

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

ACTUARIAL VALUATION REPORT
(Based on a June 30, 1983 Census)

JAN 17 1984 LCP&R

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

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COMPENSATION & CAPITAL INCORPORATED

125 SOUTH WACKER DRIVE
DAVIS H. ROENISCH, FSA

CHICAGO, ILLINOIS 60606

TELEPHONE 312 332-4420
ACTUARIAL SERVICES

December 8, 1983

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

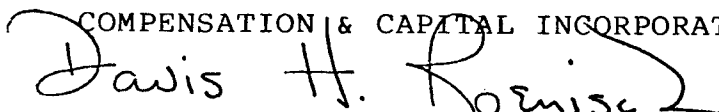
Members of the Board:

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, 1983, 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 therein, 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, 1983.

Respectfully submitted,

COMPENSATION & CAPITAL INCORPORATED


Davis H. Roenisch
Enrolled Actuary No. 174

DHR:kc

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

SUMMARY OF ACTUARIAL REQUIREMENTS
(July 1, 1983)

General Fund
Exhibit 8
Page 17

Police and
Fire Fund
Exhibit 21
Page 34

AMORTIZATION REQUIREMENTS

Present Value of Benefits (For Both Past and Future Service)	\$2,458,336,668	\$ 447,691,293
Obligation for Service Rendered to Date	1,875,559,860	250,280,229
Net Assets	1,474,041,241	249,539,820
Accrued Unfunded Obligation	401,518,619	740,409
Funding Ratio	78.6%	99.7%
Amortization (26-Year) Requirement	27,931,370	51,506
Covered Payroll	1,135,754,941	105,153,394
Amortization (26-Year) Rate Requirement	<u>2.459%</u>	<u>.049%</u>

ENTRY AGE NORMAL RATE REQUIREMENTS

Value of Benefits to be Earned in the Future	\$ 582,776,808	\$ 197,411,064
Present Value of Future Payroll	7,828,530,000	1,275,645,000
Normal Cost Rate Requirement	7.444%	15.475%
Employee Contribution Rate	4.590*	8.000
Employer Normal Cost Rate Requirement	<u>2.854%</u>	<u>7.475%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	6.237%*	12.000%
Amortization (26-Year) Rate Requirement	2.459%	.049%
Normal Cost Rate Requirement	2.854	7.475
Allowance for Expenses	<u>0.148</u>	<u>0.089</u>
Total Requirement	<u>5.461%</u>	<u>7.613%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>0.776%</u>	<u>4.387%</u>

* Weighted by Covered Payroll 14.75% Basic and 85.25% Coordinated.

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

Value of Benefits Earned to June 30, 1983

	<u>General Fund</u>	
	<u>Without Augmentation*</u>	<u>With Augmentation</u>
Benefits Payable to Retired Members and their Beneficiaries	\$ 601,838,389	\$ 601,838,389
Deferred Annuitants	15,065,520	15,065,520
Former Members without Vested Rights	6,799,519	6,799,519
Active Members:		
a. Eligible for Normal Retirement	61,858,369	61,858,369
b. Eligible for Early Retirement	153,723,437	153,723,437
c. Eligible for Deferred Benefits	489,928,412	714,037,556
d. Under 10 years service (Refund of Contributions only)	<u>95,185,587</u>	<u>95,185,587</u>
<u>Total</u>	<u>\$1,424,399,233</u>	<u>\$1,648,508,377</u>

	<u>Police and Fire Fund</u>	
Benefits Payable to Retired Members and their beneficiaries	\$ 62,957,097	\$ 62,957,097
Deferred Annuitants	2,131,240	2,131,240
Former Members without Vested Rights	545,101	545,101
Active Members:		
a. Eligible for Normal Retirement	28,587,430	28,587,430
b. Eligible for Early Retirement	-	-
c. Eligible for Deferred Benefits	104,443,056	138,231,168
d. Under 10 years service (Refund of Contribution only)	<u>20,183,694</u>	<u>20,183,694</u>
<u>Total</u>	<u>\$ 218,847,618</u>	<u>\$ 252,635,730</u>

* Applies only to present active with 10 or more years of service. The value for Deferred Vested Benefits of inactive members includes augmentation to Normal Retirement Date and refund of contributions to inactive members with less than 10 years of service.

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

Public Employees Retirement FundBalance SheetJune 30, 1983Assets

Cash	\$ 494,904
Accounts Receivable	3,997,020
Security Sales Receivable	3,762,758
Due From Other Funds	156,701
Accrued Investment Income	9,348,613
Investments	
Bonds	335,737,263
Equity Securities	375,369,407
Minnesota Outside Managed Pooled Funds	181,038,220
Short-term Cash Equivalents	30,336,529
Equity in Minnesota Post-Retirement Investment Fund	515,797,802
Deferred Yield Adjustment	24,791,056
Fixed Assets, Net of Accumulated Depreciation	602,496
Other	23,008
Total Assets	<u>\$1,481,455,777</u>

Liabilities and Reserves Required

Liabilities:

Current -

Accounts Payable	\$ 3,356,625
Accrued Compensated Absences	314,925
Payable to Other Funds	18,004
Obligations Under Capital Lease	10,893
Security Purchases Payable	3,701,871
	<u>\$ 7,402,318</u>

Long-term -

Obligations Under Capital Lease	12,218
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Total Liabilities	<u>\$ 7,414,536</u>
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Fund Balance:

Member Reserves	\$ 348,904,449
Minnesota Post-Retirement Investment Fund Reserve	515,797,802
Benefit Reserves	1,010,857,609
Total Reserves	<u>\$1,875,559,860</u>

Unreserved Fund Balance -

Unfunded Actuarial Accrued Liability	<u>(401,518,619)</u>
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Total Fund Balance	<u>\$1,474,041,241</u>
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Total Liabilities and Fund Balance	<u>\$1,481,455,777</u>
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PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONPublic Employees Retirement FundStatement of Revenues, Expenses, and Changes in Fund BalanceFor Fiscal Year Ended June 30, 1983

Operating Revenues:	
Member Contribution	\$ 66,180,991
Employer Contribution	74,004,816
Investment Income	102,761,451
Distributed Income of the Minnesota Post-Retirement Investment Fund	46,651,335
Other	<u>2,690,965</u>
Total Operating Revenues	<u>\$ 292,289,558</u>
Operating Expenses:	
Benefits Paid	\$ 62,587,600
Refunds	10,471,424
Administrative Expenses	2,506,488
Other	<u>6,635</u>
Total Operating Expenses	<u>\$ 75,572,147</u>
Other Changes in Reserves:	
Transfer to State General Fund	\$ (20,893,257)
Total Other Changes	<u>\$ (20,893,257)</u>
Net Fund Balance Additions	\$ 195,824,154
Recovery of Unrealized Loss on Marketable Equity Securities	19,945,171
Fund Balance, July 1, 1982	<u>1,258,271,916</u>
Fund Balance, June 30, 1983	<u>\$1,474,041,241</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

Public Employees Retirement Fund

Reconciliation of Asset Balance

June 30, 1983

Net Asset Balance July 1, 1982		\$1,278,462,836.31
Prior Year Adjustments:		
Increase in Due From Other Funds	\$ 13,377.00	
Decrease in Equity (FASB, Statement 12)	(19,945,171.00)	
Increase in Participation in MPRI Fund	1,501,831.00	
Decrease in Fixed Assets	(95.30)	
Increase in Accounts Payable	(1,760,862.00)	(20,190,920.30)
Adjusted Net Asset Balance July 1, 1982		\$1,258,271,916.01
Add:		
Employer Contributions	\$74,004,816.45	
Employee Contributions	66,180,991.12	
Realized Income of the Minnesota Post Retirement Fund	46,651,335.24	
Investment Income	69,331,328.35	
Gain on Sale of Investments	33,430,122.96	
Recovered Loss of Marketable Equity Securities	19,945,171.00	
Other	2,690,965.00	
Total Additions		312,234,730.12
		\$1,570,506,646.13
Deduct:		
Benefits Paid -		
Retirement	\$52,962,828.65	
Survivor	6,668,682.39	
Disability	2,956,089.18	\$62,587,600.22
Refunds		10,471,423.97
Administrative Expense		2,506,488.45
Transfer to State General Fund		20,893,257.33
Other Expense		6,635.00
Total Deductions		96,465,404.97
		\$1,474,041,241.16
Current Liabilities and Accounts Payable		7,414,536.14
Asset Balance, June 30, 1983		\$1,481,455,777.30

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

Public Employees Retirement Fund

Statement of Changes in Financial Position

For the Fiscal Year Ended June 30, 1983

Resources Provided by:

From Operations -

Net Operating Income \$ 195,824,154

Item Not Requiring Resources Currently:

Depreciation Expense 131,675

Recovery of Unrealized Loss on
Marketable Securities 19,945,171

Total Resources Provided \$ 215,901,000

Resources Used by:

Payments of Obligations Under Capital Lease \$ 10,893

Current Year Acquisition of Equipment 160,106

Net Increase in Working Capital 215,730,001

Total Resources Used \$ 215,901,000

Elements of Net Increase (Decrease) in Working Capital

	Year Ended June 30		Increase (Decrease)
	1983	1982	
Current Assets:			
Cash	\$ 494,904	\$ 906,303	\$ (411,399)
Accounts Receivable	3,997,020	222,915	3,774,105
Security Sales Receivable	3,762,758	-0-	3,762,758
Due from Other Funds	156,701	179,138	(22,437)
Accrued Investment Income	9,348,613	12,727,004	(3,378,391)
Investments -			
Bonds	335,737,263	403,446,983	(67,709,720)
Equity Securities	375,369,407	373,840,984	1,528,423
Minnesota Outside Managed Pooled Funds	181,038,220	-0-	181,038,220
Short-term Cash Equivalents	30,336,529	48,088,106	(17,751,577)
Equity in Minnesota Post-Retirement			
Investment Fund	515,797,802	413,640,881	102,156,921
Deferred Yield Adjustment	24,791,056	6,459,478	18,331,578
Other	23,008	26,435	(3,427)
Total Current Assets	\$1,480,853,281	\$1,259,538,227	
Current Liabilities:			
Accounts Payable	\$ 3,356,625	\$ 1,528,791	(1,827,834)
Accrued Compensated Absences	314,925	259,030	(55,895)
Payable to Other Funds	18,004	18,551	547
Obligations Under Capital Leases	10,893	10,893	-0-
Security Purchases Payable	3,701,871	-0-	(3,701,871)
Total Current Liabilities	\$ 7,402,318	\$ 1,817,265	
Working Capital	\$1,473,450,963	\$1,257,720,962	\$ 215,730,001

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

ASSET ALLOCATION
(July 1, 1983)

	<u>Basic Fund</u>	<u>Coordinated Fund</u>	<u>General Fund Total</u>
Asset Balance July 1, 1982	\$613,832,740	\$664,630,096	\$1,278,462,836
MPRF	349,123,209	63,015,841	412,139,050
General Fund	264,709,531	601,614,255	866,323,786
1. Employer Contributions	18,443,397	55,561,419	74,004,816
2. Employee Contributions	15,841,284	50,339,707	66,180,991
3. Transfer to State General Fund	(3,105,563)	(17,787,694)	(20,893,257)
4. Benefits Paid			
i. Retirement	(44,605,120)	(8,357,709)	(52,962,829)
ii. Survivors	(6,458,095)	(210,587)	(6,668,682)
iii. Disability	(2,508,902)	(447,187)	(2,956,089)
5. Refunds	(204,193)	(10,267,231)	(10,471,424)
6. Net (Items 1 to 5)	(22,597,192)	68,830,718	46,233,526
7. Income from MPRIF	39,592,308	7,059,027	46,651,335
8. Investment Income	31,399,271	71,362,180	102,761,451
9. Other Income	822,238	1,868,727	2,690,965
10. Administrative Expenses	(560,827)	(1,952,296)	(2,513,123)
11. Prior Year Adjustments	(65,800)	(179,949)	(245,749)
12. Net (Items 7 to 11)	71,187,190	78,157,689	149,344,879
13. Increase for Year (Sum of Items 6 and 12)	48,589,998	146,988,407	195,578,405
14. Asset Balance July 1, 1983	<u>\$662,422,738</u>	<u>\$811,618,503</u>	<u>\$1,474,041,241</u>
i. MPRIF	436,486,487	79,311,315	515,797,802
ii. General Fund	225,936,251	732,307,188	958,243,439

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL COST METHOD AND ASSUMPTIONS
(General Fund)

Actuarial Cost Method - Entry Age Normal.

Actuarial Assumptions

1. a. Retirement - 65 for members with less than 30 years service. If 30 or more years service, 30% at 62, 15% at 63 and 64, and 100% at 65. In addition, 50% when age plus service totals 90 years.
- b. Mortality - 1965 Group Annuity.
- c. Disability - PERA Experience.
- d. Separation - PERA Experience.
2. Loading for Expense - .148%
3. Asset Valuation - Cost.
4. Investment Return - 5% compounded annually.
5. Earnings Progression - 3-1/2% per year.

A detailed statement of the mortality rates, disability rates, separation rates, and earnings progression is provided in the following Tables 1 through 4.

Public Employees Retirement AssociationGeneral FundFemale EmployeesMORTALITY RATES
(Per 1,000 Employees)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.311	45	1.672
21	.330	46	1.819
22	.349	47	1.980
23	.369	48	2.158
24	.392	49	2.355
25	.415	50	2.574
26	.439	51	2.783
27	.466	52	3.016
28	.496	53	3.277
29	.527	54	3.570
30	.561	55	3.898
31	.597	56	4.278
32	.637	57	4.727
33	.681	58	5.253
34	.728	59	5.867
35	.780	60	6.572
36	.836	61	7.369
37	.898	62	8.258
38	.966	63	9.232
39	1.040	64	10.284
40	1.122	65	11.402
41	1.213		
42	1.311		
43	1.420		
44	1.540		

Public Employees Retirement AssociationGeneral FundMale EmployeesMORTALITY RATES
(Per 1,000 Employees)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.517	45	3.002
21	.537	46	3.409
22	.558	47	3.856
23	.581	48	4.344
24	.607	49	4.869
25	.636	50	5.429
26	.667	51	6.027
27	.703	52	6.656
28	.742	53	7.321
29	.784	54	8.019
30	.831	55	8.751
31	.884	56	9.514
32	.941	57	10.312
33	1.005	58	11.154
34	1.074	59	12.057
35	1.152	60	13.043
36	1.237	61	14.143
37	1.331	62	15.390
38	1.435	63	16.828
39	1.550	64	18.504
40	1.677	65	20.475
41	1.838		
42	2.054		
43	2.322		
44	2.639		

Public Employees Retirement AssociationGeneral FundAll EmployeesDISABILITY 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 AssociationGeneral FundMale EmployeesSEPARATION 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 AssociationGeneral FundFemale EmployeesSEPARATION 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 AssociationGeneral FundALL EMPLOYEESEARNINGS PROGRESSION

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.2127	45	.5024
21	.2201	46	.5200
22	.2278	47	.5382
23	.2358	48	.5570
24	.2441	49	.5765
25	.2526	50	.5967
26	.2614	51	.6176
27	.2705	52	.6392
28	.2800	53	.6616
29	.2898	54	.6848
30	.2999	55	.7088
31	.3104	56	.7336
32	.3213	57	.7593
33	.3325	58	.7859
34	.3441	59	.8134
35	.3561	60	.8419
36	.3686	61	.8714
37	.3815	62	.9019
38	.3949	63	.9335
39	.4087	64	.9662
40	.4230	65	1.0000
41	.4378		
42	.4531		
43	.4690		
44	.4854		

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1983)General FundRESERVES

Entry Age Normal Reserve

Retirement \$1,465,377,227

Vesting 194,427,468

Disability 78,353,794

Survivors 28,478,226

Refund 67,996,525

\$1,834,633,240

Less Value of Benefits
Earned in the Future

582,776,808 \$1,251,856,432

Deferred Annuitants 15,065,520

Former Members without
Vested Rights 6,799,519

Retired Members:

Minnesota

Post-Retirement

Fund Admitted Assets \$ 515,264,926*

Disability 22,352,787

Survivors 58,258,596

Reserve for Future

Old Law Survivors 5,429,204

Plus Net Mortality Loss

Payable to

Minnesota Post-Retirement
Fund

532,876 601,838,389 \$1,875,559,860

Unfunded Obligation

401,518,619

Funded Obligation

\$1,474,041,241* Includes Annuity Stabilization Reserve. Retired Life Reserves
are \$515,797,802.

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL REQUIREMENTS
(July 1, 1983)General FundAMORTIZATION RATE REQUIREMENT

Present Value of Benefits (For Both Past and Future Service)		\$2,458,336,668
Obligation for Service Rendered to Date	\$1,875,559,860	
Net Assets	1,474,041,241	
Accrued Unfunded Obligation	401,518,619	
Funding		78.6%
Amortization (26-Year) Requirement	\$ 27,931,370	
Covered Payroll	1,135,784,941	
Amortization (26-Year) Rate Requirement		<u>2.459%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 582,776,808	
Present Value of Future Payroll	7,828,530,000	
Normal Cost Rate Requirement	7.444%	
Employee Contribution Rate*	<u>4.590</u>	
Employer Normal Cost Rate Requirement		<u>2.854%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law*		6.237%
Amortization (26-Year) Rate Requirement	2.459%	
Normal Cost Rate Requirement	2.854	
Allowance for Expenses	<u>0.148</u>	
Total Requirement		<u>5.461%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>0.776%</u>

* Weighted by Covered Payroll 14.75% Basic and 85.25% Coordinated

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

ACTUARIAL REQUIREMENTS
(July 1, 1983)General FundAMORTIZATION RATE REQUIREMENT

	Period			
	<u>10-Year</u>	<u>20-Year</u>	<u>30-Year</u>	<u>40-Year</u>
Accrued Unfunded Obligation	\$ 401,518,619	\$ 401,518,619	\$ 401,518,619	\$ 401,518,619
Amortization Requirement	51,998,498	32,218,893	26,119,362	23,399,767
Covered Payroll	1,135,784,941	1,135,784,941	1,135,784,941	1,135,784,941
Amortization Rate Requirement	<u>4.578%</u>	<u>2.837%</u>	<u>2.300%</u>	<u>2.060%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law*	<u>6.237%</u>	<u>6.237%</u>	<u>6.237%</u>	<u>6.237%</u>
Amortization Rate Requirement	4.578%	2.837%	2.300%	2.060%
Normal Cost Rate Requirement	2.854	2.854	2.854	2.854
Allowance for Expenses	<u>0.148</u>	<u>0.148</u>	<u>0.148</u>	<u>0.148</u>
Total Requirement	<u>7.580%</u>	<u>5.839%</u>	<u>5.302%</u>	<u>5.062%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	(<u>1.343%</u>)	<u>0.398%</u>	<u>0.935%</u>	<u>1.175%</u>

* Weighted by Covered Payroll

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONGeneral FundSTATEMENT OF REVENUE, EXPENDITURES,
CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS)
(Year Ending June 30, 1983)Revenue:

Employer Contributions	\$ 74,004,816	
Member Contributions	66,180,991	
Investment Income	102,761,451	
Minnesota Post-Retirement Investment Fund Income	46,651,335	
Other Income	<u>2,690,965</u>	
Total Revenue		\$292,289,558

Expenditure:

Benefits	\$ 62,587,600	
Refund of Contributions	10,471,424	
Administrative Expense	2,506,488	
Operating Transfers	20,893,257	
Prior Years Adjustment	245,749	
Other	<u>6,635</u>	
Total Expenditures		<u>96,711,153</u>

Increase in Assets (1983)		<u>\$195,578,405</u>
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PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONGeneral FundALLOCATION OF CHANGE IN ACTUARIAL RESERVES

<u>Item</u>	<u>Assets</u>	<u>Reserves</u>	<u>Change in Unfunded Increase (Decrease)</u>
Contribution Income	\$140,185,807	\$117,622,027 ¹	\$(22,563,780)
Investment Income	149,412,786 ²	88,325,837	(61,086,949)
Other Income	<u>2,690,965</u>	<u>-</u>	<u>(2,690,965)</u>
Total Income	292,289,558	205,947,864	(86,341,694)
Benefit Payments and Expenses	(75,572,147)	(75,572,147)	-
Transfer to State General Fund	(20,893,257)	-	20,893,257
Prior Year's Adjustment	(245,749)	-	245,749
Increase in Reserves Based on Salary	-	87,672,588	87,672,588
Mortality Loss	-	532,876	532,876
Loss From More Accurate Data	-	16,612,183	16,612,183
Other Experience Variation	<u>-</u>	<u>(6,621,293)³</u>	<u>(6,621,293)</u>
Net Change	<u>\$195,578,405</u>	<u>\$228,572,071</u>	<u>\$ 32,993,666</u>

1 Normal Cost Plus Interest on the Unfunded

2 Includes MPRF Income

3 Includes Actual Less Estimated Income Gain

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

General Fund

ESTIMATED SOURCES OF GAIN FROM INCOME

Actual Income Less Reserves \$86,341,694

Estimated Sources of Gain:

Amortization Payment \$ 9,326,039

Excess Interest 59,840,665

Contribution Rates
Applied to Larger
Payroll 4,772,133

Excess in Contribution
Rate 3,924,712 77,863,549

Actual Less Estimated Gain \$ 8,478,145

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

RECONCILIATION OF ACTIVE MEMBERSGeneral Fund

As of July 1, 1982	85,437
New Entrants	6,895
Reinstated	2,764
Reinstated from Errors	<u>35</u>
TOTAL	<u>95,131</u>

Separations:

a. Refund of Contributions	
(i) Death	134
(ii) Withdrawal	6,321
b. With Deferred Annuity	268
c. With Disability Annuity	122
d. With Normal Retirement Annuity	1,276
e. With Survivor Annuity	23
f. With Option Annuity	11
g. Terminated	3,010
h. Terminated to Active	526
i. Died - No Refund or Benefit	28
j. Duplicate Member Number Errors	61
k. Added in Error	<u>-</u>
TOTAL SEPARATIONS	<u>11,780</u>
Current Active Total	<u>83,351</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONRECONCILIATION OF ANNUITANTSGeneral Fund

<u>Annuitants:</u>	<u>Normal</u>	<u>Option</u>	<u>Survivor</u>	<u>Disabled</u>	<u>Children</u>	<u>Total</u>
Balance - July 1, 1982	13,332	409	3,117	670		17,528
Additions for year	1,772	117	120	161		2,170
Deletions for year	-523	-20	-146	-133		-822
Subtotal - July 1, 1983	14,581	506	3,091	698	242	18,876
Inactives	4	0	16	40		60
Actives	14,577	506	3,075	658	54	18,816
Annual Annuity	53,593,005	1,563,547	6,087,324	2,912,419	173,057	64,156,295

Note - Children are for informational purposes only. They are included as survivors. Active children are active children only.

Deferred Vested Members:

Balance - July 1, 1982	1,743
Additions	421
Deletions	-333
Balance - July 1, 1983	1,831

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONPublic Employees Police & Fire FundBalance SheetJune 30, 1983Assets

Cash	\$ 54,796
Accounts Receivable	857,826
Security Sales Receivable	364,186
Due From Other Funds	18,004
Accrued Investment Income	1,985,479
Investments	
Bonds	68,145,645
Equity Securities	78,629,427
Minnesota Outside Managed Pooled Funds	36,677,203
Short-term Cash Equivalents	9,799,141
Equity in Minnesota Post-Retirement Investment Fund	51,344,496
Deferred Yield Adjustment	3,427,579
Fixed Assets, Net of Accumulated Depreciation	-0-
Other	-0-
Total Assets	<u>\$ 251,303,882</u>

Liabilities and Reserves Required

Liabilities:

Current -

Accounts Payable	\$ 832,934
Accrued Compensated Absences	-0-
Payable to Other Funds	156,701
Obligations Under Capital Lease	-0-
Security Purchases Payable	774,427
	<u>\$ 1,764,062</u>

Long-term -

Obligations Under Capital Lease	-0-
Total Liabilities	<u>\$ 1,764,062</u>

Fund Balance:

Member Reserves	\$ 52,233,642
Minnesota Post-Retirement Investment Fund Reserve	51,344,496
Benefit Reserves	146,702,091
Total Reserves	<u>\$ 250,280,229</u>

Unreserved Fund Balance -

Unfunded Actuarial Accrued Liability	<u>(740,409)</u>
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Total Fund Balance	<u>\$ 249,539,820</u>
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Total Liabilities and Fund Balance	<u>\$ 251,303,882</u>
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PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

Public Employees Police & Fire Fund

Statement of Revenues, Expenses, and Changes in Fund Balance

For Fiscal Year Ended June 30, 1983

Operating Revenues:	
Member Contribution	\$ 9,702,059
Employer Contribution	12,953,387
Investment Income	20,698,183
Distributed Income of the	
Minnesota Post-Retirement	
Investment Fund	4,693,004
Other	540,123
	<hr/>
Total Operating Revenues	\$ 48,586,756
Operating Expenses:	
Benefits Paid	\$ 5,357,796
Refunds	825,094
Administrative Expenses	141,397
Other	-0-
	<hr/>
Total Operating Expenses	\$ 6,324,287
Other Changes in Reserves:	
Transfer to State General Fund	\$ (1,934,691)
Total Other Changes	<hr/> \$ (1,934,691)
Net Fund Balance Additions	\$ 40,327,778
Recovery of Unrealized Loss on	
Marketable Equity Securities	3,469,714
Fund Balance, July 1, 1982	<hr/> 205,742,328
Fund Balance, June 30, 1983	<hr/> \$ 249,539,820

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONPublic Employees Police & Fire FundReconciliation of Asset BalanceJune 30, 1983

Net Asset Balance July 1, 1982		\$ 209,225,418.18
Prior Year Adjustments:		
Increase in Accounts Receivable	\$ 35,890.00	
Decrease in Equity Securities	(3,469,714.00)	
Decrease in Equity in Minnesota		
Post Retirement Investment Fund	(35,890.00)	
Increase in Payables to Other Funds	(13,377.00)	(3,483,091.00)
Adjusted Net Asset Balance July 1, 1982		\$ 205,742,327.18
Add:		
Employer Contributions	\$12,953,386.92	
Employee Contributions	9,702,059.19	
Realized Income of the Minnesota		
Post Retirement Fund	4,693,004.42	
Investment Income	14,200,417.47	
Gain on Sale of Investments	6,497,765.53	
Recovered Loss of Marketable		
Equity Securities	3,469,714.00	
Other	540,123.00	
Total Additions		52,056,470.53
		\$ 257,798,797.71
Deduct:		
Benefits Paid -		
Retirement	\$ 4,377,042.88	
Survivor	680,349.42	
Disability	300,403.93	\$ 5,357,796.23
Refunds		825,093.91
Administrative Expense		141,397.09
Transfer to State General Fund		1,934,691.22
Total Deductions		8,258,978.45
		\$ 249,539,819.26
Current Liabilities and Accounts Payable		1,764,062.30
Asset Balance, June 30, 1983		\$ 251,303,881.56

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

Public Employees Police & Fire Fund

Statement of Changes in Financial Position

For the Fiscal Year Ended June 30, 1983

Resources Provided by:

From Operations -

Net Operating Income \$ 40,327,778

Item Not Requiring Resources Currently:

Depreciation Expense -0-

Recovery of Unrealized Loss on
Marketable Securities 3,469,714

Total Resources Provided \$ 43,797,492

Resources Used by:

Payments of Obligations Under Capital Lease \$ -0-

Current Year Acquisition of Equipment -0-

Net Increase in Working Capital 43,797,492

Total Resources Used \$ 43,797,692

Elements of Net Increase (Decrease) in Working Capital

	Year Ended June 30		Increase (Decrease)
	1983	1982	
Current Assets:			
Cash	\$ 54,796	\$ 143,669	\$ (88,873)
Accounts Receivable	857,826	647,834	209,992
Security Sales Receivable	364,186	-0-	364,186
Due from Other Funds	18,004	18,551	(547)
Accrued Investment Income	1,985,479	2,729,863	(744,384)
Investments -			
Bonds	68,145,645	79,488,848	(11,343,203)
Equity Securities	78,629,427	69,763,050	8,866,377
Minnesota Outside Managed Pooled Funds	36,677,303	-0-	36,677,303
Short-term Cash Equivalents	9,799,141	9,599,298	199,843
Equity in Minnesota Post-Retirement			
Investment Fund	51,344,496	42,938,306	8,406,190
Deferred Yield Adjustment	3,427,579	592,319	2,835,260
Other	-0-	-0-	-0-
Total Current Assets	\$ 251,303,882	\$ 205,921,738	
Current Liabilities:			
Accounts Payable	\$ 832,934	\$ 272	(832,662)
Accrued Compensated Absences	-0-	-0-	-0-
Payable to Other Funds	156,701	179,138	22,437
Obligations Under Capital Leases	-0-	-0-	-0-
Security Purchases Payable	774,427	-0-	(774,427)
Total Current Liabilities	\$ 1,764,062	\$ 179,410	
Working Capital	\$ 249,539,820	\$ 205,742,328	\$ 43,797,492

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL COST METHOD AND ASSUMPTIONS
(Police and Fire Fund)

Actuarial Cost Method - Entry Age Normal.

Actuarial Assumptions

1. a. Retirement - Age 60.
- b. Mortality - 1965 Male Group Annuity.
- c. Disability - PERA Experience.
- d. Separation - PERA Experience.
2. Loading for Expense - .089%
3. Asset Valuation - Cost.
4. Investment Return - 5% compounded annually.
5. Earnings Progression - 3-1/2% per year.

A detailed statement of the mortality rates, disability rates, separation rates, and earnings progression is provided in the following Tables 1 through 4.

Public Employees Retirement AssociationPolice and Fire FundAll EmployeesMORTALITY RATES
(Per 1,000 Employees)

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.517	45	3.002
21	.537	46	3.409
22	.558	47	3.856
23	.581	48	4.344
24	.607	49	4.869
25	.636	50	5.429
26	.667	51	6.027
27	.703	52	6.656
28	.742	53	7.321
29	.784	54	8.019
30	.831	55	8.751
31	.884	56	9.514
32	.941	57	10.312
33	1.005	58	11.154
34	1.074	59	12.057
35	1.152	60	13.043
36	1.237		
37	1.331		
38	1.435		
39	1.550		
40	1.677		
41	1.838		
42	2.054		
43	2.322		
44	2.639		

Public Employees Retirement AssociationPolice and Fire FundAll EmployeesDISABILITY 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		
36	3.90		
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 AssociationPolice and Fire FundAll EmployeesSEPARATION 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 AssociationPolice and Fire FundAll EmployeesEARNINGS PROGRESSION

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.2526	45	.5967
21	.2614	46	.6176
22	.2705	47	.6392
23	.2800	48	.6616
24	.2898	49	.6848
25	.2999	50	.7088
26	.3104	51	.7336
27	.3213	52	.7593
28	.3325	53	.7859
29	.3441	54	.8134
30	.3561	55	.8419
31	.3686	56	.8714
32	.3815	57	.9019
33	.3949	58	.9335
34	.4087	59	.9661
35	.4230	60	1.0000
36	.4378		
37	.4531		
38	.4690		
39	.4854		
40	.5024		
41	.5200		
42	.5382		
43	.5570		
44	.5765		

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

FINANCIAL BALANCE SHEET
(Year Commencing July 1, 1983)

Police and Fire Fund

RESERVES

Entry Age Normal Reserves

Retirement \$270,237,244

Vesting 21,006,906

Disability 73,514,128

Survivors 10,446,203

Refund 6,853,374

\$382,057,855

Less Value of Benefits to be
Earned in the Future

\$197,411,064

\$184,646,791

Deferred Annuitants

2,131,240

Former Members without
Vested Rights

545,101

Retired Members:
Minnesota Post-
Retirement Fund
Admitted Assets

\$ 50,773,335*

Disability 3,146,730

Survivors 8,229,964

Reserve for Future
Old Law Survivors

235,907

Plus Net Mortality Loss
Payable to
Minnesota Fund

571,161

62,957,097

\$250,280,229

Unfunded Obligation

UAL 740,409

Funded Obligation

Assets \$249,539,820

* Includes Annuity Stabilization Reserve. Retired Life Reserves are \$51,344,496.

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL REQUIREMENTS
(July 1, 1983)Police and Fire FundAMORTIZATION RATE REQUIREMENT

Present Value of Benefits (For Both Past and Future Service)		\$447,691,293
Obligation for Service Rendered to Date	\$ 250,280,229	
Net Assets	249,539,820	
Accrued Unfunded Obligation	740,409	
Funding Ratio		99.7%
Amortization (26-Year) Requirement	51,506	
Covered Payroll	105,153,394	
Amortization (26-Year) Rate Requirement		.049%

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned In the Future	\$ 197,411,064	
Present Value of Future Payroll	1,275,645,000	
Normal Cost Rate Requirement		
Employee Contribution Rate	15.475%	
Employer Normal Cost Rate Requirement	<u>8.000</u>	
		<u>7.475%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		12.000%
Amortization (26-Year) Rate Requirement	0.049%	
Normal Cost Rate Requirement	7.475	
Allowance for Expenses	<u>0.089</u>	
Total Requirement		<u>7.613%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>4.387%</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL REQUIREMENTS
(July 1, 1983)Police and Fire FundAMORTIZATION RATE REQUIREMENT

	Period			
	<u>10-Year</u>	<u>20-Year</u>	<u>30-Year</u>	<u>40-Year</u>
Accrued Unfunded Obligation	\$ 740,409	\$ 740,409	\$ 740,409	\$ 740,409
Amortization Requirement	95,886	59,412	48,165	43,150
Covered Payroll	105,153,394	105,153,394	105,153,394	105,153,394
Amortization Rate Requirement	<u>0.091%</u>	<u>0.057%</u>	<u>0.046%</u>	<u>0.041%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	<u>12.000%</u>	<u>12.000%</u>	<u>12.000%</u>	<u>12.000%</u>
Amortization Rate Requirement	0.091%	0.057%	0.046%	0.041%
Normal Cost Rate Requirement	7.475	7.475	7.475	7.475
Allowance for Expenses	<u>0.089</u>	<u>0.089</u>	<u>0.089</u>	<u>0.089</u>
Total Requirement	<u>7.655%</u>	<u>7.621%</u>	<u>7.610%</u>	<u>7.605%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>4.345%</u>	<u>4.379%</u>	<u>4.390%</u>	<u>4.395%</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONPolice and Fire FundSTATEMENT OF REVENUE, EXPENDITURES,
CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS)
(Year Ending June 30, 1983)Revenue:

Employer Contributions	\$12,953,387	
Member Contributions	9,702,059	
Investment Income	20,698,183	
Minnesota Post-Retirement Investment Fund Income	4,693,004	
Other Income	<u>540,123</u>	
Total Revenue		\$48,586,756

Expenditures:

Benefits	\$ 5,357,796	
Refund of Contributions	825,094	
Operating Transfers	1,934,691	
Administrative Expense	141,397	
Increase in Payables	<u>13,377</u>	
Total Expenditures		<u>8,272,355</u>

Increase in Assets (1983)		<u>\$40,314,401</u>
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PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONPolice and Fire FundALLOCATION OF CHANGE IN ACTUARIAL RESERVES

<u>Item</u>	<u>Assets</u>	<u>Reserves</u>	<u>Change in Unfunded Increase (Decrease)</u>
Contribution Income	\$22,655,446	\$16,738,468 ¹	\$ (5,871,978)
Investment Income	25,391,187 ²	12,924,799	(12,466,388)
Other Income	<u>540,123</u>	<u>-</u>	<u>(540,123)</u>
Total Income	48,586,756	29,708,267	(18,878,489)
Benefit Payments and Expenses	(6,324,287)	(6,324,287)	-
Transfers to State General Fund	(1,934,691)	-	1,934,691
Prior Year's Adjustment	(13,377)	-	13,377
Increase in Reserves Based on Salary Change	-	9,843,788	9,843,788
Mortality Loss	-	571,161	571,161
Gain From More Accurate Data	-	(4,103,604)	(4,103,604)
Other Experience Variation	<u>-</u>	<u>(1,887,566)³</u>	<u>(1,887,566)</u>
Net Change	<u>\$40,314,401</u>	<u>\$27,807,759</u>	<u>\$ (12,506,642)</u>

1 Normal Cost Plus Interest on the Unfunded

2 Includes MPRF Income

3 Includes Actual Less Estimated Income Gain

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONPolice and Fire FundESTIMATED SOURCES OF GAIN FROM INCOME

Actual Income less Reserves \$18,878,489

Estimated Sources of Change:

Amortization Payment	\$ 242,313	
Excess Interest (5.0% x Average Invested Assets)	11,469,131	
Excess Contribution Rate	3,428,706	
Contribution Rate Applied to Larger Payroll	1,571,509	
Other Income	<u>540,123</u>	<u>17,251,782</u>
Actual Less Estimated Gain		<u>\$ 1,626,707</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONRECONCILIATION OF ACTIVE MEMBERSPolice and Fire Fund

As of July 1, 1982	4,508
New Entrants	292
Reinstated	113
Reinstated from Errors	<u>3</u>
TOTAL	<u>4,916</u>

Separations:

a. Refund of Contributions	
(i) Death	1
(ii) Withdrawal	106
b. With Deferred Annuity	15
c. With Disability Annuity	5
d. With Normal Retirement Annuity	45
e. With Survivor Annuity	5
f. With Option Annuity	-
g. Terminated	73
h. Terminated to Active	57
i. Died - No Refund or Benefit	3
j. Duplicate Member Number Errors	10
k. Added in Error	<u>-</u>
TOTAL SEPARATIONS	<u>320</u>
Current Active Total	<u>4,596</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONRECONCILIATION OF ANNUITANTSPolice & Fire Fund

<u>Annuitants:</u>	<u>Normal</u>	<u>Option</u>	<u>Survivor</u>	<u>Disabled</u>	<u>Children</u>	<u>Total</u>
Balance - July 1, 1982	632	33	183	53		901
Additions for year	63	6	10	5		84
Deletions for year	-21	-2	-6	-6		-35
Subtotal - July 1, 1983	674	37	187	52	68	950
Inactives	0	0	1	8		9
Actives	674	37	186	44	14	941
Annual Annuity	4,515,729	121,011	630,850	308,477	57,056	5,576,067

Note - Children are for informational purposes only. They are included as survivors. Active children are active children only.

Deferred Vested Members:

Balance - July 1, 1982	178
Additions	25
Deletions	-24
Balance - July 1, 1983	179

Police and Fire Fund

VALUATION PAYROLL

Active Male Members
(Age and Credited Service as of July 1, 1983)

AGE	YEARS OF SERVICE							
	Under 1		1		2 to 4		5 to 9	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	84	\$ 572,474	67	\$ 1,107,099	122	\$ 2,415,538	2	\$ 39,766
25 to 29	91	628,644	81	1,440,176	385	8,321,825	279	6,543,239
30 to 34	35	213,172	39	724,515	239	5,133,243	559	13,773,325
35 to 39	20	106,202	28	456,819	104	2,186,127	269	6,790,316
40 to 44	3	39,932	15	173,399	45	913,795	86	2,084,614
45 to 49	5	19,946	3	33,200	33	565,393	48	1,014,314
50 to 54	3	17,791	7	107,452	13	280,002	25	434,863
55 to 59	3	36,326	2	22,626	8	143,934	22	503,159
60 to 64	-	-	-	-	3	42,117	3	46,259
65 & Up	4	12,695	1	1,251	1	23,064	2	22,990
Total	248	\$ 1,647,182	243	\$ 4,066,537	953	\$20,025,038	1,295	\$ 31,252,845

AGE	YEARS OF SERVICE							
	10 to 14		15 to 19		20 to 24		25 to 29	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	-	-	-	-	-	-	-	-
30 to 34	170	4,270,663	-	-	-	-	-	-
35 to 39	320	8,495,090	68	1,832,714	-	-	-	-
40 to 44	176	4,656,738	180	5,105,763	13	369,703	-	-
45 to 49	102	2,593,911	109	2,917,466	64	1,818,198	5	139,549
50 to 54	58	1,432,683	58	1,590,918	76	2,166,441	50	1,493,405
55 to 59	27	653,076	34	818,355	42	1,122,587	21	608,077
60 to 64	10	215,716	23	509,717	11	274,029	9	225,206
65 & Up	5	123,894	6	117,036	3	74,509	-	-
Total	868	\$22,441,771	478	\$12,891,969	209	\$ 5,825,467	85	\$ 2,466,237

AGE	YEARS OF SERVICE							
	30 to 34		35 to 39		40 & Up		All	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	275	\$ 4,134,877
25 to 29	-	-	-	-	-	-	836	16,933,884
30 to 34	-	-	-	-	-	-	1,042	24,114,918
35 to 39	-	-	-	-	-	-	809	19,867,268
40 to 44	-	-	-	-	-	-	518	13,343,944
45 to 49	-	-	-	-	-	-	369	9,101,977
50 to 54	4	124,245	-	-	-	-	294	7,647,800
55 to 59	8	242,922	1	24,659	-	-	168	4,175,721
60 to 64	5	139,431	2	71,037	-	-	66	1,523,512
65 & Up	-	-	-	-	-	-	22	375,439
Total	17	\$ 506,598	3	\$ 95,696	-	\$ -	4,399	\$101,219,340

Police and Fire Fund

VALUATION PAYROLL

Active Female Members
(Age and Credited Service as of July 1, 1983)

AGE	YEARS OF SERVICE							
	Under 1		1		2 to 4		5 to 9	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	10	\$ 90,238	10	\$173,792	12	\$ 228,966	-	\$ -
25 to 29	9	72,454	9	164,469	35	764,583	10	250,319
30 to 34	1	6,970	3	61,685	12	279,996	16	377,247
35 to 39	1	9,607	-	-	3	48,705	6	128,462
40 to 44	1	750	2	26,851	3	57,389	4	95,018
45 to 49	-	-	-	-	-	-	5	120,676
50 to 54	-	-	-	-	1	10,552	3	55,305
55 to 59	-	-	-	-	1	16,635	1	19,879
60 to 64	-	-	-	-	-	-	-	-
65 & Up	-	-	-	-	-	-	-	-
Total	<u>22</u>	<u>\$180,019</u>	<u>24</u>	<u>\$426,797</u>	<u>67</u>	<u>\$1,406,826</u>	<u>45</u>	<u>\$1,046,906</u>

AGE	YEARS OF SERVICE							
	10 to 14		15 to 19		20 to 24		25 to 29	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	1	27,501	-	-	-	-	-	-
30 to 34	4	87,815	-	-	-	-	-	-
35 to 39	5	116,500	-	-	-	-	-	-
40 to 44	5	104,464	1	23,339	-	-	-	-
45 to 49	2	45,672	1	27,873	-	-	-	-
50 to 54	8	195,654	2	56,209	1	17,142	1	23,291
55 to 59	5	102,894	1	14,820	-	-	-	-
60 to 64	1	15,680	-	-	1	14,652	-	-
65 & Up	-	-	-	-	-	-	-	-
Total	<u>31</u>	<u>\$696,180</u>	<u>5</u>	<u>\$122,241</u>	<u>2</u>	<u>\$ 31,794</u>	<u>1</u>	<u>\$ 23,291</u>

AGE	YEARS OF SERVICE							
	30 to 34		35 to 39		40 & Up		All	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	32	\$ 492,996
25 to 29	-	-	-	-	-	-	64	1,279,326
30 to 34	-	-	-	-	-	-	36	813,713
35 to 39	-	-	-	-	-	-	15	303,274
40 to 44	-	-	-	-	-	-	16	307,811
45 to 49	-	-	-	-	-	-	8	194,221
50 to 54	-	-	-	-	-	-	16	358,153
55 to 59	-	-	-	-	-	-	8	154,228
60 to 64	-	-	-	-	-	-	2	30,332
65 & Up	-	-	-	-	-	-	-	-
Total	<u>-</u>	<u>\$ -</u>	<u>-</u>	<u>\$ -</u>	<u>-</u>	<u>\$ -</u>	<u>197</u>	<u>\$3,934,054</u>

PUBLIC EMPLOYEES POLICE AND FIRE FUND

SUMMARY OF PLAN

1. Name

Public Employees Police and Fire Fund.

2. Type of Plan

Self-insured, managed by a 15-member Board of Trustees.

3. Employer Included

Any county, city, borough, town within the state.

4. Employees Included

All full time, and certain part time, police officers and fire fighters, who are not contributing to any other local retirement plan.

5. Allowable Service

All periods of public service during which salary deductions were made or for which payments in lieu of salary deductions were deposited, including authorized leaves of absence, sick leaves, military leaves and layoffs.

6. Considered Salary

Salary means the periodical total compensation of any public employee before deductions for deferred compensation or supplemental retirement plans, and also means wages and includes net income from fees.

7. Employee Contributions

After July 1, 1973, 8% of considered salary.

8. Employer Contributions

An amount equal to 12% of considered salary.

9. Normal Retirement Annuity

After attainment of age 55 and completion of at least 10 years of allowable service.

"Average salary" means an amount equivalent to the highest salary upon which contributions were paid for any five successive years of allowable service.

Annuity equal to:

- (a) 2 1/2% of "Average Salary" for each of the first 20 years of allowable service, plus
- (b) 2% of "Average Salary" for each year of service over 20 years.

10. Late Retirement Annuity

Annual Annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

11. Proportionate Annuity

At age 65 or earlier under a mandatory retirement statute or uniformly applied compulsory retirement policy and completion of at least three years but less than 10 years of allowable service.

Annual Annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

12. Disability Benefit

In event of disability, which renders member unable to perform the duties of a police officer or fire fighter, after not less than five years of allowable service.

Annual Benefit payable to age 55 determined as for Normal Retirement, considering allowable service and salary to date of disablement, except if service is under 10 years, the benefit shall be the same as though the member had 10 years of service.

In the event of disability incurred in line of duty regardless of years of allowable service, the benefit shall be equal to 50% of "Average Salary" plus 2% of such salary for each year of allowable service in excess of 20 years.

If disability continues to age 55, the disability benefit shall terminate and the person shall be deemed to be on retirement status with an annuity in the same amount that he was previously receiving, or he may select an optional annuity.

13. Survivor or Death Benefit

In event of death of an active member, or in event of death of a disabilitant prior to age 55.

Annual Survivor Benefit to dependent spouse, of 30% of average salary during the last six months of allowable service, plus for each dependent child, 10% of such average salary. Maximum family benefit equal to 50% of such average salary, minimum family benefit equal to 30% of such average salary.

Upon the death of an active member after age 55 and completion of 10 or more years of allowable service or if the member has made application for an annuity or disability benefit and dies prior to commencement of his benefit, the surviving spouse (in lieu of any other survivor benefit) may elect to receive an annuity equal to the 50% joint and survivor annuity the member could have qualified for on the date of his death.

Upon the death of an annuitant who retired under the "savings clause" the surviving spouse, if otherwise eligible, is entitled to a monthly survivor benefit for life or until remarriage, equal to one-half of the original annuity paid plus 25%, maximum \$125 monthly.

In the event of death of a retired annuitant and no survivor benefits are payable, the excess (if any) of his accumulated contributions not paid out in the way of annuities shall be paid to his designated beneficiary, without interest.

In case of death of a member who has no eligible surviving dependents, his accumulated contributions shall be paid to his designated beneficiary with interest thereon at 3-1/2% per annum compounded annually.

14. Separation Benefit

In event of termination after 10 years of allowable service, a deferred vested annuity payable at age 55, provided former member does not withdraw his contributions. (Said 10 years of allowable service need not represent PERA coverage only but may be in conjunction with service covered by other Minnesota funds such as those for state employees and teachers and others which has this same provision; deferred annuity is paid by each fund according to the number of years of allowable service in each fund).

Annual Annuity determined as for Normal Retirement under the provisions of the Plan at date of termination considering allowable service and salary to date of such termination, augmented by interest compounded annually from first of the month following separation from service or from July 1, 1971, whichever is later, to the date annuity begins to accrue, at the rate of 5% until January 1, 1981, and thereafter at the rate of 3%.

All former members shall be eligible to receive a refund of their accumulated contributions without interest for the first three years of membership and thereafter with interest at 3-1/2% compounded annually. (Such election is in lieu of any other benefits under the Plan.)

15. Lump Sum Payments for Retired Annuitants, Disabilitants
and Surviving Spouse Receiving Payments on November 30, 1977

Any of the above whose annuity or benefit was computed under laws in effect prior to July 1, 1973, shall receive an additional lump sum payment of \$250 payable December 1, 1977.

Persons receiving benefits from the Mineesota Adjustable Fixed Benefit Fund or the Retirement Fund shall receive the lump sum payment from the same fund.

16. Optional Benefits

A participant may elect to receive an equivalent actuarially reduced annuity in the form of either a 50% or 100% joint and survivor annuity.

17. Maximum Annuity

Effective March 23, 1982 the normal monthly retirement annuity or disability benefit may not exceed 100% of final monthly salary.

18. Expenses

Paid by Association from retirement fund.

19. Actuarial Method

For purposes of reports to the Legislative Commission on Pensions and Retirement, costs for the Plan shall be determined on an "entry-age level normal cost" basis and 5% interest.

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

FINANCIAL BALANCE SHEET
 (Year Commencing July 1, 1983)

Basic MembersRESERVES

Entry Age Normal Reserves

Retirement	\$700,362,075	
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Vesting	41,178,486	
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Disability	31,810,964	
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Survivors	17,670,761	
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Refund	1,326,527	
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	\$792,348,813	
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Less Value of Benefits to be Earned in the Future	129,292,254	\$663,056,559
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Deferred Annuitants		13,010,350
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Former Members without Vested Rights		2,123,799
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Retired Members: Minnesota Fund Admitted Assets	436,035,343*	
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Disability	18,871,504	
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Survivors	58,258,596	
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Reserve for Future Old Law Survivors	5,429,204	
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Plus Net Mortality Loss Payable to Minnesota Fund	451,144	
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519,045,791	\$1,197,236,499	
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Unfunded Obligation	534,813,761
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Funded Obligation	\$ 662,422,738
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* Includes Annuity Stabilization Reserve. Retired Life Reserves are \$436,486,487.

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL REQUIREMENTS
(July 1, 1983)Basic MembersAMORTIZATION RATE REQUIREMENT

Present Value of Benefits (For Both Past and Future Service)		\$1,326,528,753
Obligation for Service Rendered to Date	\$1,197,236,499	
Net Assets	662,422,738	
Accrued Unfunded Obligation	534,813,761	
Funding Ratio		55.3%
Amortization (26-Year) Requirement	37,203,956	
Covered Payroll	167,477,406	
Amortization (26-Year) Rate Requirement		<u>22.214%</u>

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 129,292,254	
Present Value of Future Payroll	1,001,968,600	
Normal Cost Rate Requirement	12.904%	
Employee Contribution Rate	<u>8.000%</u>	
Employer Normal Cost Rate Requirement		<u>4.904%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		10.500%
Amortization (26-Year) Rate Requirement	22.214%	
Normal Cost Rate Requirement	4.904	
Allowance for Expenses	<u>0.148</u>	
Total Requirement		<u>27.266%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		(<u>16.766%</u>)

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

ACTUARIAL REQUIREMENTS
(July 1, 1983)Basic MembersAMORTIZATION RATE REQUIREMENT

	Period			
	<u>10-Year</u>	<u>20-Year</u>	<u>30-Year</u>	<u>40-Year</u>
Accrued Unfunded Obligation	\$534,813,761	\$534,813,761	\$534,813,761	\$534,813,761
Amortization Requirement	69,260,830	42,914,840	34,790,403	31,167,963
Covered Payroll	167,477,406	167,477,406	167,477,406	167,477,406
Amortization Rate Requirement	<u>41.355%</u>	<u>25.624%</u>	<u>20.773%</u>	<u>18.610%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	<u>10.500%</u>	<u>10.500%</u>	<u>10.500%</u>	<u>10.500%</u>
Amortization Rate Requirement	41.355%	25.624%	20.773%	18.610%
Normal Cost Rate Requirement	4.904	4.904	4.904	4.904
Allowance for Expenses	<u>0.148</u>	<u>0.148</u>	<u>0.148</u>	<u>0.148</u>
Total Requirement	<u>46.407%</u>	<u>30.676%</u>	<u>25.825%</u>	<u>23.662%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	(<u>35.907%</u>)	(<u>20.176%</u>)	(<u>15.325%</u>)	(<u>13.162%</u>)

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONBasic MembersSTATEMENT OF REVENUE, EXPENDITURES,
CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS)
(Year Ending June 30, 1983)Revenue:

Employer Contribution	\$18,443,397	
Member Contributions	15,841,284	
Investment Income	31,399,271	
Minnesota Post-Retirement Investment Fund Income	39,592,308	
Other Income	<u>822,238</u>	
Total Revenue		\$106,098,498

Expenditure:

Benefits	\$53,572,117	
Refund of Contributions	204,193	
Administrative Expenses	559,347	
Operating Transfers	3,105,563	
Prior Year's Adjustment	65,800	
Other Expenses	<u>1,480</u>	
Total Expenditures		<u>57,508,500</u>

Increase in Assets (1983)		<u>\$48,589,998</u>
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PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

Basic Members

ESTIMATED SOURCES OF GAIN FROM INCOME

Actual Income less Reserves \$ 4,721,476

Estimated Sources of Change:

Amortization Payment	\$ 9,326,039	
Excess Interest (2.9% x Average Invested Assets)	18,505,704	
Contribution Rate Applied to Smaller Payroll	(1,089,365)	
Deficit in Contribution Rate	<u>(25,703,223)</u>	<u>1,039,155</u>
Actual Less Estimated Gain		<u>\$ 3,682,321</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONRECONCILIATION OF ACTIVE MEMBERSBasic Members

As of July 1, 1982	9,838
New Entrants	2
Reinstated	22
Reinstated from Errors	<u>5</u>
TOTAL	<u>9,867</u>

Separations:

a. Refund of Contributions	
(i) Death	4
(ii) Withdrawal	46
b. With Deferred Annuity	70
c. With Disability Annuity	56
d. With Normal Retirement Annuity	745
e. With Survivor Annuity	23
f. With Option Annuity	3
g. Terminated	186
h. Terminated to Active	7
i. Died - No Refund or Benefit	10
j. Duplicate Member Number Errors	2
k. Added in Error	<u>-</u>
TOTAL SEPARATIONS	<u>1,152</u>

Current Active Total	<u>8,715</u>
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PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONRECONCILIATION OF ANNUITANTSBasic Members

<u>Annuitants:</u>	<u>Normal</u>	<u>Option</u>	<u>Survivor</u>	<u>Disabled</u>	<u>Children</u>	<u>Total</u>
Balance - July 1, 1982	9,488	276	3,117	411		13,292
Additions for year	1,031	68	120	73		1,292
Deletions for year	-404	-15	-146	-76		-641
Subtotal - July 1, 1983	10,115	329	3,091	408	242	13,943
Inactives	3	0	16	23		42
Actives	10,112	329	3,075	385	54	13,901
Annual Annuity	45,048,792	1,301,202	6,087,324	2,465,155	173,057	54,902,473

Note - Children are for informational purposes only. They are included as survivors. Active children are active children only.

Deferred Vested Members:

Balance - July 1, 1982	769
Additions	143
Deletions	-170
Balance - July 1, 1983	742

Basic Members

VALUATION PAYROLL

Active Male Members

(Age and Credited Service as of July 1, 1983)

AGE	YEARS OF SERVICE							
	Under 1		1		2 to 4		5 to 9	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	-	-	-	-	-	-	-	-
30 to 34	-	-	-	-	-	-	-	-
35 to 39	-	-	-	-	-	-	-	-
40 to 44	-	-	-	-	-	-	1	30,100
45 to 49	1	4,146	-	-	1	22,018	-	-
50 to 54	1	25,493	-	-	-	-	2	37,469
55 to 59	1	1,420	-	-	1	12,005	-	-
60 to 64	-	-	-	-	-	-	6	75,891
65 & Up	-	-	-	-	-	-	-	-
Total	3	\$ 31,059	-	\$ -	2	\$ 34,023	9	\$ 143,460

AGE	YEARS OF SERVICE							
	10 to 14		15 to 19		20 to 24		25 to 29	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	-	-	-	-	-	-	-	-
30 to 34	4	76,935	7	178,444	-	-	-	-
35 to 39	7	216,615	169	4,013,290	7	128,693	-	-
40 to 44	7	184,701	382	8,907,126	136	3,282,851	9	221,498
45 to 49	5	111,046	402	8,902,812	318	7,642,756	165	4,111,552
50 to 54	8	113,924	358	7,514,458	350	8,008,673	331	8,114,054
55 to 59	10	155,909	369	7,278,528	367	8,073,605	381	8,930,684
60 to 64	4	73,447	304	5,822,078	285	5,821,565	196	4,465,763
65 & Up	5	34,715	71	1,125,094	49	772,639	30	518,311
Total	50	\$ 967,292	2,062	\$43,741,830	1,512	\$33,730,782	1,112	\$26,361,862

AGE	YEARS OF SERVICE							
	30 to 34		35 to 39		40 & Up		All	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	-	-	-	-	-	-	-	-
30 to 34	-	-	-	-	-	-	11	255,379
35 to 39	-	-	-	-	-	-	183	4,358,598
40 to 44	-	-	-	-	-	-	535	12,626,276
45 to 49	13	363,648	-	-	-	-	905	21,157,978
50 to 54	95	2,442,182	2	56,242	-	-	1,147	26,312,495
55 to 59	271	6,940,307	28	771,815	-	-	1,428	32,164,273
60 to 64	123	2,953,443	36	890,599	4	120,474	958	20,223,260
65 & Up	16	250,860	5	82,979	2	28,706	178	2,813,304
Total	518	\$12,950,440	71	\$ 1,801,635	6	\$ 149,180	5,345	\$119,911,563

Basic Members

VALUATION PAYROLL

Active Female Members

(Age and Credited Service as of July 1, 1983)

AGE	YEARS OF SERVICE							
	Under 1		1		2 to 4		5 to 9	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	-	-	-	-	-	-	-	-
30 to 34	-	-	-	-	-	-	-	-
35 to 39	-	-	-	-	-	-	-	-
40 to 44	-	-	-	-	-	-	-	-
45 to 49	1	1,517	-	-	-	-	-	-
50 to 54	1	12,855	-	-	-	-	-	-
55 to 59	-	-	-	-	-	-	-	-
60 to 64	2	4,728	-	-	-	-	-	-
65 & Up	-	-	-	-	-	-	-	-
Total	4	\$ 19,100	-	\$ -	-	\$ -	-	\$ -

AGE	YEARS OF SERVICE							
	10 to 14		15 to 19		20 to 24		25 to 29	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	-	-	-	-	-	-	-	-
30 to 34	5	58,320	19	298,158	-	-	-	-
35 to 39	8	147,802	116	2,216,816	17	319,763	-	-
40 to 44	9	148,021	153	2,701,302	45	803,445	13	269,426
45 to 49	8	85,193	243	3,354,929	64	1,169,501	36	714,343
50 to 54	15	179,542	450	5,569,319	130	2,028,409	45	848,298
55 to 59	14	138,338	618	7,443,908	230	3,156,963	92	1,724,630
60 to 64	10	94,998	441	4,994,779	201	2,913,077	85	1,364,120
65 & Up	2	8,328	81	747,616	32	401,300	14	187,928
Total	71	\$ 860,542	2,121	\$27,326,827	719	\$10,792,458	285	\$ 5,108,745

AGE	YEARS OF SERVICE							
	30 to 34		35 to 39		40 & Up		All	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	-	-	-	-	-	-	-	-
30 to 34	-	-	-	-	-	-	24	356,478
35 to 39	-	-	-	-	-	-	141	2,684,381
40 to 44	-	-	-	-	-	-	220	3,922,194
45 to 49	5	100,487	-	-	-	-	357	5,425,970
50 to 54	27	519,920	6	119,190	-	-	674	9,277,533
55 to 59	53	1,127,800	17	365,188	-	-	1,024	13,956,827
60 to 64	32	600,513	11	224,619	5	105,200	787	10,302,034
65 & Up	10	199,818	2	43,799	2	51,637	143	1,640,426
Total	127	\$ 2,548,538	36	\$ 752,796	7	\$ 156,837	3,370	\$47,565,843

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONBASIC MEMBERSSUMMARY OF PLAN1. Name

Public Employees Retirement Association.

2. Type of Plan

Self-insured, managed by a 15-member Board of Trustees.

3. Employer Included

Any county, city, 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 law.

4. Employees Included

All full time and certain part time employees who did not elect coverage under Section 218(d) of the Social Security Act and who are not contributing to any other local retirement plan.

5. Allowable Service

All periods of public service during which salary deductions were made or for which payments in lieu of salary deductions were deposited, including authorized leaves of absence, sick leaves, military leaves and layoffs.

6. Considered Salary

Salary means the periodical total compensation of any public employee before deductions for deferred compensation or supplemental retirement plans, and also means wages and includes net income from fees.

7. Employee Contributions

After July 1, 1973, 8% of considered salary.

8. Employer Contributions

An amount equal to the Employee Contributions plus 2-1/2% of considered salary.

9. Normal Retirement Annuity

After attainment of age 65 and completion of at least 10 years of allowable service.

"Average salary" means an amount equivalent to the highest salary upon which contributions were paid for any five successive years of allowable service.

Annuity equal to:

- (a) 2% of "Average Salary" for each of the first 10 years of allowable service plus
- (b) 2-1/2% of "Average Salary" for each year of service over 10 years.

10. Late Retirement Annuity

Annual Annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

11. Early Retirement Annuity

After attainment of age 58 and completion of 20 years of allowable service, or attainment of age 62 and completion of 10 years of allowable service.

Annual Annuity determined as for Normal Retirement considering allowable service and salary to actual retirement and reduced by 1/4% for each month that the member is under age 65 at the time of retirement if service is less than 30 years, or under age 62 if service is 30 or more years.

12. Special Early Retirement Annuity

After attained age plus allowable service totals 90 years.

Annual Annuity determined as for Normal Retirement considering allowable service and salary to actual retirement without reduction for such early retirement.

13. Proportionate Annuity

At age 65 or earlier under a mandatory retirement statute or uniformly applied compulsory retirement policy and completion of at least one year but less than 10 years of allowable service.

Annual Annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

14. Disability Benefit

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

Annual Benefit payable to age 65 determined as for Normal Retirement, considering allowable service and salary to date of disablement, plus a supplement equal to \$5 for each year that age at disablement is less than 65, maximum supplement \$50. Total Benefit is limited to 100% of "Average Salary."

If disability continues to age 65, the disability benefit shall terminate and the person shall be deemed to be on retirement status and may elect to receive the greater of an annuity determined as for Normal Retirement or the disability benefit he was receiving prior to age 65, or he may select an optional annuity.

Any disabilitant attaining age 65 after July 1, 1973 shall have his annuity computed in accordance with the Normal Retirement Annuity formula above.

15. Survivor or Death Benefit

In event of death of an active member after 18 months of allowable service, or in the event of death of a disabilitant prior to age 65.

Annual Survivor Benefit to dependent spouse, of 30% of average salary during the last six months of allowable service, plus for each dependent child, 10% of such average salary. Maximum family benefit equal to \$700 per month. Minimum family benefit equal to 30% of such average salary subject to the maximum limitation.

In the event of death of a retired annuitant and no survivor benefits are payable, the excess (if any) of his accumulated contributions not paid out in the way of annuities shall be paid to his designated beneficiary, without interest.

Upon the death of an active member after age 58 and completion of 20 or more years of allowable service or if the member has made application for an annuity or disability benefit and dies prior to commencement of his benefit, the surviving spouse (in lieu of any other survivor benefit) may elect to receive an annuity equal to the 50% joint and survivor annuity the member could have qualified for on the date of his death.

In case of death of a member who has no eligible surviving dependents, his accumulated contributions shall be paid to his designated beneficiary with interest thereon at 3-1/2% per annum compounded annually.

16. Separation Benefit

In event of termination after 10 years of allowable service, a deferred vested annuity payable at age 65, or earlier if otherwise eligible, provided former member does not withdraw his contributions. (Said 10 years of allowable service need not represent PERA coverage only but may be in conjunction with service covered by other Minnesota funds such as those for state employees and teachers and others which has this same provision;

deferred annuity is paid by each fund according to the number of years of allowable service in each fund).

Annual Annuity determined as for Normal Retirement under the provisions of the Plan at date of termination considering allowable service and salary to date of such termination, augmented by interest compounded annually from first of the month following separation from service or from July 1, 1971, whichever is later, to the date annuity begins to accrue, at the rate of 5% until January 1, 1981, and thereafter at the rate of 3%.

All former members shall be eligible to receive a refund of their accumulated contributions without interest for the first three years of membership and thereafter with interest at 3-1/2% compounded annually. (Such election is in lieu of any other benefits under the Plan.)

17. Lump Sum Payments for Retired Annuitants, Disabilitants and Surviving Spouse Receiving Payments on November 30, 1977

Any of the above whose annuity or benefit was computed under laws in effect prior to July 1, 1973, shall receive an additional lump sum payment of \$250 payable December 1, 1977.

Persons receiving benefits from the Mineesota Adjustable Fixed Benefit Fund or the Retirement Fund shall receive the lump sum payment from the same fund.

18. Optional Benefits

A participant may elect to receive an equivalent actuarially reduced annuity in the form of either a 50% or 100% joint and survivor annuity.

19. Maximum Annuity

Effective March 23, 1982 the normal monthly retirement annuity or disability benefit may not exceed 100% of final monthly salary.

20. Expenses

Paid by Association from retirement fund.

21. Actuarial Method

For purposes of reports to the Legislative Retirement Study Commission, costs for the Plan shall be determined on an "entry-age level normal cost" basis and 5% interest.

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONFINANCIAL BALANCE SHEET
(Year Commencing July 1, 1983)Coordinated MembersRESERVES

Entry Age Normal Reserves

Retirement	\$ 765,015,152
Vesting	153,248,982
Disability	46,542,830
Survivors	10,807,465
Refund	<u>66,669,998</u>
	\$1,042,284,427

Less Value of Benefits to be
Earned in the Future

453,484,554 \$588,799,873

Deferred Annuitants

2,055,170

Former Members without
Vested Rights

4,675,720

Retired Members:

Minnesota Fund

Admitted Assets

79,229,583*

Disability

3,481,283

Plus Net Mortality Loss
Payable to

Minnesota Fund

81,73282,792,598

\$678,323,361

Unfunded Obligation

(133,295,142)

Funded Obligation

\$811,618,503

* Includes Annuity Stabilization Reserve. The Retired Life Reserves are \$79,311,315.

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL REQUIREMENTS
(July 1, 1983)Coordinated MembersAMORTIZATION RATE REQUIREMENT

Present Value of Benefits (For Both Past and Future Service)		\$1,131,807,915
Obligation for Service Rendered to Date	\$ 678,323,361	
Net Assets	811,618,503	
Accrued Unfunded Obligation	(133,295,142)	
Funding Ratio		119.7%
Amortization (26-Year) Requirement	(9,272,586)	
Covered Payroll	968,307,535	
Amortization (26-Year) Rate Requirement		(0.958%)

ENTRY AGE NORMAL RATE REQUIREMENT

Value of Benefits to be Earned in the Future	\$ 453,484,554	
Present Value of Future Payroll	6,826,561,400	
Normal Cost Rate Requirement	6.643%	
Employee Contribution Rate	<u>4.000</u>	
Employer Normal Cost Rate Requirement		<u>2.643%</u>

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law		5.500%
Amortization (26-Year) Rate Requirement	(0.958%)	
Normal Cost Rate Requirement	2.643	
Allowance for Expenses	<u>0.148</u>	
Total Requirement		1.833%
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement		<u>3.667%</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONACTUARIAL REQUIREMENTS
(July 1, 1983)Coordinated MembersAMORTIZATION RATE REQUIREMENT

	Period			
	<u>10-Year</u>	<u>20-Year</u>	<u>30-Year</u>	<u>40-Year</u>
Accrued Unfunded Obligation	\$(133,295,142)	\$(133,295,142)	\$(133,295,142)	\$(133,295,142)
Amortization Requirement	(17,262,331)	(10,695,947)	(8,671,040)	(7,768,196)
Covered Payroll	968,307,535	968,307,535	968,307,535	968,307,535
Amortization Rate Requirement	(<u>1.783%</u>)	(<u>1.105%</u>)	(<u>0.895%</u>)	(<u>0.802%</u>)

ACTUARIAL BALANCE

Employer Contribution Rate Set by Law	<u>5.500%</u>	<u>5.500%</u>	<u>5.500%</u>	<u>5.500%</u>
Amortization Rate Requirement	(1.783%)	(1.105%)	(0.895%)	(0.802%)
Normal Cost Rate Requirement	2.643	2.643	2.643	2.643
Allowance for Expenses	<u>0.148</u>	<u>0.148</u>	<u>0.148</u>	<u>0.148</u>
Total Requirement	<u>1.008%</u>	<u>1.686%</u>	<u>1.896%</u>	<u>1.989%</u>
Excess (Deficit) of Employer Contribution Rate Set by Law and Total Requirement	<u>4.492%</u>	<u>3.814%</u>	<u>3.604%</u>	<u>3.511%</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONCoordinated Members

STATEMENT OF REVENUE, EXPENDITURES,
CHANGES IN RESERVES AND EXPERIENCE GAIN (LOSS)
 (Year Ending June 30, 1983)

Revenue:

Employer Contributions	\$55,561,419	
Member Contributions	50,339,707	
Investment Income	71,362,180	
Minnesota Post-Retirement Investment Fund Income	7,059,027	
Other Income	<u>1,868,727</u>	
Total Revenue		\$186,191,060

Expenditure:

Benefits	\$ 9,015,483	
Refund of Contributions	10,267,231	
Administrative Expense	1,947,141	
Operating Transfers	17,787,694	
Prior Year's Adjustment	179,949	
Other Expenses	<u>5,155</u>	
Total Expenditures		<u>39,202,653</u>

Increase in Assets (1982)	<u>\$146,988,407</u>
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PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONCoordinated MembersALLOCATION OF CHANGE IN ACTUARIAL RESERVES

<u>Item</u>	<u>Assets</u>	<u>Reserves</u>	<u>Change in Unfunded Increase (Decrease)</u>
Contribution Income	\$105,901,126	\$67,692,793 ¹	\$(38,208,333)
Investment Income	78,421,207 ²	36,878,049	(41,543,158)
Other Income	<u>1,868,727</u>	<u>-</u>	<u>(1,868,727)</u>
Total Income	186,191,060	104,570,842	(81,620,218)
Benefit Payments and Expenses	(21,235,010)	(21,235,010)	-
Transfers to State General Fund	(17,787,694)	-	17,787,694
Prior Year's Adjustments	(179,949)	-	179,949
Increase in Reserves Based on Salary	-	25,229,197	25,229,197
Mortality Loss	-	81,732	81,732
Loss From More Accurate Data	-	49,710,932	49,710,932
Other Experience Variation	<u>-</u>	<u>(3,342,993)³</u>	<u>(3,342,993)</u>
Net Change	<u>\$146,988,407</u>	<u>\$155,014,700</u>	<u>\$ 8,026,293</u>

1 Normal Cost Plus Interest on the Unfunded

2 Includes MPRF Income

3 Includes Actual Less Estimated Income Gain

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION

Coordinated Members

ESTIMATED SOURCES OF GAIN FROM INCOME

Actual Income less Reserves \$81,620,218

Estimated Sources of Gain:

Excess Interest
(5.6% x Average
Invested Assets) \$41,334,961

Contribution Rate Applied
to Larger Payroll 5,861,498

Excess Contribution Rate 29,627,935 76,824,394

Actual Less Estimated Gain \$ 4,795,824

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONRECONCILIATION OF ACTIVE MEMBERSCoordinated Members

As of July 1, 1982	75,599
New Entrants	6,893
Reinstated	2,742
Reinstated from Error	<u>30</u>
TOTAL	<u>85,264</u>

Separations:

a. Refund of Contributions	
(i) Death	130
(ii) Withdrawal	6,275
b. With Deferred Annuity	198
c. With Disability Annuity	66
d. With Normal Retirement Annuity	531
e. With Survivor Annuity	-
f. With Option Annuity	8
g. Terminated	2,824
h. Terminated to Active	519
i. Died - No Refund or Benefit	18
j. Duplicate Member Number Errors	59
k. Added in Error	<u>-</u>
TOTAL SEPARATIONS	<u>10,628</u>
Current Active Total	<u>74,636</u>

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONRECONCILIATION OF ANNUITANTSCoordinated Members

<u>Annuitants:</u>	<u>Normal</u>	<u>Option</u>	<u>Disabled</u>	<u>Total</u>
Balance - July 1, 1982	3,844	133	259	4,236
Additons for year	741	49	88	878
Deletions for year	-119	-5	-57	-181
Subtotal - July 1, 1983	4,466	177	290	4,933
Inactives	1	0	17	18
Actives	4,465	177	273	4,915
Annual Annuity	8,544,213	262,345	447,264	9,253,822

Deferred Vested Members:

Balance - July 1, 1982	974
Additions	278
Deletions	-163
Balance - July 1, 1983	1,089

Coordinated Members

VALUATION PAYROLL

Active Male Members

(Age and Credited Service as of July 1, 1983)

AGE	YEARS OF SERVICE							
	Under 1		1		2 to 4		5 to 9	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	462	\$ 2,001,266	376	\$ 3,797,830	670	\$ 9,411,043	46	\$ 779,465
25 to 29	469	2,748,123	471	6,235,996	1,622	26,523,544	996	18,580,838
30 to 34	395	2,548,698	367	5,426,177	1,599	29,209,939	1,841	38,555,645
35 to 39	241	1,510,335	219	3,138,268	1,009	19,196,515	1,241	28,090,380
40 to 44	150	842,208	156	2,161,356	622	11,171,630	669	14,052,626
45 to 49	119	758,869	101	1,225,330	448	7,248,952	593	11,525,961
50 to 54	88	587,350	96	1,301,194	433	6,822,819	548	10,105,268
55 to 59	84	431,012	82	894,949	395	5,736,471	585	10,064,873
60 to 64	43	189,072	57	542,933	246	2,998,095	433	6,986,181
65 & Up	69	178,029	46	343,766	149	996,267	163	1,465,587
Total	<u>2,120</u>	<u>\$ 11,794,962</u>	<u>1,971</u>	<u>\$25,067,799</u>	<u>7,193</u>	<u>\$119,315,275</u>	<u>7,115</u>	<u>\$140,206,824</u>

AGE	YEARS OF SERVICE							
	10 to 14		15 to 19		20 to 24		25 to 29	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	62	1,161,970	-	-	-	-	-	-
30 to 34	733	15,912,319	35	905,737	-	-	-	-
35 to 39	1,038	24,887,061	233	5,922,411	5	97,802	-	-
40 to 44	719	16,564,866	290	7,408,452	29	864,509	2	45,240
45 to 49	603	12,715,806	265	6,654,075	102	3,076,650	21	629,370
50 to 54	637	12,720,619	253	5,865,330	105	3,078,179	50	1,525,556
55 to 59	665	12,660,623	321	6,884,755	109	2,702,731	83	2,412,156
60 to 64	544	9,619,521	228	4,695,810	100	2,205,620	59	1,483,706
65 & Up	132	1,752,981	32	548,480	11	240,760	11	283,629
Total	<u>5,133</u>	<u>\$107,995,766</u>	<u>1,657</u>	<u>\$38,885,050</u>	<u>461</u>	<u>\$ 12,266,251</u>	<u>226</u>	<u>\$ 6,379,657</u>

AGE	YEARS OF SERVICE							
	30 to 34		35 to 39		40 & Up		All	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	1,554	\$ 15,989,604
25 to 29	-	-	-	-	-	-	3,620	55,250,471
30 to 34	-	-	-	-	-	-	4,970	92,558,515
35 to 39	-	-	-	-	-	-	3,986	82,842,772
40 to 44	-	-	-	-	-	-	2,637	53,110,887
45 to 49	1	32,487	-	-	-	-	2,253	43,867,500
50 to 54	11	295,948	-	-	-	-	2,221	42,302,263
55 to 59	52	1,631,530	10	284,959	-	-	2,386	43,704,059
60 to 64	31	805,615	7	217,082	-	-	1,748	29,743,635
65 & Up	-	-	-	-	1	15,158	614	5,824,657
Total	<u>95</u>	<u>\$ 2,765,580</u>	<u>17</u>	<u>\$ 502,041</u>	<u>1</u>	<u>\$ 15,158</u>	<u>25,989</u>	<u>\$465,194,363</u>

Coordinated Members

VALUATION PAYROLL

Active Female Members
(Age and Credited Service as of July 1, 1983)

AGE	YEARS OF SERVICE							
	Under 1		1		2 to 4		5 to 9	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	1,157	\$ 4,532,285	1,064	\$ 9,594,701	1,971	\$ 20,554,072	217	\$ 2,573,047
25 to 29	937	4,624,305	929	9,654,061	2,869	35,983,395	1,844	24,428,358
30 to 34	707	3,313,378	788	7,600,908	2,530	29,663,092	1,947	28,993,690
35 to 39	629	2,638,426	750	6,174,593	2,473	23,453,456	1,776	22,419,182
40 to 44	469	1,904,285	552	4,451,518	2,179	19,315,446	2,122	23,356,947
45 to 49	247	1,019,394	332	2,503,312	1,594	13,761,644	1,926	18,873,747
50 to 54	191	670,008	214	1,490,431	1,127	9,618,814	1,568	15,579,984
55 to 59	139	466,193	176	1,160,093	776	5,978,190	1,213	11,515,700
60 to 64	49	135,032	66	337,006	395	2,828,419	698	6,107,990
65 & Up	97	199,399	48	268,997	170	874,354	237	1,485,917
Total	4,622	\$19,502,705	4,919	\$43,235,620	16,084	\$162,030,882	13,548	\$155,334,562

AGE	YEARS OF SERVICE							
	10 to 14		15 to 19		20 to 24		25 to 29	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	-	\$ -
25 to 29	150	2,124,737	-	-	-	-	-	-
30 to 34	804	12,789,870	45	750,777	-	-	-	-
35 to 39	757	12,932,152	168	3,369,202	2	33,214	-	-
40 to 44	969	13,004,362	179	3,250,833	16	318,073	1	18,845
45 to 49	1,316	15,359,089	182	2,767,615	10	247,234	10	217,182
50 to 54	1,403	15,404,131	269	4,233,037	24	484,404	11	229,152
55 to 59	1,338	14,173,235	315	4,709,437	44	771,713	12	205,863
60 to 64	814	8,377,224	197	2,737,026	31	534,830	21	446,615
65 & Up	288	2,002,412	45	459,561	11	181,371	5	46,415
Total	7,839	\$96,167,212	1,400	\$22,277,488	138	\$ 2,570,839	60	\$ 1,164,072

AGE	YEARS OF SERVICE							
	30 to 34		35 to 39		40 & Up		All	
	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS	NO.	EARNINGS
Under 25	-	\$ -	-	\$ -	-	\$ -	4,409	\$ 37,254,105
25 to 29	-	-	-	-	-	-	6,729	76,814,856
30 to 34	-	-	-	-	-	-	6,821	83,111,715
35 to 39	-	-	-	-	-	-	6,555	71,020,225
40 to 44	-	-	-	-	-	-	6,487	65,620,309
45 to 49	-	-	-	-	-	-	5,617	54,749,217
50 to 54	5	113,790	-	-	-	-	4,812	47,823,751
55 to 59	11	228,861	4	93,034	-	-	4,028	39,302,319
60 to 64	4	101,218	3	83,331	3	54,261	2,281	21,742,952
65 & Up	3	53,959	1	17,475	3	83,863	908	5,673,723
Total	23	\$ 497,828	8	\$ 193,840	6	\$ 138,124	48,647	\$503,113,172

PUBLIC EMPLOYEES RETIREMENT ASSOCIATIONCOORDINATED MEMBERSSUMMARY OF PLAN1. Name

Public Employees Retirement Association.

2. Type of Plan

Self-insured, managed by a 15-member Board of Trustees.

3. Employer Included

Any county, city, 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 law.

4. Employees Included

All full time and certain part time employees who either elected coverage under Section 218(d) of the Social Security Act, or were automatically so covered by reason of being new employees, and who are not contributing to any other local retirement plan.

5. Allowable Service

All periods of public service during which salary deductions were made or for which payments in lieu of salary deductions were deposited, including authorized leaves of absence, sick leaves, military leaves and layoffs.

6. Considered Salary

Salary means the periodical total compensation of any public employee before deductions for deferred compensation or supplemental retirement plans, and also means wages and includes net income from fees.

7. Employee Contributions

After July 1, 1973, 4% of considered salary.

8. Employer Contributions

An amount equal to the Employee Contributions plus 1-1/2% of considered salary.

9. Normal Retirement Annuity

After attainment of age 65 and completion of at least 10 years of allowable service.

"Average salary" means an amount equivalent to the highest salary upon which contributions were paid for any five successive years of allowable service.

Annuity equal to:

- (a) 1% of "Average Salary" for each of the first 10 years of allowable service plus
- (b) 1-1/2% of "Average Salary" for each year of service over 10 years.

10. Late Retirement Annuity

Annual Annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

11. Early Retirement Annuity

After attainment of age 58 and completion of 20 years of allowable service, or attainment of age 62 and completion of 10 years of allowable service.

Annual Annuity determined as for Normal Retirement considering allowable service and salary to actual retirement and reduced by 1/4% for each month that the member is under age 65 at the time of retirement if service is less than 30 years, or under age 62 if service is 30 or more years.

12. Special Early Retirement Benefit

After attained age plus allowable service totals 90 years.

Annual annuity determined as for Normal Retirement considering allowable service and salary to actual retirement without reduction for such early retirement.

13. Proportionate Annuity

At age 65 or earlier under a mandatory retirement statute or uniformly applied compulsory retirement policy and completion of at least one year but less than 10 years of allowable service.

Annual Annuity determined as for Normal Retirement, considering allowable service and salary to actual retirement.

14. Disability Benefit

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

Annual Benefit payable to age 65 determined as for Normal Retirement, considering allowable service and salary to date of disablement. Total Benefit is limited to 100% of "Average Salary."

If disability continues to age 65, the disability benefit shall terminate and the person shall be deemed to be on retirement status and may elect to receive the greater of an annuity determined as for Normal Retirement or the disability benefit he was receiving prior to age 65, or he may select an optional annuity.

15. Death Benefit

In event of death of an active member, his accumulated contributions shall be paid to his designated beneficiary with interest thereon at 3-1/2% per annum compounded annually.

In the event of death of a retired annuitant, the excess (if any) of his accumulated contributions not paid out in the way of annuities shall be paid to his designated beneficiary, without interest.

Upon the death of an active member after age 58 and completion of 20 or more years of allowable service or if the member has made application for an annuity or disability benefit and dies prior to commencement of his benefit, the surviving spouse (in lieu of any other survivor benefit) may elect to receive an annuity equal to the 50% joint and survivor annuity the member could have qualified for on the date of his death.

16. Separation Benefit

In event of termination after 10 years of allowable service, a deferred vested annuity payable at age 65, or earlier if otherwise eligible, provided former member does not withdraw his contributions. (Said 10 years of allowable service need not represent PERA coverage only but may be in conjunction with service covered by other Minnesota funds such as those for state employees and teachers and others which have this same provision; deferred annuity is paid by each fund according to the number of years of allowable service in each fund).

Annual Annuity determined as for Normal Retirement under the provisions of the Plan at date of termination considering allowable service and salary to date of such termination, augmented by interest compounded annually from first of the month following separation from service or from July 1, 1971, whichever is later, to the date annuity begins to accrue, at the rate of 5% until January 1, 1981, and thereafter at the rate of 3%.

All former members shall be eligible to receive a refund of their accumulated contributions without interest for the first three years of membership and thereafter with interest at 3-1/2% compounded annually. (Such election is in lieu of any other benefits under the Plan.)

17. Lump Sum Payments for Retired Annuitants, Disabilitants and Surviving Spouse Receiving Payments on November 30, 1977

Any of the above whose annuity or benefit was computed under laws in effect prior to July 1, 1973, shall receive an additional lump sum payment of \$250 payable December 1, 1977.

Persons receiving benefits from the Minnesota Adjustable Fixed Benefit Fund or the Retirement Fund shall receive the lump sum payment from the same fund.

18. Optional Benefits

A participant may elect to receive an equivalent actuarially reduced annuity in the form of either a 50% or 100% joint and survivor annuity.

19. Maximum Annuity

Effective March 23, 1982 the normal monthly retirement annuity or disability benefit may not exceed 100% of final monthly salary.

20. Expenses

Paid by Association from retirement fund.

21. Actuarial Method

For purposes of reports to the Legislative Commission on Pensions and Retirement, costs for the Plan shall be determined on an "entry-age level normal cost" basis and 5% interest.

MEMORANDUM TO: Legislative Commission on Pensions and Retirement

FROM: James R. Bordewick, F.S.A.

RE: June 30, 1983 Actuarial Valuation of the Public Employees Retirement Association - General Fund

DATE: January 23, 1984

Chapter 356, Subdivision 2 requires that an actuarial valuation of the fund be conducted each year. An actuarial valuation is a calculation to determine the normal cost and accrued liability of the fund and includes a determination of the payment necessary to amortize the unfunded accrued liability over a stated period of time and a determination of the payment necessary to keep the unfunded accrued liability from increasing.

The actuarial valuation is conducted according to a stated actuarial cost method, Entry Age Normal Cost, and stated actuarial assumptions. The interest assumption of 5% and the salary scale assumption of 3½% are prescribed in Chapter 356, Subdivision 4(4).

The actuarial valuation was conducted by Davis H. Roenisch of Compensation and Capital Incorporated.

The General Fund consists of a Basic Group and a Coordinated Group with separate support rates applicable. The Basic Group is a closed group (no new members) and the benefit formula is not integrated with Social Security. The Coordinated Group is an open group (new members enter this group) and the benefit formula is integrated with Social Security. The summary of key actuarial results shown below is for the groups combined.

<u>SUMMARY OF KEY ACTUARIAL RESULTS</u>	<u>6-30-83</u>	<u>6-30-82</u>
Total Membership	104,058	104,181
Active Membership	83,351	85,438
Payroll (\$1,000's)	\$1,135,785	\$1,079,973
Accrued Liability (\$1,000's)	1,875,560	1,646,988
Assets (\$1,000's)	1,474,041	1,278,463
Unfunded Accrued Liability (\$1,000's)	401,519	368,525
Funding Ratio - Total	78.6%	77.6%
Prospective	68.5	68.1
Actuarial Losses (\$1,000's)	37,109	4,118
Contribution Requirement; Amortization by June 30, 2009	10.051%	10.575%
Total Support Rate	10.827%	10.945%

COMMENT SUMMARY

1. There were no changes in the actuarial assumptions, actuarial methods, or the provisions of the plan from the previous actuarial valuation.
2. Total membership was almost the same this year as last year. The figures on total membership on the previous page do not include former members who are not vested but where member contributions are retained in the fund.

Active membership decreased somewhat from a year ago and most of this decrease was in the Basic Group as would be expected.

Payroll increased by 5.2% from a year ago and average salary per active member increased by 7.8% from June 30, 1982.

Active membership in the Basic Group decreased by 1,126 and average salary increased from \$17,617 to \$19,217 from a year ago.

Active membership in the Coordinated Group decreased by 961 and average salary increased from \$11,993 to \$12,974 from a year ago.

3. The unfunded accrued liability increased by \$32,993,666 from June 30, 1982. The elements contributing to this increase are shown below according to the Basic Group and the Coordinated Group:

	<u>Basic</u>	<u>Coordinated</u>	<u>Total</u>
Actuarial Experience	\$ 6,973,695	\$30,135,710	\$37,109,405
2% Transfer to State Fund	3,105,563	17,787,694	20,893,257
Contribution Sufficiency	15,644,553	(38,208,333)	(22,563,780)
Other	(756,438)	(1,688,778)	(2,445,216)
	<u>\$24,967,373</u>	<u>\$ 8,026,293</u>	<u>\$32,993,666</u>

A contribution sufficiency is defined as the amount by which the contributions to the fund are in excess of the amount required to keep the unfunded accrued liability from increasing.

Other represents gains from miscellaneous income and adjustments from prior years.

4. The total funding ratio increased slightly from a year ago because total assets increased faster than total accrued liabilities. The prospective funding ratio did not change as much because the accrued liabilities for retired members increased substantially from a year ago due to the number of retirements during the year.

The total funding ratio is the ratio of total assets to total accrued liabilities. The prospective funding ratio is the ratio of total assets less accrued liabilities for members in a payment status to accrued liabilities for members not in a payment status.

COMMENT SUMMARY

4. The assets of the fund cover 89% of the value of benefits accrued to June 30, 1983 (including augmentation). This represents a superior funded position for the plan. If this comparison was made on a market basis, the asset coverage percentage would probably be higher.
5. There were actuarial losses of \$37,109,405 for the year ended June 30, 1983. This includes a one-time loss of \$16,612,183 for member data purification.

As expected, salary losses of \$87,672,588 were not offset by interest gains of \$61,086,949. This is expected with implicit actuarial assumptions where there are no interest gains on reserves for retired members to help offset salary losses.

There was a mortality loss of \$532,876 on retired members and a gain of \$6,621,293 from pre-retirement mortality, turnover, and disability experience.

6. The contribution rates shown on the first page of this memorandum are rates for both groups combined based on payroll weightings. As shown, the current support rate of 10.827% is greater than the support rate needed to amortize the unfunded accrued liability by June 30, 2009 and is greater than 9.359% - the contribution rate required to keep the unfunded accrued liability from increasing.

The Chapter 356 contribution standard and the support rates for each group are shown below. Members contributed 8% of salary in the Basic Group and 4% of salary in the Coordinated Group.

	<u>Basic</u>	<u>Coordinated</u>
Chapter 356 Standard	35.266%	5.833%
Total Support Rate	18.500%	9.500%
Excess Rate	(16.766%)	3.667%

The excess rate for the Basic Group increased (deficit expanded) and the excess rate for the Coordinated Group increased (surplus expanded) from a year ago,

There is an actuarial surplus (assets less accrued liabilities) of \$133,295,142 in the Coordinated Group which is reflected in the excess rate. On the other hand, the Basic Group has an unfunded accrued liability of \$534,813,761.

The deficit in the Basic Group, which is the difference between the Chapter 356 standard and the total support rate, will probably continue to increase.

It is evident that the funding for the Coordinated Group is subsidizing the funding for the Basic Group. However, funding for the plan is viewed as one entity and not two entities.

CONCLUSIONS

The actuarial valuation complies with the requirements of Minnesota Statutes, Chapter 356.

Certain types of information on average entry ages and retirement ages should be added to the actuarial report.

James R. Bordewick

James R. Bordewick, F.S.A.
Commission Actuary

MEMORANDUM TO: Legislative Commission on Pensions and Retirement

FROM: James R. Bordewick, F.S.A.

RE: June 30, 1983 Actuarial Valuation of the Public Employees Retirement Association - Police and Fire Fund

DATE: January 23, 1984

Chapter 356, Subdivision 2 requires that an actuarial valuation of the fund be conducted each year. An actuarial valuation is a calculation to determine the normal cost and accrued liability of the fund and includes a determination of the payment necessary to amortize the unfunded accrued liability over a stated period of time and a determination of the payment necessary to keep the unfunded accrued liability from increasing.

The actuarial valuation is conducted according to a stated actuarial cost method, Entry Age Normal Cost, and stated actuarial assumptions. The interest assumption of 5% and the salary scale assumption of 3½% are prescribed in Chapter 356, Subdivision 4(4).

The actuarial valuation was conducted by Davis H. Roenisch of Compensation and Capital Incorporated.

<u>SUMMARY OF KEY ACTUARIAL RESULTS</u>	<u>6-30-83</u>	<u>6-30-82</u>
Total Membership	5,725	5,593
Active Membership	4,596	4,508
Payroll	\$105,153,394	\$ 97,295,847
Accrued Liability	250,280,229	222,472,470
Assets	249,539,820	209,225,419
Unfunded Accrued Liability	740,409	13,247,051
Funding Ratio - Total	99.7%	94.0%
Prospective	99.6	92.2
Actuarial Gains (Losses)	\$ 8,042,609	\$ (5,939,821)
Contribution Requirement:		
Amortization by June 30, 2009	15.613%	16.476%
Total Support Rate	20.000%	20.000%

COMMENT SUMMARY

1. There were no changes in the actuarial assumptions, actuarial methods, or the provisions of the plan from the previous actuarial valuation.
2. Both total membership and active membership were about the same this year as last year. The figures on total membership on the previous page do not include former members who are not vested but where member contributions are retained in the fund.

Payroll increased by 8.1% from June 30, 1982 and average salary per active member increased from \$21,583 a year ago to \$22,879 this year. This was a 6% increase.

3. The unfunded accrued liability decreased by \$12,506,642 from June 30, 1982. The elements contributing to this decrease are described below:

Actuarial Experience	\$ 8,042,609
2% Transfer to State Fund	(1,934,691)
Contribution Sufficiency	5,871,978
Other	526,746
	<hr/>
	\$12,506,642

A contribution sufficiency is defined as the amount by which the contributions to the fund are in excess of the amount required to keep the unfunded accrued liability from increasing.

Other represents gains from miscellaneous income and adjustments from prior years.

4. Both the total funding ratio and the prospective funding ratio increased from a year ago. This meant that assets increased faster than accrued liabilities.

The total funding ratio is the ratio of assets to total accrued liabilities. The prospective funding ratio is the ratio of total assets less accrued liabilities for members in a payment status to accrued liabilities for members not in a payment status.

The assets of the fund cover 99% of the value of benefits accrued to June 30, 1983 (including augmentation). This represents a superior funded position for the plan. If this comparison was made on a market basis, the asset coverage percentage would probably be higher.

5. There was an actuarial gain of \$8,042,609 for the year ended June 30, 1983. Surprisingly, interest gains of \$12,466,388 offset salary losses of \$9,843,788. In most cases, this does not happen.

There were mortality losses of \$571,161 on retired members and gains from pre-retirement experience (death, member turnover, and disability) of \$1,887,566.

COMMENT SUMMARY

5. There was a one-time actuarial gain of \$4,103,604 arising from member data purification.
6. As indicated, the total support rate of 20% is in excess of the Chapter 356 contribution standard of 15.613%.

The total support rate consists of 8% member contributions and 12% employer contributions.

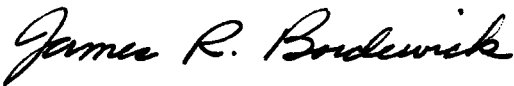
The contribution, as a percentage of payroll, which will keep the unfunded accrued liability from increasing is 15.599%.

The unfunded accrued liability is only \$740,409 and the current support rate will completely amortize this amount in one year if there are no sizeable actuarial losses in the next year.

CONCLUSIONS

The actuarial valuation complies with the requirements of Minnesota Statutes, Chapter 356.

Certain types of information of average entry ages and retirement ages should be added to the report.


James R. Bordewick, F.S.A.
Commission Actuary