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Public Employees Retirement Assn.

**Public Employees Retirement Association
State of Minnesota**

ACTUARIAL VALUATION REPORT

November 27, 1972

A. S. Hansen, inc.

Public Employees Retirement Association
State of Minnesota

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A. S. Hansen, inc.

ACTUARIES AND CONSULTANTS

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Lake Bluff, Illinois 60044
Telephone 312-234-3400

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

Gentlemen:

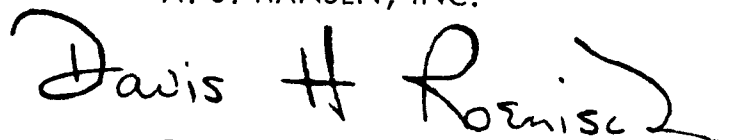
In accordance with your request, we have made an actuarial valuation of the Public Employees Retirement Association of the State of Minnesota for the year ended June 30, 1972, in order to determine the adequacy of the contributions being made to that system and to prepare the financial and actuarial 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, 1972.

Respectfully submitted,

A. S. HANSEN, INC.



Davis H. Roenisch
Fellow, Society of Actuaries

DHR:bm
1366-01-83

General Fund

FINANCIAL STATISTICS
AND
ACTUARIAL ASSUMPTIONS

Public Employees Retirement Association
State of Minnesota

General Fund

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1972)

ASSETS

Cash - On Hand	\$ 50.00		
On Deposit and In Transit	<u>386,696.51</u>	\$ 386,746.51	
Minnesota Adjustable Fixed Benefit Fund		89,747,065.87	
Withheld Annuities		<u>1,161,134.94</u>	
Accounts Receivable:			
M.S. 1971, Sec. 353.36,			
Subd. 2, 8, and 9	52,575.41		
M.S. 1971, Sec. 353.83	11,105.95		
Employer Contributions	303,673.19		
Interest	1,814,761.16		
Dividends	550,750.25		
From Police and Fire Fund	49,258.23		
From Social Security (Overpayments)	305.82		
From MSRS and TRA	18,200.41		
Other	<u>23,851.01</u>	<u>2,824,481.43</u>	\$ 94,119,428.75
Current Liabilities:			
Accounts Payable	\$ 43,031.63		
Interest Payable	91,360.60		
Penalties Refundable	4,564.12		
Donations Suspense	305,886.22		
Social Security Refunds - Suspense	152.91		
Members Contribution - Suspense	286.27		
Omitted Deductions - Suspense	<u>10,487.77</u>		<u>455,769.52</u>
<u>Net Current Assets</u>			<u>\$ 93,663,659.23</u>

INVESTMENTS

Bonds			
U.S. Government	\$13,795,000.00		
Municipal	9,896,000.00		
Corporate	87,583,729.61		
Canadian Government Insured	6,083,750.05		
Common Stocks	<u>91,104,173.03</u>	\$208,462,652.69	
Miscellaneous			
Office Equipment (Less Depreciation)	\$ 27,486.16		
Other	<u>3,571.57</u>	<u>31,057.73</u>	<u>\$208,493,710.42</u>
<u>Total Assets</u>			<u>\$302,157,369.65</u>

Members Accumulated Contributions - \$99,129,614.77

Public Employees Retirement Association
State of Minnesota

General Fund

SOURCES AND USES OF FUNDS

July 1, 1971 - June 30, 1972

<u>Sources</u>		<u>Uses</u>	
<u>Employee Contributions</u>	\$ 16,752,507.98	<u>Refunds</u>	
<u>Employer Contributions</u>	25,190,032.60	Employee Contributions	\$ 3,566,827.59
<u>Various Accounts Receivable</u>	271,438.55	Employer Contributions	45,386.14
<u>Investment Income</u>	8,937,633.35	<u>Penalties Refunded</u>	1,158.67
<u>Minnesota Adjustable</u>		<u>Donations Refunded</u>	11,913.65
<u>Fixed Benefit Fund</u>	976,186.87	<u>Benefits Paid</u>	
<u>Transfer from Police and</u>		Retirement	9,587,545.99
<u>Fire Fund</u>	32,022.83	Survivor	2,568,913.98
<u>Investment Sales</u>		Disability	290,497.68
Bonds	66,869,496.88	<u>Direct Expense</u>	704,072.72
Stocks	5,500,347.33	<u>Social Security</u>	8,988.44
<u>Cancelled Warrants</u>	33,160.50	<u>Investment Purchases</u>	
<u>Miscellaneous Income</u>	138,965.72	Bonds	81,564,771.46
<u>Decrease in Cash Accounts</u>	288,384.65	Stocks	23,218,596.60
		<u>Payments to Minnesota</u>	
		<u>Adjustable Fixed</u>	
		<u>Benefit Fund</u>	2,796,416.49
		<u>Transfers to Police</u>	
		<u>and Fire Fund</u>	4,949.40
		<u>Interest Paid on Refunds</u>	43,369.15
	\$ 124,413,407.96		\$ 124,413,407.96
Cash Balance, 6/30/72	<u>386,696.51</u>		
Total (Statement of			
Receipts and			
Disbursements)	\$ 124,800,104.47		

Public Employees Retirement Association
State of Minnesota

General Fund

RECONCILIATION OF ASSET BALANCES
(June 30, 1972)

Asset Balance, July 1, 1971		\$261,422,831.00
Add:		
Employer Contributions	\$ 22,942,899.03	
Employee Contributions	15,705,266.90	
Employee and Employer Contributions Transferred from Police and Fire Fund	17,371.40	
Minnesota Adjustable Fixed Benefit Fund Income	8,035,631.24	
Investment Earnings	9,607,778.67	
Loss on Sales of Stock	(489,375.87)	
Unit Matching Contributions	25,857.87	
Other Income	<u>145,290.29</u>	
Total Additions		<u>55,990,719.53</u>
		\$317,413,550.53
Deduct:		
Benefits Paid		
Retirement	\$ 9,458,954.38	
Survivor	2,553,921.81	
Disability	<u>285,678.18</u>	\$ 12,298,554.37
Refunds	3,553,186.87	
Transfers to Police and Fire Fund	27,867.44	
Interest Paid on Refunds	43,369.15	
Retroactive Social Security Payments	17,971.44	
Administrative Expenses	<u>793,967.63</u>	
Total Deductions		<u>16,734,916.90</u>
		\$300,678,633.63
Current Liabilities and Accounts Payable		455,769.52
Increase in Reserve Accounts During 1971-72 Not Affecting Current Year Income and Expenditures		<u>1,478,736.02</u>
Asset Balance, June 30, 1972		<u>\$302,613,139.17</u>

Public Employees Retirement Association
State of Minnesota

ASSET ALLOCATION
(July 1, 1972)

	Regular Fund	Coordinated Fund	General Fund Total
Net Assets, July 1, 1971	\$231,288,261.76	\$ 30,134,569.24	\$261,422,831.00
Accounts Payable	<u>275,946.28</u>	<u>36,029.58</u>	<u>311,975.86</u>
<u>Total Assets, July 1, 1971</u>	<u>\$231,564,208.04</u>	<u>\$ 30,170,598.82</u>	<u>\$261,734,806.86</u>
<u>Contributions and Disbursements During Year</u>			
1. Employer Contributions	\$ 13,651,849.98	\$ 9,316,906.92	\$ 22,968,756.90
2. Employee Contributions	9,550,134.13	6,155,132.77	15,705,266.90
3. Transfers to Police and Fire Fund	10,496.04	-	10,496.04
4. Benefits Paid			
(i) Retirement	8,944,008.90	514,945.48	9,458,954.38
(ii) Survivor	2,553,921.81	-	2,553,921.81
(iii) Disability	243,783.47	41,894.71	285,678.18
5. Refunds	1,957,642.85	1,638,913.17	3,596,556.02
6. Social Security	<u>-</u>	<u>17,971.44</u>	<u>17,971.44</u>
Net: Sum 1 and 2			
Minus Sum 3 through 6	<u>\$ 9,492,131.04</u>	<u>\$ 13,258,314.89</u>	<u>\$ 22,750,445.93</u>
Estimated Adjustment for Transfers	<u>\$ 372,485.06</u>	<u>\$ 372,485.06</u>	<u>\$ -</u>
Minnesota Adjustable Fixed Benefit Fund Income	<u>\$ 7,492,966.50</u>	<u>\$ 542,664.74</u>	<u>\$ 8,035,631.24</u>
<u>Income and Expenses During Year</u> (Allocated on Assets at July 1, 1971 plus 1/2 net change during year)			
1. Increase in Reserves	\$ 1,279,486.20	\$ 199,249.82	\$ 1,478,736.02
2. Investment Income	7,889,758.80	1,228,644.00	9,118,402.80
3. Miscellaneous Income	125,713.39	19,576.90	145,290.29
4. Administrative Expenses Minus Increase in Accounts Payable	<u>562,567.36</u>	<u>87,606.61</u>	<u>650,173.97</u>
Net: Sum of 2 and 3 Minus 1 and 4	<u>\$ 8,732,391.03</u>	<u>\$ 1,359,864.11</u>	<u>\$ 10,092,255.14</u>
Total Assets, July 1, 1972	\$256,909,211.55	\$ 45,703,927.62	\$302,613,139.17
Accounts Payable	<u>386,934.25</u>	<u>68,835.27</u>	<u>455,769.52</u>
<u>Net Assets, July 1, 1972</u>	<u>\$256,522,277.30</u>	<u>\$ 45,635,092.35</u>	<u>\$302,157,369.65</u>

Public Employees Retirement Association
State of Minnesota

General Fund

ACTUARIAL ASSUMPTIONS

The assumptions can be summarized as follows:

Interest:	3½%
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)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
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)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
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)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
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)

<u>Age</u>	<u>Separation</u>	<u>Age</u>	<u>Separation</u>
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)

<u>Age</u>	<u>Separation</u>	<u>Age</u>	<u>Separation</u>
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

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
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 - $3\frac{1}{2}\%$

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1972)

Regular Employees

RESERVES

Entry Age Normal Reserves

Retirement	\$344,302,411.00
Disability	22,634,767.00
Survivors	19,215,064.00
Refund	<u>17,728,425.00</u>
	\$403,880,667.00

Less Value of Benefits to be
Earned in the Future

178,853,157.00 \$225,027,510.00

Vested Members

1,318,886.00

Retired Members

Retirements Payable from
Minnesota Adjustable
Fixed Benefit Fund

\$ 84,204,563.14

Disability

2,251,516.00

Survivors

25,244,099.00

Reserve for Future Old
Law Survivors

10,779,994.00

122,481,172.14

\$348,827,568.14

Unfunded Obligation

\$ 92,305,290.84

Funded Obligation

256,522,277.30

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Regular Employees

AMORTIZATION RATE REQUIREMENT

Present Value of Benefits (For Both Past and Future Service)		\$527,680,725
Obligation for Service		
Rendered to Date	\$ 348,827,568	
Net Assets	256,522,278	
Accrued Unfunded Obligation	92,305,290	
Funding Ratio		74%
Amortization (25-Year) Requirement	5,600,531	
Covered Payroll	189,180,685	
Amortization (25-Year) Rate Requirement		<u>2.96%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be		
Earned in the Future	\$ 178,853,157	
Present Value of Future Payroll	1,517,673,500	
Normal Cost Rate Requirement	11.78%	
Employee Contribution Rate	<u>6.00</u>	
Employer Normal Cost Rate Requirement		<u>5.78%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		8.50%
Amortization (25-Year) Rate Requirement	2.96%	
Normal Cost Rate Requirement	5.78	
Total Requirement	<u>0.20</u>	8.94%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>(0.44%)</u>

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Regular Employees

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	\$ 92,305,290	\$ 92,305,290	\$ 92,305,290	\$ 92,305,290
Amortization Requirement	11,098,915	6,494,700	5,018,761	4,322,406
Covered Payroll	189,180,685	189,180,685	189,180,685	189,180,685
Amortization Rate Requirement	<u>5.87%</u>	<u>3.43%</u>	<u>2.65%</u>	<u>2.28%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	<u>8.50%</u>	<u>8.50%</u>	<u>8.50%</u>	<u>8.50%</u>
Amortization Rate Requirement	5.87%	3.43%	2.65%	2.28%
Normal Cost Rate Requirement	5.78	5.78	5.78	5.78
Allowance for Expenses	0.20	0.20	0.20	0.20
Total Requirement	<u>11.85%</u>	<u>9.41%</u>	<u>8.63%</u>	<u>8.26%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>(3.35%)</u>	<u>(0.91%)</u>	<u>(0.13%)</u>	<u>0.24%</u>

Public Employees Retirement Association
State of Minnesota

Regular Employees

STATEMENT OF REVENUE, EXPENDITURES,
CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS) *
(Year Ending June 30, 1972)

Revenue:

Employer Contributions	\$13,651,849.98	
Employee Contributions	9,550,134.13	
Investment Income	8,015,472.19	
Minnesota Adjustable Fixed Benefit Fund Income	7,492,131.04	
Increase in Reserves	<u>1,279,486.20</u>	
Total Revenue		\$39,989,909.00

Expenditure:

Benefits	\$11,741,714.18	
Refund of Contributions	1,957,642.85	
Administrative Expense	562,567.36	
Transfer to Police and Fire Fund	10,496.04	
Estimated Transfer to Coordinated	372,485.06	
Increase (Decrease) in Accounts	<u>110,987.97</u>	
Total Expenditures		<u>14,755,893.46</u>

Increase in Assets (1972) \$25,234,015.54

*See Exhibit 4.

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF CHANGE IN ACTUARIAL RESERVES

Regular Employees

ALLOCATION OF CHANGE IN ACTUARIAL RESERVES

	<u>Increase</u>	<u>Decrease</u>	
Increase in Assets			\$ 25,234,016
Amortization Payment		\$2,039,047	
Excess Interest (1.75% x Average Invested Assets)		2,913,641	
Estimated Excess in Rate		18,439	
Transfers to Coordinated		273,789	
Contribution Requirement Applied to Larger Payroll		(821,853)	
Increases in Compensation and Low Turnover*	\$11,641,995		
Totals	<u>\$11,641,995</u>	<u>\$4,423,063</u>	
Expected Decrease (Increase) in Unfunded			<u>(7,218,932)</u>
Net Change in Reserves			\$ 32,452,948
Experience Variation Gain (Loss)			<u>(433,892)</u>
Total			<u>\$ 32,886,840</u>
1972 Actuarial Reserve			\$348,827,568
1971 Actuarial Reserve			<u>315,940,728</u>
Increase (Decrease)			<u>\$ 32,886,840</u>

*Due to both higher wage increases and lower than expected turnover.

Regular Employees

(Not Covered by Social Security)

ACTUARIAL REQUIREMENTS - 3%

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1972)

Regular Employees

RESERVES

Entry Age Normal Reserves

Retirement	\$386,856,642.00
Disability	25,432,322.00
Survivors	21,589,960.00
Refund	<u>19,919,579.00</u>

\$453,798,503.00

Less Value of Benefits to be
Earned in the Future

211,626,290.00 \$242,172,213.00

Vested Members

1,416,958.00

Retired Members

Retirements Payable from
Minnesota Adjustable
Fixed Benefit Fund

\$ 84,204,563.14

Disability

2,321,151.00

Survivors

26,024,844.00

Reserve for Future
Old Law Survivors

11,113,396.00

123,663,954.14

\$367,253,125.14

Unfunded Obligation

\$110,730,847.84

Funded Obligation

256,522,277.30

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Regular Employees

AMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		\$578,879,415
Obligation for Service		
Rendered to Date	\$ 367,253,125	
Net Assets	256,522,277	
Accrued Unfunded Obligation	110,730,848	
Funding Ratio		70%
Amortization (25-Year) Requirement	6,359,037	
Covered Payroll	189,180,685	
Amortization (25-Year) Rate Requirement		<u>3.36%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be		
Earned in the Future	\$ 211,626,290	
Present Value of Future Payroll	1,580,909,900	
Normal Cost Rate Requirement	13.39%	
Employee Contribution Rate	6.00	
Employer Normal Cost Rate Requirement		<u>7.39%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		8.50%
Amortization (25-Year) Rate Requirement	3.36%	
Normal Cost Rate Requirement	7.39	
Allowance for Expenses	<u>0.20</u>	
Total Requirement		10.95%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>(2.45%)</u>

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Regular Employees

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	\$110,730,848	\$110,730,848	\$110,730,848	\$110,730,848
Amortization Requirement	12,981,033	7,442,853	5,649,406	4,790,480
Covered Payroll	189,180,685	189,180,685	189,180,685	189,180,685
Amortization Rate Requirement	<u>6.86%</u>	<u>3.93%</u>	<u>2.99%</u>	<u>2.53%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	<u>8.50%</u>	<u>8.50%</u>	<u>8.50%</u>	<u>8.50%</u>
Amortization Rate Requirement	6.86%	3.93%	2.99%	2.53%
Normal Cost Rate Requirement	7.39	7.39	7.39	7.39
Allowance for Expenses	<u>0.20</u>	<u>0.20</u>	<u>0.20</u>	<u>0.20</u>
Total Requirement	<u>14.45%</u>	<u>11.52%</u>	<u>10.58%</u>	<u>10.12%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>(5.95%)</u>	<u>(3.02%)</u>	<u>(2.08%)</u>	<u>(1.62%)</u>

Regular Employees

(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, 1971	27,827
New Entrants	79
Reinstated	144
Transfers to Coordinated Plan	<u>-90</u>
<u>Total</u>	<u>27,960</u>

Separations:

a. With Refund of Contributions		
(i) Death	110	
(ii) Withdrawal	<u>1,139</u>	1,249
b. With Deferred Annuity		79
c. With Disability Annuity		57
d. With Normal Retirement Annuity		519
e. With Survivor Annuity		216
f. With Disability Survivor Annuity		<u>11</u>
Total		<u>2,131</u>

Active as of July 1, 1972 25,829

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF ANNUITANTS

Regular Employees

Normal Retirement Annuitants

As of July 1, 1971	5,301
Additions During Year	519
Deletions During Year	<u>-308</u>
<u>Total as of July 1, 1972</u>	<u>5,680</u>
Annual Annuity - July 1, 1971	\$8,371,476
- July 1, 1972	<u>9,031,461</u>

Disability Annuitants

As of July 1, 1971	179
Additions During Year	57
Deletions During Year	<u>-49</u>
<u>Total as of July 1, 1972</u>	<u>187</u>
Annual Annuity - July 1, 1971	\$ 239,262
- July 1, 1972	<u>267,339</u>

Survivor Annuitants

(a) Spouse Only

As of July 1, 1971	2,659
Additional During Year	227
Deletions During Year	<u>-145</u>
<u>Total as of July 1, 1972</u>	<u>2,741</u>
Annual Annuity - July 1, 1971	\$2,084,357
- July 1, 1972	<u>2,166,724</u>

(b) Children

As of July 1, 1971	669
Additions During Year	98
Deletions During Year	<u>-139</u>
<u>Total as of July 1, 1972</u>	<u>628</u>
Annual Annuity - July 1, 1971	\$ 443,814
- July 1, 1972	<u>398,232</u>

Deferred Vested Members

As of July 1, 1971	318
Additions During Year	79
Deletions During Year	<u>-296</u>
<u>Total as of July 1, 1972</u>	<u>101</u>

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

Age	Male		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
60	1	\$ 36.82	2	\$ 150.45
61	5	883.77	9	1,211.51
62	6	1,163.51	11	1,023.24
63	16	2,294.14	17	1,907.71
64	18	3,283.02	13	1,597.20
65	28	5,004.41	23	3,500.00
66	37	7,719.13	32	5,414.68
67	55	11,036.83	29	4,884.20
68	68	13,625.68	37	5,518.15
69	64	12,862.68	35	5,631.71
70	72	13,761.74	50	8,472.82
71	104	20,552.00	50	8,307.99
72	100	19,986.70	51	8,270.20
73	117	22,319.88	52	7,842.10
74	90	17,174.84	64	10,963.38
75	120	19,810.94	57	9,174.96
76	161	28,554.61	66	9,850.16
77	148	24,221.73	64	8,033.17
78	158	26,017.83	59	7,523.31
79	123	17,796.03	45	4,861.62
80	134	18,309.00	54	4,922.86
81	118	15,764.95	42	4,687.81
82	79	11,046.46	49	4,954.06
83	103	14,409.87	48	4,885.81
84	73	9,189.35	50	4,683.37
85	57	6,791.52	26	2,805.13
86	58	6,472.70	17	1,907.93
87	37	4,445.76	18	1,170.59
88	32	4,185.23	17	1,905.19
89	29	2,761.61	6	558.87
90	10	1,314.08	13	1,286.33
91	11	1,335.71	6	457.81
92	7	490.95	3	221.88
93	6	731.06	1	52.15
94	7	780.79	1	27.28
95	1	84.83	1	126.52
97	2	360.64	1	97.06
98	2	216.80	1	68.42
99	1	84.32		
<u>Total</u>	<u>2,258</u>	<u>\$366,881.92</u>	<u>1,120</u>	<u>\$148,957.63</u>

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		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
58	1	\$ 169.66	3	\$ 210.38
59	1	98.69	2	126.52
60	2	199.29	2	155.18
61	2	231.97	5	531.77
62	7	561.33	5	419.00
63	12	1,808.33	7	823.02
64	10	1,075.48	10	1,387.35
65	56	8,829.59	30	3,487.00
66	115	17,570.57	97	9,343.58
67	113	15,112.88	82	8,291.82
68	93	11,633.04	91	8,574.87
69	112	14,430.17	92	8,336.72
70	119	15,286.22	91	7,276.74
71	126	15,412.50	65	4,805.47
72	95	9,008.64	62	4,487.40
73	95	8,593.90	71	5,238.38
74	91	8,380.96	44	2,556.39
75	69	5,589.97	46	3,289.38
76	60	4,893.80	40	2,398.61
77	44	3,816.75	31	2,179.27
78	41	3,592.37	23	1,980.05
79	24	2,414.93	20	1,734.77
80	17	1,758.88	10	1,417.95
81	6	599.83	8	880.39
82	7	553.90	3	238.97
83	4	849.66	4	892.25
84	1	211.78	1	24.87
85	2	341.28	-	-
86	1	26.33	2	417.81
87	2	183.58	-	-
88	-	-	2	252.43
89	1	37.92	-	-
90	1	20.76	-	-
<u>Totals</u>	<u>1,330</u>	<u>\$153,294.96</u>	<u>949</u>	<u>\$ 81,758.34</u>

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

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Monthly Annuity</u>	<u>Number</u>	<u>Monthly Annuity</u>
67	2	\$226.68	-	\$ -
68	-	-	2	299.60
69	-	-	1	24.17
70	-	-	1	92.71
72	4	238.06	-	-
73	1	78.49	2	175.02
74	1	33.57	1	111.94
75	1	33.90	1	29.35
77	2	207.42	-	-
78	-	-	1	24.26
80	2	120.04	-	-
88	1	33.73	-	-
	<hr/>	<hr/>	<hr/>	<hr/>
<u>Totals</u>	<u>14</u>	<u>\$971.89</u>	<u>9</u>	<u>\$757.05</u>

Public Employees Retirement Association
State of Minnesota

Regular Employees

Beneficiaries Payable From Adjustable Fixed Benefit Fund

Age	Male		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
53	1	\$ 110.93	-	\$ -
54	-	-	1	34.81
60	-	-	1	31.99
62	-	-	1	131.24
63	-	-	2	159.25
64	-	-	1	95.67
65	-	-	2	101.88
66	-	-	1	35.97
67	-	-	1	140.31
68	-	-	3	226.90
69	-	-	5	791.72
70	-	-	1	68.32
71	-	-	2	137.93
72	-	-	2	299.19
73	-	-	1	74.87
74	-	-	1	67.62
75	-	-	3	261.64
76	-	-	3	636.01
77	-	-	1	47.52
79	1	103.23	-	-
81	-	-	1	101.71
<u>Totals</u>	<u>2</u>	<u>\$ 214.16</u>	<u>33</u>	<u>\$3,444.55</u>

Annuities Payable For a Certain Period Not Dependent on Age

<u>Number</u>	<u>Monthly Annuity</u>
<u>9</u>	<u>\$904.93</u>

Public Employees Retirement Association
State of Minnesota

Regular Employees

Disability Retirements

Age	Male		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
45	2	\$ 194.09	-	\$ -
47	-	-	1	115.99
48	2	228.63	-	-
49	1	120.57	1	107.60
50	3	288.82	3	330.46
51	1	155.58	3	238.16
52	4	458.44	-	-
53	5	723.36	-	-
54	4	791.15	-	-
55	3	316.59	4	596.58
56	1	105.22	2	170.84
57	3	236.37	3	227.23
58	6	663.01	5	367.56
59	13	1,697.13	10	687.35
60	12	1,278.18	4	353.70
61	10	1,334.74	1	91.64
62	12	1,572.90	3	210.80
63	18	2,672.08	14	1,824.64
64	16	2,085.27	8	774.48
65	6	834.57	1	107.32
66	1	130.67	1	186.53
<u>Totals</u>	<u>123</u>	<u>\$15,887.37</u>	<u>64</u>	<u>\$ 6,390.88</u>

Public Employees Retirement Association
State of Minnesota

Regular Employees

Beneficiaries Under Law in Force Prior to July 1, 1957

Age	Male		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
60	-	\$ -	4	\$ 273.71
61	-	-	10	707.05
62	-	-	10	758.95
63	-	-	18	1,548.86
64	-	-	15	1,192.73
65	-	-	24	1,778.21
66	-	-	31	2,244.84
67	-	-	45	3,289.43
68	-	-	47	3,310.18
69	-	-	52	3,814.36
70	1	84.01	69	5,272.82
71	-	-	65	4,749.84
72	-	-	54	4,002.79
73	-	-	66	4,325.63
74	1	73.91	82	5,656.25
75	1	62.16	71	4,765.51
76	-	-	75	5,571.21
77	1	48.24	75	4,897.44
78	-	-	76	5,114.31
79	-	-	82	5,199.54
80	-	-	72	4,334.34
81	-	-	60	3,496.29
82	1	20.61	47	2,468.65
83	-	-	51	2,721.38
84	1	36.27	42	2,872.99
85	-	-	38	2,093.99
86	1	49.89	29	1,541.65
87	1	77.82	21	1,096.35
88	-	-	21	918.20
89	1	9.45	15	903.49
90	-	-	15	726.85
91	-	-	6	320.87
92	-	-	4	219.76
93	-	-	6	330.75
94	-	-	3	146.00
95	-	-	1	40.00
96	-	-	1	55.00
98	-	-	2	108.30
<u>Totals</u>	<u>9</u>	<u>\$ 462.36</u>	<u>1,405</u>	<u>\$92,868.52</u>

Public Employees Retirement Association
State of Minnesota

Regular Employees

SURVIVOR ANNUITIES

Female

<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>	<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>
34	6	\$ 356.65	64	46	\$ 3,114.71
35	1	65.00	65	53	3,590.82
36	1	65.00	66	49	3,460.50
37	2	130.00	67	37	2,450.14
38	2	130.00	68	43	2,824.88
39	3	195.00	69	40	2,654.04
40	5	325.00	70	37	2,489.64
41	5	325.00	71	33	2,518.12
42	7	455.00	72	38	2,657.80
43	10	607.93	73	25	1,810.62
44	9	585.00	74	24	1,805.29
45	15	961.64	75	20	1,281.98
46	15	964.88	76	17	1,221.72
47	11	715.00	77	16	1,244.07
48	17	1,065.94	78	12	911.77
49	22	1,320.57	79	7	543.98
50	31	2,015.00	80	8	571.23
51	31	1,941.62	81	10	902.19
52	30	1,751.39	82	5	406.58
53	39	2,485.26	83	7	411.58
54	28	1,820.00	84	8	654.56
55	48	2,931.31	85	4	249.96
56	38	2,318.38	86	2	108.14
57	55	3,337.86	87	1	23.97
58	48	3,038.70	88	2	215.00
59	61	3,817.96	89	2	130.00
60	55	3,440.64	90	1	65.00
61	52	3,276.75	93	1	148.66
62	67	4,223.03			
63	54	3,475.66			
			<u>Totals</u>	<u>1,316</u>	<u>\$86,608.12</u>

Public Employees Retirement Association
State of Minnesota

Regular Employees

Survivor Annuities

<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>
54	1	\$ 57.94
59	1	65.00
64	1	65.00
67	3	148.86
68	1	65.00
72	1	65.00
74	2	130.00
77	<u>1</u>	<u>24.57</u>
<u>Totals</u>	<u>11</u>	<u>\$621.37</u>

Children

<u>Number</u>	<u>Total Monthly Annuity</u>
628	\$33,186.00

Public Employees Retirement Association
State of Minnesota

Exhibit 21

Regular Employees

CONSIDERED EARNINGS

Active Male Employees
(Age and Service as of July 1, 1972)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	1	\$ 7,686	-	\$ -	11	\$ 87,445	16	\$ 103,833
25 to 30	-	-	3	20,051	28	233,701	360	3,236,113
30 to 35	-	-	1	7,475	30	206,435	717	6,486,657
35 to 40	-	-	1	6,168	27	236,351	692	6,291,383
40 to 45	-	-	3	13,956	25	140,566	674	5,883,469
45 to 50	-	-	1	22,504	27	197,060	679	5,533,333
50 to 55	-	-	1	7,239	22	144,117	692	5,507,737
55 to 60	-	-	1	7,948	17	100,719	609	4,414,443
60 to 65	1	11,496	3	22,332	17	80,950	297	2,004,316
65 to 70	1	1,500	-	-	8	16,366	93	455,559
70 & Up	-	-	-	-	7	13,899	79	255,028
<u>Total</u>	<u>3</u>	<u>\$ 20,682</u>	<u>14</u>	<u>\$ 107,673</u>	<u>219</u>	<u>\$ 1,457,609</u>	<u>4908</u>	<u>\$ 40,171,871</u>

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	10	89,801	-	-	-	-	-	-
30 to 35	202	1,940,264	15	144,107	-	-	-	-
35 to 40	467	4,630,738	203	2,098,645	15	146,578	-	-
40 to 45	516	5,045,914	416	4,303,754	111	1,223,214	7	71,066
45 to 50	617	5,746,652	531	5,362,665	387	4,208,218	56	590,359
50 to 55	646	5,724,890	475	4,687,783	424	4,431,515	126	1,435,915
55 to 60	576	4,660,042	514	4,489,513	487	4,695,416	189	1,950,362
60 to 65	375	2,953,339	352	2,889,902	399	3,526,696	175	1,800,505
65 to 70	104	706,677	114	834,591	110	898,672	60	643,338
70 & Up	36	138,258	22	114,211	24	197,564	11	97,008
<u>Total</u>	<u>3549</u>	<u>\$31,636,575</u>	<u>2642</u>	<u>\$24,925,171</u>	<u>1957</u>	<u>\$19,327,873</u>	<u>624</u>	<u>\$ 6,588,553</u>

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	28	\$ 198,964
25 to 30	-	-	-	-	-	-	401	3,579,666
30 to 35	-	-	-	-	-	-	965	8,784,938
35 to 40	-	-	-	-	-	-	1405	13,409,863
40 to 45	-	-	-	-	-	-	1752	16,681,939
45 to 50	-	-	-	-	-	-	2298	21,660,791
50 to 55	11	125,073	2	19,143	-	-	2399	22,083,412
55 to 60	54	679,588	11	134,886	1	11,050	2459	21,143,967
60 to 65	72	847,499	42	541,344	18	230,945	1751	14,909,324
65 to 70	26	291,182	8	85,110	10	148,470	534	4,081,465
70 & Up	6	79,882	6	74,137	5	53,013	196	1,023,000
<u>Total</u>	<u>169</u>	<u>\$ 2,023,224</u>	<u>69</u>	<u>\$ 854,620</u>	<u>34</u>	<u>\$ 443,478</u>	<u>14188</u>	<u>\$127,557,329</u>

Public Employees Retirement Association
State of Minnesota

Exhibit 22

Regular Employees

CONSIDERED EARNINGS

Active Female Employees

(Age and Service as of July 1, 1972)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	2	\$ 8,629	38	\$ 207,668	100	\$ 561,735
25 to 30	1	6,804	6	34,730	42	200,151	354	2,468,449
30 to 35	-	-	4	29,257	44	208,789	317	2,066,368
35 to 40	-	-	2	3,812	118	446,491	499	2,433,548
40 to 45	-	-	1	3,898	169	650,359	908	4,230,753
45 to 50	-	-	5	26,056	190	682,442	1203	5,745,977
50 to 55	-	-	-	-	149	563,965	1121	5,270,887
55 to 60	-	-	1	2,520	96	341,381	873	3,890,926
60 to 65	-	-	-	-	49	164,546	482	1,943,027
65 to 70	-	-	-	-	8	14,201	101	257,566
70 & Up	-	-	-	-	7	17,184	37	85,096
Total	1	\$ 6,804	21	\$ 108,902	910	\$ 3,497,177	5995	\$28,954,332

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	27	171,145	-	-	-	-	-	-
30 to 35	109	765,658	12	75,441	-	-	-	-
35 to 40	99	701,131	45	336,571	8	56,297	-	-
40 to 45	224	1,337,169	61	474,786	34	258,874	6	45,547
45 to 50	408	2,340,896	97	711,660	70	621,310	29	259,919
50 to 55	581	3,189,589	214	1,421,511	97	754,679	32	280,742
55 to 60	651	3,511,957	287	1,804,328	133	952,890	54	486,246
60 to 65	426	2,098,418	310	1,755,925	166	1,142,513	76	598,721
65 to 70	121	509,316	69	340,331	40	262,406	28	227,134
70 & Up	34	88,834	11	34,945	7	20,331	4	30,320
Total	2680	\$14,714,213	1106	\$ 6,975,498	555	\$ 4,069,300	229	\$ 1,928,629

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	140	\$ 778,032
25 to 30	-	-	-	-	-	-	430	2,881,279
30 to 35	-	-	-	-	-	-	486	3,145,513
35 to 40	-	-	-	-	-	-	771	3,977,850
40 to 45	-	-	-	-	-	-	1403	7,001,386
45 to 50	-	-	-	-	-	-	2002	10,388,360
50 to 55	16	141,265	3	23,062	-	-	2213	11,645,700
55 to 60	33	296,134	18	162,170	1	14,528	2147	11,463,080
60 to 65	36	329,836	15	198,600	8	72,694	1568	8,324,280
65 to 70	6	48,452	2	18,073	3	35,766	378	1,713,245
70 & Up	2	19,881	1	8,040	-	-	103	304,631
Total	93	\$ 835,568	39	\$ 409,945	12	\$ 122,988	11641	\$61,623,356

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, $3\frac{1}{2}\%$ interest.

Coordinated Employees

(Covered by Social Security)

ACTUARIAL REQUIREMENTS - $3\frac{1}{2}\%$

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1972)

Coordinated Employees

RESERVES

Entry Age Normal Reserves

Retirement	\$116,991,145.00
Disability	6,539,411.00
Refund	<u>20,652,406.00</u>
	\$144,182,962.00

Less Value of Benefits to be
Earned in the Future

88,998,580.00 \$ 55,184,382.00

Vested Members

498,457.00

Retired Members

Retirements Payable from
Minnesota Adjustable Fixed
Benefit Fund

\$ 6,703,637.67

Disability

206,099.00

Survivors

- 6,909,736.67 62,592,575.67

Unfunded Obligation

\$ 16,957,483.32

Funded Obligation

45,635,092.35

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Coordinated Employees

AMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		\$151,591,155
Obligation for Service Rendered to Date	\$ 62,592,575	
Net Assets	45,635,092	
Accrued Unfunded Obligation	16,957,483	
Funding Ratio		73%
Amortization (25-Year) Requirement	1,028,878	
Covered Payroll	242,048,285	
Amortization (25-Year) Rate Requirement		<u>0.43%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 88,998,580	
Present Value of Future Payroll	1,739,662,100	
Normal Cost Rate Requirement	5.12%	
Employee Contribution Rate	3.00	
Employer Normal Cost Rate Requirement		<u>2.12%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		4.50%
Amortization (25-Year) Rate Requirement	0.43%	
Normal Cost Rate Requirement	2.12	
Allowance for Expenses	0.20	
Total Requirement		2.75%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>1.75%</u>

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Coordinated Employees

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	\$ 16,957,483	\$ 16,957,483	\$ 16,957,483	\$ 16,957,483
Amortization Requirement	2,038,991	1,193,147	922,001	794,073
Covered Payroll	242,048,285	242,048,285	242,048,285	242,048,285
Amortization Rate Requirement	<u>0.84%</u>	<u>0.49%</u>	<u>0.38%</u>	<u>0.33%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	<u>4.50%</u>	<u>4.50%</u>	<u>4.50%</u>	<u>4.50%</u>
Amortization Rate Requirement	0.84%	0.49%	0.38%	0.33%
Normal Cost Rate Requirement	2.12	2.12	2.12	2.12
Allowance for Expenses	<u>0.20</u>	<u>0.20</u>	<u>0.20</u>	<u>0.20</u>
Total Requirement	<u>3.16%</u>	<u>2.81%</u>	<u>2.70%</u>	<u>2.65%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>1.34%</u>	<u>1.69%</u>	<u>1.80%</u>	<u>1.85%</u>

Public Employees Retirement Association
State of Minnesota

Coordinated Employees

STATEMENT OF REVENUE, EXPENDITURES,
CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS) *
(Year Ending June 30, 1972)

Revenue:

Employer Contributions	\$ 9,316,906.92	
Employee Contributions	6,155,132.77	
Investment Income	1,248,220.90	
Transfer from Regular	372,485.06	
Minnesota Adjustable Fixed Benefit Fund Income	542,664.74	
Increase in Reserves	<u>199,249.82</u>	
Total Revenue		\$17,834,660.21

Expenditure:

Benefits	\$ 556,840.19	
Refund of Contributions	1,638,913.17	
Social Security	17,971.44	
Administrative Expense	87,606.61	
Increase (Decrease) in Accounts	<u>32,805.69</u>	
Total Expenditures		<u>\$ 2,334,137.10</u>
Increase in Assets (1972)		<u>\$15,500,523.11</u>

*See Exhibit 4.

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF CHANGE IN ACTUARIAL RESERVES

Coordinated Employees

ALLOCATION OF CHANGE IN ACTUARIAL RESERVES

	<u>Increase</u>	<u>Decrease</u>	
Increase in Assets			\$15,500,523
Amortization Payment		\$ 454,798	
Excess Interest (1.75% x Average Invested Assets)		452,551	
Estimated Excess in Rate		3,796,766	
Transfers from Regular	\$ 111,623		
Contribution Requirement Applied to Larger Payroll		1,016,580	
Increases in Compensation	<u>3,863,035</u>		
Totals	<u>\$3,974,658</u>	<u>\$5,720,695</u>	
Expected Decrease (Increase) In Unfunded			<u>1,746,037</u>
Net Change in Reserves			\$13,754,486
Experience Variation Gain (Loss)			<u>85,588</u>
Total			<u>\$13,668,898</u>
1972 Actuarial Reserve			\$62,592,575
1971 Actuarial Reserve			48,923,677
Increase (Decrease)			<u>\$13,668,898</u>

Coordinated Employees

(Covered by Social Security)

ACTUARIAL REQUIREMENTS - 3%

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1972)

Coordinated Employees

RESERVES

Entry Age Normal Reserves

Retirement	\$131,450,725.00
Disability	7,347,653.00
Refund	<u>23,204,951.00</u>
	\$162,003,329.00

Less Value of Benefits to be
Earned in the Future

105,434,033.00 \$56,569,296.00

Vested Members

507,236.00

Retired Members

Retirements Payable from
Minnesota Adjustable Fixed
Benefit Fund

\$ 6,703,637.67

Disability

212,473.00

Survivors

-

6,916,110.67

\$63,992,642.67

Unfunded Obligation

\$18,357,550.32

Funded Obligation

45,635,092.35

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Coordinated Employees

AMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		\$169,426,675
Obligation for Service		
Rendered to Date	\$ 63,992,642	
Net Assets	45,635,092	
Accrued Unfunded Obligation	18,357,550	
Funding Ratio		71%
Amortization (25-Year) Requirement	1,054,235	
Covered Payroll	242,048,285	
Amortization (25-Year) Rate Requirement		<u>0.44%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 105,434,033	
Present Value of Future Payroll	1,812,148,000	
Normal Cost Rate Requirement	5.82%	
Employee Contribution Rate	3.00	
Employer Normal Cost Rate Requirement		<u>2.82%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		4.50%
Amortization (25-Year) Rate Requirement	0.44%	
Normal Cost Rate Requirement	2.82	
Allowance for Expenses	<u>0.20</u>	
Total Requirement		3.46%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>1.04%</u>

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Coordinated Employees

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	\$ 18,357,550	\$ 18,357,550	\$ 18,357,550	\$ 18,357,550
Amortization Requirement	2,152,065	1,233,916	936,589	794,191
Covered Payroll	242,048,285	242,048,285	242,048,285	242,048,285
Amortization Rate Requirement	<u>0.89%</u>	<u>0.51%</u>	<u>0.39%</u>	<u>0.33%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	<u>4.50%</u>	<u>4.50%</u>	<u>4.50%</u>	<u>4.50%</u>
Amortization Rate Requirement	0.89%	0.51%	0.39%	0.33%
Normal Cost Rate Requirement	2.82	2.82	2.82	2.82
Allowance for Expenses	<u>0.20</u>	<u>0.20</u>	<u>0.20</u>	<u>0.20</u>
Total Requirement	<u>3.91%</u>	<u>3.53%</u>	<u>3.41%</u>	<u>3.35%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>0.59%</u>	<u>0.97%</u>	<u>1.09%</u>	<u>1.15%</u>

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, 1971		38,303
New Entrants		13,251
Reinstated		2,308
Transfers to Coordinated Plan		<u>90</u>
Total		<u>53,952</u>
Separations:		
a. With Refund of Contributions		
(i) Death	112	
(ii) Withdrawal	<u>8,569</u>	8,681
b. With Deferred Annuity		15
c. With Disability Annuity		15
d. With Normal Retirement Annuity		196
e. With Survivor Annuity		<u>1</u>
Total		<u>8,908</u>
Active as of July 1, 1972		<u>45,044</u>

Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF ANNUITANTS

Coordinated Employees

Normal Retirement Annuitants

As of July 1, 1971	550
Additions During Year	196
Deletions During Year	<u>-33</u>
<u>Total as of July 1, 1972</u>	<u>713</u>
Annual Annuity - July 1, 1971	\$486,800
- July 1, 1972	635,797

Disability Annuitants

As of July 1, 1971	36
Additions During Year	15
Deletions During Year	<u>-12</u>
<u>Total as of July 1, 1972</u>	<u>39</u>
Annual Annuity - July 1, 1971	\$ 21,648
- July 1, 1972	25,209

Survivor Annuitants

Spouse Only	
As of July 1, 1971	0
Additions During Year	3
Deletions During Year	<u>0</u>
<u>Total as of July 1, 1972</u>	<u>3</u>
Annual Annuity - July 1, 1971	\$ 0
- July 1, 1972	1,849

Deferred Vested Members

As of July 1, 1971	49
Additions During Year	15
Deletions During Year	<u>-53</u>
<u>Total as of July 1, 1972</u>	<u>11</u>

Public Employees Retirement Association
State of Minnesota

Coordinated Employees

Retired - Laws 1967, Chapter 687

Payable From Adjustable Fixed Benefit Fund

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Monthly Annuity</u>	<u>Number</u>	<u>Monthly Annuity</u>
62	1	\$ 131.19	-	\$ -
63	1	72.27	3	332.71
64	2	134.16	2	121.57
65	22	1,613.45	11	752.38
66	72	5,373.71	25	1,916.38
67	94	6,585.53	33	2,242.74
68	84	5,601.24	27	1,729.50
69	78	5,609.10	26	2,611.64
70	39	2,460.68	18	931.59
71	27	1,504.69	11	855.22
72	27	2,173.52	10	1,284.78
73	13	1,008.66	12	1,291.03
74	12	1,053.98	5	281.15
75	10	1,030.74	3	341.37
76	11	625.59	3	126.37
77	3	648.74	3	371.31
78	5	394.26	-	-
79	2	192.91	2	305.20
80	4	192.68	1	44.99
81	3	284.33	3	298.14
82	2	212.44	1	139.40
83	1	65.37	-	-
86	1	36.40	-	-
<u>Totals</u>	<u>514</u>	<u>\$37,005.64</u>	<u>199</u>	<u>\$15,977.47</u>

Survivor Annuities

Females

<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>
67	1	\$ 28.37
80	1	99.49
<u>Totals</u>	<u>2</u>	<u>\$127.86</u>

Annuities Payable for Certain Period Not Dependent on Age

<u>Number</u>	<u>Monthly Annuity</u>
1	\$26.22

Public Employees Retirement Association
State of Minnesota

Coordinated Employees

Disability Retirements

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Monthly Annuity</u>	<u>Number</u>	<u>Monthly Annuity</u>
45	1	\$ 70.55	-	\$ -
51	1	44.91	-	-
53	1	40.86	-	-
55	3	175.47	-	-
56	1	18.62	-	-
58	3	158.70	-	-
59	3	76.95	-	-
60	1	160.02	-	-
61	1	59.49	-	-
62	5	152.83	-	-
63	6	267.61	1	9.72
64	6	564.78	-	-
65	3	208.04	1	43.39
66	1	39.09	1	9.73
<u>Totals</u>	<u>36</u>	<u>\$2,037.92</u>	<u>3</u>	<u>\$ 62.84</u>

Public Employees Retirement Association
State of Minnesota

Exhibit 33

Coordinated Employees
CONSIDERED EARNINGS

Active Male Employees
(Age and Service as of July 1, 1972)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	643	\$ 3,530,786	912	\$ 4,936,546	504	\$ 3,270,407	11	\$ 89,901
25 to 30	455	3,006,170	912	5,978,774	1255	10,475,096	104	944,856
30 to 35	209	1,420,121	485	3,388,889	871	7,389,035	201	2,076,342
35 to 40	159	1,083,640	361	2,415,936	811	6,754,503	182	1,948,114
40 to 45	179	1,212,570	377	2,378,523	811	6,371,494	186	1,887,429
45 to 50	163	1,035,824	364	2,295,614	774	5,985,350	285	2,665,250
50 to 55	103	590,736	313	1,955,233	799	5,783,381	320	2,866,544
55 to 60	114	657,433	226	1,190,093	694	4,605,506	361	2,900,691
60 to 65	61	315,624	137	573,072	381	2,320,810	290	2,202,093
65 to 70	29	102,097	56	137,507	150	556,229	85	534,690
70 & Up	23	62,260	36	61,060	88	174,592	11	32,695
<u>Total</u>	<u>2138</u>	<u>\$13,017,261</u>	<u>4179</u>	<u>\$25,311,247</u>	<u>7138</u>	<u>\$53,686,403</u>	<u>2036</u>	<u>\$ 18,148,605</u>

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	1	9,264	-	-	-	-	-	-
30 to 35	28	310,615	1	17,599	-	-	-	-
35 to 40	112	1,374,948	14	131,614	3	33,850	-	-
40 to 45	106	1,359,511	59	728,659	11	126,047	1	8,094
45 to 50	126	1,314,490	83	1,037,727	55	728,826	4	48,678
50 to 55	166	1,623,297	111	1,184,948	68	720,914	13	168,369
55 to 60	197	1,744,469	131	1,202,157	69	638,994	15	172,922
60 to 65	270	2,283,000	163	1,472,994	111	1,014,734	39	371,599
65 to 70	71	520,583	46	420,013	44	375,347	12	144,904
70 & Up	7	45,393	9	64,232	4	27,871	2	23,257
<u>Total</u>	<u>1084</u>	<u>\$10,585,570</u>	<u>617</u>	<u>\$ 6,259,943</u>	<u>365</u>	<u>\$ 3,666,583</u>	<u>86</u>	<u>\$ 937,823</u>

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	2070	\$ 11,827,640
25 to 30	-	-	-	-	-	-	2727	20,414,160
30 to 35	-	-	-	-	-	-	1795	14,602,601
35 to 40	-	-	-	-	-	-	1642	13,742,605
40 to 45	-	-	-	-	-	-	1730	14,072,327
45 to 50	-	-	-	-	-	-	1854	15,111,759
50 to 55	1	7,630	-	-	-	-	1894	14,901,052
55 to 60	4	46,070	-	-	-	-	1811	13,158,335
60 to 65	6	73,161	1	10,020	1	17,309	1460	10,654,416
65 to 70	4	43,386	-	-	-	-	497	2,834,756
70 & Up	1	6,660	-	-	-	-	181	498,020
<u>Total</u>	<u>16</u>	<u>\$ 176,907</u>	<u>1</u>	<u>\$ 10,020</u>	<u>1</u>	<u>\$ 17,309</u>	<u>17661</u>	<u>\$131,817,671</u>

Public Employees Retirement Association
State of Minnesota

Exhibit 34

Coordinated Employees

CONSIDERED EARNINGS

Active Female Employees

(Age and Service as of July 1, 1972)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	919	\$ 3,707,916	1813	\$ 8,005,128	1733	\$ 9,156,571	39	\$ 203,684
25 to 30	516	2,165,131	1026	4,537,314	1618	10,079,178	160	1,105,274
30 to 35	375	1,268,779	1023	3,168,783	1429	5,900,970	149	1,002,477
35 to 40	371	1,102,355	1085	3,103,027	1887	6,662,125	136	764,212
40 to 45	303	887,828	1003	2,840,434	2019	7,478,344	211	1,183,701
45 to 50	240	842,449	779	2,299,178	1876	6,990,411	282	1,593,248
50 to 55	190	594,750	580	1,614,655	1462	5,281,923	295	1,659,772
55 to 60	126	430,073	375	1,046,910	1131	3,980,978	300	1,484,043
60 to 65	55	136,578	176	422,975	498	1,490,483	222	1,031,275
65 to 70	11	20,304	45	72,902	153	291,367	51	190,790
70 & Up	8	16,825	14	18,132	52	65,377	7	22,633
Total	3114	\$11,172,988	7919	\$27,129,438	13858	\$57,377,727	1852	\$ 10,241,109

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	2	16,073	-	-	-	-	-	-
30 to 35	9	70,409	2	12,494	-	-	-	-
35 to 40	11	84,226	7	50,382	-	-	-	-
40 to 45	18	134,595	8	83,679	5	37,471	-	-
45 to 50	35	246,616	23	221,069	4	44,546	3	25,625
50 to 55	60	385,746	24	207,792	14	139,826	6	58,119
55 to 60	88	520,842	34	184,507	25	186,912	3	25,837
60 to 65	70	380,823	55	343,840	24	186,662	11	95,972
65 to 70	24	69,581	28	123,223	8	41,798	3	28,594
70 & Up	6	24,683	3	14,037	4	15,370	-	-
Total	323	\$ 1,933,594	184	\$ 1,241,023	84	\$ 652,585	26	\$ 234,147

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	4504	\$ 21,073,299
25 to 30	-	-	-	-	-	-	3322	17,902,970
30 to 35	-	-	-	-	-	-	2987	11,423,912
35 to 40	-	-	-	-	-	-	3497	11,766,327
40 to 45	-	-	-	-	-	-	3567	12,646,052
45 to 50	2	14,979	-	-	-	-	3244	12,278,121
50 to 55	3	23,235	-	-	-	-	2634	9,965,818
55 to 60	4	47,532	-	-	-	-	2086	7,907,634
60 to 65	4	51,028	6	69,262	1	9,584	1122	4,218,482
65 to 70	1	15,983	2	16,400	-	-	326	870,942
70 & Up	-	-	-	-	-	-	94	177,057
Total	14	\$ 152,757	8	\$ 85,662	1	\$ 9,584	27383	\$110,230,614

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 $1\frac{1}{2}\%$ 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, 1972)

Police and Fire Fund

ASSETS

Cash - On Hand	\$ -		
On Deposit and in Transit	<u>93,143.02</u>	\$ 93,143.02	
Minnesota Adjustable Fixed Benefit Fund		5,207,193.88	
Withheld Annuities		158,418.07	
Accounts Receivable			
M.S. 1971, Section 353.36,			
Subd. 8 and 9	\$ 1,845.91		
M.S. 1971, Section 353.83	33.49		
Employer Contributions	7,890.59		
Interest	248,471.42		
Dividends	63,975.82		
From Regular Fund	28,345.37		
Others	<u>1,604.11</u>	<u>352,166.71</u>	\$ 5,810,921.68
Less Current Liabilities			<u>55,626.05</u>
Net Current Assets			\$ 5,755,295.63

INVESTMENTS

Bonds			
U.S. Government	\$ 2,423,000.00		
Municipal	-		
Corporate	12,015,479.05		
Canadian Government Insured	650,000.00		
Stocks			
Common	10,804,978.69		
Preferred	-		
Prepaid Interest	<u>-</u>		<u>25,893,457.74</u>
Total Assets			<u>\$31,648,753.37</u>

Members accumulated contributions \$7,909,558.52

Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

SOURCES AND USES OF FUNDS
(July 1, 1971 - June 30, 1972)

<u>Sources</u>		<u>Uses</u>	
<u>Employee Contributions</u>	\$ 1,839,693.23	<u>Refunds</u>	
<u>Employer Contributions</u>	3,216,291.04	Employee Contributions	\$ 189,273.59
<u>Various Accounts Receivable</u>	2,794.63	Employer Contributions	4,431.56
<u>Investment Income</u>	1,048,456.99	<u>Benefits Paid</u>	
<u>Transfers from Regular Fund</u>	4,949.40	Retirement	1,152,389.04
<u>Minnesota Adjustable Fixed Benefit Fund</u>	66,656.72	Survivor	130,121.98
<u>Investment Sales</u>		Disability	8,211.90
Bonds	11,107,277.23	<u>Direct Expense</u>	429.72
Stocks	2,059,976.26	<u>Investment Purchases</u>	
<u>Cancelled Warrants</u>	1,141.20	Bonds	13,606,454.17
<u>Miscellaneous Receipts</u>	10,211.29	Stocks	3,741,247.98
<u>Decrease in Cash Account</u>	80,430.85	<u>Payments to Minnesota Adjustable Fixed Benefit Fund</u>	411,438.54
		<u>Transfers to Regular Fund</u>	32,022.83
		<u>Interest Paid on Refunds</u>	995.83
	<u>\$19,277,017.14</u>		<u>\$19,277,017.14</u>
Cash Balance, June 30, 1972	<u>93,143.02</u>		
Total (Statement of Receipts and Disbursements)	<u>\$19,370,160.16</u>		

Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

RECONCILIATION OF ASSET BALANCES
(June 30, 1972)

Asset Balance - July 1, 1971			\$25,988,162.67
Add:			
Employer Contributions		\$2,978,071.64	
Employee Contributions		1,736,074.83	
Transfers from Regular Fund		27,867.44	
Investment Earnings		1,245,039.29	
Minnesota Adjustable Fixed Benefit Fund Income		412,434.34	
Loss on Sale of Stocks and Bonds		-130,050.91	
Other Income		<u>10,084.65</u>	
Total Additions			<u>6,279,521.28</u>
			\$32,267,683.95
Deduct:			
Benefits Paid			
Retirement	\$418,208.54		
Survivor	129,515.74		
Disability	<u>7,962.24</u>	\$ 555,686.52	
Refunds		188,680.88	
Transfers to Regular Fund		17,371.40	
Interest Paid on Refunds		995.83	
Interest Expenses		5,451.15	
Administrative Expenses		<u>30,697.69</u>	
Total Deductions			<u>798,883.47</u>
			\$31,468,800.48
Current Liabilities and Accounts Payable			55,626.05
Increase in Reserve Accounts During 1971-72 Not Affecting Current Year Income and Expenditures			<u>179,952.89</u>
Asset Balance, June 30, 1972			<u>\$31,704,379.42</u>

Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

ACTUARIAL ASSUMPTIONS

The assumptions can be summarized as follows:

Interest:	3.5%
Mortality - Before Retirement:	1951 Group Annuity
After Retirement:	1965 Group Annuity
Retirement Age:	62
Disability:	See Following Table
Turnover:	See Following Table
Salary Scale:	See Following Table
1952-57 Wage Base:	Estimate based on 1952-57 contributions

Age 62 was used as the average age at retirement to allow for the lowering of the earliest retirement age from 58 to 55. Prior to this change age 64 was the retirement age assumption.

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)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
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		
39	1.849		
40	2.000		
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)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
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		
38	4.75		
39	5.25		
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)

<u>Age</u>	<u>Separation</u>	<u>Age</u>	<u>Separation</u>
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

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

Police and Fire Fund

ACTUARIAL REQUIREMENTS - $3\frac{1}{2}\%$

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
 (Year Commencing July 1, 1972)

Police and Fire Fund

LIABILITIES

Accounts Payable	\$	55,626.05		
Retirement		-		
Survivor		-		
Refunds		-		
Expenses		-		
Suspense Items		-	\$	55,626.05
Less Offset Against Current Assets			55,626.05	\$ 0

RESERVES

Entry Age Normal Reserves				
Retirement	\$54,216,087.00			
Disability	19,255,356.00			
Survivors	7,023,881.00			
Refund	3,607,759.00			
	<u>\$84,103,083.00</u>			
Less Value of Benefits to be Earned in the Future	<u>58,147,578.00</u>	\$25,955,505.00		
Vested Members		778,311.00		
Retired Members				
Retirements - Payable from Minnesota Adjustable Fixed Benefit Fund	\$ 5,365,611.95			
Disability	77,885.00			
Survivors	1,368,585.00			
Reserve for Future Old Law Survivors	<u>548,885.00</u>	<u>7,360,966.95</u>	<u>34,094,782.95</u>	
Unfunded Obligation			\$ 2,446,029.58	
Funded Obligation			<u>31,648,753.37</u>	

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Police and Fire Fund

AMORTIZATION RATE REQUIREMENT

Present Value of Benefits (For Both Past and Future Service)		\$92,242,361
Obligation for Service		
Rendered to Date	\$ 34,094,783	
Net Assets	31,648,753	
Accrued Unfunded Obligation	2,446,030	
Funding Ratio		93%
Amortization (25-Year) Requirement	148,410	
Covered Payroll	28,359,526	
Amortization (25-Year) Rate Requirement		<u>0.52%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 58,147,578	
Present Value of Future Payroll	332,796,800	
Normal Cost Rate Requirement	17.47%	
Employee Contribution Rate	7.00	
Employer Normal Cost Rate Requirement		<u>10.47%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		12.00%
Amortization (25-Year) Rate Requirement	0.52%	
Normal Cost Rate Requirement	10.47	
Allowance for Expenses	<u>0.12</u>	
Total Requirement		11.11%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>0.89%</u>

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Police and Fire Fund

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	\$ 2,446,030	\$ 2,446,030	\$ 2,446,030	\$ 2,446,030
Amortization Requirement	294,114	172,105	132,994	114,541
Covered Payroll	28,359,526	28,359,526	28,359,526	28,359,526
Amortization Rate Requirement	<u>1.04%</u>	<u>0.61%</u>	<u>0.47%</u>	<u>0.40%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	<u>12.00%</u>	<u>12.00%</u>	<u>12.00%</u>	<u>12.00%</u>
Amortization Rate Requirement	1.04%	0.61%	0.47%	0.40%
Normal Cost Rate Requirement	10.47	10.47	10.47	10.47
Allowance for Expenses	<u>0.12</u>	<u>0.12</u>	<u>0.12</u>	<u>0.12</u>
Total Requirement	<u>11.63%</u>	<u>11.20%</u>	<u>11.06%</u>	<u>10.99%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>0.37%</u>	<u>0.80%</u>	<u>0.94%</u>	<u>1.01%</u>

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, 1972)

Revenue:

Employer Contributions	\$2,978,071.64	
Employee Contributions	1,736,074.83	
Investment Income	1,114,988.38	
Miscellaneous Income	10,084.65	
Transfer from General Fund	10,496.04	
Increase in Reserve Account	179,952.89	
Minnesota Adjustable Fixed Benefit Fund Income	<u>412,434.34</u>	
Total Revenue		\$6,442,102.77

Expenditure:

Benefits	\$ 555,686.52	
Refund of Contributions	189,676.71	
Expense - General	<u>36,148.84</u>	
Total Expenditure		<u>\$ 781,512.07</u>

Increase in Net Assets (1972) \$5,660,590.70

Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

RECONCILIATION OF CHANGE IN ACTUARIAL RESERVES

Allocation of Change in Actuarial Reserves

	<u>Increase</u>	<u>Decrease</u>	
Increase in Assets			\$ 5,660,591
Amortization Payment		\$ 61,610	
Excess Interest (1.96% x Average Invested Assets)		466,509	
Estimated Excess in Rate		234,172	
Contribution Requirement Applied to Larger Payroll		242,998	
Increases in Compensation	\$1,085,086		
Totals	<u>\$1,085,086</u>	<u>\$1,005,289</u>	
Expected Decrease (Increase) in Unfunded			<u>(79,797)</u>
Net Change in Reserves			\$ 5,740,388
Experience Variation Gain (Loss)			<u>179,066</u>
Total			<u>\$ 5,561,322</u>
1972 Actuarial Reserve			\$34,094,783
1971 Actuarial Reserve			<u>28,533,461</u>
Increase (Decrease)			<u>\$ 5,561,322</u>

Police and Fire Fund

ACTUARIAL REQUIREMENTS - 3%

Public Employees Retirement Association
State of Minnesota

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1972)

Police and Fire Fund

LIABILITIES

Accounts Payable	\$	55,626.05		
Retirement		-		
Survivor		-		
Refunds		-		
Expenses		-		
Suspense Items		-	\$	55,626.05
Less Offset Against Current Assets			<u>55,626.05</u>	\$ 0

RESERVES

Entry Age Normal Reserves				
Retirement	\$60,916,952.00			
Disability	21,635,231.00			
Survivors	7,892,001.00			
Refund	<u>4,053,662.00</u>			
	\$94,497,846.00			
Less Value of Benefits to be Earned in the Future	<u>68,820,534.00</u>	\$25,677,312.00		
Vested Members		866,544.00		
Retired Members				
Retirements - Payable from Minnesota Adjustable Fixed Benefit Fund	\$ 5,365,611.95			
Disability	80,294.00			
Survivors	1,410,912.00			
Reserve for Future Old Law Survivors	<u>565,861.00</u>	<u>7,422,678.95</u>	<u>33,966,534.95</u>	
Unfunded Obligation			\$ 2,317,781.58	
Funded Obligation			<u>31,648,753.37</u>	

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Police and Fire Fund

AMORTIZATION RATE REQUIREMENT

Present Value of Benefit (For Both Past and Future Service)		\$102,787,069
Obligation for Service Rendered to Date	\$ 33,966,535	
Net Assets	31,648,753	
Accrued Unfunded Obligation	2,317,782	
Funding Ratio		93%
Amortization (25-Year) Requirement	133,105	
Covered Payroll	28,359,526	
Amortization (25-Year) Rate Requirement		<u>0.47%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 68,820,534	
Present Value of Future Payroll	346,663,300	
Normal Cost Rate Requirement	19.85%	
Employee Contribution Rate	7.00	
Employer Normal Cost Rate Requirement		<u>12.85%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		12.00%
Amortization (25-Year) Rate Requirement	0.47%	
Normal Cost Rate Requirement	12.85	
Allowance for Expenses	<u>0.12</u>	
Total Requirement		13.44%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>(1.44%)</u>

Public Employees Retirement Association
State of Minnesota

ACTUARIAL REQUIREMENTS
(July 1, 1972)

Police and Fire Fund

AMORTIZATION RATE REQUIREMENT

	Period			
	10-Year	20-Year	30-Year	40-Year
Accrued Unfunded Obligation	\$ 2,317,782	\$ 2,317,782	\$ 2,317,782	\$ 2,317,782
Amortization Requirement	271,715	155,791	118,252	100,273
Covered Payroll	28,359,526	28,359,526	28,359,526	28,359,526
Amortization Rate Requirement	<u>0.96%</u>	<u>0.55%</u>	<u>0.42%</u>	<u>0.35%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	<u>12.00%</u>	<u>12.00%</u>	<u>12.00%</u>	<u>12.00%</u>
Amortization Rate Requirement	0.96%	0.55%	0.42%	0.35%
Normal Cost Rate Requirement	12.85	12.85	12.85	12.85
Allowance for Expenses	<u>0.12</u>	<u>0.12</u>	<u>0.12</u>	<u>0.12</u>
Total Requirement	<u>13.93%</u>	<u>13.52%</u>	<u>13.39%</u>	<u>13.32%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>(1.93%)</u>	<u>(1.52%)</u>	<u>(1.39%)</u>	<u>(1.32%)</u>

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, 1971	2,837
New Entrants	467
Reinstated	<u>69</u>
<u>Total</u>	<u>3,373</u>

Separations:

(a) With Refund of Contributions		
(i) Death	6	
ii) Withdrawal	<u>282</u>	288
(b) With Deferred Annuity		3
(c) With Disability Annuity		1
(d) With Normal Retirement Annuity		44
(e) With Survivor Annuity		<u>10</u>
<u>Total</u>		<u>346</u>

Active as of July 1, 1972	<u>3,027</u>
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Public Employees Retirement Association
State of Minnesota

RECONCILIATION OF ANNUITANTS

Police and Fire Fund

Normal Retirement Annuitants

As of July 1, 1971	185
Additions During Year	44
Deletions During Year	<u>-14</u>
<u>Total as of July 1, 1972</u>	<u>215</u>
Annual Annuity - July 1, 1971	\$351,174
- July 1, 1972	455,420

Disability Annuitants

As of July 1, 1971	4
Additions During Year	1
Deletions During Year	<u>-</u>
<u>Total as of July 1, 1972</u>	<u>5</u>
Annual Annuity - July 1, 1971	\$ 6,288
- July 1, 1972	8,163

Survivor Annuitants

(a) Spouse Only	
As of July 1, 1971	91
Additions During Year	10
Deletions During Year	<u>-5</u>
<u>Total as of July 1, 1972</u>	<u>96</u>
Annual Annuity - July 1, 1971	\$ 74,234
- July 1, 1972	82,980

(b) Children

As of July 1, 1971	88
Additions During Year	3
Deletions During Year	<u>-4</u>
<u>Total as of July 1, 1972</u>	<u>87</u>
Annual Annuity - July 1, 1971	\$ 55,079
- July 1, 1972	52,692

Deferred Annuitants

As of July 1, 1971	30
Additions During Year	3
Deletions During Year	<u>-</u>
<u>Total as of July 1, 1972</u>	<u>33</u>

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

Age	Male		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
64	3	\$ 875.14	-	\$ -
65	2	582.85	-	-
66	5	1,225.31	-	-
67	11	2,719.87	-	-
68	6	1,167.58	1	128.30
69	7	1,134.46	-	-
70	10	2,027.54	-	-
71	10	2,458.26	1	168.55
72	10	2,140.03	-	-
73	9	1,846.37	1	45.86
74	4	836.70	1	175.12
75	6	1,093.79	-	-
76	7	1,366.00	-	-
77	3	727.40	-	-
78	3	458.18	-	-
79	3	548.51	-	-
81	1	112.46	-	-
83	1	161.61	-	-
84	1	35.69	-	-
94	1	116.44	-	-
<u>Totals</u>	<u>103</u>	<u>\$21,634.19</u>	<u>4</u>	<u>\$ 517.83</u>

Retired Under 1971 Laws, Chapter 297

Age	Male		Female	
	Number	Monthly Annuity	Number	Monthly Annuity
56	2	\$ 466.06	-	\$ -
57	1	122.31	-	-
58	1	357.00	-	-
59	2	481.93	-	-
62	2	444.82	-	-
63	2	731.13	-	-
64	1	236.03	-	-
65	4	954.44	-	-
66	7	1,867.38	1	168.93
67	1	228.46	-	-
68	2	344.62	-	-
69	1	303.69	-	-
75	1	39.52	-	-
79	1	75.68	-	-
<u>Totals</u>	<u>28</u>	<u>\$ 6,653.07</u>	<u>1</u>	<u>\$ 168.93</u>

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

<u>Age</u>	<u>Male</u>		<u>Female</u>	
	<u>Number</u>	<u>Monthly Annuity</u>	<u>Number</u>	<u>Monthly Annuity</u>
57	1	\$ 235.44	-	\$ -
58	1	415.47	1	100.43
59	2	150.58	-	-
60	4	544.41	-	-
61	1	173.96	-	-
62	4	756.22	-	-
63	7	1,280.67	-	-
64	5	682.41	-	-
65	2	103.38	-	-
66	4	702.62	-	-
67	4	374.89	1	66.89
68	6	365.25	1	25.99
69	4	482.62	-	-
70	6	612.15	-	-
71	4	381.85	-	-
72	4	209.21	-	-
73	2	59.61	-	-
74	1	199.61	-	-
75	4	310.21	-	-
76	2	200.69	-	-
77	2	134.65	-	-
78	3	200.33	-	-
79	1	54.23	-	-
86	1	41.72	-	-
<u>Totals</u>	<u>75</u>	<u>\$8,672.18</u>	<u>3</u>	<u>\$ 193.31</u>

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

<u>Age</u>	<u>Males Number</u>	<u>Monthly Annuity</u>
72	1	\$112.15

Survivor Annuities

<u>Age</u>	<u>Females Number</u>	<u>Monthly Annuity</u>
56	1	\$184.37
63	1	184.41
76	1	27.33
<u>Totals</u>	<u>3</u>	<u>\$396.11</u>

Public Employees Retirement Association
State of Minnesota

Police and Fire Fund

Survivor Annuities

<u>Widows</u>			<u>Widows</u>		
<u>Age</u>	<u>Number</u>	<u>Total Monthly Annuity</u>	<u>Age</u>	<u>Number</u>	<u>Total Monthly Annuity</u>
32	1	\$ 65.00	59	1	\$ 260.00
34	2	130.00	60	1	65.00
35	1	65.00	61	3	254.86
36	1	65.00	62	3	195.00
37	1	65.00	63	5	443.85
39	2	130.00	64	3	180.06
40	2	183.66	65	2	130.00
41	1	65.00	66	2	130.00
42	1	65.00	67	3	259.79
43	1	65.00	68	1	65.00
45	2	130.00	69	1	44.74
46	1	65.00	70	1	100.00
47	1	90.32	72	3	242.54
48	2	130.00	73	6	442.35
49	2	130.00	74	1	90.32
52	2	130.00	75	1	100.00
53	1	65.00	76	2	170.19
54	7	455.00	77	2	150.05
55	2	130.00	81	2	99.14
56	5	325.00	82	1	65.00
58	6	390.00	84	2	91.98
			Totals	<u>93</u>	<u>\$6,518.85</u>

Children

<u>Number</u>	<u>Total Monthly Annuity</u>
87	\$4,391.03

Disability Retirement Annuities

<u>Age</u>	<u>Number</u>	<u>Monthly Annuity</u>
44	1	\$162.30
55	1	156.25
56	1	179.53
59	<u>2</u>	<u>182.15</u>
<u>Totals</u>	<u>5</u>	<u>\$680.23</u>

Public Employees Retirement Association
State of Minnesota

Exhibit 15

Police and Fire Employees

CONSIDERED EARNINGS

Active Male Employees

(Age and Service as of July 1, 1972)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	63	\$ 455,274	119	\$ 816,081	54	\$ 446,811	-	\$ -
25 to 30	55	388,220	134	1,047,133	280	2,617,289	82	844,372
30 to 35	28	192,924	72	564,029	217	2,093,830	200	2,152,223
35 to 40	13	92,668	40	293,693	122	1,053,379	136	1,425,246
40 to 45	3	17,722	38	253,321	66	582,155	87	832,915
45 to 50	4	19,159	19	129,023	41	338,057	76	725,518
50 to 55	1	2,864	14	75,833	31	264,758	58	536,150
55 to 60	2	11,052	8	34,280	27	218,676	61	479,727
60 to 65	1	5,100	2	10,551	10	74,263	25	199,638
65 to 70	4	17,479	1	3,090	10	39,031	7	41,802
70 & Up	1	2,020	-	-	-	-	1	1,625
<u>Total</u>	<u>175</u>	<u>\$1,204,482</u>	<u>447</u>	<u>\$3,227,034</u>	<u>858</u>	<u>\$7,728,249</u>	<u>733</u>	<u>\$ 7,239,216</u>

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	-	-	-	-	-	-	-	-
30 to 35	11	127,610	-	-	-	-	-	-
35 to 40	67	747,515	13	155,604	-	-	-	-
40 to 45	64	739,755	68	826,305	7	91,636	-	-
45 to 50	69	754,803	60	689,649	26	293,891	9	103,737
50 to 55	40	414,042	38	523,613	30	378,399	11	124,235
55 to 60	30	243,870	43	552,582	28	359,693	12	145,229
60 to 65	21	184,066	19	199,689	17	208,038	9	128,500
65 to 70	7	48,523	2	19,312	4	31,241	1	8,784
70 & Up	1	3,740	2	12,350	1	5,700	-	-
<u>Total</u>	<u>310</u>	<u>\$3,263,924</u>	<u>245</u>	<u>\$2,979,104</u>	<u>113</u>	<u>\$1,368,598</u>	<u>42</u>	<u>\$ 510,485</u>

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	236	\$ 1,718,166
25 to 30	-	-	-	-	-	-	551	4,897,014
30 to 35	-	-	-	-	-	-	528	5,130,616
35 to 40	-	-	-	-	-	-	391	3,768,105
40 to 45	-	-	-	-	-	-	333	3,343,809
45 to 50	-	-	-	-	-	-	304	3,053,837
50 to 55	3	41,716	1	12,534	-	-	227	2,374,144
55 to 60	3	39,467	4	43,172	1	13,694	219	2,141,442
60 to 65	2	37,041	3	33,850	-	-	109	1,080,736
65 to 70	-	-	2	33,735	-	-	38	242,997
70 & Up	-	-	-	-	-	-	6	25,435
<u>Total</u>	<u>8</u>	<u>\$ 118,224</u>	<u>10</u>	<u>\$ 123,291</u>	<u>1</u>	<u>\$ 13,694</u>	<u>2,942</u>	<u>\$27,776,301</u>

Public Employees Retirement Association
State of Minnesota

Exhibit 16

Police and Fire Employees

CONSIDERED EARNINGS

Active Female Employees

(Age and Service as of July 1, 1972)

Age	YEARS OF SERVICE							
	Under 1		1 to 2		2 to 5		5 to 10	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	4	\$ 20,610	5	\$ 25,759	-	\$ -	-	\$ -
25 to 30	1	4,428	1	4,805	5	35,994	2	14,606
30 to 35	1	6,128	4	24,818	5	37,853	-	-
35 to 40	-	-	3	17,099	2	9,989	1	9,811
40 to 45	-	-	1	7,576	9	61,550	2	20,411
45 to 50	1	4,644	1	3,130	5	37,829	1	11,028
50 to 55	2	8,000	-	-	4	31,868	8	54,172
55 to 60	-	-	-	-	-	-	7	61,810
60 to 65	-	-	-	-	-	-	4	32,995
65 to 70	-	-	-	-	-	-	-	-
70 & Up	-	-	-	-	-	-	-	-
<u>Total</u>	<u>9</u>	<u>\$ 43,810</u>	<u>15</u>	<u>\$ 83,187</u>	<u>30</u>	<u>\$215,083</u>	<u>25</u>	<u>\$204,833</u>

Age	YEARS OF SERVICE							
	10 to 15		15 to 20		20 to 25		25 to 30	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 30	-	-	-	-	-	-	-	-
30 to 35	-	-	-	-	-	-	-	-
35 to 40	-	-	-	-	-	-	-	-
40 to 45	-	-	1	8,160	-	-	-	-
45 to 50	3	18,187	-	-	-	-	-	-
50 to 55	-	-	-	-	-	-	-	-
55 to 60	-	-	-	-	-	-	-	-
60 to 65	-	-	-	-	1	5,033	-	-
65 to 70	-	-	1	4,932	-	-	-	-
70 & Up	-	-	-	-	-	-	-	-
<u>Total</u>	<u>3</u>	<u>\$ 18,187</u>	<u>2</u>	<u>\$ 13,092</u>	<u>1</u>	<u>\$ 5,033</u>	<u>-</u>	<u>\$ -</u>

Age	YEARS OF SERVICE							
	30 to 35		35 to 40		40 & Up		All	
	No.	Earnings	No.	Earnings	No.	Earnings	No.	Earnings
Under 25	-	\$ -	-	\$ -	-	\$ -	9	\$ 46,369
25 to 30	-	-	-	-	-	-	9	59,833
30 to 35	-	-	-	-	-	-	10	68,799
35 to 40	-	-	-	-	-	-	6	36,899
40 to 45	-	-	-	-	-	-	13	97,697
45 to 50	-	-	-	-	-	-	11	74,818
50 to 55	-	-	-	-	-	-	14	94,040
55 to 60	-	-	-	-	-	-	7	61,810
60 to 65	-	-	-	-	-	-	5	38,028
65 to 70	-	-	-	-	-	-	1	4,932
70 & Up	-	-	-	-	-	-	-	-
<u>Total</u>	<u>-</u>	<u>\$ -</u>	<u>-</u>	<u>\$ -</u>	<u>-</u>	<u>\$ -</u>	<u>85</u>	<u>\$583,225</u>

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.

7. Employer Contributions

Police and Fire - after July 1, 1971 an amount equal to $10\frac{1}{2}\%$ of total considered earnings for current service plus $1\frac{1}{2}\%$ 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) July 1, 1957 to July 1, 1971, 6% of considered earnings.
- (c) After July 1, 1971, 7% of considered earnings.

9. Normal Retirement Benefit

After Attainment of age 55 and completion of 10 years of service.

Police and Fire - Annuity equal to the sum of:

- (a) $2\frac{1}{2}\%$ of considered earnings for each of the first twenty years; plus
- (b) 2% of considered earnings for each year of service in excess of twenty years, plus
- (c) Any annuity additional from the "Old Law" as determined for each employee as of June 30, 1971.

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 5 years of service.

Annual Annuity determined as for Normal Retirement, considering Service and Earnings to date of disablement except if service is under 10 years, the benefit shall be the same as though the employee had 10 years service.

In event of duty disablement of Police or Firemen, a minimum of 50% of average salary, regardless of age or service plus 2% for each year of service in excess of 20 years.

12. Death Benefit

Active - In event of death.

Annual Annuity to dependent spouse of 20% of average salary plus for each dependent child under 18, 8% of average salary, plus \$20 per month to be divided among dependent children. Maximum benefit for dependent children shall not exceed \$200 per month.

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 and after July 1, 1971, a deferred vested benefit payable at age 55, 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, $3\frac{1}{2}\%$ interest.

PERA VALUATION AS OF JUNE 30, 1972

(General Fund)

The purpose of this memorandum is to discuss the valuation report of the Public Employees' Retirement Association, dated November 27, 1972, which was submitted to the Commission in accordance with Chapter 249 of Minnesota Laws 1967 and Chapter 289 of Minnesota Laws 1969. The valuation was made using the entry age normal cost method and assuming 3 1/2% interest. The 1972 and 1971 valuation reports were completed by Arthur Stedry Hansen, Consulting Actuaries.

This memorandum contains the following:

1. Statistical and Valuation Data
2. Discussion of Valuation Results
3. Conclusion

Since the number of coordinated participants has become rather large, separate discussions will be given of the Basic Group and the Coordinated Group.

A. BASIC GROUP

1. Statistical and Valuation Data

Results of the valuation reports as of June 30, 1971 and June 30, 1972 are shown for comparative purposes. Figures are rounded where necessary for simplicity of presentation.

	<u>As of June 30, 1971</u>	<u>As of June 30, 1972</u>
(1) <u>Membership</u>		
Active Members	27,827	25,829
Retired Members	5,469	5,680
Disabled Members	179	187
Survivors of Deceased Members	3,328	3,369
Deferred Annuitants	318	101

	As of <u>June 30, 1971</u>	As of <u>June 30, 1972</u>
(2) <u>Payroll and Annuities Payable</u>	(Millions of Dollars)	
Covered Payroll	\$ 184.4	\$ 189.2
Annuities Payable (annual)	11.1	11.9
(3) <u>Valuation Balance Sheet</u>	(Millions of Dollars)	
Accrued Liability	\$ 315.9	\$ 348.8
Assets	<u>231.3</u>	<u>256.5</u>
Unfunded Accrued Liability (Deficit)	\$ 84.6	\$ 92.3
Funding Ratio (Assets / Accrued Liability)	73.2%	73.5%
(4) <u>Normal Cost and Funding Costs</u>		
Normal Cost	11.57%	11.78%
Expenses	<u>0.20</u>	<u>0.20</u>
Normal Cost Plus Expenses	11.77%	11.98%
Normal Cost Plus Expenses	11.77%	11.98%
Interest on Deficit	<u>1.61</u>	<u>1.71</u>
Minimum Contribution	13.38%	13.69%
Normal Cost Plus Expenses	11.77%	11.98%
Amortization by 1997	<u>2.72</u>	<u>2.96</u>
Required Contribution	14.49%	14.94%
(5) <u>Statutory Contributions</u>		
Employee	6.0%	6.0%
Employer Regular	6.0	6.0
Employer Additional	<u>2.5</u>	<u>2.5</u>
Total Contributions	14.5%	14.5%

2. Discussion of Valuation Results

As indicated above, there was an increase in cost figures as a percentage of payroll in spite of an increase in the total payroll.

In reviewing the above cost figures, it should be kept in mind that although the Employer Additional Contribution of 2.5% fails to reach the 2.96% Amortization Requirement, there is more than sufficient margin in the corresponding contribution for the Coordinated group to cover this deficiency.

The unfunded accrued liability increased by \$7,652,824. The PERA Actuary shows the following items to trace the change in the deficit.

Increases:

Salary Scale Loss	\$ 5,141,995
Turnover Loss	6,500,000
Other Actuarial Losses	<u>433,892</u>

Total Increases	\$ 12,075,887
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Decreases:

Amortization Contribution	\$ 1,235,633
Transfers to Coordinated	273,789
Excess Interest	<u>2,913,641</u>

Total Decreases	<u>4,423,063</u>
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Net Increase	\$ 7,652,824
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B. COORDINATED GROUP

1. Statistical and Valuation Data

	As of <u>June 30, 1971</u>	As of <u>June 30, 1972</u>
(1) <u>Membership</u>		
Active Members	38,303	45,044
Retired Members	550	713
Disabled Members	36	39
Survivors of Deceased Members	0	3
Deferred Annuitants	49	11
(2) <u>Payroll and Annuities Payable</u>	(Million of Dollars)	
Covered Payroll	\$191.9	\$242.0
Annuities Payable (annual)	0.5	0.7
(3) <u>Valuation Balance Sheet</u>	(Millions of Dollars)	
Accrued Liability	\$ 48.9	\$ 62.6
Assets	<u>30.1</u>	<u>45.6</u>
Unfunded Accrued Liability (Deficit)	\$ 18.8	\$ 17.0
Funding Ratio (Assets / Accrued Liability)	61.6%	72.9%
(4) <u>Normal Cost and Funding Costs</u>		
Normal Cost	5.17%	5.12%
Expenses	<u>0.20</u>	<u>0.20</u>
Normal Cost Plus Expenses	5.37%	5.32%
Normal Cost Plus Expenses	5.37%	5.32%
Interest on Deficit	<u>0.34</u>	<u>0.25</u>
Minimum Contribution	5.71%	5.57%
Normal Cost Plus Expenses	5.37%	5.32%
Amortization by 1997	<u>0.58</u>	<u>0.43</u>
Required Contribution	5.95%	5.75%
(5) <u>Statutory Contributions</u>		
Employee	3.0%	3.0%
Employer Regular	3.0	3.0
Employer Additional	<u>1.5</u>	<u>1.5</u>
Total Contributions	7.5%	7.5%

2. Discussion of Valuation Results

The number of active Coordinated Participants has increased by 18% and the payroll by 26% in the past year. Some of this increase comes from new entrants who do not add to the unfunded accrued liability; on the other hand, 1.5% of their salaries is contributed for amortization purposes. This accounts for the slight decrease in the required amortization payment as a percentage of payroll.

The unfunded accrued liability for the Coordinated Group decreased by \$1,831,625 during the year. The PERA Actuary shows the following breakdown:

Decreases:

Amortization Contribution	\$ 5,268,144	
Excess Interest	452,551	
Other Actuarial Gains	<u>85,588</u>	
Total Decreases		\$ 5,806,283

Increases:

Salary Scale Loss	\$ 3,863,035	
Transfers from Basic	<u>111,623</u>	
Total Increases		<u>3,974,658</u>

Net Decrease	\$ 1,831,625
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C. CONSOLIDATED REPORT

The Consolidated Report may be presented in terms of percentage of payroll or in terms of dollars. The former appears as follows:

	<u>June 30, 1971</u>	<u>June 30, 1972</u>
Normal Cost plus Expenses	8.70%	8.24%
Amortization	<u>1.63</u>	<u>1.54</u>
Total	10.33%	9.78%

The contributions are as follows:

Employee	4.47%	4.32%
Employer Regular	4.47	4.32
Employer Additional	<u>1.99</u>	<u>1.93</u>
	10.93%	10.57%

Thus, the margin has increased from 0.60% of payroll to 0.79%.

In terms of dollars, the Concolidated Report is as follows:

	<u>June 30, 1971</u>	<u>June 30, 1972</u>
Normal Cost plus Expenses	\$ 32,734,340	\$ 35,540,815
Amortization	<u>6,124,300</u>	<u>6,629,409</u>
Total	\$ 38,858,640	\$ 42,170,224

The contributions are as follows:

Employee	\$ 16,819,371	\$ 18,612,290
Employer Regular	16,819,371	18,612,290
Employer Additional	<u>7,487,741</u>	<u>8,360,240</u>
	\$ 41,126,483	\$ 45,584,820

Thus, the margin in dollars has increased from \$2,267,843 to \$3,414,596.

The fund as a whole is in actuarial balance with an increase in the margin during the past year.

4. Conclusion

The Report filed by PERA conforms with the statutes and indicates that the present contribution rate will pay the normal cost and amortize the deficit by 1997.

Franklin C. Smith
Associate, Society of Actuaries
GEORGE V. STENNES AND ASSOCIATES
Commission Actuaries