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Public Employees Retirement Assn.

Public Employees Retirement Association
State of Minnesota

ACTUARIAL VALUATION REPORT

November 27, 1970

A. S. Hansen, inc.

Public Employees Retirement Association
State of Minnesota

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1366-01-83

A. S. Hansen, inc.
ACTUARIES AND CONSULTANTS
1080 Green Bay Road
Lake Bluff, Illinois 60044
Telephone 312-234-3400

November 25, 1970

Board of Trustees
Public Employees Retirement Association
203 Capitol Square Building
550 Cedar Street
St. Paul, Minnesota 55101

Gentlemen:

In accordance with your request, we have made an actuarial valuation of the Public Employees Retirement Association of the State of Minnesota for the year ended June 30, 1970, in order to determine the adequacy of the contributions being made to that system and to prepare the financial and actuarial reports as required by the laws of the State of Minnesota.

The results of our analysis are set forth in the following report. The basic financial and employee data are those submitted to us by the Association office; the summaries and actuarial figures are those prepared by us from such data.

On the basis of the foregoing, and the assumptions indicated herein, we hereby certify that, to the best of our knowledge and belief, the attached statements are true and correct. A copy of this report will supply the data required by the legislative commission for the year ended June 30, 1970.

Respectfully submitted,

A. S. HANSEN, INC.

Davis H. Roenisch

Davis H. Roenisch
Fellow, Society of Actuaries

DHR:sd
1366-01-83

Public Employees Retirement Association
State of Minnesota

COMMENTS

The following exhibits set forth the information required by law for the legislature as a result of the annual actuarial valuation. They are accompanied by financial exhibits which combine the financial reports of the System with the results of the actuarial valuation.

These figures have been prepared in accordance with the requirements of the law under the supervision of an approved actuary. Chief among these requirements are the use of the entry age normal cost method and $3\frac{1}{2}\%$ interest, both of which are reflected in the first series of exhibits. The other assumptions as to mortality, disability, withdrawal, and salary scales are the same as were used in the valuation for the year ending June 30, 1967. Supplemental exhibits showing the results on a 3% and 4% interest assumption are also included.

The actuarial valuation for the current year measures all aspects of the program in accordance with the benefits described in the summary of the plan at the end of each section. For information purposes, figures are shown separately for the three major groups within the system. These are grouped according to major benefit categories, i.e., regular members not coordinated with Social Security, coordinated members, and police and fire members.

The System continues to reflect increasing financial strength. The following brief table summarizes the increasing margins of the expected income over the actuarial requirement for both the general fund and the police and fire group.

Year 6/30	Expected Levy*	Actuarial Requirement*	Surplus (Deficit)
		General Members	
1969	$32,852,495	$31,877,871	$ 974,624
1970	36,230,257	33,722,159	2,508,098
		Police and Fire	
1969	$ 2,876,838	$ 2,053,016	$ 823,822
1970	3,561,700	2,527,193	1,034,507

* Reduced for Expense Allowance

Consequently, the opinion expressed in our prior reports is again borne out. The System continues to be in actuarial balance. In fact, considering the conservatism of the valuation technique and $3\frac{1}{2}\%$ interest assumption, combined with the continued growth in the size of the group covered, it would be expected that the surplus of income over the requirement will continue to increase at a rapid rate.

CONCLUSION

It is our opinion that the Minnesota Public Employees Retirement Association is in sound actuarial condition. Not only are there presently substantial surpluses being generated in excess of the actuarial requirement, but, if the membership of the Association continues to grow as it has in the past, these margins of protection against future adverse experience will continue to increase.

General Fund

FINANCIAL STATISTICS

AND

ACTUARIAL ASSUMPTIONS

Public Employees Retirement Association
State of Minnesota

General Fund

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1970)

ASSETS

Cash - On Hand	$ 25.00		
On Deposit	15,044.19		
In Transit	135,524.89	$ 150,594.08	
Minnesota Adjustable Fixed Benefit Fund		67,852,010.30	
Accounts Receivable:			
M.S. 1967, Sec. 353.36	$ 63,821.71		
M.S. 1969, Sec. 353.36	81,873.70		
M.S. 1967 and 1969, Sec. 353.36	81,618.07		
M.S. 1969, Sec. 353.83	13,457.29		
Social Security (From Members and Units)	111,722.76		
Member Contributions	963,453.24		
Employer Contributions	2,626,093.24		
Interest	1,001,937.74		
Dividends	151,878.33		
From Police and Fire Fund	33,805.19		
From Social Security (Overpayments)	5,452.51		
Other	17,251.03	5,152,364.81	$ 73,154,969.19
Current Liabilities:			
Accounts Payable	$ 72,629.30		
Penalties Refundable	7,161.16		
Donations Suspense	265,920.46		
Social Security Refunds - Suspense	2,601.89		
Social Security Employee Shortage - Suspense	2,652.59		
Members Contribution - Suspense	49,654.40		400,619.80
Net Current Assets			$ 72,754,349.39

INVESTMENTS

Bonds			
U.S. Government	$13,958,000.00		
Municipal	15,219,000.00		
Corporate	63,784,898.04		
Canadian Government Insured	3,095,584.50		
Stocks			
Common	55,237,410.12	$151,294,892.66	
Miscellaneous			
Office Equipment (Less Depreciation)	$ 26,600.30		
Other	7,641.09	34,241.39	$151,329,134.05
Total Assets			$224,083,483.44

Members Accumulated Contributions - $81,356,408.19

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Public Employees Retirement Association
State of Minnesota

General Fund
SOURCES AND USES OF FUNDS
July 1, 1969 - June 30, 1970

Sources		Uses	
Employee Contributions	$ 14,296,166.51	Refunds	
		Employee Contributions	$ 3,574,744.22
Employer Contributions	30,943,521.79	Employer Contributions	28,178.80
Various Accounts Receivable	328,095.40	Penalties Refunded	429.63
Investment Income	7,038,691.52	Donations Refunded	6,152.70
Minnesota Adjustable Fixed Benefit Fund	4,785,830.73	Benefits Paid	
		Retirement	8,249,081.18
		Survivor	2,413,925.85
Transfer from Police and Fire Fund	28,768.68	Disability	223,948.85
Investment Sales		Direct Expense	600,328.99
Bonds	46,027,033.50	Social Security	3,396,458.56
Stocks	643,094.96		
Cancelled Warrants	77,848.30	Investment Purchases	
		Bonds	59,545,000.00
Miscellaneous Income	56,754.21	Stocks	6,628,358.64
Decrease in Cash Accounts	567,521.22	Payments to Minnesota Adjustable Fixed Benefit Fund	20,076,752.37
		Transfers to Police and Fire Fund	26,991.44
		Interest Paid on Refunds	22,975.59
	$104,793,326.82		$104,793,326.82
Cash Balance, 6/30/70	150,569.08		
Total (Statement of Receipts and Disbursements)	$104,943,895.90		

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Exhibit 3

Public Employees Retirement Association
State of Minnesota

General Fund

RECONCILIATION OF ASSET BALANCES
(June 30, 1970)

Asset Balance - July 1, 1969			$198,968,527.13
Add:			
Employer Contributions		$20,432,947.18	
Employee Contributions		14,300,807.42	
Investment Income		8,404,491.96	
Employer Matching Contributions		251,255.65	
Transfers from Police and Fire Fund		2,469.06	
Miscellaneous Income		78,277.55	
Total Additions			43,470,248.82
			$242,438,775.95
Deduct:			
Benefits Paid			
Retirement	$8,190,258.66		
Survivor	2,397,789.84		
Disability	219,269.16	$10,807,317.66	
Refunds		3,574,816.91	
Transfers to Police and Fire Fund		13,726.98	
Social Security		3,396,458.56	
Interest Paid on Refunds		22,975.59	
Administration Expenses		605,536.24	
Total Deductions			18,420,831.94
			$224,017,944.01
Current Liabilities and Accounts Payable			400,619.80
Increase in Reserve Accounts During 1969-70 Not Affecting Current Year Income and Expenditures			65,539.43
Asset Balance, June 30, 1970			$224,484,103.24

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Exhibit 4

Public Employees Retirement Association
State of Minnesota

ASSET ALLOCATION
(July 1, 1970)

	Regular Fund	Coordinated Fund	General Fund Total
Net Assets, July 1, 1969	$188,274,411.37	$ 10,694,115.76	$198,968,527.13
Accounts Payable	118,200.47	6,713.87	124,914.34
Total Assets, July 1, 1969	$188,392,611.84	$ 10,700,829.63	$199,093,441.47
Contributions and Disbursements During Year			
1. Employer Contributions	$ 14,189,103.14	$ 6,243,844.04	$ 20,432,947.18
2. Employee Contributions	10,117,395.59	4,183,411.83	14,300,807.42
3. Unit Matching Contributions	251,255.65	-	251,255.65
4. Transfer from Police and Fire Fund	2,469.06	-	2,469.06
5. Transfer to Police and Fire Fund	9,450.27	4,276.71	13,726.98
6. Benefits Paid			
(i) Retirement	7,958,525.77	231,732.89	8,190,258.66
(ii) Survivor	2,397,789.84	-	2,397,789.84
(iii) Disability	207,507.20	11,761.96	219,269.16
7. Refunds	2,795,533.59	802,258.91	3,597,792.50
8. Social Security	-	3,396,458.56	3,396,458.56
Net: Sum 1 through 4 Minus Sum 5 through 8	$ 11,191,416.77	$ 5,980,766.84	$ 17,172,183.61
Estimated Adjustment for Transfers	$ 2,648,405.51	$ 2,648,405.51	
Income and Expenses During Year (Allocated on Assets at July 1, 1969 plus 1/2 net change during year)			
1. Increase in Reserves	$ 60,800.87	$ 4,738.56	$ 65,539.43
2. Investment Income	7,796,839.68	607,652.28	8,404,491.96
3. Miscellaneous Income	72,618.01	5,659.54	78,277.55
4. Administrative Expenses Minus Increase in Accounts Payable	305,983.72	23,847.06	329,830.78
Net: 1 Plus 2 Plus 3 Minus 4	$ 7,624,274.84	$ 594,203.32	$ 8,218,478.16
Total Assets, July 1, 1970	$204,559,897.94	$ 19,924,205.30	$224,484,103.24
Accounts Payable	365,062.58	35,557.22	400,619.80
Net Assets, July 1, 1970	$204,194,835.36	$ 19,888,648.08	$224,083,483.44

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Public Employees Retirement Association
State of Minnesota

General Fund

ACTUARIAL ASSUMPTIONS

The 1967 experience analysis required by law verified the appropriateness of the assumptions used in prior reports. The assumptions can be summarized as follows:

Interest:	$3\frac{1}{2}$%
Mortality Before Retirement:	1951 Group Annuity
After Retirement:	1965 Group Annuity
Retirement Age:	65
Disability:	PERA Experience
Turnover:	PERA Experience
Salary Scale:	PERA Experience
1952-57 Wage Base:	Estimate based on 1952-57 contributions

Age 65 was used as the average age at retirement since it both reflected the retirement rates developed in earlier studies, and the prior calculations of the legislative commission.

A detailed statement of the mortality rates, disability rates, turnover factors, and salary scale is set out in the following pages.

Public Employees' Retirement Association
State of Minnesota

General Fund

Male Employees

MORTALITY RATES
(Per 1,000 Employees)

Age	Rate	Age	Rate
20	.616	45	3.580
21	.640	46	4.065
22	.666	47	4.599
23	.693	48	5.180
24	.724	49	5.807
25	.758	50	6.475
26	.796	51	7.187
27	.838	52	7.938
28	.885	53	8.731
29	.935	54	9.563
30	.991	55	10.436
31	1.054	56	11.346
32	1.122	57	12.298
33	1.198	58	13.302
34	1.281	59	14.379
35	1.374	60	15.555
36	1.475	61	16.866
37	1.587	62	18.353
38	1.711	63	20.068
39	1.849	64	22.067
40	2.000	65	24.418
41	2.192		
42	2.450		
43	2.769		
44	3.147		

Public Employees' Retirement Association
State of Minnesota

General Fund

Female Employees

MORTALITY RATES
(Per 1,000 Employees)

Age	Rate	Age	Rate
20	.371	45	1.994
21	.393	46	2.169
22	.416	47	2.361
23	.440	48	2.573
24	.467	49	2.809
25	.495	50	3.070
26	.524	51	3.319
27	.556	52	3.597
28	.591	53	3.908
29	.628	54	4.257
30	.669	55	4.648
31	.712	56	5.102
32	.760	57	5.637
33	.812	58	6.265
34	.868	59	6.997
35	.930	60	7.837
36	.997	61	8.788
37	1.071	62	9.848
38	1.152	63	11.010
39	1.240	64	12.264
40	1.338	65	13.597
41	1.446		
42	1.563		
43	1.694		
44	1.836		

Public Employees Retirement Association
State of Minnesota

General Fund

All Employees

DISABILITY RATES
(Per 1,000 Employees)

Age	Rate	Age	Rate
20	.69	45	3.17
21	.73	46	3.41
22	.77	47	3.67
23	.81	48	3.94
24	.86	49	4.25
25	.91	50	4.61
26	.96	51	5.01
27	1.02	52	5.48
28	1.08	53	6.00
29	1.15	54	6.53
30	1.22	55	7.12
31	1.29	56	7.76
32	1.37	57	8.45
33	1.45	58	9.17
34	1.54	59	9.91
35	1.63	60	10.69
36	1.73	61	11.53
37	1.84	62	12.38
38	1.96	63	13.25
39	2.09	64	14.15
40	2.23		
41	2.38		
42	2.55		
43	2.74		
44	2.94		

Public Employees Retirement Association
State of Minnesota

General Fund

Male Employees

SEPARATION RATES
(Per 1,000 Employees)

Age	Separation	Age	Separation
20	275.0	40	81.8
21	263.8	41	76.2
22	250.5	42	71.5
23	239.0	43	67.0
24	226.5	44	62.2
25	216.0	45	58.0
26	204.5	46	53.9
27	192.5	47	49.7
28	182.0	48	45.0
29	171.5	49	42.0
30	161.0	50	38.5
31	152.8	51	34.5
32	143.5	52	31.0
33	133.0	53	27.0
34	124.5	54	23.0
35	117.0	55	19.5
36	109.2	56	15.0
37	101.0	57	10.0
38	94.0	58	5.0
39	88.0		

Public Employees' Retirement Association
State of Minnesota

General Fund

Female Employees

SEPARATION RATES
(Per 1,000 Employees)

Age	Separation	Age	Separation
20	383.2	40	134.0
21	377.7	41	123.0
22	371.2	42	113.0
23	363.1	43	104.5
24	351.6	44	97.2
25	335.6	45	90.0
26	322.6	46	83.0
27	310.3	47	78.7
28	299.7	48	74.5
29	289.1	49	70.4
30	280.5	50	66.3
31	269.4	51	62.8
32	259.0	52	59.5
33	246.3	53	55.5
34	232.5	54	52.2
35	216.0	55	47.8
36	199.0	56	41.0
37	183.0	57	36.2
38	165.0	58	21.0
39	148.5	59	5.0

Public Employees Retirement Association
State of Minnesota

General Fund

All Employees

EARNINGS PROGRESSION

Age	Rate	Age	Rate
20	.4102	45	.6730
21	.4184	46	.6864
22	.4268	47	.7002
23	.4353	48	.7142
24	.4440	49	.7284
25	.4529	50	.7430
26	.4619	51	.7579
27	.4712	52	.7730
28	.4806	53	.7885
29	.4902	54	.8043
30	.5000	55	.8203
31	.5100	56	.8368
32	.5202	57	.8535
33	.5306	58	.8706
34	.5412	59	.8880
35	.5521	60	.9057
36	.5631	61	.9238
37	.5744	62	.9423
38	.5859	63	.9612
39	.5976	64	.9804
40	.6095	65	1.0000
41	.6217		
42	.6342		
43	.6468		
44	.6598		

Regular Employees

(Not Covered By Social Security)

ACTUARIAL REQUIREMENTS - 3½%

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1970)

Regular Employees

RESERVES

Entry Age Normal Reserves			
Retirement	$292,505,642.00		
Disability	19,018,898.00		
Survivors	22,011,134.00		
Refund	17,483,474.00		
	$351,019,148.00		
Less Value of Benefits to be Earned in the Future	164,027,498.00	$186,991,650.00	
Vested Members		2,523,576.00	
Retired Members			
Retirements Payable from Minnesota Adjustable Fixed Benefit Fund	$ 64,856,288.98		
Disability	1,705,267.00		
Survivors	24,531,741.00		
Reserve for Future Old Law Survivors	10,275,563.00	101,368,859.98	$290,884,085.98
Unfunded Obligation			$ 86,689,250.62
Funded Obligation			204,194,835.36

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Regular Employees

AMORTIZATION RATE REQUIREMENT

Present Value of Benefits (For Both Past and Future Service)		$454,911,584
Obligation for Service Rendered to Date	$ 290,884,086	
Net Assets	204,194,835	
Accrued Unfunded Obligation	86,689,251	
Funding Ratio		70%
Amortization (27-Year) Requirement	5,015,182	
Covered Payroll	177,078,492	
Amortization (27-Year) Rate Requirement		2.83%

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	$ 164,027,498	
Present Value of Future Payroll	1,427,780,900	
Normal Cost Rate Requirement	11.49%	
Employee Contribution Rate	6.00	
Employer Normal Cost Rate Requirement		5.49%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		8.50%
Amortization (27-Year) Rate Requirement	2.83%	
Normal Cost Rate Requirement	5.49	
Allowance for Expenses	0.20	
Total Requirement		8.52%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		(0.02%)

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Regular Employees

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	$ 86,689,251	$ 86,689,251	$ 86,689,251	$ 86,689,251
Amortization Requirement	10,423,634	6,099,549	4,713,410	4,059,422
Covered Payroll	177,078,492	177,078,492	177,078,492	177,078,492
Amortization Rate Requirement	5.89%	3.44%	2.66%	2.29%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	8.50%	8.50%	8.50%	8.50%
Amortization Rate Requirement	5.89%	3.44%	2.66%	2.29%
Normal Cost Rate Requirement	5.49	5.49	5.49	5.49
Allowance for Expenses	0.20	0.20	0.20	0.20
Total Requirement	11.58%	9.13%	8.35%	7.98%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	(3.08%)	(0.63%)	0.15%	0.52%

Public Employees Retirement Association
State of Minnesota

Regular Employees

STATEMENT OF REVENUE, EXPENDITURES, CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS)*
(Year Ending June 30, 1970)

Revenue:		
Employer Contributions	$14,189,103.14	
Employee Contributions	10,117,395.59	
Investment Income	7,869,457.69	
Unit Matching Contributions	251,255.65	
Transfer from Police and Fire Fund	2,469.06	
Increase in Reserves	60,800.87	
Total Revenue		$32,490,482.00
Expenditure:		
Benefits	$10,563,822.81	
Refund of Contributions	2,795,533.59	
Administrative Expense	305,983.72	
Transfer to Police and Fire Fund	9,450.27	
Increase in Accounts	246,862.11	
Estimated Transfer to Coordinated	2,648,405.51	
Total Expenditures		16,570,058.01
Increase in Assets (1970)		$15,920,423.99

*See Exhibit 4.

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF CHANGE IN ACTUARIAL RESERVES

Regular Employees

ALLOCATION OF CHANGE IN ACTUARIAL RESERVES

	Increase	Decrease	
Increase in Assets			$ 15,920,424
Amortization Payment		$1,971,887	
Excess Interest (1.16% x Average Invested Assets)		1,788,954	
Estimated Excess in Rate		17,840	
Transfers to Coordinated		4,523,485	
Amortization Payment Applied to Lower Payroll	$ 38,357		
Excess Compensation Increases	3,345,935		
Totals	$3,384,292	$8,302,166	
Expected Decrease (Increase) in Unfunded			4,917,874
Net Change in Reserves			$ 11,002,550
Experience Variation Gain (Loss)			327,284
Total			$ 11,329,834
1970 Actuarial Reserve			$290,884,086
1969 Actuarial Reserve			279,554,252
Increase (Decrease)			$ 11,329,834

1366-01-83

Regular Employees

(Not Covered by Social Security)

ACTUARIAL REQUIREMENTS - 3%

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1970)

Regular Employees

RESERVES

Entry Age Normal Reserves			
Retirement	$328,658,025.00		
Disability	21,369,548.00		
Survivors	24,731,611.00		
Refund	19,644,353.00		
	$394,403,537.00		
Less Value of Benefits to be Earned in the Future	194,237,697.00	$200,165,840.00	
Vested Members		2,835,479.00	
Retired Members			
Retirements Payable from Minnesota Adjustable Fixed Benefit Fund	$ 64,856,288.98		
Disability	1,758,007.00		
Survivors	25,290,455.00		
Reserve for Future Old Law Survivors	10,593,364.00	102,498,114.98	$305,499,433.98
Unfunded Obligation			$101,304,598.62
Funded Obligation			204,194,835.36

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Regular Employees

AMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		$499,737,131
Obligation for Service Rendered to Date	$305,499,434	
Net Assets	204,194,835	
Accrued Unfunded Obligation	101,304,599	
Funding Ratio		67%
Amortization (27-Year) Requirement	5,527,605	
Covered Payroll	177,078,492	
Amortization (27-Year) Rate Requirement		3.12%

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	$ 194,237,697	
Present Value of Future Payroll	1,487,271,800	
Normal Cost Rate Requirement	13.06%	
Employee Contribution Rate	6.00	
Employer Normal Cost Rate Requirement		7.06%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		8.50%
Amortization (27-Year) Rate Requirement	3.12%	
Normal Cost Rate Requirement	7.06	
Allowance for Expenses	0.20	
Total Requirement		10.38%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		(1.88%)

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Regular Employees

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	$101,304,599	$101,304,599	$101,304,599	$101,304,599
Amortization Requirement	11,875,990	6,809,261	5,168,486	4,382,678
Covered Payroll	177,078,492	177,078,492	177,078,492	177,078,492
Amortization Rate Requirement	6.71%	3.85%	2.92%	2.47%

ACTUARIAL BALANCE

	10-Year	20-Year	30-Year	40-Year
Employer Contribution Rate Set by Law	8.50%	8.50%	8.50%	8.50%
Amortization Rate Requirement	6.71%	3.85%	2.92%	2.47%
Normal Cost Rate Requirement	7.06	7.06	7.06	7.06
Allowance for Expenses	0.20	0.20	0.20	0.20
Total Requirement	13.97%	11.11%	10.18%	9.73%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	(5.47%)	(2.61%)	(1.68%)	(1.23%)

Regular Employees

(Not Covered by Social Security)

ACTUARIAL REQUIREMENTS - 4%

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1970)

Regular Employees

RESERVES

Entry Age Normal Reserves			
Retirement	$260,330,022.00		
Disability	16,926,819.00		
Survivors	19,589,909.00		
Refund	15,560,292.00		
	$312,407,042.00		
Less Value of Benefits to be Earned in the Future	138,574,707.00	$173,832,335.00	
Vested Members		2,245,983.00	
Retired Members			
Retirements Payable from Minnesota Adjustable Fixed Benefit Fund	$ 64,856,288.98		
Disability	1,654,109.00		
Survivors	23,795,789.00		
Reserve for Future Old Law Survivors	9,967,296.00	100,273,482.98	$276,351,800.98
Unfunded Obligation			$ 72,156,965.62
Funded Obligation			204,194,835.36

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Regular Employees

AMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		$414,926,508
Obligation for Service Rendered to Date	$ 276,351,801	
Net Assets	204,194,835	
Accrued Unfunded Obligation	72,156,966	
Funding Ratio		74%
Amortization (27-Year) Requirement	4,418,787	
Covered Payroll	177,078,492	
Amortization (27-Year) Rate Requirement		2.50%

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	$ 138,574,707	
Present Value of Future Payroll	1,370,669,700	
Normal Cost Rate Requirement	10.11%	
Employee Contribution Rate	6.00	
Employer Normal Cost Rate Requirement		4.11%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		8.50%
Amortization (27-Year) Rate Requirement	2.50%	
Normal Cost Rate Requirement	4.11	
Allowance for Expenses	0.20	
Total Requirement		6.81%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		1.69%

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Regular Employees

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	$ 72,156,966	$ 72,156,966	$ 72,156,966	$ 72,156,966
Amortization Requirement	8,896,300	5,309,436	4,172,845	3,645,622
Covered Payroll	177,078,492	177,078,492	177,078,492	177,078,492
Amortization Rate Requirement	5.02%	3.00%	2.36%	2.06%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	8.50%	8.50%	8.50%	8.50%
Amortization Rate Requirement	5.02%	3.00%	2.36%	2.06%
Normal Cost Rate Requirement	4.11	4.11	4.11	4.11
Allowance for Expenses	0.20	0.20	0.20	0.20
Total Requirement	9.33%	7.31%	6.67%	6.37%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	(0.83%)	1.19%	1.83%	2.13%

<u>Regular Employees</u>

(Not Covered by Social Security)

EMPLOYEE STATISTICS

AND

SUMMARY OF PLAN

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF ACTIVE MEMBERS

Regular Employees

As of July 1, 1969		34,365
New Entrants		863
Transfers to Coordinated Plan		-1,703
Total		33,525
Separations:		
a. With Refund of Contributions		
(i) Death	133	
(ii) Withdrawal	2,582	2,715
b. With Deferred Annuity		67
c. With Disability Annuity		42
d. With Normal Retirement Annuity		442
e. With Survivor Annuity		258
Total		3,524
Active as of July 1, 1970		30,001

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF ANNUITANTS

Regular Employees

Normal Retirement Annuitants	
As of July 1, 1969	5,188
Additions During Year	442
Deletions During Year	-329
Total as of July 1, 1970	5,301
Annual Annuity - July 1, 1969	$7,758,863
- July 1, 1970	7,995,537
Disability Annuitants	
As of July 1, 1969	155
Additions During Year	42
Deletions During Year	-45
Total as of July 1, 1970	152
Annual Annuity - July 1, 1969	$ 200,584
- July 1, 1970	200,529
Survivor Annuitants	
(a) Spouse Only	
As of July 1, 1969	2,481
Additions During Year	258
Deletions During Year	-160
Total as of July 1, 1970	2,579
Annual Annuity - July 1, 1969	$2,027,955
- July 1, 1970	2,030,070
(b) Children	
As of July 1, 1969	559
Additions During Year	139
Deletions During Year	-32
Total as of July 1, 1970	666
Annual Annuity - July 1, 1969	$ 353,873
- July 1, 1970	423,386
Deferred Vested Members	
As of July 1, 1969	286
Additions During Year	67
Deletions During Year	-54
Total as of July 1, 1970	299

Public Employees Retirement Association
State of Minnesota

Regular Employees

Retired Under the Law in Force Prior to July 1, 1957

Payable From Adjustable Fixed Benefit Fund

	Male		Female	
Age	Number	Monthly Annuity	Number	Monthly Annuity
61	9	$ 1,163.09	8	$ 691.60
62	9	1,608.64	7	799.90
63	10	1,519.89	13	1,454.81
64	7	1,126.82	18	2,687.19
65	28	4,988.74	16	2,299.63
66	52	9,402.95	32	4,199.91
67	60	12,056.96	31	4,544.43
68	72	13,607.06	52	8,518.22
69	105	19,620.81	51	8,185.83
70	113	21,677.17	53	8,499.37
71	125	22,791.30	54	7,752.10
72	107	19,836.02	65	10,528.05
73	132	20,968.93	62	9,414.27
74	172	29,021.12	70	9,846.92
75	163	25,498.48	72	8,711.61
76	179	28,178.83	60	7,360.10
77	142	19,922.11	54	5,504.53
78	155	20,524.04	59	5,260.72
79	133	17,353.20	47	4,625.69
80	103	13,815.32	53	5,177.51
81	126	16,690.90	55	5,257.16
82	91	10,924.97	60	5,545.56
83	77	8,378.40	35	3,400.42
84	67	7,136.74	21	2,239.35
85	48	5,641.85	21	1,293.02
86	45	5,604.68	20	2,100.09
87	38	4,237.47	9	763.21
88	17	1,960.39	14	1,285.50
89	16	1,777.62	9	614.34
90	12	1,026.20	5	370.20
91	8	975.33	2	75.58
92	9	914.60	1	26.23
93	5	541.30	1	121.65
94	1	130.74	-	-
95	2	346.77	2	154.53
96	2	208.46	1	65.79
97	2	227.56	-	-
Totals	2,442	$371,405.46	1,133	$139,375.02

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Public Employees Retirement Association
State of Minnesota

Regular Employees

Retired Under Law in Force July 1, 1957 and Subsequent

Payable From Adjustable Fixed Benefit Fund

Age	Male Number	Male Monthly Annuity	Female Number	Female Monthly Annuity
56	-	$ -	1	$ 35.16
59	-	-	2	231.19
60	1	113.90	2	166.34
61	5	489.40	1	68.87
62	5	421.75	3	515.97
63	5	377.35	2	252.23
64	6	780.06	6	495.20
65	23	2,651.15	11	907.70
66	68	7,615.87	57	4,555.00
67	100	12,905.99	72	5,809.60
68	107	13,278.18	82	6,787.32
69	116	13,542.75	64	4,408.63
70	106	10,079.94	59	3,999.46
71	96	7,790.31	70	5,058.96
72	88	7,584.79	45	2,572.05
73	74	5,571.84	46	3,079.09
74	64	4,706.48	42	2,279.52
75	47	3,978.67	31	2,095.47
76	48	3,963.02	24	1,942.51
77	22	2,142.14	20	1,638.16
78	16	1,206.10	13	1,425.75
79	7	696.00	9	1,063.83
80	8	576.99	3	229.78
81	4	816.97	4	857.93
82	1	203.63	1	23.91
83	2	340.89	-	-
84	1	25.32	2	401.74
85	4	559.73	-	-
86	-	-	2	242.72
87	1	36.46	-	-
88	1	19.96	-	-
90	-	-	1	89.99
Totals	1,026	$102,475.64	675	$51,234.08

1366-01-83

Public Employees Retirement Association
State of Minnesota

Regular Employees

Retired Under Combination of Law in Force Prior and Subsequent to July 1, 1957

Payable From Adjustable Fixed Benefit Fund

	Male		Female	
Age	Number	Monthly Annuity	Number	Monthly Annuity
65	2	$ 217.96	-	$ -
66	-	-	2	288.08
67	-	-	1	46.48
68	-	-	1	89.14
70	4	228.91	1	23.07
71	1	75.47	2	168.29
72	2	128.08	1	107.63
73	1	32.60	1	28.22
75	2	199.44	-	-
76	-	-	1	23.33
78	2	115.42	-	-
86	1	32.43	-	-
Totals	15	$1,030.31	10	$774.24

Public Employees Retirement Association
State of Minnesota

Regular Employees

Beneficiaries Payable From Adjustable Fixed Benefit Fund

Annuities Payable For Certain Period Not Dependent On Age

Number	Monthly Annuity
5	$640.07

	Female	
Age	Number	Monthly Annuity
58	1	$ 30.76
60	1	126.09
61	1	49.44
63	2	97.96
64	1	34.59
65	1	134.91
66	2	107.63
67	4	594.26
68	1	65.69
69	1	67.48
70	1	250.52
71	1	71.99
73	3	251.58
74	1	259.04
75	1	45.69
Totals	22	$2,187.63

Exhibit 19

Public Employees Retirement Association
State of Minnesota

Regular Employees

Disability Requirements

	Male		Female	
Age	Number	Monthly Annuity	Number	Monthly Annuity
40	1	$ 131.84	-	$ -
42	1	261.14	-	-
43	1	91.29	-	-
46	1	132.78	-	-
47	-	-	1	107.60
48	3	288.82	1	86.95
49	1	155.58	1	95.78
50	3	282.30	-	-
52	2	248.19	-	-
53	2	249.15	1	163.54
54	-	-	1	89.89
55	4	309.67	2	164.59
56	6	712.13	2	166.75
57	7	574.89	3	210.84
58	8	838.92	4	353.54
59	9	1,184.14	2	213.46
60	11	1,066.81	1	61.45
61	12	1,572.97	9	1,195.05
62	12	1,454.87	7	608.53
63	10	1,418.42	2	178.64
64	14	1,347.60	4	411.70
65	3	280.91	-	-
Totals	111	$12,602.42	41	$4,108.31

Public Employees Retirement Association
State of Minnesota

Regular Employees

Beneficiaries Under Law in Force Prior to July 1, 1957

	Male		Female	
Age	Number	Monthly Annuity	Number	Monthly Annuity
60	-	$ -	2	$ 108.74
61	-	-	11	1,007.86
62	-	-	12	987.65
63	-	-	17	1,263.30
64	-	-	17	1,428.76
65	-	-	28	2,147.83
66	-	-	40	2,698.17
67	-	-	40	2,915.98
68	1	84.01	56	4,209.73
69	-	-	54	3,944.15
70	-	-	39	2,858.13
71	-	-	50	3,266.27
72	-	-	71	4,802.93
73	-	-	59	3,970.81
74	-	-	68	4,881,06
75	2	148.24	60	4,055.09
76	-	-	73	4,947.20
77	-	-	80	5,083.27
78	-	-	62	3,737.75
79	-	-	55	3,143.89
80	1	20.61	53	2,800.95
81	-	-	54	2,829.76
82	1	36.27	51	3,405.48
83	-	-	39	2,072.45
84	1	49.89	34	1,798.42
85	-	-	26	1,287.30
86	-	-	25	1,047.00
87	3	116.75	17	1,003.75
88	-	-	18	807.18
89	-	-	9	416.53
90	-	-	5	237.06
91	-	-	7	361.77
92	-	-	3	146.00
93	1	42.48	2	118.75
94	-	-	1	55.00
95	-	-	-	-
96	-	-	2	108.30
Totals	10	$498.25	1,240	$79,954.27

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Public Employees Retirement Association
State of Minnesota

Regular Employees

SURVIVOR ANNUITIES

Female

Age	Number	Monthly Annuity	Age	Number	Monthly Annuity
26	-	$ -	56	49	$ 3,129.13
27	-	-	57	52	3,261.76
28	1	65.00	58	49	3,134.45
29	-	-	59	51	3,190.33
30	2	114.47	60	67	4,236.53
31	-	-	61	56	3,537.08
32	2	130.00	62	43	2,854.07
33	2	101.78	63	57	3,636.25
34	1	65.00	64	45	3,417.94
35	2	130.00	65	44	2,836.57
36	1	65.00	66	47	3,058.08
37	3	195.00	67	44	2,919.25
38	3	195.00	68	38	2,554.64
39	3	195.00	69	37	2,827.20
40	4	260.00	70	41	2,890.43
41	9	547.17	71	27	1,980.97
42	5	325.00	72	28	2,047.83
43	14	910.00	73	18	1,147.65
44	15	911.57	74	21	1,496.47
45	9	585.00	75	19	1,412.43
46	13	845.00	76	15	1,183.42
47	23	1,379.01	77	7	543.98
48	27	1,755.00	78	9	636.23
49	27	1,659.26	79	14	1,140.61
50	25	1,538.79	80	6	435.06
51	32	2,003.28	81	9	574.30
52	29	1,865.50	82	9	667.37
53	40	2,482.78	83	6	379.96
54	34	2,122.49	84	2	108.14
55	47	2,912.97	85	1	23.97
			86	4	396.09
			87	2	130.00
			88	1	65.00
			91	1	148.66
			Totals	1,292	$85,360.92

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Public Employees Retirement Association
State of Minnesota

Regular Employees

Survivor Annuities

Male		
Age	Number	Monthly Annuity
52	1	$ 57.94
57	1	65.00
59	1	65.00
62	1	65.00
65	3	148.86
72	2	130.00
75	1	24.57
Totals	10	$556.37

Children	
Number	Total Monthly Annuity
666	$35,282.13

Exhibit 23

Public Employees Retirement Association
State of Minnesota

Regular Employees

CONSIDERED EARNINGS

Active Male Employees
(Age and Service as of July 1, 1970)

YEARS OF SERVICE

Age	Under 1 No.	Under 1 Earnings	1 to 2 No.	1 to 2 Earnings	2 to 5 No.	2 to 5 Earnings	5 to 10 No.	5 to 10 Earnings
Under 25	24	$ 108,860	26	$ 174,389	102	$ 584,313	11	$ 69,331
25 to 30	17	95,190	42	258,366	377	2,713,980	256	1,991,687
30 to 35	29	260,755	32	180,231	414	2,851,601	572	4,379,821
35 to 40	15	80,246	29	167,900	371	2,470,226	584	4,566,920
40 to 45	31	196,814	55	334,726	388	2,411,290	606	4,421,538
45 to 50	29	176,758	36	243,393	348	2,115,442	688	4,931,783
50 to 55	29	177,212	29	194,609	332	1,872,768	608	4,016,682
55 to 60	29	141,937	18	100,470	242	1,274,930	500	3,047,608
60 to 65	24	137,718	9	59,166	123	539,551	245	1,334,360
65 to 70	17	178,604	3	1,922	73	262,205	116	447,528
70 & Up	5	10,440	1	1,890	69	142,662	67	172,505
Total	249	$ 1,564,534	280	$ 1,717,062	2839	$17,238,968	4253	$29,379,763

YEARS OF SERVICE

Age	10 to 15 No.	10 to 15 Earnings	15 to 20 No.	15 to 20 Earnings	20 to 25 No.	20 to 25 Earnings	25 to 30 No.	25 to 30 Earnings
Under 25	-	$ -	-	$ -	-	$ -	-	$ -
25 to 30	8	62,916	-	-	-	-	-	-
30 to 35	244	1,980,092	14	124,013	-	-	-	-
35 to 40	435	3,718,771	140	1,237,748	8	70,638	-	-
40 to 45	579	4,607,793	391	3,469,848	99	929,576	1	5,220
45 to 50	641	5,065,664	492	4,295,997	253	2,459,067	17	164,438
50 to 55	627	4,660,972	553	4,375,650	299	2,683,030	44	417,853
55 to 60	570	4,045,505	568	4,209,762	316	2,761,335	80	753,406
60 to 65	343	2,203,257	439	3,121,810	284	2,316,453	116	985,494
65 to 70	124	671,641	131	825,992	96	718,126	40	368,354
70 & Up	41	157,708	27	148,229	17	131,263	16	129,177
Total	3612	$27,174,319	2755	$21,809,049	1372	$12,079,488	314	$ 2,823,942

YEARS OF SERVICE

Age	30 to 35 No.	30 to 35 Earnings	35 to 40 No.	35 to 40 Earnings	40 & Up No.	40 & Up Earnings	All No.	All Earnings
Under 25	-	$ -	-	$ -	-	$ -	163	$ 936,893
25 to 30	-	-	-	-	-	-	700	5,122,139
30 to 35	-	-	-	-	-	-	1305	9,776,513
35 to 40	-	-	-	-	-	-	1582	12,312,449
40 to 45	-	-	-	-	-	-	2150	16,376,805
45 to 50	-	-	-	-	-	-	2504	19,452,542
50 to 55	14	166,317	3	38,071	-	-	2538	18,603,164
55 to 60	50	506,380	14	145,810	2	22,289	2389	17,009,432
60 to 65	66	709,924	40	467,519	8	60,898	1697	11,936,150
65 to 70	18	192,248	18	211,217	4	25,295	640	3,913,132
70 & Up	9	77,029	7	68,042	9	69,156	268	1,108,101
Total	157	$ 1,651,898	82	$ 930,659	23	$ 177,638	15936	$116,547,320

1366-01-83

Exhibit 24

Public Employees Retirement Association
State of Minnesota

Regular Employees

CONSIDERED EARNINGS

Active Female Employees
(Age and Service as of July 1, 1970)

YEARS OF SERVICE

Age	Under 1 No.	Under 1 Earnings	1 to 2 No.	1 to 2 Earnings	2 to 5 No.	2 to 5 Earnings	5 to 10 No.	5 to 10 Earnings
Under 25	47	$ 161,010	104	$ 373,360	329	$ 1,416,960	82	$ 418,957
25 to 30	29	96,504	63	255,462	318	1,840,426	248	1,403,863
30 to 35	14	50,779	44	156,548	340	1,221,029	203	1,176,418
35 to 40	17	54,148	37	124,755	595	1,975,487	335	1,531,269
40 to 45	35	117,789	61	207,309	844	2,746,134	643	2,822,096
45 to 50	24	76,411	47	171,133	889	2,978,415	916	3,881,353
50 to 55	20	69,240	52	170,821	680	2,171,620	889	3,683,254
55 to 60	13	45,970	29	96,276	458	1,448,712	633	2,519,889
60 to 65	15	94,195	14	43,983	181	464,034	359	1,261,344
65 to 70	8	42,541	5	11,550	62	115,984	111	279,063
70 & Up	-	-	3	8,924	43	65,510	38	69,965
Total	222	$ 808,587	459	$ 1,620,121	4739	$16,444,311	4457	$19,047,471

YEARS OF SERVICE

Age	10 to 15 No.	10 to 15 Earnings	15 to 20 No.	15 to 20 Earnings	20 to 25 No.	20 to 25 Earnings	25 to 30 No.	25 to 30 Earnings
Under 25	-	$ -	-	$ -	-	$ -	-	$ -
25 to 30	20	117,851	-	-	-	-	-	-
30 to 35	86	498,055	10	65,681	-	-	-	-
35 to 40	96	562,309	40	259,891	7	42,349	-	-
40 to 45	187	1,008,520	68	416,610	33	241,771	6	52,996
45 to 50	381	2,005,988	103	702,214	39	297,927	17	123,794
50 to 55	539	2,587,617	179	1,010,061	58	430,629	28	204,513
55 to 60	596	2,874,488	285	1,593,260	96	640,390	30	257,020
60 to 65	394	1,578,759	276	1,473,726	121	799,693	54	411,521
65 to 70	103	347,337	92	382,511	49	276,620	16	131,058
70 & Up	30	62,198	10	36,515	9	57,562	4	26,583
Total	2432	$11,643,122	1063	$ 5,940,469	412	$ 2,786,941	155	$ 1,207,485

YEARS OF SERVICE

Age	30 to 35 No.	30 to 35 Earnings	35 to 40 No.	35 to 40 Earnings	40 & Up No.	40 & Up Earnings	All No.	All Earnings
Under 25	-	$ -	-	$ -	-	$ -	562	$ 2,370,287
25 to 30	-	-	-	-	-	-	678	3,714,106
30 to 35	-	-	-	-	-	-	697	3,168,510
35 to 40	-	-	-	-	-	-	1127	4,550,208
40 to 45	-	-	-	-	-	-	1877	7,613,225
45 to 50	-	-	-	-	-	-	2416	10,237,235
50 to 55	15	121,313	-	-	-	-	2460	10,449,068
55 to 60	28	230,912	12	113,782	3	19,536	2183	9,840,235
60 to 65	23	187,342	14	115,202	7	36,832	1458	6,466,631
65 to 70	7	61,502	11	99,846	3	19,351	467	1,767,363
70 & Up	-	-	3	27,047	-	-	140	354,304
Total	73	$ 601,069	40	$ 355,877	13	$ 75,719	14065	$60,531,172

1366-01-83

Public Employees Retirement Association
State of Minnesota

Regular Employees

SUMMARY OF PLAN

1. Name

Public Employees Retirement Association.

2. Type of Plan

Self-insured, managed by a 12 member Board of Trustees consisting of the State Auditor, State Insurance Commissioner, State Treasurer, and nine others elected from the membership of the Association.

3. Employers Included

Any county, city, village, borough, town, school district within the State, or a department or unit of the State or any other public body employing any person who is a public employee as defined by the Law.

4. Employees Included

All full-time employees who did not elect coverage under Section 218(d) of the Social Security Act, except those on a per diem basis, of an eligible employer who is not contributing to another plan.

5. Service Considered

All periods of service in which salary deductions were made or for which payments in lieu of salary deduction were deposited, including seasonal layoff and authorized sick leaves.

6. Earnings Considered

(a) For service prior to July 1, 1957, average of highest consecutive 5 years prior to such date, not to exceed $4,800.

(b) For service during the period July 1, 1957 to July 1, 1965, all earnings not to exceed $4,800 in any calendar year.

(c) For service during the period July 1, 1965 to July 1, 1967, all earnings not to exceed $6,000 in any calendar year.

(d) After July 1, 1967, all earnings.

(e) Earnings considered for determining benefit under the law in force prior to 1957 shall be the average annual earnings during the 10-year period immediately preceding retirement limited to a maximum of $4,800.

7. Employer Contributions

Amount equal to 6% of total considered earnings for current service plus 2-1/2% of total considered earnings to amortize past service cost.

8. Employee Contributions

(a) For service prior to July 1, 1957, 4% of considered earnings.

(b) After July 1, 1957, 6% of considered earnings.

9. Normal Retirement Benefit

After attainment of age 65 and completion of 10 years of service.

Annuity equal to the sum of:

1) (a) 1% of considered earnings for each of the first ten years plus;
(b) 2% of considered earnings for each of the second ten years plus;
(c) 2-1/2% of considered earnings for each of the third ten years plus;
(d) 3% of considered earnings for each year over 30.

plus 2) 10% per year of service prior to July 1, 1957 (maximum 100%) of the difference (if any) between an annuity computed under item 1 and an annuity computed entirely under the old law formula.

plus 3) An increment for considered earnings after July 1, 1965 in excess of $4,800 (if any).

10. Late Retirement Benefit

Annual Annuity determined as for Normal Retirement, considering Service and Earnings to actual retirement.

11. Early Retirement Benefit

After attainment of age 58 and completion of 20 years of service.

Annual Annuity determined as for Normal Retirement considering Service and Earnings to actual retirement and reduced by 1/2 of 1% for each month between actual retirement and attainment of age 65.

12. Disability Benefit

In the event of total and permanent disability after completion of 10 years of service or attainment of age 50 and completion of 5 years of service.

Annual Annuity determined as for Normal Retirement, considering Service and Earnings to date of disablement, plus a supplement equal to $5 for each year which age at disablement is less than 65, maximum $50.

13. Death Benefit

Active -- In event of death after 18 months of service.

Annual Annuity to dependent spouse of 30% of average salary not to exceed $65 per month, plus for each dependent child under age 18, 20% of average salary not to exceed $45 per month, plus 10% of average salary not to exceed $20 per month to be divided among dependent children. Maximum family benefit equal to lesser of $250 per month or 100% of average salary.

In lieu of above benefit, if employee has attained age 58 and completed 20 years of service, a 75% survivor benefit for spouse payable at age 62. Maximum benefit $150 per month.

Any employee (including Hospital employees) not eligible for above benefits, his contributions with interest at 2% shall be paid to his beneficiary.

Retired

(a) Under law in force July 1, 1957 and prior, 50% of his annuity continued to his beneficiary provided his beneficiary is his surviving spouse and has attained age 60, and has not remarried; or is the parent of the retired member.

(b) Under law in effect July 1, 1957 and subsequent, refund of contributions less benefit paid to date of death.

14. Separation Benefit

In event of termination after 10 years of service, a deferred vested benefit payable at age 65, provided participant does not withdraw contribution.

Annual Annuity determined as for Normal Retirement considering Service and Earnings to date of termination. In lieu of annuity, participant shall receive a refund of contributions without interest.

15. Optional Benefits

A participant may elect to receive an equivalent actuarially reduced annuity in the form of a joint and survivor annuity or a period certain and life thereafter annuity.

16. Expenses

Paid by Association from retirement fund.

17. Actuarial Method

For purpose of reports to the Legislative Commission, costs for the Plan shall be determined on an "entry-age level normal cost" basis amortizing the unfunded accrued liability over 40 years from 1957, 3½% interest.

Coordinated Employees

(Covered by Social Security)

ACTUARIAL REQUIREMENTS - 3½%

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1970)

Coordinated Employees

RESERVES

Entry Age Normal Reserves			
Retirement	$71,358,433.00		
Disability	4,213,848.00		
Refund	11,825,622.00		
	$87,397,903.00		
Less Value of Benefits to be Earned in the Future	53,826,115.00	$33,571,788.00	
Vested Members		319,466.00	
Retired Members			
Retirements Payable from Minnesota Adjustable Fixed Benefit Fund	$ 2,995,721.32		
Disability	183,331.00		
Survivors	-	3,179,052.32	$37,070,306.32
Unfunded Obligation			$17,181,658.24
Funded Obligation			19,888,648.08

1366-01-83

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Coordinated Employees

AMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		$90,896,421
Obligation for Service Rendered to Date	$ 37,070,306	
Net Assets	19,888,648	
Accrued Unfunded Obligation	17,181,658	
Funding Ratio		54%
Amortization (27-Year) Requirement	994,000	
Covered Payroll	149,425,104	
Amortization (27-Year) Rate Requirement		0.67%

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	$ 53,826,115	
Present Value of Future Payroll	1,092,637,500	
Normal Cost Rate Requirement	4.93%	
Employee Contribution Rate	3.00	
Employer Normal Cost Rate Requirement		1.93%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		4.50%
Amortization (27-Year) Rate Requirement	0.67%	
Normal Cost Rate Requirement	1.93	
Allowance for Expenses	0.20	
Total Requirement		2.80
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		1.70%

1366-01-83

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Coordinated Employees

AMORTIZATION RATE REQUIREMENT

	Period 10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	$ 17,181,658	$ 17,181,658	$ 17,181,658	$ 17,181,658
Amortization Requirement	2,065,946	1,208,920	934,190	804,570
Covered Payroll	149,425,104	149,425,104	149,425,104	149,425,104
Amortization Rate Requirement	1.38%	0.81%	0.63%	0.54%

ACTUARIAL BALANCE

	10-Year	20-Year	30-Year	40-Year
Employer Contribution Rate Set by Law	4.50%	4.50%	4.50%	4.50%
Amortization Rate Requirement	1.38%	0.81%	0.63%	0.54%
Normal Cost Rate Requirement	1.93	1.93	1.93	1.93
Allowance for Expenses	0.20	0.20	0.20	0.20
Total Requirement	3.51%	2.94%	2.76%	2.67%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	0.99%	1.56%	1.74%	1.83%

1366-01-83

Public Employees Retirement Association
State of Minnesota

Coordinated Employees

STATEMENT OF REVENUE, EXPENDITURES,
CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS)*
(Year Ending June 30, 1970)

Revenue:		
Employer Contributions	$6,243,844.04	
Employee Contributions	4,183,411.83	
Investment Income	613,311.82	
Transfer from Regular	2,648,405.51	
Increase in Reserves	4,738.56	
Total Revenue		$13,693,711.76
Expenditure:		
Benefits	$ 243,494.85	
Refund of Contributions	802,258.91	
Social Security	3,396,458.56	
Administrative Expense	23,847.06	
Transfer to Police and Fire Fund	4,276.71	
Increase (Decrease) in Accounts	28,843.35	
Total Expenditures		4,499,179.44
Increase in Assets (1970)		$ 9,194,532.32

*See Exhibit 4.

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF CHANGE IN ACTUARIAL RESERVES

Coordinated Employees

ALLOCATION OF CHANGE IN ACTUARIAL RESERVES

	Increase	Decrease	
Increase in Assets			$ 9,194,532
Amortization Payment		$ 394,284	
Excess Interest (1.16% x Average Invested Assets)		145,714	
Estimated Excess in Rate		945,296	
Transfers from Regular	$1,573,060		
Amortization Payment Applied to Larger Payroll		504,136	
Excess Compensation Increases	345,296		
Totals	$1,918,356	$1,989,430	
Expected Decrease (Increase) in Unfunded			71,074
Net Change in Reserves			$ 9,123,458
Experience Variation Gain (Loss)			(789,043)
Total			$ 8,334,415
1970 Actuarial Reserve			$37,070,306
1969 Actuarial Reserve			28,735,891
Increase (Decrease)			$ 8,334,415

Coordinated Employees

(Covered by Social Security)

ACTUARIAL REQUIREMENTS - 3%

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1970)

Coordinated Employees

RESERVES

Entry Age Normal Reserves			
Retirement	$80,178,015.00		
Disability	4,734,661.00		
Refund	13,287,215.00		
	$98,199,891.00		
Less Value of Benefits to be Earned in the Future	63,737,190.00	$34,462,701.00	
Vested Members		358,951.00	
Retired Members			
Retirements Payable from Minnesota Adjustable Fixed Benefit Fund	$ 2,995,721.32		
Disability	189,001.00		
Survivors	-	3,184,722.32	$38,006,374.32
Unfunded Obligation			$18,117,726.24
Funded Obligation			19,888,648.08

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Coordinated Employees

AMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		$101,743,564
Obligation for Service Rendered to Date	$ 38,006,374	
Net Assets	19,888,648	
Accrued Unfunded Obligation	18,117,726	
Funding Ratio		52%
Amortization (27-Year) Requirement	988,579	
Covered Payroll	149,425,104	
Amortization (27-Year) Rate Requirement		0.66%

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	$ 63,737,190	
Present Value of Future Payroll	1,138,164,100	
Normal Cost Rate Requirement	5.60%	
Employee Contribution Rate	3.00	
Employer Normal Cost Rate Requirement		2.60%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		4.50%
Amortization (27-Year) Rate Requirement	0.66%	
Normal Cost Rate Requirement	2.60	
Allowance for Expenses	0.20	
Total Requirement		3.46
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		1.04%

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Coordinated Employees

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	$ 18,117,726	$ 18,117,726	$ 18,117,726	$ 18,117,726
Amortization Requirement	2,123,950	1,217,796	924,353	783,816
Covered Payroll	149,425,104	149,425,104	149,425,104	149,425,104
Amortization Rate Requirement	1.42%	0.81%	0.62%	0.52%

ACTUARIAL BALANCE

	10-Year	20-Year	30-Year	40-Year
Employer Contribution Rate Set by Law	4.50%	4.50%	4.50%	4.50%
Amortization Rate Requirement	1.42%	0.81%	0.62%	0.52%
Normal Cost Rate Requirement	2.60	2.60	2.60	2.60
Allowance for Expenses	0.20	0.20	0.20	0.20
Total Requirement	4.22%	3.61%	3.42%	3.32%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	0.28%	0.89%	1.08%	1.18%

Coordinated Employees

(Covered by Social Security)

ACTUARIAL REQUIREMENTS - 4%

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1970)

Coordinated Employees

RESERVES

Entry Age Normal Reserves			
Retirement	$63,509,005.00		
Disability	3,750,325.00		
Refund	10,524,804.00		
	$77,784,134.00		
Less Value of Benefits to be Earned in the Future	45,523,649.00	$32,260,485.00	
Vested Members		284,325.00	
Retired Members			
Retirements Payable from Minnesota Adjustable Fixed Benefit Fund	$ 2,995,721.32		
Disability	177,831.00		
Survivors	-	3,173,552.32	$35,718,362.32
Unfunded Obligation			$15,829,714.24
Funded Obligation			19,888,648.08

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Coordinated Employees

AMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		$81,242,011
Obligation for Service Rendered to Date	$ 35,718,362	
Net Assets	19,888,648	
Accrued Unfunded Obligation	15,829,714	
Funding Ratio		56%
Amortization (27-Year) Requirement	969,389	
Covered Payroll	149,425,104	
Amortization (27-Year) Rate Requirement		0.65%

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	$ 45,523,649	
Present Value of Future Payroll	1,048,932,000	
Normal Cost Rate Requirement	4.34%	
Employee Contribution Rate	3.00	
Employer Normal Cost Rate Requirement		1.34%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		4.50%
Amortization (27-Year) Rate Requirement	0.65%	
Normal Cost Rate Requirement	1.34	
Allowance for Expenses	0.20	
Total Requirement		2.19
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		2.31%

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Coordinated Employees

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	$ 15,829,714	$ 15,829,714	$ 15,829,714	$ 15,829,714
Amortization Requirement	1,951,660	1,164,778	915,434	799,772
Covered Payroll	149,425,104	149,425,104	149,425,104	149,425,104
Amortization Rate Requirement	1.31%	0.78%	0.61%	0.54%

ACTUARIAL BALANCE

	10-Year	20-Year	30-Year	40-Year
Employer Contribution Rate Set by Law	4.50%	4.50%	4.50%	4.50%
Amortization Rate Requirement	1.31%	0.78%	0.61%	0.54%
Normal Cost Rate Requirement	1.34	1.34	1.34	1.34
Allowance for Expenses	0.20	0.20	0.20	0.20
Total Requirement	2.85%	2.32%	2.15%	2.08%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	1.65%	2.18%	2.35%	2.42%

Coordinated Employees

(Covered by Social Security)

EMPLOYEE STATISTICS AND SUMMARY OF PLAN

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF ACTIVE MEMBERS

Coordinated Employees

As of July 1, 1969		22,041
New Entrants		13,959
Transfers to Coordinated Plan		1,703
Total		37,703
Separations:		
a. With Refund of Contributions		
(i) Death	52	
(ii) Withdrawal	6,233	
Total		6,285
b. With Deferred Annuity		12
c. With Disability Annuity		20
d. With Normal Retirement Annuity		181
e. With Survivor Annuity		0
Total		6,498
Active as of July 1, 1970		31,205

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF ANNUITANTS

Coordinated Employees

Normal Retirement Annuitants	
As of July 1, 1969	206
Additions During Year	181
Deletions During Year	-25
Total as of July 1, 1970	362
Annual Annuity - July 1, 1969	$182,276
- July 1, 1970	298,367
Disability Annuitants	
As of July 1, 1969	11
Additions During Year	20
Deletions During Year	-2
Total as of July 1, 1970	29
Annual Annuity - July 1, 1969	$ 8,436
- July 1, 1970	22,112
Survivor Annuitants	
Spouse Only	
As of July 1, 1969	0
Additions During Year	0
Deletions During Year	0
Total as of July 1, 1970	0
Annual Annuity - July 1, 1969	$ 0
- July 1, 1970	0
Deferred Vested Members	
As of July 1, 1969	8
Additions During Year	12
Deletions During Year	0
Total as of July 1, 1970	20

Public Employees Retirement Association
State of Minnesota

Coordinated Employees

Retired - Laws 1967, Chapter 687

Payable From Adjustable Fixed Benefit Fund

	Male		Female	
Age	Number	Monthly Annuity	Number	Monthly Annuity
63	-	$ -	2	$ 231.58
64	1	93.30	-	-
65	17	1,336.63	5	142.51
66	54	2,793.99	16	628.98
67	53	3,742.35	18	1,893.02
68	26	1,583.39	13	697.21
69	24	1,299.02	7	528.12
70	24	1,826.83	9	1,154.72
71	10	735.85	11	1,199.24
72	14	827.89	5	270.34
73	12	924.02	1	155.14
74	7	376.96	2	84.94
75	3	163.80	3	357.03
76	4	154.48	-	-
77	1	52.20	2	292.96
78	4	185.27	1	18.25
79	3	273.33	3	286.64
80	2	204.27	1	133.97
81	1	62.86	-	-
84	2	102.23	-	-
86	-	-	1	50.61
Totals	262	$16,738.67	100	$8,125.26

Disability Retirements

	Male		Female	
Age	Number	Monthly Annuity	Number	Monthly Annuity
43	1	$ 70.55	-	$ -
49	1	44.91	-	-
53	1	13.34	-	-
55	1	50.28	-	-
56	2	101.46	-	-
57	2	62.91	-	-
58	1	160.02	-	-
59	1	26.22	-	-
60	1	11.01	-	-
61	4	131.48	-	-
62	5	480.85	-	-
63	3	207.90	1	43.39
64	5	438.32	-	-
Totals	28	$1,799.25	1	$ 43.39

Public Employees Retirement Association
State of Minnesota

Regular Coordinated Employees

CONSIDERED EARNINGS

Active Male Employees
(Age and Service as of July 1, 1970)

YEARS OF SERVICE

Age	Under 1 No.	Under 1 Earnings	1 to 2 No.	1 to 2 Earnings	2 to 5 No.	2 to 5 Earnings	5 to 10 No.	5 to 10 Earnings
Under 25	489	$ 2,440,621	650	$ 2,952,679	247	$ 1,409,398	7	$ 44,753
25 to 30	285	1,635,780	618	3,745,854	512	3,681,061	53	459,919
30 to 35	173	971,808	404	2,450,358	404	3,111,176	135	1,331,560
35 to 40	166	899,172	357	2,097,117	397	3,197,777	123	1,283,195
40 to 45	155	832,786	400	2,287,032	386	2,827,340	161	1,471,823
45 to 50	143	827,835	342	1,915,301	426	2,894,902	218	1,900,502
50 to 55	140	842,340	338	1,801,991	440	2,932,037	225	1,751,043
55 to 60	68	333,836	278	1,368,293	430	2,669,577	298	2,177,644
60 to 65	39	173,334	152	633,014	251	1,370,062	260	1,744,752
65 to 70	31	160,207	84	215,315	91	346,900	86	459,711
70 & Up	16	51,016	50	107,525	46	91,180	11	59,031
Total	1705	$ 9,168,735	3673	$19,574,479	3630	$24,531,410	1577	$12,683,933

YEARS OF SERVICE

Age	10 to 15 No.	10 to 15 Earnings	15 to 20 No.	15 to 20 Earnings	20 to 25 No.	20 to 25 Earnings	25 to 30 No.	25 to 30 Earnings
Under 25	-	$ -	-	$ -	-	$ -	-	$ -
25 to 30	1	7,164	-	-	-	-	-	-
30 to 35	26	236,990	1	7,663	-	-	-	-
35 to 40	86	946,787	13	108,455	-	-	-	-
40 to 45	98	1,091,026	62	718,889	13	148,765	1	7,043
45 to 50	126	1,189,473	69	762,949	34	378,929	2	25,676
50 to 55	147	1,214,641	95	811,424	30	305,350	6	66,348
55 to 60	233	1,786,964	128	1,084,227	47	439,682	12	100,541
60 to 65	270	2,006,739	210	1,584,391	55	457,327	18	181,308
65 to 70	104	729,626	60	440,929	33	280,132	7	80,999
70 & Up	15	88,203	13	76,504	1	6,387	8	63,430
Total	1106	$ 9,297,613	651	$ 5,595,431	213	$ 2,016,572	54	$ 525,345

YEARS OF SERVICE

Age	30 to 35 No.	30 to 35 Earnings	35 to 40 No.	35 to 40 Earnings	40 & Up No.	40 & Up Earnings	All No.	All Earnings
Under 25	-	$ -	-	$ -	-	$ -	1393	$ 6,847,451
25 to 30	-	-	-	-	-	-	1469	9,529,778
30 to 35	-	-	-	-	-	-	1143	8,109,555
35 to 40	-	-	-	-	-	-	1142	8,532,503
40 to 45	-	-	-	-	-	-	1276	9,384,704
45 to 50	-	-	-	-	-	-	1360	9,895,567
50 to 55	1	6,266	-	-	-	-	1422	9,731,440
55 to 60	6	76,736	2	20,342	1	10,928	1503	10,068,770
60 to 65	9	95,925	4	51,830	-	-	1268	8,298,682
65 to 70	7	70,259	5	64,284	2	20,722	510	2,869,084
70 & Up	1	6,720	4	47,284	-	-	165	597,280
Total	24	$ 255,906	15	$ 183,740	3	$ 31,650	12651	$83,864,814

1366-01-83

Exhibit 37

Public Employees Retirement Association
State of Minnesota

Regular Coordinated Employees

CONSIDERED EARNINGS

Active Female Employees
(Age and Service as of July 1, 1970)

YEARS OF SERVICE

Age	Under 1 No.	Under 1 Earnings	1 to 2 No.	1 to 2 Earnings	2 to 5 No.	2 to 5 Earnings	5 to 10 No.	5 to 10 Earnings
Under 25	944	$ 3,133,232	1841	$ 7,503,631	870	$ 4,126,249	18	$ 90,891
25 to 30	465	1,696,406	929	3,844,989	696	3,687,641	51	378,267
30 to 35	366	1,059,127	943	2,608,041	577	2,128,113	45	296,417
35 to 40	369	971,148	1019	2,632,498	712	2,431,269	48	254,016
40 to 45	351	930,068	922	2,473,026	838	2,848,632	89	474,228
45 to 50	299	812,723	856	2,324,832	828	2,824,359	104	564,371
50 to 55	251	682,340	620	1,605,757	662	2,256,319	129	668,722
55 to 60	95	222,959	438	1,065,472	494	1,637,064	182	861,682
60 to 65	54	118,707	190	424,336	256	747,363	128	566,122
65 to 70	18	62,601	62	85,489	78	177,773	36	149,649
70 & Up	5	4,390	21	25,883	18	30,480	6	35,609
Total	3217	$ 9,693,701	7841	$24,593,954	6029	$22,895,262	836	$ 4,339,974

YEARS OF SERVICE

Age	10 to 15 No.	10 to 15 Earnings	15 to 20 No.	15 to 20 Earnings	20 to 25 No.	20 to 25 Earnings	25 to 30 No.	25 to 30 Earnings
Under 25	-	$ -	-	$ -	-	$ -	-	$ -
25 to 30	1	5,132	-	-	-	-	-	-
30 to 35	14	87,350	1	4,603	-	-	-	-
35 to 40	9	64,437	4	33,581	3	21,462	-	-
40 to 45	15	138,618	7	69,522	2	16,099	1	5,975
45 to 50	31	227,226	15	123,877	8	89,916	6	44,674
50 to 55	63	369,360	20	149,364	11	95,731	4	29,381
55 to 60	78	402,211	39	249,632	14	125,589	6	53,467
60 to 65	88	432,021	53	300,677	19	153,796	9	85,939
65 to 70	33	150,686	27	115,599	7	49,059	5	39,437
70 & Up	5	12,419	6	28,645	1	6,109	2	10,076
Total	337	$ 1,889,460	172	$ 1,075,500	65	$ 557,761	33	$ 268,949

YEARS OF SERVICE

Age	30 to 35 No.	30 to 35 Earnings	35 to 40 No.	35 to 40 Earnings	40 & Up No.	40 & Up Earnings	All No.	All Earnings
Under 25	-	$ -	-	$ -	-	$ -	3673	$14,854,003
25 to 30	-	-	-	-	-	-	2142	9,612,435
30 to 35	-	-	-	-	-	-	1946	6,183,651
35 to 40	-	-	-	-	-	-	2164	6,408,411
40 to 45	-	-	-	-	-	-	2225	6,956,168
45 to 50	-	-	-	-	-	-	2147	7,011,978
50 to 55	4	37,691	-	-	-	-	1764	5,894,665
55 to 60	3	28,140	1	11,112	1	8,904	1351	4,666,232
60 to 65	4	41,052	6	71,871	-	-	807	2,941,884
65 to 70	2	15,531	1	13,092	2	18,336	271	877,252
70 & Up	-	-	-	-	-	-	64	153,611
Total	13	$ 122,414	8	$ 96,075	3	$ 27,240	18554	$65,560,290

1366-01-83

Public Employees Retirement Association
State of Minnesota

Coordinated Employees

SUMMARY OF PLAN

1. Name

Public Employees Retirement Association.

2. Type of Plan

Self-insured, managed by a 12 member Board of Trustees consisting of the State Auditor, State Insurance Commissioner, State Treasurer, and nine others elected from the membership of the Association.

3. Employers Included

Any county, city, village, borough, town, school district within the State, or a department or unit of the State or any other public body employing any person who is a public employee as defined by the Law.

4. Employees Included

All full-time employees who elected coverage under Section 218(d) of the Social Security Act, except those on a per diem basis, of an eligible employer who is not contributing to another plan.

5. Service Considered

All periods of service in which salary deductions were made or for which payments in lieu of salary deduction were deposited, including seasonal layoff and authorized sick leaves.

6. Earnings Considered

(a) For service prior to July 1, 1957, average of highest consecutive 5 years prior to such date, not to exceed $4,800.

(b) For service during the period July 1, 1957 to July 1, 1965, all earnings not to exceed $4,800 in any calendar year.

(c) For service during the period July 1, 1965 to July 1, 1967, all earnings not to exceed $6,000 in any calendar year.

(d) After July 1, 1967, all earnings.

7. Employer Contributions

Amount equal to 3% of total considered earnings for current service plus 1½% of total considered earnings to amortize past service cost.

8. Employee Contributions

After coverage under Social Security commences, 3% of considered earnings.

9. Normal Retirement Benefit

After attainment of age 65 and completion of 10 years of service.

Annuity equal to the sum of:

1) (a) 0.625% of considered earnings for each of the first ten years plus;
   (b) 1.25% of considered earnings for each of the second ten years plus;
   (c) 1.70% of considered earnings for each of the third ten years plus;
   (d) 2.40% of considered earnings for each year over 30.

10. Late Retirement Benefit

Annual Annuity determined as for Normal Retirement, considering Service and Earnings to actual retirement.

11. Early Retirement Benefit

After attainment of age 58 and completion of 20 years of service.

Annual Annuity determined as for Normal Retirement considering Service and Earnings to actual retirement and reduced by 1/2 of 1% for each month between actual retirement and attainment of age 65.

12. Disability Benefit

In event of total and permanent disability after completion of 10 years of service or attainment of age 50 and completion of five years of service.

Annual Annuity determined as for Normal Retirement, considering Service and Earnings to date of disablement.

13. Death Benefit

Active - In event of death an employee's contributions with interest at 2% shall be paid to his beneficiary.

Retired - Refund of contributions less benefit paid to date of death.

14. Separation Benefit

In event of termination after 10 years of service, a deferred vested benefit payable at age 65, provided participant does not withdraw contribution.

Annual Annuity determined as for Normal Retirement considering Service and Earnings to date of termination. In lieu of annuity, participant shall receive a refund of contributions without interest.

15. Optional Benefits

A participant may elect to receive an equivalent actuarially reduced annuity in the form of a joint and survivor annuity or a period certain and life thereafter annuity.

16. Expenses

Paid by Association from retirement fund.

17. Actuarial Method

For purpose of reports to the Legislative Commission, costs for the Plan shall be determined on an "entry-age level normal cost" basis amortizing the unfunded accrued liability over 40 years from 1957, 3-1/2% interest.

Police and Fire Fund

FINANCIAL STATISTICS

AND

ACTUARIAL ASSUMPTIONS

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1970)

Police and Fire Fund

ASSETS

Cash - On Hand	$ -		
On Deposit	41,944.77		
In Transit	30,399.58	$ 72,344.35	
Minnesota Adjustable Fixed Benefit Fund		2,850,381.53	
Accounts Receivable			
M.S. 1967 and 1969, Section 353.36, Subd. 8 and 9	$ 14,657.97		
M.S. 1967, Section 353.36, Subd. 8	404.16		
M.S. 1969, Section 353.83	58.94		
Member Contributions	91,589.58		
Employer Contributions	457,353.86		
Interest	111,481.84		
Dividends	16,127.88		
From Regular Fund	21,849.43		
Others	896.10	714,419.76	$ 3,637,145.64
Less Current Liabilities			36,418.54
Net Current Assets			$ 3,600,727.10

INVESTMENTS

Bonds		
U.S. Government	$2,944,000.00	
Municipal	-	
Corporate	7,914,042.35	
Canadian Government Insured	350,000.00	
Stocks		
Common	6,547,043.71	
Prepaid Interest	1,187.50	17,756,273.56
Total Assets		$21,357,000.66

Members accumulated contributions $5,706,211.40.

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Exhibit 2

Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

SOURCES AND USES OF FUNDS
(July 1, 1969 - June 30, 1970)

Sources		Uses	
Employee Contributions	$ 1,186,339.68	Refunds	
Employer Contributions	3,466,882.83	Employee Contributions	$ 182,940.42
		Employer Contributions	7,027.21
Investment Income	804,156.38	Benefits Paid	
Transfer from Regular Fund	26,991.44	Retirement	284,640.00
		Survivor	110,495.59
Investment Sales		Disability	5,626.16
Bonds	6,293,122.22		
Stocks	89,490.99	Direct Expense	112.23
Minnesota Adjustable Fixed Benefit Fund	56,013.89	Investment Purchases	
		Bonds	8,459,000.00
Cancelled Warrants	5,142.00	Stocks	1,317,620.14
Miscellaneous Receipts	20,764.99		
Decrease in Cash Account	28,436.03	Payments to Minnesota Adjustable Fixed Benefit Fund	1,581,110.02
		Transfers to Regular Fund	28,768.68
	$11,977,340.45		$11,977,340.45
Cash Balance, June 30, 1970	72,344.35		
Total (Statement of Receipts and Disbursements)	$12,049,684.80		

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Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

RECONCILIATION OF ASSET BALANCES
(June 30, 1970)

Asset Balance - July 1, 1969			$17,629,538.36
Add:			
Employer Contributions		$2,268,588.04	
Employees Contributions		1,194,038.38	
Transfers from Regular Fund		13,726.98	
Investment Earnings		817,839.00	
Unit Matching Contributions		15,982.37	
Other Income		6,328.07	
Total Additions			4,316,502.84
			$21,946,041.20
Deduct			
Benefits Paid			
Retirement	$283,287.05		
Survivor	108,324.49		
Disability	7,186.16	398,797.70	
Refunds		179,573.44	
Transfers to Regular Fund		2,469.06	
Administration Expenses		27,808.59	
Total Deductions			608,648.79
			$21,337,392.41
Current Liabilities and Accounts Payable			36,418.54
Increase in Reserve Accounts during 1969-70 not Affecting Current Year Income and Expenditures			19,608.25
Asset Balance, June 30, 1970			$21,393,419.20

Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

ACTUARIAL ASSUMPTIONS

The 1967 experience analysis required by law verified the appropriateness of the assumptions used in prior reports. The assumptions can be summarized as follows:

Interest:	3.5%
Mortality - Before Retirement:	1951 Group Annuity
After Retirement:	1965 Group Annuity
Retirement Age:	64
Disability:	See Following Table
Turnover:	See Following Table
Salary Scale:	See Following Table
1952-57 Wage Base:	Estimate based on 1952-57 contributions

Age 64 was used as the average age at retirement based on our analysis of the retirement patterns of the present group.

A detailed statement of the mortality rates, disability rates, turnover factors, and salary scale is set out in the following pages.

Public Employees' Retirement Association
State of Minnesota

Police and Fire Fund

All Employees

MORTALITY RATES

(Per 1,000 Employees)

Age	Rate	Age	Rate
20	.616	45	3.580
21	.640	46	4.056
22	.666	47	4.599
23	.693	48	5.180
24	.724	49	5.807
25	.758	50	6.475
26	.796	51	7.187
27	.838	52	7.938
28	.885	53	8.731
29	.935	54	9.563
30	.991	55	10.436
31	1.054	56	11.346
32	1.122	57	12.298
33	1.198	58	13,302
34	1,281	59	14.379
35	1.374	60	15.555
36	1.475	61	16.866
37	1.587	62	18.353
38	1.711	63	20.068
39	1.849	64	22.067
40	2.000	65	24.418
41	2.192		
42	2.450		
43	2.769		
44	3.147		

Public Employees' Retirement Association
State of Minnesota

Police and Fire Fund

All Employees

DISABILITY RATES

(Per 1,000 Employees)

Age	Rate	Age	Rate
20	1.70	45	10.40
21	1.75	46	11.60
22	1.80	47	12.95
23	1.86	48	14.50
24	1.92	49	16.10
25	1.98	50	17.70
26	2.05	51	19.60
27	2.12	52	21.60
28	2.19	53	23.70
29	2.27	54	25.95
30	2.35	55	28.25
31	2.50	56	30.65
32	2.70	57	33.25
33	2.95	58	36.05
34	3.20	59	38.85
35	3.50	60	41.65
36	3.90	61	44.50
37	4.30	62	47.35
38	4.75	63	50.20
39	5.25	64	53.15
40	5.90		
41	6.60		
42	7.40		
43	8.30		
44	9.25		

Public Employees' Retirement Association
State of Minnesota

Police and Fire Fund

All Employees

SEPARATION RATES

(Per 1,000 Employees)

Age	Separation	Age	Separation
20	70.0	40	24.5
21	70.0	41	21.3
22	70.0	42	18.5
23	69.9	43	16.0
24	69.8	44	13.7
25	69.7	45	11.8
26	69.4	46	10.2
27	68.9	47	8.7
28	68.0	48	7.3
29	67.0	49	6.1
30	65.8	50	5.0
31	64.3	51	3.9
32	62.4	52	2.9
33	59.8	53	2.2
34	56.1	54	1.5
35	51.1	55	1.1
36	45.4	56	.7
37	39.5	57	.5
38	33.6	58	.3
39	28.7	59	.1

Public Employees' Retirement Association
State of Minnesota

Police and Fire Fund

All Employees

EARNINGS PROGRESSION

Age	Rate	Age	Rate
20	.4102	45	.6730
21	.4184	46	.6864
22	.4268	47	.7002
23	.4353	48	.7142
24	.4440	49	.7284
25	.4529	50	.7430
26	.4619	51	.7579
27	.4712	52	.7730
28	.4806	53	.7885
29	.4902	54	.8043
30	.5000	55	.8203
31	.5100	56	.8368
32	.5202	57	.8535
33	.5306	58	.8706
34	.5412	59	.8880
35	.5521	60	.9057
36	.5631	61	.9238
37	.5744	62	.9423
38	.5859	63	.9612
39	.5976	64	.9804
40	.6095	65	1.0000
41	.6217		
42	.6342		
43	.6468		
44	.6598		

Police and Fire Fund

ACTUARIAL REQUIREMENTS - 3½%

Exhibit 4
$3\frac{1}{2}\%$
Retirement
Age 64

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1970)

Police and Fire Fund

LIABILITIES

Accounts Payable	$ 36,418.54		
Retirement	-		
Survivor	-		
Refunds	-		
Expenses	-		
Suspense Items	-	$ 36,418.54	
Less Offset Against Current Assets		36,418.54	$ 0

RESERVES

Entry Age Normal Reserves			
Retirement	$28,197,565.00		
Disability	13,099,466.00		
Survivors	4,012,622.00		
Refund	2,234,251.00		
	$47,543,904.00		
Less Value of Benefits to be Earned in the Future	29,909,190.00	$17,634,714.00	
Vested Members		425,833.00	
Retired Members			
Retirements - Payable from Minnesota Adjustable Fixed Benefit Fund	$ 2,850,381.53		
Disability	79,210.00		
Survivors	1,217,846.00		
Reserve for Future Old Law Survivors	428,729.00	4,576,166.53	22,636,713.53
Unfunded Obligation			$ 1,279,712.87
Funded Obligation			21,357,000.66

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Exhibit 5
$3\frac{1}{2}\%$
Retirement
Age 64

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Police and Fire Fund

AMORTIZATION RATE REQUIREMENT

Present Value of Benefits (For Both Past and Future Service)		\$52,545,904
Obligation for Service Rendered to Date	\$ 22,636,714	
Net Assets	21,357,001	
Accrued Unfunded Obligation	1,279,713	
Funding Ratio		94%
Amortization (27-Year) Requirement	74,034	
Covered Payroll	20,528,530	
Amortization (27-Year) Rate Requirement		0.36%

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 29,909,190	
Present Value of Future Payroll	250,355,200	
Normal Cost Rate Requirement	11.95%	
Employee Contribution Rate	6.00	
Employer Normal Cost Rate Requirement		5.95%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		11.50%
Amortization (27-Year) Rate Requirement	0.36%	
Normal Cost Rate Requirement	5.95	
Allowance for Expenses	0.15	
Total Requirement		6.46%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		5.04%

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Police and Fire Fund

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	$ 1,279,713	$ 1,279,713	$ 1,279,713	$ 1,279,713
Amortization Requirement	153,874	90,042	69,580	59,925
Covered Payroll	20,528,530	20,528,530	20,528,530	20,528,530
Amortization Rate Requirement	0.75%	0.44%	0.34%	0.29%

ACTUARIAL BALANCE

	10-Year	20-Year	30-Year	40-Year
Employer Contribution Rate Set by Law	11.50%	11.50%	11.50%	11.50%
Amortization Rate Requirement	0.75%	0.44%	0.34%	0.29%
Normal Cost Rate Requirement	5.95	5.95	5.95	5.95
Allowance for Expenses	0.15	0.15	0.15	0.15
Total Requirement	6.85%	6.54%	6.44%	6.39%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	4.65%	4.96%	5.06%	5.11%

Exhibit 6
$3\frac{1}{2}\%$
Retirement
Age 64

Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

STATEMENT OF REVENUE, EXPENDITURES, CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS)
(Year Ending June 30, 1970)

Revenue:		
Employer Contributions	$2,268,588.04	
Unit Matching Contribution	15,982.37	
Employee Contributions	1,194,038.38	
Investment Income	817,839.00	
Miscellaneous Income	6,328.07	
Transfer from General Fund	13,726.98	
Increase in Reserve Accounts	19,608.25	
Total Revenue		$4,336,111.09
Expenditure:		
Benefits	$ 398,797.70	
Refund of Contributions	179,573.44	
Expense - General	27,808.59	
Transfer to General Fund	2,469.06	
Total Expenditure		608,648.79
Increase in Net Assets (1970)		$3,727,462.30

Exhibit 7
$3\frac{1}{2}\%$
Retirement
Age 64

Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

RECONCILIATION OF CHANGE IN ACTUARIAL RESERVES

Allocation of Change in Actuarial Reserves

	Increase	Decrease	
Increase in Assets			$ 3,727,463
Amortization Payment		$ 44,399	
Excess Interest (1.16% x Average Invested Assets)		193,780	
Estimated Excess in Rate		1,020,268	
Amortization Payment Applied to Larger Payroll		27,632	
Excess Compensation Increases	$510,552		
Totals	$510,552	$1,286,079	
Expected Decrease (Increase) in Unfunded			775,527
Net Change in Reserves			$ 2,951,936
1970 Actuarial Reserve			$22,636,714
1969 Actuarial Reserve			19,684,778
Increase (Decrease)			$ 2,951,936

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Police and Fire Fund

ACTUARIAL REQUIREMENTS - 3%

Exhibit 8
3%
Retirement
Age 64

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1970)

Police and Fire Fund

LIABILITIES

Accounts Payable	$ 36,418.54		
Retirement	-		
Survivor	-		
Refunds	-		
Expenses	-		
Suspense Items	-	$ 36,418.54	
Less Offset Against Current Assets		36,418.54	$ 0

RESERVES

Entry Age Normal Reserves			
Retirement	$31,682,657.00		
Disability	14,718,501.00		
Survivors	4,508,564.00		
Refund	2,510,394.00		
	$53,420,116.00		
Less Value of Benefits to be Earned in the Future	35,413,634.00	$18,006,482.00	
Vested Members		466,178.00	
Retired Members			
Retirements - Payable from Minnesota Adjustable Fixed Benefit Fund	$ 2,850,381.53		
Disability	81,660.00		
Survivors	1,255,511.00		
Reserve for Future Old Law Survivors	441,989.00	4,629,541.53	23,102,201.53
Unfunded Obligation			$ 1,745,200.87
Funded Obligation			21,357,000.66

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Exhibit 9
3%
Retirement
Age 64

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Police and Fire Fund

AMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		$58,515,836
Obligation for Service Rendered to Date	$ 23,102,202	
Net Assets	21,357,001	
Accrued Unfunded Obligation	1,745,201	
Funding Ratio		92%
Amortization (27-Year) Requirement	95,226	
Covered Payroll	20,528,530	
Amortization (27-Year) Rate Requirement		0.46%

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	$ 35,413,634	
Present Value of Future Payroll	260,786,700	
Normal Cost Rate Requirement	13.58%	
Employee Contribution Rate	6.00	
Employer Normal Cost Rate Requirement		7.58%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		11.50%
Amortization (27-Year) Rate Requirement	0.46%	
Normal Cost Rate Requirement	7.58	
Allowance for Expenses	0.15	
Total Requirement		8.19%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		3.31%

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Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Police and Fire Fund

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	$ 1,745,201	$ 1,745,201	$ 1,745,201	$ 1,745,201
Amortization Requirement	204,591	117,305	89,039	75,502
Covered Payroll	20,528,530	20,528,530	20,528,530	20,528,530
Amortization Rate Requirement	1.00%	0.57%	0.43%	0.37%

ACTUARIAL BALANCE

	10-Year	20-Year	30-Year	40-Year
Employer Contribution Rate Set by Law	11.50%	11.50%	11.50%	11.50%
Amortization Rate Requirement	1.00%	0.57%	0.43%	0.37%
Normal Cost Rate Requirement	7.58	7.58	7.58	7.58
Allowance for Expenses	0.15	0.15	0.15	0.15
Total Requirement	8.73%	8.30%	8.16%	8.10%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	2.77%	3.20%	3.34%	3.40%

Police and Fire Fund

ACTUARIAL REQUIREMENTS - 4%

Exhibit 10
4%
Retirement
Age 64

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1970)

Police and Fire Fund

LIABILITIES

Accounts Payable	$ 36,418.54		
Retirement	-		
Survivor	-		
Refunds	-		
Expenses	-		
Suspense Items	-	$ 36,418.54	
Less Offset Against Current Assets		36,418.54	$ 0

RESERVES

Entry Age Normal Reserves			
Retirement	$25,095,833.00		
Disability	11,658,525.00		
Survivors	3,571,234.00		
Refund	1,988,483.00		
	$42,314,075.00		
Less Value of Benefits to be Earned in the Future	25,283,873.00	$17,030,202.00	
Vested Members		389,926.00	
Retired Members			
Retirements - Payable from Minnesota Adjustable Fixed Benefit Fund	$ 2,850,381.53		
Disability	76,834.00		
Survivors	1,181,311.00		
Reserve for Future Old Law Survivors	415,867.00	4,524,393.53	21,944,521.53
Unfunded Obligation			$ 587,520.87
Funded Obligation			21,357,000.66

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Exhibit 11
4%
Retirement
Age 64

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Police and Fire Fund

AMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		$47,228,395
Obligation for Service Rendered to Date	$ 21,944,522	
Net Assets	21,357,001	
Accrued Unfunded Obligation	587,521	
Funding Ratio		97%
Amortization (27-Year) Requirement	30,104	
Covered Payroll	20,528,530	
Amortization (27-Year) Rate Requirement		0.15%

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	$ 25,283,873	
Present Value of Future Payroll	240,341,000	
Normal Cost Rate Requirement	10.52%	
Employee Contribution Rate	6.00	
Employer Normal Cost Rate Requirement		4.52%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		11.50%
Amortization (27-Year) Rate Requirement	0.15%	
Normal Cost Rate Requirement	4.52	
Allowance for Expenses	0.15	
Total Requirement		4.82%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		6.68%

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Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1970)

Police and Fire Fund

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	$ 587,521	$ 587,521	$ 587,521	$ 587,521
Amortization Requirement	72,436	43,231	33,976	29,684
Covered Payroll	20,528,530	20,528,530	20,528,530	20,528,530
Amortization Rate Requirement	0.35%	0.21%	0.17%	0.14%

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	11.50%	11.50%	11.50%	11.50%
Amortization Rate Requirement	0.35%	0.21%	0.17%	0.14%
Normal Cost Rate Requirement	4.52	4.52	4.52	4.52
Allowance for Expenses	0.15	0.15	0.15	0.15
Total Requirement	5.02%	4.88%	4.84%	4.81%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	6.48%	6.62%	6.66%	6.69%

Police and Fire Fund

EMPLOYEE STATISTICS

AND

SUMMARY OF PLAN

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF ACTIVE MEMBERS

Police and Fire Fund

As of July 1, 1969		2,475
New Entrants		482
Reinstated		75
Total		3,032
Separations		
(a) With Refund of Contributions		
(i) Death	12	
(ii) Withdrawal	352	364
(b) With Deferred Annuity		8
(c) With Disability Annuity		3
(d) With Normal Retirement Annuity		24
(e) With Survivor Annuity		14
Total		413
Active as of July 1, 1970		2,619

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF ANNUITANTS

Police and Fire Fund

Normal Retirement Annuitants	
As of July 1, 1969	150
Additions During Year	24
Deletions During Year	10
Totals as of July 1, 1970	164
Annual Annuity - July 1, 1969	$259,099
- July 1, 1970	291,522
Disability Annuitants	
As of July 1, 1969	2
Additions During Year	3
Deletions During Year	-
Total as of July 1, 1970	5
Annual Annuity - July 1, 1969	$ 2,186
- July 1, 1970	8,532
Survivor Annuitants	
(a) Spouse Only	
As of July 1, 1969	72
Additions During Year	14
Deletions During Year	4
Total as of July 1, 1970	82
Annual Annuity - July 1, 1969	$ 57,202
- July 1, 1970	65,127
(b) Children	
As of July 1, 1969	67
Additions During Year	18
Deletions During Year	5
Total as of July 1, 1970	80
Annual Annuity - July 1, 1969	$ 43,860
- July 1, 1970	49,319
Deferred Annuitants	
As of July 1, 1969	22
Additions During Year	8
Deletions During Year	3
Total as of July 1, 1970	27

Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

Retired Under the Law in Force Prior to July 1, 1957

Payable From Adjustable Fixed Benefit Fund

	Male		Female	
Age	Number	Monthly Annuity	Number	Monthly Annuity
63	1	$ 200.69		
65	4	854.95		
66	4	755.60	1	$ 123.37
67	7	1,084.10		
68	11	2,322.38	1	48.07
69	9	1,828.78	1	162.07
70	9	1,706.65		
71	10	2,150.95	1	44.10
72	6	1,125.65	1	168.38
73	6	1,059.06		
74	7	1,319.02		
75	4	986.93	1	199.89
76	4	610.66		
77	3	545.84		
79	2	297.68		
81	1	155.39		
82	1	34.32	1	276.10
92	1	111.96		
Totals	90	$17,150.61	7	$1,021.98

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Exhibit 15

Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

Retired Under Law in Force July 1, 1957 and Subsequent

Payable From Adjustable Fixed Benefit Fund

	Male		Female	
Age	Number	Monthly Annuity	Number	Monthly Annuity
59	1	$ 167.27		
60	2	307.44		
61	5	919.70		
62	5	656.33		
63	2	146.10		
64	2	208.81		
65	3	263.02		
66	7	448.61	1	$ 24.99
67	3	250.90		
68	6	588.60		
69	6	473.86		
70	4	202.84		
71	2	57.32		
72	3	290.79		
73	4	298.28		
74	3	268.67		
75	2	129.47		
76	3	194.35		
77	2	115.76		
Totals	65	$5,988.12	1	$ 24.99

Retired Under Combination of Law in Force Prior and Subsequent to July 1, 1957

Age	Males Number	Montly Annuity
70	1	$107.84

Survivor Annuities

Age	Females Number	Monthly Annuity
61	1	$ 26.28
74	1	177.32
Totals	2	$203.60

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Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

Survivor Annuities

Widows			Widows		
Age	Number	Total Monthly Annuity	Age	Number	Total Monthly Annuity
26	1	$ 65.00	58	1	$ 65.00
30	1	65.00	59	1	65.00
32	2	130.00	60	3	195.00
35	1	65.00	61	4	260.00
37	2	130.00	62	3	180.06
38	1	65.00	63	2	130.00
39	1	65.00	64	2	130.00
40	1	65.00	65	2	159.79
41	1	65.00	66	1	65.00
43	1	65.00	67	2	123.58
44	1	65.00	70	2	130.00
46	3	195.00	71	4	297.64
47	2	130.00	73	1	100.00
50	1	65.00	74	1	75.42
51	1	65.00	75	1	65.00
52	8	520.00	79	3	165.21
53	2	130.00	80	1	65.00
54	4	260.00	82	2	91.98
56	7	455.00			
57	3	195.00	Totals	80	$5,223.68

Children	
Number	Total Monthly Annuity
80	$4,109.90

Disability Retirement Annuities		
Age	Males Number	Monthly Annuity
50	1	$203.35
55	1	179.53
57	1	146.00
58	2	182.15
Totals	5	$711.03

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Exhibit 17

Public Employees Retirement Association
State of Minnesota

Police and Fire Employees

CONSIDERED EARNINGS

Active Male Employees
(Age and Service as of July 1, 1970)

	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
Age	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	35	$ 223,597	76	$ 519,457	36	$ 245,172	-	$ -
25 to 30	42	271,297	132	927,268	207	1,696,297	31	292,475
30 to 35	20	105,956	73	497,879	177	1,441,785	112	1,052,482
35 to 40	12	58,901	43	290,855	90	644,375	106	971,418
40 to 45	26	146,783	41	280,778	103	773,273	67	580,269
45 to 50	4	16,232	20	120,780	62	413,811	102	831,099
50 to 55	3	17,698	15	103,944	39	230,251	51	380,599
55 to 60	6	17,171	7	43,826	37	180,567	35	251,898
60 to 65	-	-	6	31,834	22	127,406	28	205,448
65 to 70	1	6,696	1	6,450	5	20,001	8	41,700
70 & Up	-	-	2	6,437	2	3,098	4	15,957
Total	149	$ 864,331	416	$2,829,508	780	$5,776,036	544	$4,623,345

	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
Age	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	$ -	-	$ -	-	$ -	-	$ -
25 to 30	-	-	-	-	-	-	-	-
30 to 35	18	173,571	1	9,646	-	-	-	-
35 to 40	48	451,570	20	205,337	2	22,161	-	-
40 to 45	58	561,968	43	429,456	16	156,533	5	43,646
45 to 50	46	410,629	38	339,225	24	226,041	7	60,593
50 to 55	44	360,103	37	345,978	25	249,669	12	98,105
55 to 60	24	174,032	25	215,545	18	156,724	12	107,407
60 to 65	17	117,048	18	153,993	19	179,266	11	93,255
65 to 70	8	65,318	10	65,972	4	31,985	2	15,205
70 & Up	-	-	2	8,657	1	5,175	-	-
Total	263	$2,314,239	194	$1,773,809	109	$1,027,554	49	$ 418,211

	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
Age	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	$ -	-	$ -	-	$ -	147	$ 988,226
25 to 30	-	-	-	-	-	-	412	3,187,337
30 to 35	-	-	-	-	-	-	401	3,281,319
35 to 40	-	-	-	-	-	-	321	2,644,617
40 to 45	-	-	-	-	-	-	359	2,972,706
45 to 50	3	37,717	-	-	-	-	306	2,456,127
50 to 55	3	30,763	5	54,537	-	-	234	1,871,647
55 to 60	7	70,914	8	82,754	2	21,145	181	1,383,833
60 to 65	3	38,336	3	28,117	1	4,107	128	978,810
65 to 70	2	15,802	1	13,408	-	-	42	282,537
70 & Up	1	11,637	-	-	-	-	12	50,961
Total	19	$ 205,169	17	$ 178,816	3	$ 25,252	2543	$20,098,120

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Public Employees Retirement Association
State of Minnesota

Police and Fire Employees

CONSIDERED EARNINGS

Active Female Employees
(Age and Service as of July 1, 1970)

YEARS OF SERVICE

Age	Under 1 No.	Under 1 Earnings	1 to 2 No.	1 to 2 Earnings	2 to 5 No.	2 to 5 Earnings	5 to 10 No.	5 to 10 Earnings
Under 25	1	$ 5,862	3	$ 16,662	2	$ 6,838	1	$ 4,277
25 to 30	1	4,890	5	26,839	3	15,240	1	6,848
30 to 35	1	6,444	-	-	1	8,404	-	-
35 to 40	2	10,203	4	23,648	4	22,750	-	-
40 to 45	-	-	3	15,240	3	18,208	2	10,613
45 to 50	-	-	5	31,671	3	10,459	1	4,926
50 to 55	-	-	-	-	6	26,166	4	34,566
55 to 60	-	-	-	-	2	11,502	5	35,915
60 to 65	-	-	-	-	2	7,186	2	15,191
65 to 70	-	-	1	317	-	-	-	-
70 & Up	-	-	-	-	-	-	-	-
Total	5	$ 27,399	21	$114,377	26	$126,753	16	$112,336

YEARS OF SERVICE

Age	10 to 15 No.	10 to 15 Earnings	15 to 20 No.	15 to 20 Earnings	20 to 25 No.	20 to 25 Earnings	25 to 30 No.	25 to 30 Earnings
Under 25	-	$ -	-	$ -	-	$ -	-	$ -
25 to 30	-	-	-	-	-	-	-	-
30 to 35	1	4,036	-	-	-	-	-	-
35 to 40	-	-	-	-	-	-	-	-
40 to 45	1	7,955	-	-	-	-	-	-
45 to 50	1	5,416	-	-	-	-	-	-
50 to 55	-	-	-	-	-	-	-	-
55 to 60	-	-	1	4,339	-	-	-	-
60 to 65	1	8,489	1	7,194	-	-	-	-
65 to 70	2	12,116	-	-	-	-	-	-
70 & Up	-	-	-	-	-	-	-	-
Total	6	$ 38,012	2	$ 11,533	-	$ -	-	$ -

YEARS OF SERVICE

Age	30 to 35 No.	30 to 35 Earnings	35 to 40 No.	35 to 40 Earnings	40 & Up No.	40 & Up Earnings	All No.	All Earnings
Under 25	-	$ -	-	$ -	-	$ -	7	$ 33,639
25 to 30	-	-	-	-	-	-	10	53,817
30 to 35	-	-	-	-	-	-	3	18,884
35 to 40	-	-	-	-	-	-	10	56,601
40 to 45	-	-	-	-	-	-	9	52,016
45 to 50	-	-	-	-	-	-	10	52,472
50 to 55	-	-	-	-	-	-	10	60,732
55 to 60	-	-	-	-	-	-	8	51,756
60 to 65	-	-	-	-	-	-	6	38,060
65 to 70	-	-	-	-	-	-	3	12,433
70 & Up	-	-	-	-	-	-	-	-
Total	-	$ -	-	$ -	-	$ -	76	$430,410

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Public Employees Police and Fire Fund
State of Minnesota

SUMMARY OF PLAN

1. Name

Public Employees Police and Fire Fund.

2. Type of Plan

Self-insured, managed by a 12 member Board of Trustees consisting of the State Auditor, State Insurance Commissioner, State Treasurer, and nine others elected from the membership of the Association.

3. Employers Included

Any county, city, village, borough, town, school district within the State, or a department or unit of the State or any other public body employing any person who is a public employee as defined by the Law.

4. Employees Included

All full-time police officers and fire fighters, except those on a per diem basis, of an eligible employer who is not contributing to another plan.

5. Service Considered

All periods of service in which salary deductions were made or for which payments in lieu of salary deduction were deposited, including seasonal layoff and authorized sick leaves.

6. Earnings Considered

(a) For service prior to July 1, 1957, average of highest consecutive 5 years prior to such date, not to exceed $4,800.

(b) For service during the period July 1, 1957 to July 1, 1965, all earnings, not to exceed $4,800 in any calendar year.

(c) For service during the period July 1, 1965 to July 1, 1967, all earnings, not to exceed $6,000 in any calendar year.

(d) After July 1, 1967, all earnings.

(e) Earnings considered for determining benefit under the law in force prior to 1957 shall be the average annual earnings during the 10-year period immediately preceding retirement.

7. Employer Contributions

Police and Fire - Amount equal to 9% of total considered earnings for current service plus 2½% of total considered earnings to amortize past service costs.

8. Employee Contributions

(a) For service prior to July 1, 1957, 4% of considered earnings.

(b) After July 1, 1957, 6% of considered earnings.

9. Normal Retirement Benefit

After attainment of age 58 and completion of 10 years of service.

Police and Fire - Annuity equal to the sum of:

(a) 2% of considered earnings for each of the first ten years plus;

(b) 2% of considered earnings for each of the second ten years plus;

(c) 2% of considered earnings for each of the third ten years.

(d) 1% of considered earnings for each year over thirty.

or any person who was a member of the association on June 30, 1957 and who thereafter becomes a member of the police and fire fund may elect to receive a benefit computed under the law in force prior to June 30, 1957 without maximum limitation.

10. Late Retirement Benefit

Annual annuity determined as for Normal Retirement, considering Service and Earnings to actual retirement.

11. Disability Benefit

In event of total and permanent disability after completion of 10 years of service or attainment of age 50 and completion of 5 years of service.

Annual Annuity determined as for Normal Retirement, considering Service and Earnings to date of disablement, plus a supplement as follows:

Under 51	$50
51	44
52	38
53	32
54	26
55	20
56	12
57	6

In event of duty disablement of Police or Firemen, a minimum of 40% of average salary, regardless of age or service.

12. Death Benefit

Active - In event of death after 18 months of service.

Annual Annuity to dependent spouse of 30% of average salary not to exceed $65 per month, plus for each dependent child under age 18, 20% of average salary not to exceed $45 per month, plus 10% of average salary not to exceed $20 per month to be divided amoung dependent children. Maximum family benefit equal to lesser of $250 per month or 100% of average salary.

In lieu of above benefit, if employee has completed 20 years of service, a 75% survivor benefit for spouse payable at age 62. Maximum benefit $150 per month. If employee was under age 58 benefit is reduced ½% for each month that he was under 58.

Any employee not eligible for above benefits, his contributions with interest at 2% shall be paid to his beneficiary.

Retired

(a) Under law in force July 1, 1957 and prior, 50% of his annuity continued to his beneficiary provided his beneficiary is his surviving spouse and has attained age 60, and has not remarried; or is the parent of the retired member.

(b) Under law in effect July 1, 1957 and subsequent, refund of contributions less benefit paid to date of death.

13. Separation Benefit

In event of termination after 10 years of service, a deferred vested benefit payable at age 58, provided participant does not withdraw contribution.

Annual Annuity determined as for Normal Retirement considering Service and Earnings to date of termination. In lieu of annuity, participant shall receive a refund of contributions without interest.

14. Optional Benefits

A participant may elect to receive an equivalent actuarially reduced annuity in the form of a joint and survivor annuity or a period certain and life thereafter annuity.

15. Expenses

Paid by Association from retirement fund.

16. Actuarial Method

For purpose of reports to the Legislative Commission, costs for the Plan shall be determined on an "entry-age level normal cost" basis amortizing the unfunded accrued liability over 40 years from 1957, 3½% interest.