,216	31,969	30,783			31,156
50-54				33,831	34,263	31,183	33,179	32,814	32,592
55-59			30,494	30,444	35,054	30,757	32,862	33,467	32,659
60-64				32,446	41,865	30,432	30,802	39,788	35,358
65+							30,085	33,548	31,817
ALL	12,360	23,599	28,506	32,015	31,413	31,017	32,938	33,739	29,527

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

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
148	2,903	4,304	4,034	5,717	2,761	1,680	1,012	22,559

TABLE 4

STATE PATROL RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1985

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54		2						2
55-59	14	51	1					66
60-64	3	47	30					80
65-69		19	26	16				61
70-74			2	16	13			31
75-79			2	1	13	14		30
80-84				4	1	3	3	11
85+					2	1	1	4
TOTAL	17	119	61	37	29	18	4	285

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54		7,736						7,736
55-59	16,433	14,304	13,460					14,743
60-64	12,919	15,720	11,385					13,989
65-69		11,403	13,087	7,320				11,050
70-74			21,307	10,265	5,417			8,945
75-79			11,548	8,298	6,848	4,785		6,247
80-84				9,641	10,133	5,455	4,862	7,241
85+					5,268	5,755	4,922	5,303
ALL	15,813	14,290	12,475	8,871	6,211	4,951	4,877	11,745

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
269	1,700	761	328	180	89	20	3,347

TABLE 5

STATE PATROL RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1985

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	1		1					2
50-54	1		2					3
55-59			3	2				5
60-64			1	2				3
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	2	0	7	4	0	0	0	13

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	12,750		11,279					12,015
50-54	19,814		9,767					13,116
55-59			10,983	6,471				9,178
60-64			12,701	6,599				8,633
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	16,282	0	10,923	6,535	0	0	0	10,397

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
33	0	76	26	0	0	0	135

TABLE 6

STATE PATROL RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1985

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		3	8	1	2			14
50-54		2		2	1			5
55-59		3	5		2			10
60-64		1	6	1	1	1		10
65-69			1	7	2	2	3	15
70-74			2	2	3	5	1	13
75-79				1	3	3	8	15
80-84					3	5	4	12
85+						4	11	15
TOTAL	0	9	22	14	17	20	27	109

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		2,901	2,032	1,494	1,190			2,059
50-54		8,169		6,418	2,741			6,383
55-59		12,006	9,134		3,454			8,860
60-64		13,589	10,371	3,390	2,779	2,814		8,480
65-69			6,119	5,259	3,788	2,811	2,847	4,311
70-74			8,228	6,518	3,798	2,816	2,853	4,448
75-79				4,681	4,142	2,833	2,859	3,232
80-84					2,838	3,545	2,851	3,137
85+						2,826	2,855	2,847
ALL	0	8,294	6,669	5,160	3,219	3,002	2,855	4,454

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	75	146	72	55	60	77	485

TABLE 7

STATE PATROL RETIREMENT FUND

RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1984	741	21	10
B. Additions	46	2	NA
C. Deletions:			
1. Service Retirement	(16)	(2)	
2. Disability	0	0	
3. Death	0	0	
4. Terminated-Deferred	(2)		
5. Terminated-Refund	(4)	0	
6. Terminated-Other Non-vested	(1)		
7. Returned as Active		0	NA
D. Data Adjustments	0	0	(1)
	Vested	478	
	Non-Vested	286	
E. Total on June 30, 1985	764	21	9

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1984	280	5	112
B. Additions	18	3	2
C. Deletions:			
1. Service Retirement		0	
2. Death	(7)	(2)	(2)
3. Annuity Expired	0		(3)
4. Returned as Active	0	0	
D. Data Adjustments	(6)	7	0
E. Total on June 30, 1985	285	13	109

TABLE 8

STATE PATROL RETIREMENT FUND

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1985

A. CURRENT ASSETS (TABLE 1, F6)			\$100,486
B. EXPECTED FUTURE ASSETS			
1. Present Value of Expected Future Supplemental Contributions			41,551
2. Present Value of Future Normal Costs			60,352
3. Total Expected Future Assets			101,903
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS			\$202,389
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>
1. Benefit Recipients			
a. Retirement Annuities		\$41,879	\$41,879
b. Disability Benefits		1,468	1,468
c. Surviving Spouse's Benefits		7,230	7,230
d. Surviving Children's Benefits		93	93
2. Deferred Retirements with Future Augmentation		1,866	1,866
3. Former Members without Vested Rights		29	29
4. Active Members			
a. Retirement Annuities	4,913	54,814	59,727
b. Disability Benefits	914	5,246	6,160
c. Survivors' Benefits	401	2,079	2,480
d. Deferred Retirements	1,349	6,204	7,553
e. Refund Liability Due to Death or Withdrawal	378	11	389
5. Total Current Benefit Obligations	\$7,955	\$120,919	\$128,874
E. EXPECTED FUTURE BENEFIT OBLIGATIONS			\$65,986
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS			\$194,860
G. CURRENT UNFUNDED LIABILITY (D5-A)			\$28,388
H. CURRENT AND FUTURE UNFUNDED LIABILITY (F-C)			(\$7,529)

TABLE 9

STATE PATROL RETIREMENT FUND

DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
AND SUPPLEMENTAL CONTRIBUTION RATE
(DOLLARS IN THOUSANDS)

JULY 1, 1985

	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	\$112,579	\$43,016	\$69,563
b. Disability Benefits	11,044	5,854	5,190
c. Survivors Benefits	4,374	2,652	1,722
d. Deferred Retirements	13,609	7,439	6,170
e. Refunds Due to Death or Withdrawal	689	1,391	(702)
f. Total	<u>\$142,295</u>	<u>\$60,352</u>	<u>\$81,943</u>
2. Deferred Retirements with Future Augmentation	\$1,866		\$1,866
3. Former Members Without Vested Rights	29		29
4. Annuitants in MPRIF	44,193		44,193
5. Recipients Not in MPRIF	6,477		6,477
6. Total AAL	<u>\$194,860</u>	<u>\$60,352</u>	<u>\$134,508</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$134,508
2. Current Assets (Table 1,F6)			100,486
3. UAAL (B1-B2)			<u>\$34,022</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls to the Amortization Date of July 1, 2009			\$509,157
2. Supplemental Contribution Rate (B3/C1)			6.68%

TABLE 10

STATE PATROL RETIREMENT FUND
CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

A. UAAL AT BEGINNING OF YEAR	\$32,898
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$4,378
2. Contribution	(6,326)
3. Interest on A, B1, and B2	2,554
4. Total (B1+B2+B3)	\$606
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$33,504
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	\$2,590
2. Investment Return	(3,290)
3. MPRIF Mortality	(571)
4. Mortality of Other Benefit Recipients	(244)
5. Active Members' Turnover, Retirement, Mortality and Disability	547
6. Other Items	1,486
7. Total	\$518
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D7)	\$34,022
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)	\$34,022

TABLE 11

STATE PATROL RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

JULY 1, 1985

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 352B		
1. Employee Contributions	8.50%	\$2,197
2. Employer Contributions	18.90%	4,885
3. Total	<u>27.40%</u>	<u>\$7,082</u>
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	13.30%	\$3,438
b. Disability Benefits	1.81%	467
c. Survivors	0.82%	211
d. Deferred Retirement Benefits	2.30%	596
e. Refunds Due to Death or Withdrawal	0.43%	112
f. Total	<u>18.66%</u>	<u>\$4,824</u>
2. Supplemental Contribution Amortization by July 1, 2009 of UAAL of \$34,022	6.68%	\$1,726
3. Allowance for Expenses	0.58%	\$150
4. Total	<u>25.92%</u>	<u>\$6,700</u>
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)	1.48%	\$382

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$25,846

TABLE 12

STATE PATROL RETIREMENT FUND

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

<u>FISCAL YEAR</u>	<u>STATUTORY CONTRIBUTIONS</u>	<u>TRANSFERS TO MPRIF</u>	<u>OTHER DISBURSEMENTS</u>	<u>INVESTMENT RETURN</u>	<u>NON-MPRIF ASSETS YEAR END</u>
1985					\$56,293
1986	\$7,082	\$304	\$307	\$4,762	67,526
1987	\$7,542	10,396	664	\$5,261	69,269
1988	\$8,032	4,148	1,047	\$5,655	77,761
1989	\$8,554	4,745	1,438	\$6,316	86,448
1990	\$9,110	5,786	1,861	\$6,974	94,885
1991	\$9,703	5,326	2,311	\$7,673	104,624
1992	\$10,333	7,179	2,782	\$8,385	113,381
1993	\$11,005	6,338	3,286	\$9,126	123,888
1994	\$11,720	6,975	3,823	\$9,948	134,758
1995	\$12,482	7,527	4,376	\$10,804	146,141
1996	\$13,293	7,684	4,960	\$11,717	158,507
1997	\$14,157	11,633	5,607	\$12,557	167,981
1998	\$15,078	12,491	6,244	\$13,292	177,616
1999	\$16,058	14,436	6,922	\$13,997	186,313
2000	\$17,101	10,892	7,639	\$14,848	199,731
2001	\$18,213	18,913	8,391	\$15,615	206,255
2002	\$19,397	22,660	9,204	\$16,002	209,790
2003	\$20,658	23,197	10,060	\$16,279	213,470
2004	\$22,000	25,560	10,958	\$16,497	215,449
2005	\$23,430	21,416	11,911	\$16,840	222,392
2006	\$24,953	21,435	12,951	\$17,414	230,373
2007	\$26,575	26,339	14,057	\$17,877	234,429
2008	\$28,303	28,451	15,218	\$18,140	237,203
2009	\$30,142	18,348	16,460	\$18,790	251,327
2010	\$32,102	22,592	16,158	\$19,840	264,519

TABLE 13

STATE PATROL RETIREMENT FUND
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	Pre-Retirement: 8% per annum Post-Retirement: 5% 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 8 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.
Expenses:	Prior year expenses expressed as percentage of prior year payroll. (0.58% of payroll)
Return of Contributions:	All employees withdrawing after 10 years of service were assumed to leave their contributions on deposit and receive a deferred annuitant benefit.
Family Composition:	100% of members are married. Female is three years younger than male. 15% load on spouse benefits for children's benefits.
Social Security:	NA

TABLE 13
(cont)

Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.
Special Consideration:	NA
Actuarial Cost Method:	Entry Age 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 6.5% per annum.
Projected Cash Flow Method:	Cash flows for the non-MPRIF portion of the Fund were projected based on the current plan benefits, participant data, and actuarial assumptions. In addition new entrants were assumed so that the total payroll would increase by 6.5% per annum.

TABLE 13
(cont)SEPARATIONS EXPRESSED AS THE
NUMBER OF OCCURRENCES PER 10,000

Age	Death		Withdrawal		Disability		Retirement	
	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
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

TABLE 13
(cont)

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

Eligibility	State troopers, conservation officers, and certain crime bureau officers.
Contributions	
Member	8.50% of Salary.
Employer	18.90% of Salary.
Allowable Service	Service during which member contributions were deducted. Includes period receiving temporary Worker's Compensation. Allowable Service for benefit purposes stops at age 60 for new members and most of the current members.
Salary	Salaries excluding lump sum payments at separation.
Average Salary	Average of the 5 highest successive years of Salary.

RETIREMENT

Normal Retirement Benefit

Eligibility	Age 55 and 10 years of Allowable Service.
Amount	2.5% of Average Salary for the first 25 years of Allowable Service and 2.0% of Average Salary for each subsequent year.
Form of Payment	Life annuity. Actuarially equivalent options are: 50% or 100% joint and survivor 50% or 100% bounceback joint and survivor (option is cancelled if member is pre-deceased by beneficiary).
Benefit Increases	Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). Members retired under laws in effect as of May 30, 1973 receive an additional 6% supplement. Each year the supplement increases by 6% of the total annuity, which includes both MPRIF and supplemental amounts.

TABLE 14
(cont)

DISABILITY

Occupational Disability Benefit

Eligibility	Member under age 55 who cannot perform his duties as 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. Benefit is reduced by Workers' Compensation. Payments cease at age 55 or earlier if disability ceases or death occurs. Benefits may be paid upon reemployment in order to attain previous salary.
Form of Payment	Same as for retirement.
Benefit Increases	Adjusted by MSRS to provide same increase as MPRIF.

Normal Disability Benefit

Eligibility	Under age 55 with at least 5 years of Allowable Service and disability not related to covered employment.
Amount	Normal Retirement Benefit based on Allowable Service (minimum of 10 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 reemployment in order to attain previous salary.
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.

TABLE 14
(cont)

DEATH

Surviving Spouse Benefit

Eligibility

Member who is active or receiving a disability benefit.

20% Annual Salary if member was active or occupational disability and either had less than 10 years of Allowable Service or was under age 55. Payment for life or until remarriage.

Amount

Surviving spouse receives the 100% joint and survivor benefit commencing on the member's 55th birthday if was active or occupational disability with 10 years of Allowable Service or normal disability with 20 years of Allowable Service. A spouse who had been receiving the 20% benefit shall be entitled to the larger of the two. Payment for life or until remarriage.

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 22 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. Maximum benefit of 40% 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.

TERMINATION

Refund of Contributions

Eligibility

Termination of state service.

Amount

Member's contributions with 5% interest.

Deferred Benefit

Eligibility

10 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.

TABLE 15

STATE PATROL RETIREMENT FUND

MEMBERSHIP CHANGES
(DOLLARS IN THOUSANDS)

JUNE 30, 1985

		<u>NUMBER</u>	<u>PAYROLL</u>
A. ACTIVE MEMBERS			
1. As of the Last Valuation Date		741	\$23,016
2. New Entrants		46	NA
3. Total		787	NA
4. Separations from Active Service			
a. Refund of Contributions	(4)		(74)
b. Separation with Deferred Annuity	(2)		(68)
c. Separation with neither Refund nor Deferred Annuity	(1)		(19)
d. Disability	0		0
e. Death	0		0
f. Retirement with Service Annuity	(16)		(499)
5. Total Separations	(23)		(660)
6. Data Adjustments	0		NA
7. As of Current Valuation Date		764	\$24,268
B. SERVICE RETIREMENT ANNUITANTS		<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date		280	\$3,049
2. New Entrants		18	270
3. Total		298	3,319
4. Terminations			
a. Deaths	(7)		(82)
b. Others	0		0
5. Total Terminations	(7)		(82)
6. Data Adjustments	(6)		110
7. As of Current Valuation Date		285	\$3,347
C. DISABLED ANNUITANTS		<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date		5	\$43
2. New Entrants		3	36
3. Total		8	79
4. Terminations			
a. Deaths	(2)		(23)
b. Others	0		0
5. Total Terminations	(2)		(23)
6. Data Adjustments	7		79
7. As of Current Valuation Date		13	\$135

TABLE 15
(cont)

D. SURVIVING SPOUSE ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	96	\$416
2. New Entrants	2	20
3. Total	98	436
4. Terminations		
a. Deaths	(2)	(6)
b. Others	0	0
5. Total Terminations	(2)	(6)
6. Data Adjustments	0	29
7. As of Current Valuation Date	96	\$459
E. SURVIVING CHILDREN ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	16	\$29
2. New Entrants	0	0
3. Total	16	29
4. Terminations		
a. Deaths	0	0
b. Others	(3)	(6)
5. Total Terminations	(3)	(6)
6. Data Adjustments	0	3
7. As of Current Valuation Date	13	\$26
F. DEFERRED ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	21	\$170
2. New Entrants	2	23
3. Total	23	193
4. Terminations		
a. Deaths	0	0
b. Others	(2)	(4)
5. Total Terminations	(2)	(4)
6. Data Adjustments	0	0
7. As of Current Valuation Date	21	\$189

JUDGES RETIREMENT FUND
ACTUARIAL VALUATION REPORT
JULY 1, 1985

THE *Wyatt* COMPANY

ACTUARIES AND CONSULTANTS

NORTHWESTERN FINANCIAL CENTER
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December 11, 1985

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

RE: JUDGES RETIREMENT FUND

Gentlemen:


We have prepared an actuarial valuation of the Fund as of July 1, 1985 based on membership and financial data supplied by the Fund.

We certify that to the best of our knowledge and belief this actuarial valuation was performed 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 June 11, 1985.

Respectfully submitted,

THE WYATT COMPANY


Allan J. Grosh
Vice President


Robert E. Perkins
Consulting Actuary

JUDGES RETIREMENT FUND

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JUDGES RETIREMENT FUND

REPORT HIGHLIGHTS (DOLLARS IN THOUSANDS)

	<u>06/30/84</u> <u>VALUATION</u>	<u>07/01/85</u> <u>VALUATION</u>
A. CONTRIBUTIONS (TABLE 11)		
1. Statutory Contributions - Chapter 490 % of Payroll	4.18%	4.13%
2. Required Contributions - Chapter 356 % of Payroll	24.73%	24.86%
3. Sufficiency (Deficiency) (A1-A2)	-20.55%	-20.73%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	NA	\$13,785
b. Current Benefit Obligations (Table 8)	NA	\$47,074
c. Funding Ratio (a/b)	NA	29.28%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$11,792	\$13,785
b. Actuarial Accrued Liability (Table 9)	\$42,378	\$46,662
c. Funding Ratio (a/b)	27.83%	29.54%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$17,769	\$21,459
b. Current and Expected Future Benefit Obligations	\$62,294	\$72,435
c. Funding Ratio (a/b)	28.52%	29.63%
C. PLAN PARTICIPANTS		
1. Active Members (Table 3)		
a. Number	244	240
b. Projected Annual Earnings	\$14,286	\$15,521
c. Average Annual Earnings (Actual \$)	\$58,549	\$64,671
d. Average Age	NA	53.2
e. Average Service	NA	11.5
2. Others		
a. Service Retirements (Table 4)	79	83
b. Disability Retirements (Table 5)	2	4
c. Survivors (Table 6)	55	52
d. Deferred Retirements (Table 7)	4	7
e. Terminated Other Non-vested (Table 7)	2	0
f. Total	142	146

JUDGES RETIREMENT FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine the financial status of the Fund. 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 statutory contributions, representing only member contributions, for the Judges Retirement Fund are 4.13%. The remaining 20.73% needed to reach the required contribution level of 24.86% will be paid by the State as needed in future years according to Chapter 490 of Minnesota Statutes.

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

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This ratio is based on recently published Governmental Accounting Standards Board proposals. This year's ratio is 29.28%. The corresponding ratio for the prior year was not calculated.
- o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that

) has historically been used. For 1985 the ratio is 29.54%, which is an increase from the 1984 value of 27.83%.

- o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This ratio of 29.63% verifies that the current statutory contributions by members are going to cover only a portion of the plan benefits. Since the State will make the necessary payments to fund annuities payable from MPRIF and to pay other benefits as they come due, this Funding Ratio may be considered to be 100%.

Asset Information

) Beginning in 1984, changes in Section 356.215 of Minnesota Statutes require that the asset value used for actuarial purposes reflect a portion of the unrealized gains and losses. Only a portion of these gains and losses are considered because market values are typically volatile and could produce erratic changes in the contribution requirements from year to year.

The calculation of assets for actuarial purposes begins with the reporting of Total Assets by the Fund (Table 1, line B). These Total Assets reduced by any Amounts Currently Payable (line C) produces the Assets Available for Benefits (line D5), which is the starting value for determining the Actuarial Value of Assets.

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

) 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.

Since this Fund participates in the Minnesota Post Retirement Investment Fund, referred to as MPRIF, the asset value shown on line A3 is initially calculated by the State Board of Investment(SBI), and is the expected amount of MPRIF participation assuming the Fund earns 5% interest. The actual amount is determined by calculating the liability based on annuitant information supplied by the Fund. If the actual liability is larger than expected, the difference is labelled a mortality loss and if smaller a gain.

) Investment performance by SBI above the 5% level is not shown in the assets but will be added in on January 1, 1986 when benefits will be increased for those annuitants who have been receiving payments for 18 months. Next year's valuation will include the 1986 benefit increase in determining the MPRIF value.

The non-MPRIF Reserves amount of \$11,462,000 on line D4 of Table 1 represents the liability for benefits that are paid directly by the Fund.

Membership Data

) Tables 3 through 6 summarize statistical information on members by category. Active members are grouped by age and completed years of service in Table 3. The earnings shown for these members are for the prior fiscal year except in the case of new hires where earnings have been annualized.

The service retirements in Table 4 include not only those retiring from active status but also disabled members who have attained retirement age. Disabled members under retirement age are shown in Table 5. The survivors category (Table 6) includes spouses and children of deceased members.

Actuarial Balance Sheet

An actuarial balance sheet is required by Section 356.215, Subdivision 4f of Minnesota Law. This balance sheet (Table 8) establishes a method for evaluating both current and future levels of funding.

Current funding levels are evaluated by comparing Current Assets on line A to Current Benefit Obligations on line D5. The difference between the obligations and the assets is shown as Current Unfunded Liability on line G.

The measurement of the Current Benefit Obligation is based on the Proposed Statement of Governmental Accounting Standards published by the Governmental Accounting Standards Board (GASB) in August 1985. This value is known as the Actuarial Present Value of Credited Projected Benefits.

The first step in the GASB calculation for active members involves projecting salaries and service to determine future benefits payable under the plan and then discounting those projected benefits to the date of the valuation. The second step is to determine the discounted value of benefits for the non-active members. For those non-active members whose benefits have not commenced, the liability includes augmentation of benefits to date of commencement. The result of the first two steps is shown on line F, Total Current and Expected Future

Benefit Obligations.

The third step is to determine the portion that represents Current Benefit Obligations. In the case of active members the Current Benefit Obligation is computed by attributing an equal benefit amount to each year of credited and expected future employee service. For all others, their entire liability is considered a Current Benefit Obligation.

Current and future funding levels are evaluated by comparing Current and Future Expected Assets on line C to Current and Expected Future Benefit Obligations on line F. The difference between the obligations and the assets is shown as the Current and Future Unfunded Liability on line H.

Since line F has already been calculated, the remaining step is to determine the Expected Future Assets. Since the State does not have a set statutory contribution rate, only future member contributions are included in Expected Future Assets on line B2. Since their contributions are less than the Present Value of Future Normal Costs, the value of \$7,674,000 is used in place of \$25,773,000 from Table 9.

The Current Unfunded Liability, line G, is a measurement of the status of the funding to the date of the valuation. The Current and Future Unfunded Liability is a measurement of the adequacy of the current statutory contribution level.

Contribution Sufficiency

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal 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) shows similarities and differences. The similarity is that both approaches calculate the value of all future benefits the same way. This can be verified by comparing line F of Table 8 to line A6, column 1, of Table 9. The difference arises from the technique for allocating liabilities between 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.

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal 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. Prior to 1984 these payments were calculated to be a level dollar amount similar to a fixed interest rate mortgage. The method of funding was changed in 1984 to produce a series of payments that remain a constant percentage of payroll each year.

Under this new approach the payments will increase 6.5% each year since 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 begin to cover not only the interest but also repay a portion of the unfunded.

Projected Cash Flow

Table 12 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Non-MPRIF Assets, which are the Current Assets reduced by the MPRIIF Reserves. Contributions are then added based on the present statutory rates for employees. As members become eligible for payments from MPRIIF an amount of reserve is transferred to SBI. The other disbursements represent benefit payments made directly by the Fund. Future payments required by the State may be approximated from Table 12 by assuming that the State pays 90% of the amount transferred to MPRIIF (the remaining 10% coming from member contributions) and 100% of the other disbursements.

This projected cash flow assumes that future payrolls increase by 6.5%. For purposes of this table only, new members are assumed to be hired in order to replace those who terminate from the active group. This open group method provides a more realistic picture of future cash flow. The statutory interest rate of 8% is used to project future investment return.

The amounts transferred to MPRIIF will be affected by the number of members who reach the assumed retirement age during a given year. The amount for 1987 is large because it includes those already over age 68 who are assumed to retire a year from the valuation date.

TABLE 1

JUDGES RETIREMENT FUND

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1985

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash and Cash Equivalents	\$706	\$706
2. Investments		
a. Fixed Income	996	980
b. Equity	2,600	2,304
c. Real Estate	0	0
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	9,029	9,029
4. Other	1,033	1,033
	-----	-----
B. TOTAL ASSETS	\$14,364	\$14,052
	=====	=====
C. AMOUNTS CURRENTLY PAYABLE	\$371	\$371
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$3,310	\$3,310
2. State Reserves	(9,808)	(10,120)
3. MPRIF Reserves	9,029	9,029
4. Non-MPRIF Reserves	11,462	11,462
	-----	-----
5. Total Assets Available for Benefits	\$13,993	\$13,681
	-----	-----
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	\$14,364	\$14,052
	=====	=====

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available for Benefits (D5)		\$13,681
2. Market Value (D5)	\$13,993	
3. Cost Value (D5)	13,681	

4. Market Over Cost (F2-F3)	\$312	
5. 1/3 of Market Over Cost(F4)/3		104

6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		\$13,785
		=====

TABLE 2

JUDGES RETIREMENT FUND
CHANGES IN ASSETS AVAILABLE FOR BENEFITS
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$11,679	\$11,845
B. OPERATING REVENUES		
1. Member Contributions	\$501	\$501
2. Employer Contributions	2,226	2,226
3. Investment Income	401	401
4. MPRIF Income	811	811
5. Net Realized Gain (Loss)	7	7
6. Other	84	84
7. Net Change in Unrealized Gain (Loss)	478	0
	-----	-----
8. Total Revenue	\$4,508	\$4,030
	-----	-----
C. OPERATING EXPENSES		
1. Service Retirements	\$1,609	\$1,609
2. Disability Benefits	45	45
3. Survivor Benefits	504	504
4. Refunds	1	1
5. Expenses	35	35
6. Other	0	0
	-----	-----
7. Total Disbursements	\$2,194	\$2,194
	-----	-----
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	\$13,993	\$13,681
	=====	=====

TABLE 3

JUDGES RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1985

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34	2	2							4
35-39	4	15	1						20
40-44	3	19	10	1					33
45-49		5	13	15	2	1			36
50-54		5	5	9	6				25
55-59		5	8	18	7	5	3	3	49
60-64		5	6	9	11	12	7	1	51
65+		1	2	3	6	6		4	22
TOTAL	9	57	45	55	32	24	10	8	240

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34	57,313	57,750							57,531
35-39	55,337	57,750	57,750						57,267
40-44	52,853	57,971	58,130	59,750					57,608
45-49		57,750	57,785	58,003	57,750	57,750			57,868
50-54		57,750	57,750	58,172	57,750				57,902
55-59		60,300	57,688	57,552	57,750	57,750	57,750	59,117	58,011
60-64		59,790	60,733	58,744	59,723	58,279	57,750	58,450	59,040
65+		57,750	57,750	57,750	59,242	60,100		58,113	58,864
ALL	54,948	58,226	58,231	58,022	58,708	58,602	57,750	58,531	58,150

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

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
495	3,319	2,620	3,191	1,879	1,406	578	468	13,956

TABLE 4

JUDGES RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1985

AGE	YEARS RETIRED							TOTAL
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50								0
50-54								0
55-59								0
60-64	1	4						5
65-69	2	4	2					8
70-74	3	12	7	1				23
75-79		4	15	5				24
80-84			1	8	3			12
85+			1	5	5			11
TOTAL	6	24	26	19	8	0	0	83

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50								0
50-54								0
55-59								0
60-64	27,809	17,005						19,165
65-69	21,476	27,707	16,006					23,224
70-74	22,575	28,331	16,729	10,052				23,254
75-79		14,024	19,702	14,453				17,662
80-84			22,221	19,226	15,859			18,634
85+			15,105	14,480	19,716			16,917
ALL	23,081	23,955	18,537	16,238	18,270	0	0	19,880

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
138	575	482	309	146	0	0	1,650

TABLE 5

JUDGES RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1985

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59					1			1
60-64	1							1
65-69	1		1					2
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	2	0	1	0	1	0	0	4

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59					16,615			16,615
60-64	32,696							32,696
65-69	16,674		12,690					14,682
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	24,685	0	12,690	0	16,615	0	0	19,669

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
49	0	13	0	17	0	0	79

TABLE 6

JUDGES RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1985

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59		2	2	1				5
60-64		2		1	2			5
65-69		1		1				2
70-74		1		3	2		1	7
75-79	1	1	2	4	2		2	12
80-84			2	2	4	2		10
85+				1	4	5	1	11
TOTAL	1	7	6	13	14	7	4	52

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59		12,317	7,371	7,231				9,321
60-64		13,976		6,653	11,329			11,452
65-69		20,749		8,000				14,375
70-74		15,669		10,342	7,196		5,310	9,485
75-79	11,329	11,329	7,911	12,485	7,196		5,133	9,423
80-84			8,766	11,595	7,559	8,231		8,742
85+				15,506	9,348	11,329	5,133	10,425
ALL	11,329	14,333	8,016	10,888	8,505	10,444	5,177	9,888

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
11	100	48	142	119	73	21	514

TABLE 7

JUDGES RETIREMENT FUND
RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1984	244	4	2
B. Additions	9	3	NA
C. Deletions:			
1. Service Retirement	(6)	0	
2. Disability	(2)		
3. Death	(2)	0	
4. Terminated-Deferred	(3)		
5. Terminated-Refund	0	0	
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	NA
D. Data Adjustments	0	0	(2)
	Vested		
	Non-Vested		
	129		
	111		
E. Total on June 30, 1985	240	7	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1984	79	2	55
B. Additions	6	2	0
C. Deletions:			
1. Service Retirement		0	
2. Death	(2)	0	(3)
3. Annuity Expired	0		0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1985	83	4	52

TABLE 8

JUDGES RETIREMENT FUND
ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1985

A. CURRENT ASSETS (TABLE 1, F6)				\$13,785
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Supplemental Contributions				0
2. Present Value of Future Normal Costs				7,674

3. Total Expected Future Assets				7,674

C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				\$21,459
				=====
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>		<u>Total</u>
1. Benefit Recipients				
a. Retirement Annuities		\$14,959		\$14,959
b. Disability Benefits		910		910
c. Surviving Spouse's Benefits		4,621		4,621
d. Surviving Children's Benefits		0		0
2. Deferred Retirements		615		615
3. Former Members without Vested Rights		0		0
4. Active Members				
a. Retirement Annuities	2,770	17,640		20,410
b. Disability Benefits	353	1,278		1,631
c. Survivors' Benefits	1,124	2,804		3,928
d. Deferred Retirements	0	0		0
e. Refund Liability Due to Death or Withdrawal	0	0		0
	-----	-----		-----
5. Total Current Benefit Obligations	\$4,247	\$42,827		\$47,074
	-----	-----		-----
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				\$25,361

F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				\$72,435
				=====
G. CURRENT UNFUNDED LIABILITY (D5-A)				\$33,289
H. CURRENT AND FUTURE UNFUNDED LIABILITY (F-C)				\$50,976

TABLE 9

JUDGES RETIREMENT FUND

**DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
AND SUPPLEMENTAL CONTRIBUTION RATE
(DOLLARS IN THOUSANDS)**

JULY 1, 1985

	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	\$40,800	\$18,210	\$22,590
b. Disability Benefits	3,127	1,914	1,213
c. Survivors Benefits	7,402	5,649	1,753
d. Deferred Retirements	0	0	0
e. Refunds Due to Death or Withdrawal	0	0	0
f. Total	<u>\$51,329</u>	<u>\$25,773</u>	<u>\$25,556</u>
2. Deferred Retirements	\$615		\$615
3. Former Members Without Vested Rights	0		0
4. Annuitants in MPRIF	9,029		9,029
5. Recipients Not in MPRIF	11,462		11,462
6. Total AAL	<u>\$72,435</u>	<u>\$25,773</u>	<u>\$46,662</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$46,662
2. Current Assets (Table 1,F6)			13,785
3. UAAL (B1-B2)			<u>\$32,877</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls to the Amortization Date of July 1, 2009			\$305,772
2. Supplemental Contribution Rate (B3/C1)			10.75%

TABLE 10

JUDGES RETIREMENT FUND

CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

A. UAAL AT BEGINNING OF YEAR	\$30,586
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$2,014
2. Contribution	(2,726)
3. Interest on A, B1, and B2	2,418
4. Total (B1+B2+B3)	<u>\$1,706</u>
C. EXPECTED UAAL AT END OF YEAR (A+B4)	\$32,292
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	\$1,024
2. Investment Return	200
3. MPRIF Mortality	263
4. Mortality of Other Benefit Recipients	699
5. Active Members' Turnover, Retirement, Mortality and Disability	(155)
6. Other Items	<u>(1,446)</u>
7. Total	<u>\$585</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D7)	\$32,877
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)	<u><u>\$32,877</u></u>

TABLE 11

JUDGES RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

JULY 1, 1985

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 490		
1. Employee Contributions	4.13%	\$641
2. Employer Contributions	0.00%	0
	-----	-----
3. Total	4.13%	\$641
	=====	=====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	9.80%	\$1,522
b. Disability Benefits	1.03%	160
c. Survivors	3.04%	472
d. Deferred Retirement Benefits	0.00%	0
e. Refunds Due to Death or Withdrawal	0.00%	0
	-----	-----
f. Total	13.87%	\$2,154
	-----	-----
2. Supplemental Contribution Amortization by July 1, 2009 of UAAL of \$=====	10.75%	\$1,669
3. Allowance for Expenses	0.24%	\$37
	-----	-----
4. Total	24.86%	\$3,860
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY)		
(A3-B4)	-20.73%	(\$3,219)

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$15,521

TABLE 12

JUDGES RETIREMENT FUND

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

<u>FISCAL YEAR</u>	<u>STATUTORY CONTRIBUTIONS</u>	<u>TRANSFERS TO MPRIF</u>	<u>OTHER DISBURSEMENTS</u>	<u>INVESTMENT RETURN</u>	<u>NON-MPRIF ASSETS YEAR END</u>
1985					\$4,756
1986	\$641	\$689	\$1,184	\$331	3,855
1987	650	4,133	1,140	\$123	(645)
1988	689	1,087	1,096	(\$111)	(2,250)
1989	755	2,063	1,050	(\$274)	(4,882)
1990	782	3,679	1,005	(\$547)	(9,331)
1991	832	3,823	958	(\$904)	(14,184)
1992	882	3,661	911	(\$1,282)	(19,156)
1993	935	6,665	863	(\$1,796)	(27,545)
1994	994	3,422	816	(\$2,333)	(33,122)
1995	1,066	5,143	768	(\$2,844)	(40,811)
1996	1,146	4,548	722	(\$3,430)	(48,365)
1997	1,232	6,897	675	(\$4,123)	(58,828)
1998	1,331	4,147	630	(\$4,844)	(67,118)
1999	1,442	5,422	586	(\$5,552)	(77,236)
2000	1,547	5,507	544	(\$6,359)	(88,099)
2001	1,675	4,090	503	(\$7,165)	(98,182)
2002	1,800	3,263	463	(\$7,932)	(108,040)
2003	1,947	4,875	426	(\$8,777)	(120,171)
2004	2,119	9,986	390	(\$9,944)	(138,372)
2005	2,288	7,956	357	(\$11,311)	(155,708)
2006	2,483	7,179	326	(\$12,658)	(173,388)
2007	2,709	11,174	296	(\$14,221)	(196,370)
2008	2,947	8,986	269	(\$15,962)	(218,640)
2009	3,211	10,503	245	(\$17,793)	(243,970)
2010	3,518	14,537	138	(\$19,964)	(275,091)

TABLE 13

JUDGES RETIREMENT FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	Pre-Retirement: 8% per annum
	Post-Retirement: 5% per annum
Salary Increases:	Reported salary at valuation date increased 2% 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 8 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 expenses expressed as percentage of prior year payroll. (0.24% of payroll)
Return of Contributions:	NA
Family Composition:	Marital status as indicated by data. Female is three years younger than male.
Social Security:	Maximum Current Primary amount (\$717/month for 1985), increasing with salary scale. Covered annual wages: \$39,600 Contribution rate: 7.05% for 1985, 7.15% for 1986-86, 7.51% for 1988-89, 7.65% for 1990 and later.

TABLE 13
(cont)

Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.
Special Consideration:	Current IRC Section 415 benefit limits are applied by assuming indexing of maximum benefit at 6.5% annually beginning in 1988.
Actuarial Cost Method:	Entry Age 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 6.5% per annum.
Projected Cash Flow Method:	Cash flows for the non-MPRIF portion of the Fund were projected based on the current plan benefits, participant data, and actuarial assumptions. In addition new entrants were assumed so that the total payroll would increase by 6.5% per annum.

TABLE 13
(cont)SEPARATIONS EXPRESSED AS THE
NUMBER OF OCCURRENCES PER 10,000

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

TABLE 13
(cont)

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

**TABLE 14
BASIC**

SUMMARY OF PLAN PROVISIONS

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	0.5% of Salary plus the Social Security tax rate. Members who were active prior to 1/1/74 may contribute 4% to a special survivor retirement account.
Employer	Terminal funding basis.
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 5 highest years of Salary of the last 10 years prior to retirement.

RETIREMENT

Normal Retirement Benefit

Eligibility Age 65 and 10 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 10 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.
Actuarially equivalent options are:
50% or 100% joint and survivor
10 or 15 year certain and life.

TABLE 14
BASIC
(cont)

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 2 years, but not beyond age 70. Employee and Employer contributions continue and Allowable Service is earned.
Retirement After Disability Eligibility	Member is still disabled after salary payments cease after 2 years, 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	
Survivors' 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 3 years. Benefit begins immediately unless spouse is not yet age 40 and continues to the earlier of remarriage or death.

TABLE 14
BASIC
(cont)

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	10 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.

JUDGES RETIREMENT FUND
SUMMARY OF PLAN PROVISIONS

TABLE 14
COORDINATED
(cont)

Eligibility	A judge or justice of any court who is covered under the Social Security Act.
Contributions	
Member	0.5% of Salary plus the Social Security tax rate reduced by the member's Social Security tax.
Employer	Terminal funding basis.
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 5 highest years of Salary of the last 10 years prior to retirement.

RETIREMENT

Normal Retirement Benefit

Eligibility	Age 65 and 10 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 reduced by 75% of the member's primary Social Security. Maximum benefit of 65% of salary for the 12 months preceding retirement.

Early Retirement Benefit

Eligibility	Age 62 and 10 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.
Actuarially equivalent options are:
50% or 100% joint and survivor
10 or 15 year certain and life.

TABLE 14
COORDINATED
(cont)

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 2 years, but not beyond age 70. Employee and Employer contributions continue and Allowable Service is earned.
Retirement After Disability	
Eligibility	Member is still disabled after salary payments cease after 2 years, or at age 70, if earlier.
Amount	Larger of 25% of Average Salary reduced by 75% of the member's primary Social Security or the Normal Retirement Benefit, without reduction for age.
Benefit Increases	Same as for retirement.
DEATH	
Survivors' 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. The primary Social Security is the amount upon which Social Security survivors' benefits are based. 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.

TABLE 14
COORDINATED
(cont)

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	10 years of Allowable Service.
Amount	Benefit computed under law in effect at termination.

TABLE 15

JUDGES RETIREMENT FUND

MEMBERSHIP CHANGES
(DOLLARS IN THOUSANDS)

JUNE 30, 1985

		<u>NUMBER</u>	<u>PAYROLL</u>
A. ACTIVE MEMBERS			
1. As of the Last Valuation Date		244	\$14,286
2. New Entrants		9	NA
3. Total		253	NA
4. Separations from Active Service			
a. Refund of Contributions		0	0
b. Separation with Deferred Annuity		(3)	(172)
c. Separation with neither Refund nor Deferred Annuity		0	0
d. Disability		(2)	(114)
e. Death		(2)	(114)
f. Retirement with Service Annuity		(6)	(343)
5. Total Separations		(13)	(743)
6. Data Adjustments		0	NA
7. As of Current Valuation Date		240	\$15,217
B. SERVICE RETIREMENT ANNUITANTS		<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date		79	\$1,479
2. New Entrants		6	138
3. Total		85	1,617
4. Terminations			
a. Deaths		(2)	(61)
b. Others		0	0
5. Total Terminations		(2)	(61)
6. Data Adjustments		0	94
7. As of Current Valuation Date		83	\$1,650
C. DISABLED ANNUITANTS		<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date		2	\$27
2. New Entrants		2	50
3. Total		4	77
4. Terminations			
a. Deaths		0	0
b. Others		0	0
5. Total Terminations		0	0
6. Data Adjustments		0	2
7. As of Current Valuation Date		4	\$79

TABLE 15
(cont)

D. SURVIVING SPOUSE ANNUITANTS	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	55	\$516
2. New Entrants	0	0
3. Total	55	516
4. Terminations		
a. Deaths	(3)	(35)
b. Others	0	0
5. Total Terminations	(3)	(35)
6. Data Adjustments	0	33
7. As of Current Valuation Date	52	\$514
E. SURVIVING CHILDREN ANNUITANTS	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	0	\$0
2. New Entrants	0	0
3. Total	0	0
4. Terminations		
a. Deaths	0	0
b. Others	0	0
5. Total Terminations	0	0
6. Data Adjustments	0	0
7. As of Current Valuation Date	0	\$0
F. DEFERRED ANNUITANTS	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	4	\$37
2. New Entrants	3	73
3. Total	7	110
4. Terminations		
a. Deaths	0	0
b. Others	0	0
5. Total Terminations	0	0
6. Data Adjustments	0	5
7. As of Current Valuation Date	7	\$115

LEGISLATORS RETIREMENT FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1985

THE *Wyatt* COMPANY

ACTUARIES AND CONSULTANTS

NORTHWESTERN FINANCIAL CENTER
7900 XERXES AVENUE SOUTH, SUITE 1200
MINNEAPOLIS, MINNESOTA 55431
(612) 835-1500

EMPLOYEE BENEFITS
COMPENSATION PROGRAMS
EMPLOYEE COMMUNICATIONS
ADMINISTRATIVE SYSTEMS
RISK MANAGEMENT
INTERNATIONAL SERVICES

OFFICES IN PRINCIPAL CITIES
AROUND THE WORLD

December 27, 1985

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

RE: LEGISLATORS RETIREMENT FUND


Gentlemen:

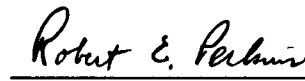
We have prepared an actuarial valuation of the Fund as of July 1, 1985 based on membership and financial data supplied by the Fund.

We certify that to the best of our knowledge and belief this actuarial valuation was performed 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 June 11, 1985.

Respectfully submitted,

THE WYATT COMPANY


Allan J. Grosh
Vice President


Robert E. Perkins
Consulting Actuary

LEGISLATORS RETIREMENT FUND

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* Not included since this is the first valuation of the Fund.

LEGISLATORS RETIREMENT FUND

REPORT HIGHLIGHTS (DOLLARS IN THOUSANDS)

07/01/85
VALUATION

A. CONTRIBUTIONS (TABLE 11)

1. Statutory Contributions - Chapter 3A % of Payroll	9.00%
2. Required Contributions - Chapter 356 % of Payroll	29.92%
3. Sufficiency (Deficiency) (A1-A2)	-20.92%

B. FUNDING RATIOS

1. Accrued Benefit Funding Ratio	
a. Current Assets (Table 1)	\$8,398
b. Current Benefit Obligations (Table 8)	\$18,066
c. Funding Ratio (a/b)	46.49%
2. Accrued Liability Funding Ratio	
a. Current Assets (Table 1)	\$8,398
b. Actuarial Accrued Liability (Table 9)	\$18,145
c. Funding Ratio (a/b)	46.28%
3. Projected Benefit Funding Ratio (Table 8)	
a. Current and Expected Future Assets	\$15,697
b. Current and Expected Future Benefit Obligations	\$27,923
c. Funding Ratio (a/b)	56.22%

C. PLAN PARTICIPANTS

1. Active Members (Table 3)	
a. Number	201
b. Projected Annual Earnings	\$4,507
c. Average Annual Earnings (Actual \$)	\$22,423
d. Average Age	45.6
e. Average Service	5.9
2. Others	
a. Service Retirements (Table 4)	108
b. Disability Retirements (Table 5)	NA
c. Survivors (Table 6)	41
d. Deferred Retirements (Table 7)	111
e. Terminated Other Non-vested (Table 7)	15
f. Total	275

LEGISLATORS RETIREMENT FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine the financial status of the Fund. 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 statutory contributions, representing only member contributions, for the Legislators Retirement Fund are 9.00% for the first 20 years of service. The remaining 20.92% needed to reach the required contribution level of 29.92% will be paid by the State as needed in future years according to Chapter 3A of Minnesota Statutes.

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

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This ratio is based on recently published Governmental Accounting Standards Board proposals. This year's ratio is 46.49%.
- o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that

)

has historically been used by the State. For 1985 the ratio is 46.28%.

-)
- o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 56.22% verifies that the current statutory contributions by members are going to cover only a portion of the plan benefits. Since the State will make the necessary payments to fund annuities payable from MPRIF and to pay other benefits as they come due, this Funding Ratio may be considered to be 100%.

Asset Information

)

Beginning in 1984, changes in Section 356.215 of Minnesota Statutes require that the asset value used for actuarial purposes reflect a portion of the unrealized gains and losses. Only a portion of these gains and losses are considered because market values are typically volatile and could produce erratic changes in the contribution requirements from year to year.

The calculation of assets for actuarial purposes begins with the reporting of Total Assets by the Fund (Table 1, line B). These Total Assets reduced by any Amounts Currently Payable (line C) produces the Assets Available for Benefits (line D5), which is the starting value for determining the Actuarial Value of Assets.

)

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

) 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.

Since this Fund participates in the Minnesota Post Retirement Investment Fund, referred to as MPRIF, the asset value shown on line A3 is initially calculated by the State Board of Investment(SBI), and is the expected amount of MPRIF participation assuming the Fund earns 5% interest. The actual amount is determined by calculating the liability based on annuitant information supplied by the Fund. If the actual liability is larger than expected, the difference is labelled a mortality loss and if smaller a gain.

) Investment performance by SBI above the 5% level is not shown in the assets but will be added in on January 1, 1986 when benefits will be increased for those annuitants who have been receiving payments for 18 months. Next year's valuation will include the 1986 benefit increase in determining the MPRIF value.

Membership Data

Tables 3 through 6 summarize statistical information on members by category. Active members are grouped by age and completed years of service in Table 3. The earnings shown for these members are for the prior fiscal year except in the case of new hires where earnings have been annualized.

) The service retirements in Table 4 include not only those retiring from active status but also members with deferred benefits who have attained retirement age and started receiving benefits.

) The survivors category (Table 6) includes spouses and children of deceased members.

Actuarial Balance Sheet

An actuarial balance sheet is required by Section 356.215, Subdivision 4f of Minnesota Law. This balance sheet (Table 8) establishes a method for evaluating both current and future levels of funding.

Current funding levels are evaluated by comparing Current Assets on line A to Current Benefit Obligations on line D5. The difference between the obligations and the assets is shown as Current Unfunded Liability on line G.

) The measurement of the Current Benefit Obligation is based on the Proposed Statement of Governmental Accounting Standards published by the Governmental Accounting Standards Board (GASB) in August 1985. This value is known as the Actuarial Present Value of Credited Projected Benefits.

) The first step in the GASB calculation for active members involves projecting salaries and service to determine future benefits payable under the plan and then discounting those projected benefits to the date of the valuation. The second step is to determine the discounted value of benefits for the non-active members. For those non-active members whose benefits have not commenced, the liability includes augmentation of benefits to date of commencement. The result of the first two steps is shown on line F, Total Current and Expected Future Benefit Obligations.

) The third step is to determine the portion that represents Current Benefit Obligations. In the case of active members the Current Benefit Obligation is computed by attributing an equal benefit amount to each year of credited and expected future employee service. For all others, their entire liability is considered a Current Benefit Obligation.

Current and future funding levels are evaluated by comparing Current and Future Expected Assets on line C to Current and Expected Future Benefit Obligations on line F. The difference between the obligations and the assets is shown as the Current and Future Unfunded Liability on line H.

) Since line F has already been calculated, the remaining step is to determine the Expected Future Assets. Since the State does not have a set statutory contribution rate, only future member contributions are included in Expected Future Assets on line B2. Since their contributions are less than the Present Value of Future Normal Costs, the value of \$7,299,000 is used in place of \$9,778,000 from Table 9.

The Current Unfunded Liability, line G, is a measurement of the status of the funding to the date of the valuation. The Current and Future Unfunded Liability is a measurement of the adequacy of the current statutory contribution level.

Contribution Sufficiency

) The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal 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) shows similarities and differences. The similarity is that both approaches calculate the value of all future benefits the same way. This can be verified by comparing line F of Table 8 to line A6, column 1, of Table 9. The difference arises from the technique for allocating liabilities between 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.

) An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal 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, representing a constant percentage of payroll each year.

Under this new approach the payments will increase 6.5% each year since 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 begin to cover not only the interest but also repay a portion of the unfunded.

Projected Cash Flow

) Table 12 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Non-MPRIF Assets, which are the Current Assets reduced by the MPRIIF Reserves. Contributions are then added based on the

) present statutory rates for employees. As members become eligible for payments from MPRIF an amount of reserve is transferred to SBI. The other disbursements represent benefit payments made directly by the Fund. Future payments required by the State may be approximated from Table 12 by assuming that the State pays 85% of the amount transferred to MPRIF (the remaining 15% coming from member contributions) and 100% of the other disbursements. In future years the member contributions will provide a larger portion of the benefit as the pre-1979 benefit formula phases out.

) This projected cash flow assumes that future payrolls increase by 6.5%. For purposes of this table only, new members are assumed to be hired in order to replace those who terminate from the active group. This open group method provides a more realistic picture of future cash flow. The statutory interest rate of 8% is used to project future investment return.

) The amounts transferred to MPRIF will be affected by the number of members who reach the assumed retirement age during a given year.

LEGISLATORS RETIREMENT FUND

TABLE 1

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1985

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash and Cash Equivalents	\$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)	5,977	5,977
4. Other	2,452	2,452
B. TOTAL ASSETS	----- \$8,429 =====	----- \$8,429 =====
C. AMOUNTS CURRENTLY PAYABLE	\$31	\$31
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$2,417	\$2,417
2. State Reserves	4	4
3. MPRIF Reserves	5,977	5,977
4. Non-MPRIF Reserves	0	0
5. Total Assets Available for Benefits	----- \$8,398 -----	----- \$8,398 -----
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	----- \$8,429 =====	----- \$8,429 =====
<hr/>		
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		\$8,398
2. Market Value (D5)	\$8,398	
3. Cost Value (D5)	8,398	
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")		----- \$8,398 =====

LEGISLATORS RETIREMENT FUND
CHANGES IN ASSETS AVAILABLE FOR BENEFITS
(DOLLARS IN THOUSANDS)

TABLE 2

YEAR ENDING JUNE 30, 1985

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$7,751	\$7,751
B. OPERATING REVENUES		
1. Member Contributions	\$357	\$357
2. Employer Contributions	0	0
3. Investment Income	0	0
4. MPRIF Income	620	620
5. Net Realized Gain (Loss)	0	0
6. Other	604	604
7. Net Change in Unrealized Gain (Loss)	0	0
	-----	-----
8. Total Revenue	\$1,581	\$1,581
	-----	-----
C. OPERATING EXPENSES		
1. Service Retirements	\$694	\$694
2. Disability Benefits	0	0
3. Survivor Benefits	90	90
4. Refunds	119	119
5. Expenses	31	31
6. Other	0	0
	-----	-----
7. Total Disbursements	\$934	\$934
	-----	-----
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	\$8,398	\$8,398
	=====	=====

LEGISLATORS RETIREMENT FUND

TABLE 3

ACTIVE MEMBERS AS OF JUNE 30, 1985

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29	2	3							5
30-34	6	14	5	1					26
35-39	4	18	5	3					30
40-44	3	14	13	7					37
45-49	4	10	13	7					34
50-54	4	9	12	5	1				31
55-59	3	6	6	7	5				27
60-64	2	2	1		1				6
65+		2		1	1		1		5
TOTAL	28	78	55	31	8	0	1	0	201

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29	19,280	19,280							19,280
30-34	19,280	19,280	19,280	19,280					19,280
35-39	19,280	19,280	19,280	19,280					19,280
40-44	19,280	19,280	19,280	19,280					19,280
45-49	19,280	19,280	19,280	19,280					19,280
50-54	19,280	19,280	19,280	19,280	19,280				19,280
55-59	19,280	19,280	19,280	19,280	19,280				19,280
60-64	19,280	19,280	19,280		19,280				19,280
65+		19,280		19,280	19,280		19,280		19,280
ALL	19,280	19,280	19,280	19,280	19,280	0	19,280	0	19,280

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

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
540	1,504	1,060	598	154	0	19	0	3,875

LEGISLATORS RETIREMENT FUND

TABLE 4

SERVICE RETIREMENTS AS OF JUNE 30, 1985

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59								0
60-64	5	26	1					32
65-69	1	17	8					26
70-74	1		9	12				22
75-79		1	2	11	1			15
80-84				6	3			9
85+				2	2			4
TOTAL	7	44	20	31	6	0	0	108

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59								0
60-64	7,005	5,717	3,468					5,848
65-69	10,175	10,876	5,948					9,333
70-74	956		6,020	4,442				4,929
75-79		10,878	6,577	5,678	3,134			5,975
80-84				7,258	3,202			5,906
85+				9,421	4,749			7,085
ALL	6,594	7,828	5,919	5,747	3,706	0	0	6,568

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
46	345	118	178	22	0	0	709

LEGISLATORS RETIREMENT FUND

TABLE 6

SURVIVORS AS OF JUNE 30, 1985

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		5	2	3	1			11
50-54					1			1
55-59	1							1
60-64	1		2	1				4
65-69	1	2		2				5
70-74	1		4	2	2			9
75-79	2			2	2			6
80-84				1	1			2
85+					2			2
TOTAL	6	7	8	11	9	0	0	41

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		2,842	2,919	793	621			2,095
50-54					1,631			1,631
55-59	1,850							1,850
60-64	1,077		2,716	2,974				2,371
65-69	4,608	3,734		2,310				3,339
70-74	1,772		3,980	2,972	1,829			3,032
75-79	2,149			2,377	1,773			2,099
80-84				2,466	1,543			2,005
85+					1,653			1,653
ALL	2,268	3,097	3,399	2,103	1,589	0	0	2,437

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
14	22	27	23	14	0	0	100

LEGISLATORS RETIREMENT FUND
RECONCILIATION OF MEMBERS

TABLE 7

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1984	201	102	NA
B. Additions	29	11	NA
C. Deletions:			
1. Service Retirement	(3)	(2)	
2. Disability	0		
3. Death	0	0	
4. Terminated-Deferred	(10)		
5. Terminated-Refund	(14)	0	
6. Terminated-Other Non-vested	(2)		
7. Returned as Active		0	NA
D. Data Adjustments	0	0	NA
	Vested 76		
	Non-Vested 125		
E. Total on June 30, 1985	201	111	15

	<u>RETIREMENT ANNUITANTS</u>	<u>RECIPIENTS</u>	
		<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1984	107	NA	37
B. Additions	8	NA	7
C. Deletions:			
1. Service Retirement		NA	
2. Death	(7)	NA	(2)
3. Annuity Expired	0		(1)
4. Returned as Active	0	NA	
D. Data Adjustments	0	NA	0
E. Total on June 30, 1985	108	NA	41

LEGISLATORS RETIREMENT FUND

TABLE 8

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1985

A. CURRENT ASSETS (TABLE 1, F6)				\$8,398
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Supplemental Contributions				0
2. Present Value of Future Normal Costs				\$7,299
3. Total Expected Future Assets				----- 7,299 -----
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				\$15,697 =====
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>		<u>Total</u>
1. Benefit Recipients				
a. Retirement Annuities		\$7,355		\$7,355
b. Disability Benefits		0		0
c. Surviving Spouse's Benefits		998		998
d. Surviving Children's Benefits		31		31
2. Deferred Retirements		4,006		4,006
3. Former Members without Vested Rights		31		31
4. Active Members				
a. Retirement Annuities	961	4,160		5,121
b. Disability Benefits	0	0		0
c. Survivors' Benefits	70	266		336
d. Deferred Retirements	39	4		43
e. Refund Liability Due to Death or Withdrawal	125	20		145
5. Total Current Benefit Obligations	----- \$1,195 -----	----- \$16,871 -----		----- \$18,066 -----
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				\$9,857 -----
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				\$27,923 =====
G. CURRENT UNFUNDED LIABILITY (D5-A)				\$9,668
H. CURRENT AND FUTURE UNFUNDED LIABILITY (F-C)				\$12,226

LEGISLATORS RETIREMENT FUND

TABLE 9

DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY AND SUPPLEMENTAL CONTRIBUTION RATE (DOLLARS IN THOUSANDS)

JULY 1, 1985

	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	\$14,251	\$8,583	\$5,668
b. Disability Benefits	0	0	0
c. Survivors Benefits	829	490	339
d. Deferred Retirements	95	167	(72)
e. Refunds Due to Death or Withdrawal	327	538	(211)
f. Total	<u>\$15,502</u>	<u>\$9,778</u>	<u>\$5,724</u>
2. Deferred Retirements	\$4,006		\$4,006
3. Former Members Without Vested Rights	31		31
4. Annuitants in MPRIF	5,977		5,977
5. Recipients Not in MPRIF	2,407		2,407
6. Total AAL	<u>\$27,923</u>	<u>\$9,778</u>	<u>\$18,145</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$18,145
2. Current Assets (Table 1,F6)			8,398
3. UAAL (B1-B2)			<u>\$9,747</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls to the Amortization Date of July 1, 2009			\$88,798
2. Supplemental Contribution Rate (B3/C1)			10.98%

LEGISLATORS RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

TABLE 11

JULY 1, 1985

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 3A		
1. Employee Contributions	9.00%	\$406
2. Employer Contributions	0.00%	0
3. Total	----- 9.00% =====	----- \$406 =====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	15.94%	\$719
b. Disability Benefits	0.00%	0
c. Survivors	0.91%	41
d. Deferred Retirement Benefits	0.31%	14
e. Refunds Due to Death or Withdrawal	1.00%	45
f. Total	----- 18.16% -----	----- \$819 -----
2. Supplemental Contribution Amortization by July 1, 2009 of UAAL of \$9,747	10.98%	\$495
3. Allowance for Expenses	0.78%	\$35
4. Total	----- 29.92%	----- \$1,349
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)	-20.92%	(\$943)

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$4,507

LEGISLATORS RETIREMENT FUND

TABLE 12

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

<u>FISCAL YEAR</u>	<u>STATUTORY CONTRIBUTIONS</u>	<u>TRANSFERS TO MPRIF</u>	<u>OTHER DISBURSEMENTS</u>	<u>INVESTMENT RETURN</u>	<u>NON-MPRIF ASSETS YEAR END</u>
1985					\$2,421
1986	\$406	\$442	\$116	\$188	2,457
1987	428	600	271	\$179	2,193
1988	458	740	140	\$159	1,930
1989	483	676	246	\$137	1,628
1990	514	708	174	\$116	1,376
1991	548	1,725	282	\$52	(31)
1992	589	1,152	210	(\$33)	(837)
1993	609	853	268	(\$87)	(1,436)
1994	652	1,742	241	(\$168)	(2,935)
1995	643	1,410	290	(\$277)	(4,269)
1996	686	828	272	(\$358)	(5,041)
1997	696	1,776	313	(\$459)	(6,893)
1998	750	1,207	296	(\$582)	(8,228)
1999	764	1,849	334	(\$715)	(10,362)
2000	824	2,231	327	(\$898)	(12,994)
2001	846	3,012	357	(\$1,140)	(16,657)
2002	919	2,449	359	(\$1,408)	(19,954)
2003	887	1,655	386	(\$1,642)	(22,750)
2004	963	2,257	389	(\$1,887)	(26,320)
2005	971	3,777	412	(\$2,234)	(31,772)
2006	1,032	3,345	416	(\$2,651)	(37,152)
2007	1,168	5,295	433	(\$3,155)	(44,867)
2008	1,312	6,123	443	(\$3,800)	(53,921)
2009	1,390	2,744	464	(\$4,386)	(60,125)
2010	1,513	3,902	473	(\$4,924)	(67,911)

LEGISLATORS RETIREMENT FUND
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	Pre-Retirement: 8% per annum Post-Retirement: 5% per annum																											
Salary Increases:	Reported salary at valuation date increased 2% 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 8 years Post-Retirement: Male - Same as above Female - Same as above Post-Disability: Male - NA Female - NA																											
Retirement Age:	Age 62, or if over age 62, one year from the valuation date.																											
Separation:	Rates based on years of service: <table><tr><td><u>Year</u></td><td><u>House</u></td><td><u>Senate</u></td></tr><tr><td>1</td><td>0%</td><td>0%</td></tr><tr><td>2</td><td>30</td><td>0</td></tr><tr><td>3</td><td>0</td><td>0</td></tr><tr><td>4</td><td>20</td><td>25</td></tr><tr><td>5</td><td>0</td><td>0</td></tr><tr><td>6</td><td>10</td><td>0</td></tr><tr><td>7</td><td>0</td><td>0</td></tr><tr><td>8</td><td>5</td><td>10</td></tr></table>	<u>Year</u>	<u>House</u>	<u>Senate</u>	1	0%	0%	2	30	0	3	0	0	4	20	25	5	0	0	6	10	0	7	0	0	8	5	10
<u>Year</u>	<u>House</u>	<u>Senate</u>																										
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 expenses expressed as percentage of prior year payroll. (0.78% of payroll)																											
Return of Contributions:	All employees withdrawing after 6 years of service were assumed to leave their contributions on deposit and receive a deferred annuitant benefit.																											
Family Composition:	85% of members are married. Female is three years younger than male. Each member may have up to two dependent children depending on member's age.																											

TABLE 13
(cont)

Social Security:	NA
Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.
Special Consideration:	NA
Actuarial Cost Method:	Entry Age 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 6.5% per annum.
Projected Cash Flow Method:	Cash flows for the non-MPRIF portion of the Fund were projected based on the current plan benefits, participant data, and actuarial assumptions. In addition new entrants were assumed so that the total payroll would increase by 6.5% per annum.

LEGISLATORS RETIREMENT FUND

TABLE 14

SUMMARY OF PLAN PROVISIONS

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 during the first 20 years.
Employer	No statutory contributions.
Service	Granted for the full term unless termination occurs before the end of the term, to a maximum of 20 years of Service. Service during all or part of 4 regular legislative sessions is deemed to be 8 years of Service.
Salary	Compensation received for service as a member of the Legislature.
Average Salary	Average of the 5 highest successive years of Salary.
RETIREMENT	
Normal Retirement Benefit	
Eligibility	Age 62 and either 6 full years of Service or Service during all or part of 4 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 8 years - 2.5% for subsequent years After 12/31/78 - 2.5%.
Early Retirement Benefit	
Eligibility	Age 60 and either 6 full years of Service or Service during all or part of 4 regular legislative sessions.
Amount	Normal Retirement Benefit based on 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	Paid as a joint and survivor annuity to Member, spouse, and dependent children.

TABLE 14
(cont)

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 payment of 50% of the retirement benefit of the Member assuming the Member had attained normal retirement age and had a minimum of 8 years of Service. Benefit is paid for life or until remarriage. 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. A deferred annuity may be elected in lieu of a refund.
Deferred Annuity	
Eligibility	Same Service requirement as for Normal Retirement.

TABLE 14
(cont)

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 3% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

LEGISLATORS RETIREMENT FUND

TABLE 15

MEMBERSHIP CHANGES (DOLLARS IN THOUSANDS)

JUNE 30, 1985

A. ACTIVE MEMBERS		
1. As of the Last Valuation Date	<u>NUMBER</u> 201	<u>PAYROLL</u> \$4,419
2. New Entrants	29	NA
3. Total	230	NA
4. Separations from Active Service		
a. Refund of Contributions	(14)	(244)
b. Separation with Deferred Annuity	(10)	(192)
c. Separation with neither Refund nor Deferred Annuity	(2)	(39)
d. Disability	0	0
e. Death	0	0
f. Retirement with Service Annuity	(3)	(58)
5. Total Separations	(29)	(533)
6. Data Adjustments	0	NA
7. As of Current Valuation Date	201	\$4,419
B. SERVICE RETIREMENT ANNUITANTS		
1. As of the Last Valuation Date	<u>NUMBER</u> 107	<u>ANNUAL ANNUITY</u> \$646
2. New Entrants	8	51
3. Total	115	697
4. Terminations		
a. Deaths	(7)	(29)
b. Others	0	0
5. Total Terminations	(7)	(29)
6. Data Adjustments	0	41
7. As of Current Valuation Date	108	\$709
C. DISABLED ANNUITANTS		
1. As of the Last Valuation Date	<u>NUMBER</u> NA	<u>ANNUAL ANNUITY</u> NA
2. New Entrants	NA	NA
3. Total	NA	NA
4. Terminations		
a. Deaths	NA	NA
b. Others	NA	NA
5. Total Terminations	NA	NA
6. Data Adjustments	NA	NA
7. As of Current Valuation Date	NA	NA

TABLE 15
(cont)

D. SURVIVING SPOUSE ANNUITANTS		
1. As of the Last Valuation Date	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
2. New Entrants	27	\$68
3. Total	7	20
	34	88
4. Terminations		
a. Deaths	(2)	(4)
b. Others	0	0
5. Total Terminations	(2)	(4)
6. Data Adjustments	0	4
7. As of Current Valuation Date	32	\$88
E. SURVIVING CHILDREN ANNUITANTS		
1. As of the Last Valuation Date	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
2. New Entrants	10	\$13
3. Total	0	0
	10	13
4. Terminations		
a. Deaths	0	0
b. Others	(1)	(2)
5. Total Terminations	(1)	(2)
6. Data Adjustments	0	1
7. As of Current Valuation Date	9	\$12
F. DEFERRED ANNUITANTS		
1. As of the Last Valuation Date	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
2. New Entrants	102	\$704
3. Total	11	123
	113	827
4. Terminations		
a. Deaths	0	0
b. Others	(2)	(2)
5. Total Terminations	(2)	(2)
6. Data Adjustments	0	0
7. As of Current Valuation Date	111	\$825

ELECTIVE STATE OFFICERS RETIREMENT FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1985

THE *Wyatt* COMPANY

ACTUARIES AND CONSULTANTS

NORTHWESTERN FINANCIAL CENTER
7900 XERXES AVENUE SOUTH, SUITE 1200
MINNEAPOLIS, MINNESOTA 55431

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December 27, 1985

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

RE: ELECTIVE STATE OFFICERS RETIREMENT FUND

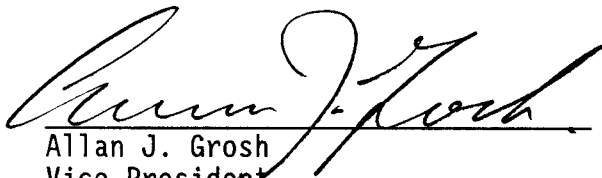
Gentlemen:

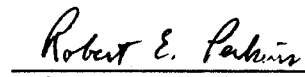
We have prepared an actuarial valuation of the Fund as of July 1, 1985 based on membership and financial data supplied by the Fund.

We certify that to the best of our knowledge and belief this actuarial valuation was performed 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 June 11, 1985.

Respectfully submitted,

THE WYATT COMPANY


Allan J. Grosh
Vice President


Robert E. Perkins
Consulting Actuary

ELECTIVE STATE OFFICERS RETIREMENT FUND

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* Not included since this is the first valuation of the Fund.

ELECTIVE STATE OFFICERS RETIREMENT FUND

REPORT HIGHLIGHTS
(DOLLARS IN THOUSANDS)

07/01/85
VALUATION

A. CONTRIBUTIONS (TABLE 11)

1. Statutory Contributions - Chapter 3A % of Payroll	9.00%
2. Required Contributions - Chapter 356 % of Payroll	37.42%
3. Sufficiency (Deficiency) (A1-A2)	-28.42%

B. FUNDING RATIOS

1. Accrued Benefit Funding Ratio	
a. Current Assets (Table 1)	\$197
b. Current Benefit Obligations (Table 8)	\$1,595
c. Funding Ratio (a/b)	12.35%
2. Accrued Liability Funding Ratio	
a. Current Assets (Table 1)	\$197
b. Actuarial Accrued Liability (Table 9)	\$1,745
c. Funding Ratio (a/b)	11.29%
3. Projected Benefit Funding Ratio (Table 8)	
a. Current and Expected Future Assets	\$762
b. Current and Expected Future Benefit Obligations	\$2,116
c. Funding Ratio (a/b)	36.01%

C. PLAN PARTICIPANTS

1. Active Members (Table 3)	
a. Number	6
b. Projected Annual Earnings	\$366
c. Average Annual Earnings (Actual \$)	\$61,000
d. Average Age	46.2
e. Average Service	5.9
2. Others	
a. Service Retirements (Table 4)	6
b. Disability Retirements (Table 5)	NA
c. Survivors (Table 6)	3
d. Deferred Retirements (Table 7)	5
e. Terminated Other Non-vested (Table 7)	1
f. Total	15

ELECTIVE STATE OFFICERS RETIREMENT FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine the financial status of the Fund. 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 statutory contributions, representing only member contributions, for the Elective State Officers Retirement Fund are 9.00%. The remaining 28.42% needed to reach the required contribution level of 37.42% will be paid by the State as needed in future years according to Chapter 3A of Minnesota Statutes.

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

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This ratio is based on recently published Governmental Accounting Standards Board proposals. This year's ratio is 12.35%.
- o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used by the State. For 1985 the ratio is 11.29%.

- o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This year's ratio of 36.01% verifies that the current statutory contributions by members are going to cover only a portion of the plan benefits. Since the State will make the necessary payments to pay other benefits as they come due, this Funding Ratio may be considered to be 100%.

Asset Information

Beginning in 1984, changes in Section 356.215 of Minnesota Statutes require that the asset value used for actuarial purposes reflect a portion of the unrealized gains and losses. Only a portion of these gains and losses are considered because market values are typically volatile and could produce erratic changes in the contribution requirements from year to year.

The calculation of assets for actuarial purposes begins with the reporting of Total Assets by the Fund (Table 1, line B). These Total Assets reduced by any Amounts Currently Payable (line C) produces the Assets Available for Benefits (line D5), which is the starting value for determining the Actuarial Value of Assets.

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

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.

The term MPRIF appears on some of the tables with a corresponding value of zero. MPRIF stands for Minnesota Post Retirement Investment Fund, which is used by many of the public funds. For purposes of consistency all of the actuarial reports follow the same format.

Membership Data

Tables 3 through 6 summarize statistical information on members by category. Active members are grouped by age and completed years of service in Table 3.

) The service retirements in Table 4 include not only those retiring from active status but also members with deferred benefits who have attained retirement age and started receiving benefits. The survivors category (Table 6) includes spouses and children of deceased members.

Actuarial Balance Sheet

An actuarial balance sheet is required by Section 356.215, Subdivision 4f of Minnesota Law. This balance sheet (Table 8) establishes a method for evaluating both current and future levels of funding.

Current funding levels are evaluated by comparing Current Assets on line A to Current Benefit Obligations on line D5. The difference between the obligations and the assets is shown as Current Unfunded Liability on line G.

) The measurement of the Current Benefit Obligation is based on the Proposed

) Statement of Governmental Accounting Standards published by the Governmental Accounting Standards Board (GASB) in August 1985. This value is known as the Actuarial Present Value of Credited Projected Benefits.

The first step in the GASB calculation for active members involves projecting salaries and service to determine future benefits payable under the plan and then discounting those projected benefits to the date of the valuation. The second step is to determine the discounted value of benefits for the non-active members. For those non-active members whose benefits have not commenced, the liability includes augmentation of benefits to date of commencement. The result of the first two steps is shown on line F, Total Current and Expected Future Benefit Obligations.

) The third step is to determine the portion that represents Current Benefit Obligations. In the case of active members the Current Benefit Obligation is computed by attributing an equal benefit amount to each year of credited and expected future employee service. For all others, their entire liability is considered a Current Benefit Obligation.

Current and future funding levels are evaluated by comparing Current and Future Expected Assets on line C to Current and Expected Future Benefit Obligations on line F. The difference between the obligations and the assets is shown as the Current and Future Unfunded Liability on line H.

) Since line F has already been calculated, the remaining step is to determine the Expected Future Assets. Since the State does not have a set statutory contribution rate, only future member contributions are included in Expected

)
Future Assets on line B2.

The Current Unfunded Liability, line G, is a measurement of the status of the funding to the date of the valuation. The Current and Future Unfunded Liability is a measurement of the adequacy of the current statutory contribution level.

Contribution Sufficiency

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal 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) shows similarities and differences. The similarity is that both approaches calculate the value of all future benefits the same way. This can be verified by comparing line F of Table 8 to line A6, column 1, of Table 9. The difference arises from the technique for allocating liabilities between 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.

)
An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal 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, representing a constant percentage of payroll each year.

) Under this new approach the payments will increase 6.5% each year since 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 begin to cover not only the interest but also repay a portion of the unfunded.

Projected Cash Flow

Table 12 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Current Assets. Contributions are then added based on the present statutory rates for employees. As members become eligible for payments, disbursements are made from the Fund.

) This projected cash flow assumes that future payrolls increase by 6.5%. For purposes of this table only, new members are assumed to be hired in order to replace those who terminate from the active group. This open group method provides a more realistic picture of future cash flow. The statutory interest rate of 8% is used to project future investment return.

TABLE 1

ELECTIVE STATE OFFICERS RETIREMENT FUND

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1985

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash and Cash Equivalents	\$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	201	201
	-----	-----
B. TOTAL ASSETS	\$201	\$201
	=====	=====
C. AMOUNTS CURRENTLY PAYABLE	\$4	\$4
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$197	\$197
2. State Reserves	0	0
3. MPRIF Reserves	0	0
4. Non-MPRIF Reserves	0	0
	-----	-----
5. Total Assets Available for Benefits	\$197	\$197
	-----	-----
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	\$201	\$201
	=====	=====
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		\$197
2. Market Value (D5)	\$197	
3. Cost Value (D5)	197	

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")		\$197
		=====

TABLE 2

ELECTIVE STATE OFFICERS RETIREMENT FUND
CHANGES IN ASSETS AVAILABLE FOR BENEFITS
(DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1985

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$196	\$196
B. OPERATING REVENUES		
1. Member Contributions	\$29	\$29
2. Employer Contributions	0	0
3. Investment Income	0	0
4. MPRIF Income	0	0
5. Net Realized Gain (Loss)	0	0
6. Other	95	95
7. Net Change in Unrealized Gain (Loss)	0	0
	-----	-----
8. Total Revenue	\$124	\$124
	-----	-----
C. OPERATING EXPENSES		
1. Service Retirements	\$80	\$80
2. Disability Benefits	0	0
3. Survivor Benefits	22	22
4. Refunds	17	17
5. Expenses	4	4
6. Other	0	0
	-----	-----
7. Total Disbursements	\$123	\$123
	-----	-----
D. OTHER CHANGES IN RESERVES	0	0
E. ASSETS AVAILABLE AT END OF PERIOD	\$197	\$197
	=====	=====

TABLE 3

ELECTIVE STATE OFFICERS RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1985

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39		2							2
40-44		1							1
45-49				1					1
50-54			1						1
55-59				1					1
60-64									0
65+									0
TOTAL	0	3	1	2	0	0	0	0	6

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39		44,383							44,383
40-44		63,841							63,841
45-49				45,255					45,255
50-54			49,370						49,370
55-59				78,964					78,964
60-64									0
65+									0
ALL	0	50,869	49,370	62,110	0	0	0	0	54,366

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

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	153	49	124	0	0	0	0	326

TABLE 4

ELECTIVE STATE OFFICERS RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1985

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50								0
50-54								0
55-59								0
60-64								0
65-69								0
70-74			4					4
75-79				1				1
80-84								0
85+				1				1
TOTAL	0	0	4	2	0	0	0	6

AVERAGE ANNUAL ANNUITY

<u>AGE</u>	<u>YEARS RETIRED</u>							<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50								0
50-54								0
55-59								0
60-64								0
65-69								0
70-74			12,471					12,471
75-79				19,034				19,034
80-84								0
85+				14,097				14,097
ALL	0	0	12,471	16,566	0	0	0	13,836

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
0	0	50	33	0	0	0	83

TABLE 6

ELECTIVE STATE OFFICERS RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1985

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	
<50								0
50-54								0
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84				5,671				5,671
85+					8,342			8,342
ALL	0	0	0	5,671	8,342	0	0	7,451

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25+</u>	<u>TOTAL</u>
0	0	0	6	16	0	0	22

TABLE 7

ELECTIVE STATE OFFICERS RETIREMENT FUND
RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1984	6	5	NA
B. Additions	0	0	NA
C. Deletions:			
1. Service Retirement	0	0	
2. Disability	0		
3. Death	0	0	
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	NA
D. Data Adjustments	0	0	NA
	Vested	2	
	Non-Vested	4	
E. Total on June 30, 1985	6	5	1

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1984	6	0	3
B. Additions	0	0	0
C. Deletions:			
1. Service Retirement		0	
2. Death	0	0	0
3. Annuity Expired	0		0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1985	6	0	3

TABLE 8

ELECTIVE STATE OFFICERS RETIREMENT FUND

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1985

A. CURRENT ASSETS (TABLE 1, F6)				\$197
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Supplemental Contributions				194
2. Present Value of Future Normal Costs				371
3. Total Expected Future Assets				----- \$565 -----
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				----- \$762 =====
D. CURRENT BENEFIT OBLIGATIONS	<u>Non-Vested</u>	<u>Vested</u>		<u>Total</u>
1. Benefit Recipients				
a. Retirement Annuities		\$793		\$793
b. Disability Benefits		0		0
c. Surviving Spouse's Benefits		123		123
d. Surviving Children's Benefits		0		0
2. Deferred Retirements		208		208
3. Former Members without Vested Rights		7		7
4. Active Members				
a. Retirement Annuities	58	349		407
b. Disability Benefits	0	0		0
c. Survivors' Benefits	6	12		18
d. Deferred Retirements	0	0		0
e. Refund Liability Due to Death or Withdrawal	38	1		39
5. Total Current Benefit Obligations	----- \$102 -----	----- \$1,493 -----		----- \$1,595 -----
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				----- \$521 -----
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				----- \$2,116 =====
G. CURRENT UNFUNDED LIABILITY (D5-A)				\$1,398
H. CURRENT AND FUTURE UNFUNDED LIABILITY (F-C)				\$1,354

TABLE 9

ELECTIVE STATE OFFICERS RETIREMENT FUND

**DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY
AND SUPPLEMENTAL CONTRIBUTION RATE
(DOLLARS IN THOUSANDS)**

JULY 1, 1985

	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	\$884	\$282	\$602
b. Disability Benefits	0	0	0
c. Survivors Benefits	33	21	12
d. Deferred Retirements	0	0	0
e. Refunds Due to Death or Withdrawal	67	68	(1)
f. Total	<u>\$984</u>	<u>\$371</u>	<u>\$613</u>
2. Deferred Retirements	\$208		\$208
3. Former Members Without Vested Rights	7		7
4. Annuitants in MPRIF	0		0
5. Recipients Not in MPRIF	917		917
6. Total AAL	<u>\$2,116</u>	<u>\$371</u>	<u>\$1,745</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$1,745
2. Current Assets (Table 1,F6)			197
3. UAAL (B1-B2)			<u>\$1,548</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls to the Amortization Date of July 1, 2009			\$7,206
2. Supplemental Contribution Rate (B3/C1)			21.48%

TABLE 11

ELECTIVE STATE OFFICERS RETIREMENT FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

JULY 1, 1985

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 3A		
1. Employee Contributions	9.00%	\$33
2. Employer Contributions	0.00%	0
3. Total	----- 9.00% =====	----- \$33 =====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	11.23%	\$41
b. Disability Benefits	0.00%	0
c. Survivors	0.82%	3
d. Deferred Retirement Benefits	0.00%	0
e. Refunds Due to Death or Withdrawal	2.73%	10
f. Total	----- 14.78% -----	----- \$54 -----
2. Supplemental Contribution Amortization by July 1, 2009 of UAAL of \$1,548	21.48%	\$79
3. Allowance for Expenses	1.16%	\$4
4. Total	----- 37.42%	----- \$137
C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)	-28.42%	(\$104)

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1985 is \$366

TABLE 12

ELECTIVE STATE OFFICERS RETIREMENT FUND

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

<u>FISCAL YEAR</u>	<u>STATUTORY CONTRIBUTIONS</u>	<u>TRANSFERS TO MPRIF</u>	<u>OTHER DISBURSEMENTS</u>	<u>INVESTMENT RETURN</u>	<u>CURRENT ASSETS YEAR END</u>
1985					\$197
1986	\$33	\$0	\$104	\$13	139
1987	35	0	140	\$7	41
1988	37	0	94	\$1	(15)
1989	40	0	110	(\$4)	(89)
1990	42	0	86	(\$9)	(142)
1991	45	0	164	(\$16)	(277)
1992	48	0	129	(\$25)	(383)
1993	51	0	164	(\$35)	(531)
1994	54	0	129	(\$45)	(651)
1995	58	0	143	(\$55)	(791)
1996	62	0	146	(\$67)	(942)
1997	66	0	164	(\$79)	(1,119)
1998	70	0	209	(\$95)	(1,353)
1999	75	0	223	(\$114)	(1,615)
2000	80	0	194	(\$134)	(1,863)
2001	85	0	208	(\$154)	(2,140)
2002	90	0	203	(\$176)	(2,429)
2003	96	0	228	(\$200)	(2,761)
2004	102	0	203	(\$225)	(3,087)
2005	109	0	243	(\$252)	(3,473)
2006	116	0	231	(\$282)	(3,870)
2007	124	0	246	(\$314)	(4,306)
2008	132	0	252	(\$349)	(4,775)
2009	140	0	292	(\$388)	(5,315)
2010	149	0	299	(\$431)	(5,896)

ELECTIVE STATE OFFICERS RETIREMENT FUND
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	Pre-Retirement: 8% per annum Post-Retirement: 5% per annum																		
Salary Increases:	Reported salary at valuation date increased 2% 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 8 years Post-Retirement: Male - Same as above Female - Same as above Post-Disability: Male - NA Female - NA																		
Retirement Age:	Age 62, or if over age 62, one year from the valuation date.																		
Separation:	Rates based on years of service: <table> <tr> <th><u>Year</u></th><th><u>Rate</u></th></tr> <tr><td>1</td><td>0%</td></tr> <tr><td>2</td><td>0</td></tr> <tr><td>3</td><td>0</td></tr> <tr><td>4</td><td>50</td></tr> <tr><td>5</td><td>0</td></tr> <tr><td>6</td><td>0</td></tr> <tr><td>7</td><td>0</td></tr> <tr><td>8</td><td>50</td></tr> </table>	<u>Year</u>	<u>Rate</u>	1	0%	2	0	3	0	4	50	5	0	6	0	7	0	8	50
<u>Year</u>	<u>Rate</u>																		
1	0%																		
2	0																		
3	0																		
4	50																		
5	0																		
6	0																		
7	0																		
8	50																		
Disability:	None																		
Expenses:	Prior year expenses expressed as percentage of prior year payroll. (1.16% of payroll)																		
Return of Contributions:	All employees withdrawing after 8 years of service were assumed to leave their contributions on deposit and receive a deferred annuitant benefit.																		
Family Composition:	85% of members are married. Female is three years younger than male. Each member may have up to two dependent children depending on the member's age.																		

TABLE 13
(cont)

Social Security:	NA
Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.
Special Consideration:	Current IRC Section 415 benefit limits are applied by assuming indexing of maximum benefit at 6.5% annually beginning in 1988.
Actuarial Cost Method:	Entry Age 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 6.5% per annum.
Projected Cash Flow Method:	Cash flows for the Fund were projected based on the current plan benefits, participant data, and actuarial assumptions. In addition new entrants were assumed so that the total payroll would increase by 6.5% per annum.

ELECTIVE STATE OFFICERS RETIREMENT FUND

SUMMARY OF PLAN PROVISIONS

Eligibility	Employment as a "Constitutional Officer" or "Commissioner".
Contributions	
Member	9% of Salary.
Employer	No statutory 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 5 highest successive years of Salary.
RETIREMENT	
Normal Retirement Benefit	
Eligibility	Age 62 and 8 years of Allowable Service.
Amount	2.5% of Average Salary per year of Allowable Service.
Early Retirement Benefit	
Eligibility	Age 60 and 8 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 8 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 8 years of Allowable Service. Benefit is paid for life or until remarriage. 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.

TABLE 14
(cont)

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.

TERMINATION

Refund of Contributions
Eligibility

Termination of Service.

Amount

Member's contributions with 5% interest. A deferred annuity may be elected in lieu of a refund.

Deferred Benefit
Eligibility

8 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% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

TABLE 15

ELECTIVE STATE OFFICERS RETIREMENT FUND

MEMBERSHIP CHANGES
(DOLLARS IN THOUSANDS)

JUNE 30, 1985

A. ACTIVE MEMBERS	<u>NUMBER</u>	<u>PAYROLL</u>
1. As of the Last Valuation Date	6	\$337
2. New Entrants	0	NA
3. Total	6	NA
4. Separations from Active Service		
a. Refund of Contributions	0	0
b. Separation with Deferred Annuity	0	0
c. Separation with neither Refund nor Deferred Annuity	0	0
d. Disability	0	0
e. Death	0	0
f. Retirement with Service Annuity	0	0
5. Total Separations	0	0
6. Data Adjustments	0	NA
7. As of Current Valuation Date	6	\$359
B. SERVICE RETIREMENT ANNUITANTS	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	6	\$78
2. New Entrants	0	0
3. Total	6	78
4. Terminations		
a. Deaths	0	0
b. Others	0	0
5. Total Terminations	0	0
6. Data Adjustments	0	5
7. As of Current Valuation Date	6	\$83
C. DISABLED ANNUITANTS	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	0	\$0
2. New Entrants	0	0
3. Total	0	0
4. Terminations		
a. Deaths	0	0
b. Others	0	0
5. Total Terminations	0	0
6. Data Adjustments	0	0
7. As of Current Valuation Date	0	\$0

TABLE 15
(cont)

D. SURVIVING SPOUSE ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	3	\$21
2. New Entrants	0	0
3. Total	3	21
4. Terminations		
a. Deaths	0	0
b. Others	0	0
5. Total Terminations	0	0
6. Data Adjustments	0	1
7. As of Current Valuation Date	3	\$22
E. SURVIVING CHILDREN ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	0	\$0
2. New Entrants	0	0
3. Total	0	0
4. Terminations		
a. Deaths	0	0
b. Others	0	0
5. Total Terminations	0	0
6. Data Adjustments	0	0
7. As of Current Valuation Date	0	\$0
F. DEFERRED ANNUITANTS		
	<u>NUMBER</u>	<u>ANNUAL ANNUITY</u>
1. As of the Last Valuation Date	5	\$40
2. New Entrants	0	0
3. Total	5	40
4. Terminations		
a. Deaths	0	0
b. Others	0	0
5. Total Terminations	0	0
6. Data Adjustments	0	0
7. As of Current Valuation Date	5	\$40