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PUBLIC EMPLOYEES RETIREMENT FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1990

THE *Wyatt* COMPANY

ACTUARIAL SERVICES
PENSION PROGRAMS
ADMINISTRATIVE SYSTEMS
INTERNATIONAL SERVICES
ORGANIZATION SURVEYS

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EMPLOYEE BENEFITS
EMPLOYEE COMMUNICATIONS
RISK MANAGEMENT
INSURANCE CONSULTING
HEALTH CARE CONSULTING

October 22, 1990

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

RE: PUBLIC EMPLOYEES RETIREMENT FUND

Commission Members:

We have prepared an actuarial valuation of the Fund as of July 1, 1990 based on membership and financial data supplied by PERA.

We certify that to the best of our knowledge and belief this actuarial valuation was performed in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on September 20, 1989.

Respectfully submitted,

THE WYATT COMPANY

Robert E. Perkins

Robert E. Perkins, FSA
Consulting Actuary

Michael C. Gunvalson

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Actuary

PUBLIC EMPLOYEES RETIREMENT FUND

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PUBLIC EMPLOYEES RETIREMENT FUND

**REPORT HIGHLIGHTS
(DOLLARS IN THOUSANDS)**

	<u>07/01/89</u> <u>VALUATION</u>	<u>07/01/90</u> <u>VALUATION</u>
A. CONTRIBUTIONS (TABLE 11)		
1. Statutory Contributions - Chapter 353 % of Payroll	9.33%	9.25%
2. Required Contributions - Chapter 356 % of Payroll	8.83%	10.04%
3. Sufficiency (Deficiency) (A1-A2)	0.50%	-0.79%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$2,992,285	\$3,297,216
b. Current Benefit Obligations (Table 8)	\$3,714,257	\$4,089,960
c. Funding Ratio (a/b)	80.56%	80.62%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$2,992,285	\$3,297,216
b. Actuarial Accrued Liability (Table 9)	\$4,175,240	\$4,560,469
c. Funding Ratio (a/b)	71.67%	72.30%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$5,228,236	\$5,431,928
b. Current and Expected Future Benefit Obligations	\$5,008,731	\$5,797,210
c. Funding Ratio (a/b)	104.38%	93.70%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	99,515	102,664
b. Projected Annual Earnings	\$1,932,674	\$2,074,092
c. Average Annual Earnings (Actual \$)	\$19,421	\$20,203
d. Average Age	42.5	42.6
e. Average Service	8.2	8.3
2. Others		
a. Service Retirements (Table 4)	22,932	24,314
b. Disability Retirements (Table 5)	689	708
c. Survivors (Table 6)	4,251	4,414
d. Deferred Retirements (Table 7)	2,349	2,699
e. Terminated Other Non-vested (Table 7)	6,805	7,695
f. Total	37,026	39,830

PUBLIC EMPLOYEES RETIREMENT FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine the financial status of the Fund. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The statutory contributions for the Public Employees Retirement Fund are not sufficient by an amount of 0.79% of payroll. According to this valuation a contribution rate of 10.04% is required to comply with Minnesota Law. This contribution rate is based on a new set of assumed separation rates adopted for the July 1, 1990 valuation. All plan provisions and all other actuarial assumptions are the same as the prior valuation.

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

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This year's ratio is 80.62%. The corresponding ratio for the prior year was 80.56%.

- o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used. For 1990 the ratio is 72.30%, which is an increase from the 1989 value of 71.67%.

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

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gains and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

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

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets", the latter phrase will be used in the remainder of this report.

This Fund participates in the MPRIF (i.e. Minnesota Post Retirement Investment Fund). The asset value shown for MPRIF on line A3 is set equal to the MPRIF Reserves reported on line D3 for both market and cost value purposes. This reserve is based on a 5% interest assumption.

Investment performance by SBI (i.e. State Board of Investment) above the 5% level is not shown in the assets but will be added in on January 1, 1991 when benefits will be increased for those annuitants who have been receiving payments for at least 7 months. Next year's valuation will include the 1991 benefit increase in determining the MPRIF value.

After the MPRIF liability has been calculated for each participating Fund, SBI will determine each Fund's portion of the excess earnings for the January benefit increase as well as the Fund's allocated market share of MPRIF. An approximation of those values on June 30, 1990 is provided below:

MPRIF Reserves	\$1,763,685,000
Reserves Plus Excess Earnings	1,846,000,000
MPRIF Market Value	1,921,000,000

Membership Data (Tables 3, 4, 5, 6 and 7)

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

The service retirements in Table 4 include not only those retiring from active status but also disabled members who have attained retirement age. Disabled members under retirement age are shown in Table 5. The survivors category

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

A reconciliation of members in Table 7 provides a method for tracking what happened to members during the past year.

Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

Current funding levels are evaluated by comparing Current Assets on line A to Current Benefit Obligations on line D5. Current and future funding levels are evaluated by comparing the Total Current and Expected Future Assets on line C to the Total Current and Expected Future Benefit Obligations on line F.

The Current Benefit Obligation used to measure current funding levels is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

- o For active members - salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.
- o For non-active members - the discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

The Current Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB). However, Statement No. 5 uses the terms "Actuarial Present Value of Credited Projected Benefits" and "Pension Benefit Obligation" rather than "Current Benefit Obligation".

The July 1, 1990 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the table below. The table shows the impact of the change in actuarial assumptions. See page 10 for an explanation of the change in actuarial assumptions.

	<u>Old Assumptions</u>	<u>New Assumptions</u>
Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$1,970,629,000	\$1,970,629,000
Current Employees -		
Accumulated employee contributions including allocated investment income	\$837,519,000 *	\$837,519,000 *
Employer-financed vested	1,029,866,000	1,071,788,000
Employer-financed nonvested	192,004,000	210,024,000
	-----	-----
Total Pension Benefit Obligation	\$4,030,018,000	\$4,089,960,000

* Estimated

The net assets available for benefits, at cost, is \$3,250,157,000. The total Pension Benefit Obligation after the assumption change exceeds the assets by \$839,803,000 to produce a funded ratio of 79.47%.

Actuarial Cost Method (Table 9)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary

characteristic of this method is that it allocates costs as a level percentage of payroll.

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

The payments will increase 6.5% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years the annual payment will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal

Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. The major sources of gain and loss, which have been identified, are:

- o A gain from salaries where the average increase was 5.0% compared to the expected 6.5%.
- o A gain from Non-MPRIF Assets (i.e. Current Assets reduced by MPRIF Reserves) because the return was 13.2% instead of the assumed 8.5%.
- o A loss of \$75,000,000 (reported on line D5) due to fewer active members terminating than anticipated.
- o A loss of \$6,000,000 (reported on line D5) due to fewer active members dying than anticipated.

Contribution Sufficiency (Table 11)

This report answers the question of "How adequate are the Statutory Contributions?" by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

- o Normal Costs based on the Entry Age Normal Actuarial Cost Method
- o A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability

o An Allowance for Expenses

Table 11 shows the Fund has a contribution deficiency since the Statutory Contribution Rate is 9.25% compared to the Required Contribution Rate of 10.04%.

Projected Cash Flow (Table 12)

Table 12 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Non-MPRIF Assets, which are the Current Assets reduced by the MPRIIF Reserves. Contributions are then added based on the present statutory rates for employers and employees. As members become eligible for payments from MPRIIF an amount of reserve is transferred to SBI. The other disbursements represent benefit payments and expenses made directly by the Fund. This projected cash flow assumes that future payrolls increase by 6.5%. Table 12 is the only table in this report where new members are assumed to be hired in order to replace those who terminate from the active group. This open group method provides a more realistic picture of future cash flow. The statutory interest rate of 8.5% is used to project future investment return.

The amounts transferred to MPRIIF will be affected by the number of members who reach the assumed retirement age during a given year. The amount for 1992 is large because it includes those already over age 64 who are assumed to retire a year from the valuation date.

Changes in Plan Provisions

This valuation does not reflect any changes in plan provisions since the prior valuation.

Changes in Actuarial Assumptions

The rates of separation have been updated to reflect recent plan experience.

Sample rates of separation are as follows:

<u>Age</u>	<u>Separation Rates</u>			
	<u>Male</u>		<u>Female</u>	
	<u>Old</u>	<u>New</u>	<u>Old</u>	<u>New</u>
20	.2750	.2542	.3832	.2913
30	.1610	.1018	.2805	.1394
40	.0818	.0532	.1340	.0826
50	.0385	.0321	.0663	.0550

See Table 13 for the complete set of new separation rates.

Prior to the actuarial assumption change the Fund had an Unfunded Actuarial Accrued Liability of \$1,230,470,000. With the new separation rate assumption, the Unfunded Actuarial Accrued Liability is \$1,263,253,000. The following table shows the impact due to the change in the separation rate assumption.

	<u>Impact Due to Change in Actuarial Assumptions</u>
Actuarial Accrued Liability Pension Benefit Obligation for GASB No. 5	\$32,783,000 59,942,000
Normal Cost	1.09%
Supplemental Contribution	<u>0.07%</u>
Required Contribution	1.16%

Basic and Coordinated

Additional tables at the end of this report show membership data, statutory contributions and normal costs for the Basic and Coordinated Plans.

TABLE 1

PUBLIC EMPLOYEES RETIREMENT FUND

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1990

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash, Equivalents, Short-Term Securities	\$42,625	\$42,625
2. Investments		
a. Fixed Income	435,599	442,030
b. Equity	1,041,002	917,040
c. Real Estate	117,822	94,176
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	1,763,685	1,763,685
4. Other	832	832
	-----	-----
B. TOTAL ASSETS	\$3,401,565	\$3,260,388
	=====	=====
C. AMOUNTS CURRENTLY PAYABLE	\$10,231	\$10,231
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$588,793	\$588,793
2. Employer Reserves	1,038,856	897,679
3. MPRIF Reserves	1,763,685	1,763,685
4. Non-MPRIF Reserves	0	0
	-----	-----
5. Total Assets Available for Benefits	\$3,391,334	\$3,250,157
	-----	-----
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	\$3,401,565	\$3,260,388
	=====	=====
<hr/>		
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Cost Value of Assets Available for Benefits (D5)		\$3,250,157
2. Market Value (D5)	\$3,391,334	
3. Cost Value (D5)	3,250,157	

4. Market Over Cost (F2-F3)	\$141,177	
5. 1/3 of Market Over Cost(F4)/3		47,059

6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		\$3,297,216
		=====

TABLE 2

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

YEAR ENDING JUNE 30, 1990

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF YEAR	\$3,106,902	\$2,934,977
 B. OPERATING REVENUES		
1. Member Contributions	\$87,031	\$87,031
2. Employer Contributions	93,865	93,865
3. Investment Income	190,862	190,862
4. MPRIF Income	144,529	144,529
5. Net Realized Gain (Loss)	0	0
6. Other	872	872
7. Net Change in Unrealized Gain (Loss)	(30,748)	0
	-----	-----
8. Total Revenue	\$486,411	\$517,159
	-----	-----
 C. OPERATING EXPENSES		
1. Service Retirements	\$165,740	\$165,740
2. Disability Benefits	4,057	4,057
3. Survivor Benefits	12,566	12,566
4. Refunds	12,711	12,711
5. Expenses	6,296	6,296
6. Other	609	609
	-----	-----
7. Total Disbursements	\$201,979	\$201,979
	-----	-----
D. OTHER CHANGES IN RESERVES	0	0
 E. ASSETS AVAILABLE AT END OF YEAR	\$3,391,334	\$3,250,157
	=====	=====

TABLE 3

PUBLIC EMPLOYEES RETIREMENT FUND

ACTIVE MEMBERS AS OF JUNE 30, 1990

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	1,452	2,063	104						3,619
25-29	1,917	5,277	2,142	199					9,535
30-34	1,913	5,823	3,653	2,461	161				14,011
35-39	1,866	6,414	3,870	3,676	1,555	76			17,457
40-44	2,073	6,173	3,931	3,263	2,171	692	29		18,332
45-49	764	3,441	2,947	2,716	1,744	1,088	283	17	13,000
50-54	483	2,121	1,952	2,356	1,858	1,179	505	278	10,732
55-59	304	1,439	1,430	1,745	1,710	1,306	567	335	8,836
60-64	150	785	860	1,036	1,140	913	361	176	5,421
65+	78	331	326	349	319	198	70	50	1,721
TOTAL	11,000	33,867	21,215	17,801	10,658	5,452	1,815	856	102,664

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	8,436	13,105	16,450						11,328
25-29	10,461	17,131	20,029	20,369					16,509
30-34	9,795	17,185	22,626	23,383	23,290				18,753
35-39	9,409	16,057	22,557	26,763	26,803	27,027			20,047
40-44	8,211	14,715	20,566	26,104	30,810	31,753	26,956		19,830
45-49	9,529	14,910	18,500	21,939	26,724	32,245	32,845	33,043	20,326
50-54	8,668	14,160	17,393	19,461	21,330	27,108	33,355	32,070	19,696
55-59	8,179	13,226	16,607	19,147	20,191	24,040	31,629	35,628	19,745
60-64	7,093	12,340	15,162	18,531	19,309	22,001	26,959	32,244	18,538
65+	6,627	8,416	11,049	13,552	14,885	15,290	22,586	25,778	12,946
ALL	9,196	15,477	19,999	22,916	24,380	26,702	30,947	33,150	18,970

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

	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
	101,155	524,173	424,268	407,930	259,841	145,593	56,168	28,376	1,947,504

TABLE 4

PUBLIC EMPLOYEES RETIREMENT FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		1						1
50-54	7	12						19
55-59	255	714	4					973
60-64	638	2,553	660					3,851
65-69	475	3,749	2,503	64	1			6,792
70-74	46	699	4,170	824	24			5,763
75-79	3	93	628	2,943	230	5		3,902
80-84	2	23	72	324	1,372	70	1	1,864
85+		5	15	43	312	563	211	1,149
TOTAL	1,426	7,849	8,052	4,198	1,939	638	212	24,314

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		7,832						7,832
50-54	15,976	12,276						13,639
55-59	6,303	7,392	16,416					7,144
60-64	5,846	7,026	13,982					8,023
65-69	5,325	5,511	9,396	8,593	10,234			6,960
70-74	3,136	3,951	6,336	8,475	8,923			6,338
75-79	297	3,446	4,452	5,973	8,555	5,093		5,815
80-84	1,449	1,180	2,388	4,464	4,831	4,626	6,321	4,617
85+		3,145	1,711	4,740	4,004	4,020	4,337	4,067
ALL	5,698	6,008	7,728	6,375	5,193	4,095	4,346	6,493

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	8,126	47,157	62,229	26,763	10,069	2,612	921	157,877

TABLE 5

PUBLIC EMPLOYEES RETIREMENT FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	22	41	11	5				79
50-54	24	51	11	4	2			92
55-59	19	98	50	14	2			183
60-64	33	156	108	49	2	3		351
65-69		2	1					3
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	98	348	181	72	6	3	0	708

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	3,919	3,481	3,847	2,796				3,611
50-54	5,796	4,873	8,871	5,684	5,610			5,643
55-59	7,721	5,432	8,043	8,443	4,708			6,605
60-64	4,347	4,166	6,607	6,455	5,801	4,398		5,265
65-69		6,777	10,312					7,955
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	5,260	4,560	6,994	6,545	5,373	4,398	0	5,487

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
515	1,588	1,266	471	32	13	0	3,885

TABLE 6

PUBLIC EMPLOYEES RETIREMENT FUND

SURVIVORS AS OF JUNE 30, 1990

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	15	47	20	26	5	1	1	115
50-54	6	42	41	18	5	2	1	115
55-59	18	99	56	31	9	9	1	223
60-64	19	152	201	58	33	18	16	497
65-69	8	100	263	133	48	38	23	613
70-74	8	51	221	283	102	74	46	785
75-79	7	49	82	206	194	98	77	713
80-84	16	51	76	108	136	119	88	594
85+	4	68	100	110	164	144	169	759
TOTAL	101	659	1,060	973	696	503	422	4,414

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	7,882	6,061	7,273	4,494	4,203	1,953	2,192	6,005
50-54	4,731	6,819	7,641	6,571	3,568	1,671	2,110	6,692
55-59	4,109	6,237	8,397	6,980	4,091	2,072	2,115	6,438
60-64	4,244	6,925	7,656	6,587	3,693	2,161	2,124	6,537
65-69	2,575	5,338	6,410	6,211	4,306	2,235	2,050	5,555
70-74	2,716	4,950	5,460	5,380	4,479	1,975	2,133	4,719
75-79	2,672	2,987	3,188	4,669	4,453	2,113	2,117	3,678
80-84	2,695	2,344	3,058	3,394	3,839	2,653	2,079	3,000
85+	2,432	2,691	2,477	2,733	3,128	2,821	2,561	2,757
ALL	4,110	5,275	5,757	4,944	3,965	2,431	2,285	4,475

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
415	3,476	6,103	4,811	2,760	1,223	964	19,752

TABLE 7

PUBLIC EMPLOYEES RETIREMENT FUND
RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1989	99,515	2,349	6,805
B. Additions	12,665	934	3,115
C. Deletions:			
1. Service Retirement	(1,635)	(303)	(90)
2. Disability	(133)	(17)	(4)
3. Death	(83)	(8)	(7)
4. Terminated-Deferred	(926)		
5. Terminated-Refund	(4,249)	0	(1,405)
6. Terminated-Other Non-vested	(2,271)		
7. Returned as Active		(128)	(897)
D. Data Adjustments	(219)	(128)	178
	Vested	72,235	
	Non-Vested	30,429	
E. Total on June 30, 1990	102,664	2,699	7,695

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1989	22,932	689	4,251
B. Additions	2,089	162	363
C. Deletions:			
1. Service Retirement		(68)	
2. Death	(692)	(62)	(187)
3. Annuity Expired	0	0	(1)
4. Returned as Active	0	(3)	
D. Data Adjustments	(15)	(10)	(12)
E. Total on June 30, 1990	24,314	708	4,414

PUBLIC EMPLOYEES RETIREMENT FUND

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1990

A. CURRENT ASSETS (TABLE 1, F6)				\$3,297,216
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions				897,971
2. Present Value of Future Normal Costs				1,236,741
3. Total Expected Future Assets				----- 2,134,712 -----
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				----- \$5,431,928 =====
D. CURRENT BENEFIT OBLIGATIONS				
1. Benefit Recipients				
a. Retirement Annuities			\$1,681,306	\$1,681,306
b. Disability Benefits			24,435	24,435
c. Surviving Spouse and Child Benefits			215,590	215,590
2. Deferred Retirements with Future Augmentation			41,077	41,077
3. Former Members without Vested Rights			8,221	8,221
4. Active Members				
a. Retirement Annuities	21,393	1,466,971		1,488,364
b. Disability Benefits	89,595	0		89,595
c. Survivors' Benefits	87,465	0		87,465
d. Deferred Retirements	11,571	386,465		398,036
e. Refund Liability Due to Death or Withdrawal	0	55,871		55,871
5. Total Current Benefit Obligations	----- \$210,024 -----	----- \$3,879,936 -----		----- \$4,089,960 -----
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				----- \$1,707,250 -----
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				----- \$5,797,210 =====
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				\$792,744
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				\$365,282

TABLE 9

PUBLIC EMPLOYEES RETIREMENT FUND

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

JULY 1, 1990

	ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS <u>(1)</u>	ACTUARIAL PRESENT VALUE OF FUTURE NORMAL COSTS <u>(2)</u>	ACTUARIAL ACCRUED LIABILITY <u>(3)=(1)-(2)</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	\$2,744,950	\$717,456	\$2,027,494
b. Disability Benefits	157,780	55,601	102,179
c. Survivors Benefits	152,959	51,551	101,408
d. Deferred Retirements	688,630	275,719	412,911
e. Refunds Due to Death or Withdrawal	82,262	136,414	(54,152)
f. Total	<u>\$3,826,581</u>	<u>\$1,236,741</u>	<u>\$2,589,840</u>
2. Deferred Retirements with Future Augmentation	\$41,077		\$41,077
3. Former Members Without Vested Rights	8,221		8,221
4. Annuitants in MPRIF	1,763,685		1,763,685
5. Recipients Not in MPRIF	157,646		157,646
6. Total	<u>\$5,797,210</u>	<u>\$1,236,741</u>	<u>\$4,560,469</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$4,560,469
2. Current Assets (Table 1,F6)			3,297,216
3. UAAL (B1-B2)			<u>\$1,263,253</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls through the Amortization Date of July 1, 2020			\$46,049,816
2. Supplemental Contribution Rate (B3/C1)			2.74%

TABLE 10

PUBLIC EMPLOYEES RETIREMENT FUND
 CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
 (DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1990

A. UAAL AT BEGINNING OF YEAR	\$1,182,955
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$119,619
2. Contribution	(180,896)
3. Interest on A, B1, and B2	97,947
4. Total (B1+B2+B3)	\$36,670
C. EXPECTED UAAL AT END OF YEAR (A+B4)	
	\$1,219,625
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$47,601)
2. Investment Return	(64,680)
3. MPRIF Mortality	7,007
4. Mortality of Other Benefit Recipients	3,981
5. Other Items	112,138
6. Total	\$10,845
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D6)	
	\$1,230,470
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	
	\$0
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	
	\$32,783
H. UAAL AT END OF YEAR (E+F+G)	
	\$1,263,253

TABLE 11

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

JULY 1, 1990

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	4.44%	\$92,112
2. Employer Contributions	4.81%	99,760
3. Total	----- 9.25% =====	----- \$191,872 =====
 B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	4.10%	\$85,041
b. Disability Benefits	0.30%	6,244
c. Survivors	0.28%	5,902
d. Deferred Retirement Benefits	1.73%	35,798
e. Refunds Due to Death or Withdrawal	0.57%	11,816
f. Total	----- 6.98% -----	----- \$144,801 -----
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL of \$1,263,253	2.74%	\$56,830
3. Allowance for Expenses	0.32%	\$6,637
4. Total	----- 10.04%	----- \$208,268
 C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)		
	-0.79%	(\$16,396)

Note: Projected Annual Payroll for Fiscal Year Beginning
on July 1, 1990 is \$2,074,092

TABLE 12

PUBLIC EMPLOYEES RETIREMENT FUND

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

<u>FISCAL YEAR</u>	<u>STATUTORY CONTRIBUTIONS</u>	<u>TRANSFERS TO MPRIF</u>	<u>OTHER DISBURSEMENTS</u>	<u>INVESTMENT RETURN</u>	<u>NON-MPRIF ASSETS YEAR END</u>
1990					\$1,533,531
1991	\$191,872	\$38,503	\$41,985	\$135,084	1,779,999
1992	202,509	215,027	42,915	148,944	1,873,510
1993	214,592	142,634	43,861	160,442	2,062,049
1994	227,173	152,575	44,982	176,533	2,268,198
1995	240,751	183,279	46,738	193,253	2,472,185
1996	255,119	205,712	48,231	210,186	2,683,547
1997	270,310	221,488	50,219	228,042	2,910,192
1998	286,662	250,976	52,056	246,671	3,140,493
1999	304,101	276,521	54,625	265,792	3,379,240
2000	322,728	295,446	57,333	285,958	3,635,147
2001	342,579	322,742	60,251	307,270	3,902,003
2002	363,884	358,369	63,444	329,208	4,173,282
2003	386,695	374,814	67,188	352,378	4,470,353
2004	411,202	409,810	71,543	376,999	4,777,201
2005	437,499	462,864	76,313	401,741	5,077,264
2006	465,570	486,454	81,303	427,224	5,402,301
2007	495,476	541,014	87,086	453,559	5,723,236
2008	527,389	556,963	93,344	481,251	6,081,569
2009	561,381	655,076	100,293	508,689	6,396,270
2010	597,663	682,375	107,402	535,518	6,739,674
2011	636,410	745,177	115,103	563,358	7,079,162
2012	677,679	780,098	122,986	592,149	7,445,906
2013	721,669	758,837	131,343	625,740	7,903,135
2014	768,553	857,276	139,980	662,047	8,336,479
2015	818,506	979,103	148,074	695,482	8,723,290
2016	871,706	978,569	156,607	730,282	9,190,102
2017	928,367	986,909	166,253	771,605	9,736,912
2018	988,711	982,025	176,717	820,411	10,387,292
2019	1,052,977	1,179,043	187,822	869,580	10,942,984
2020	1,121,421	1,166,233	198,660	919,806	11,619,318

PUBLIC EMPLOYEES RETIREMENT FUND
SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	Pre-Retirement: 8.5% per annum Post-Retirement: 5% per annum
Salary Increases:	Reported salary for prior fiscal year, with new hires annualized, increased 6.5% to current fiscal year and 6.5% annually for each future year.
Mortality:	Pre-Retirement: Male - 1971 Group Annuity Mortality Table male rates projected to 1984 by Scale D Female - 1971 Group Annuity Mortality Table female rates projected to 1984 by Scale D Post-Retirement: Male - Same as above Female - Same as above Post-Disability: Male - 1965 RRB rates Female - 1965 RRB rates
Retirement Age:	Age 64, or if over age 64, one year from valuation date. In addition, 50% of employees are assumed to retire under the Rule of 90 when first eligible.
Separation:	Graded rates based on plan experience as of June 30, 1989. Rates are shown in rate table.
Disability:	Rates as shown in rate table.
Administrative and Investment Expenses:	Prior year expenses expressed as percentage of prior year payroll. (0.32% of payroll)
Return of Contributions:	All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Family Composition:	85% of male Members and 65% of female Members are assumed to be married. Female is four years younger than male. Assume Members have no children.
Social Security:	NA

TABLE 13
(cont)

Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumptions.
Special Consideration:	Married Members assumed to elect subsidized joint and survivor form of annuity as follows: Males - 30% elect 50% J & S option; 45% elect 100% J & S option. Females - 15% elect 50% J & S option; 15% elect 100% J & S option.
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method Actuarial Gains(Losses) reduce(increase) the Unfunded Actuarial Accrued Liability.
Asset Valuation Method:	Cost Value plus one-third Unrealized Gains or Losses.
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.5% per annum.
Projected Cash Flow Method:	Cash flows from the Non-MPRIF portion of the Fund were projected based on the current plan benefits, participant data, and actuarial assumptions. In addition, new entrants were assumed so that the total payroll would increase by 6.5% per annum.

TABLE 13
(cont)

**SEPARATIONS EXPRESSED AS THE
NUMBER OF OCCURRENCES PER 10,000**

Age	Death		Withdrawal		Disability		Retirement	
	Male	Female	Male	Female	Male	Female	Male	Female
20	5	2	2,542	2,913	9	9	0	0
21	5	2	2,277	2,666	9	9	0	0
22	5	2	2,050	2,450	9	9	0	0
23	5	3	1,854	2,259	10	10	0	0
24	5	3	1,684	2,091	10	10	0	0
25	6	3	1,536	1,942	10	10	0	0
26	6	3	1,406	1,808	10	10	0	0
27	6	3	1,291	1,688	10	10	0	0
28	7	3	1,189	1,580	11	11	0	0
29	7	4	1,099	1,482	11	11	0	0
30	7	4	1,018	1,394	11	11	0	0
31	8	4	945	1,313	11	11	0	0
32	8	4	880	1,239	11	11	0	0
33	9	5	821	1,172	12	12	0	0
34	10	5	767	1,110	12	12	0	0
35	10	5	719	1,053	12	12	0	0
36	11	6	675	1,000	12	12	0	0
37	12	6	634	952	13	13	0	0
38	13	7	597	907	13	13	0	0
39	14	7	563	865	14	14	0	0
40	15	8	532	826	15	15	0	0
41	16	9	503	790	16	16	0	0
42	18	9	476	756	17	17	0	0
43	21	10	452	724	18	18	0	0
44	24	11	429	695	20	20	0	0
45	27	12	408	667	22	22	0	0
46	30	13	388	641	23	23	0	0
47	34	14	370	616	25	25	0	0
48	39	15	352	593	27	27	0	0
49	44	17	336	571	30	30	0	0
50	49	18	321	550	33	33	0	0
51	54	20	316	531	36	36	0	0
52	60	21	310	513	40	40	0	0
53	65	23	270	495	45	45	0	0
54	72	25	230	487	51	51	0	0

TABLE 13
(cont)

Age	Death		Withdrawal		Disability		Retirement	
	Male	Female	Male	Female	Male	Female	Male	Female
55	78	27	195	478	58	58	0	0
56	85	30	150	410	66	66	0	0
57	92	33	100	362	76	76	0	0
58	100	37	50	210	88	88	0	0
59	110	41	20	50	102	102	0	0
60	121	46	0	0	118	118	0	0
61	133	52	0	0	136	136	0	0
62	146	58	0	0	157	157	0	0
63	160	65	0	0	181	181	0	0
64	176	73	0	0	208	208	10,000	10,000
65	195	81	0	0	0	0	0	0
66	219	90	0	0	0	0	0	0
67	243	99	0	0	0	0	0	0
68	270	109	0	0	0	0	0	0
69	300	123	0	0	0	0	0	0
70	334	140	0	0	0	0	0	0

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 3A
BASIC

ACTIVE MEMBERS AS OF JUNE 30, 1990

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39					1	2			3
40-44					4	130	22		156
45-49					3	305	223	16	547
50-54					5	365	385	234	989
55-59		1	1		5	371	428	255	1,061
60-64			1		4	291	273	119	688
65+		1			1	68	57	38	165
TOTAL	0	2	2	0	23	1,532	1,388	662	3,609

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39					2,764	31,016			21,598
40-44					19,383	29,828	29,589		29,526
45-49					26,200	32,767	31,728	33,163	32,319
50-54					28,974	27,957	32,273	31,510	30,483
55-59		27,982	22,093		27,624	23,947	29,670	34,416	28,791
60-64			26,284		18,734	21,412	25,670	28,555	24,328
65+		25,000			23,368	12,741	21,787	24,905	18,806
ALL	0	26,491	24,189	0	23,487	26,188	29,611	31,759	28,508

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

	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
	0	53	48	0	540	40,002	41,101	21,024	102,768

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 4A
BASIC

SERVICE RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		1						1
50-54	6	11						17
55-59	92	313	4					409
60-64	146	960	499					1,605
65-69	107	1,184	1,482	57	1			2,831
70-74	8	163	2,161	613	21			2,966
75-79		20	230	1,907	207	5		2,369
80-84		3	17	198	1,016	69	1	1,304
85+		1	6	29	216	477	211	940
TOTAL	359	2,656	4,399	2,804	1,461	551	212	12,442

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		7,832						7,832
50-54	17,526	12,732						14,424
55-59	13,453	13,985	16,416					13,889
60-64	11,223	12,929	17,014					14,044
65-69	10,522	10,350	12,972	9,002	10,234			11,702
70-74	8,829	9,544	9,352	10,053	9,698			9,509
75-79		10,518	8,400	7,415	8,797	5,093		7,653
80-84		4,043	6,452	5,698	5,401	4,618	6,321	5,416
85+		9,559	3,068	6,343	4,729	4,283	4,337	4,459
ALL	11,637	11,664	11,378	7,892	5,848	4,332	4,346	9,580

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	4,178	30,979	50,051	22,129	8,544	2,387	921	119,189

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 5A
BASIC

DISABILITY RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	1	2	1	3				7
50-54	5	10	5	3	2			25
55-59	4	27	27	11	2			71
60-64	6	26	46	31	2	2		113
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	16	65	79	48	6	2	0	216

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	16,891	11,453	9,558	3,198				8,421
50-54	14,762	13,925	14,434	6,736	5,610			12,666
55-59	16,246	13,159	12,664	10,122	4,708			12,436
60-64	6,995	10,758	11,589	9,045	5,801	5,491		10,246
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	12,354	12,264	12,111	8,782	5,373	5,491	0	11,187

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	198	796	957	422	32	11	0	2,416

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 6A
BASIC

SURVIVORS AS OF JUNE 30, 1990

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	9	24	11	23	5	1	1	74
50-54	2	21	28	15	5	2	1	74
55-59	6	45	42	27	9	9	1	139
60-64	6	73	140	51	30	18	16	334
65-69	3	46	179	109	46	38	23	444
70-74	8	32	151	224	88	74	46	623
75-79	7	47	68	157	164	95	77	615
80-84	16	50	71	98	117	116	88	556
85+	4	68	100	105	157	139	162	735
TOTAL	61	406	790	809	621	492	415	3,594

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	11,775	9,373	9,302	4,997	4,203	1,953	2,192	7,748
50-54	9,673	10,668	9,867	7,372	3,568	1,671	2,110	8,831
55-59	5,991	10,572	10,190	7,648	4,091	2,072	2,115	8,660
60-64	8,398	10,630	9,800	7,199	3,792	2,161	2,124	8,240
65-69	1,527	7,918	8,026	7,088	4,435	2,235	2,050	6,563
70-74	2,716	5,729	6,824	6,067	4,902	1,975	2,133	5,249
75-79	2,672	3,079	3,536	5,187	4,824	2,075	2,117	3,853
80-84	2,695	2,372	2,784	3,577	4,049	2,659	2,079	3,013
85+	2,432	2,691	2,477	2,782	3,096	2,881	2,584	2,772
ALL	5,074	6,637	6,749	5,424	4,148	2,439	2,290	4,855

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
310	2,695	5,330	4,388	2,576	1,200	950	17,449

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

TABLE 11A
BASIC

JULY 1, 1990

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	8.23%	\$9,008
2. Employer Contributions	10.73%	11,744
	-----	-----
3. Total	18.96%	\$20,752
	=====	=====
 B. REQUIRED CONTRIBUTIONS - CHAPTER 356 (NORMAL COST ONLY)		
1. Normal Cost		
a. Retirement Benefits	4.98%	\$5,448
b. Disability Benefits	0.58%	636
c. Survivors	1.11%	1,215
d. Deferred Retirement Benefits	2.26%	2,476
e. Refunds Due to Death or Withdrawal	1.67%	1,829
	-----	-----
f. Total	10.60%	\$11,604
	-----	-----

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1990 is \$109,448

PUBLIC EMPLOYEES RETIREMENT FUND

SUMMARY OF PLAN PROVISIONS

Eligibility	A public employee who is not covered under the Social Security Act. General exceptions are employees covered by other public funds and certain part-time employees. City managers and persons holding elective office may choose to become Members.
Contributions Member	8.23% of Salary.
Employer	10.73% of Salary.
Allowable Service	Service during which Member contributions were deducted. May also include certain leaves of absence and military service.
Salary	Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes lump sum payments at separation and Workers' Compensation benefits.
Average Salary	Average of the 5 highest successive years of Salary. Average Salary is based on all Allowable Service if less than 5 years.
RETIREMENT	
Normal Retirement Benefit Eligibility	<p>First hired before July 1, 1989: Age 65 and 3 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.</p> <p>First hired after June 30, 1989: The greater of age 65 or the age eligible for full Social Security retirement benefits and 3 years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and 1 year of Allowable Service.</p>
Amount	2.5% of Average Salary for each year of Allowable Service.

TABLE 14A
BASIC
(Cont)

Early Retirement Benefit
Eligibility

First hired before July 1, 1989:
Age 55 and 3 years of Allowable Service.
Any age with 30 years of Allowable Service.
Rule of 90: Age plus Allowable Service totals 90.

First hired after June 30, 1989:
Age 55 with 3 years of Allowable Service.

Amount

First hired before July 1, 1989:
The greater of
2% of Average Salary for each of the first 10
years of Allowable Service and 2.5% of Average
Salary for each subsequent year with reduction
of 0.25% for each month the member is under
age 65 at time of retirement or age 62 if 30
years of Allowable Service. No reduction if
age plus years of Allowable Service totals
90.

or

2.5% of Average Salary for each year of
Allowable Service assuming augmentation to
age 65 at 3% per year and actuarial reduction
for each month the member is under age 65.

First hired after June 30, 1989:
2.5% of Average Salary for each year of Allowable
Service assuming augmentation to the age eligible
for full Social Security retirement benefit at 3%
per year and actuarial reduction for each month
the member is under the Social Security
retirement age.

Form of Payment

Life annuity with return on death of any balance of
contributions over aggregate monthly payments.

Actuarially equivalent options are:

50% or 100% joint and survivor with bounce back
feature without additional reduction (option is
cancelled if Member is pre-deceased by
beneficiary).

Benefit Increases

Benefits may be increased each January 1 depending
on the investment performance of the Minnesota Post
Retirement Investment Fund (MPRIF). A member who
has been receiving a benefit for at least 12 full
months as of June 30 will receive a full increase.

**TABLE 14A
BASIC
(Cont)**

Members receiving benefits for at least 1 full month but less than 12 full months will receive a partial increase.

Members retired under laws in effect before July 1, 1973 receive an additional lump sum payment each year. In 1989, this lump sum payment is the greater of \$25 times each full year of Allowable Service or the difference between \$400 times each full year of Allowable Service and the sum of the benefits paid from any Minnesota public pension plan plus cash payments from the Social Security Administration for the preceding fiscal year July 1, 1988 through June 30, 1989. In each following year, the lump sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF.

DISABILITY
Disability Benefit
Eligibility

Total and permanent disability before normal retirement age with 3 years of Allowable Service.

Amount

Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before normal retirement age. Supplemental benefit of \$5 per month for each year under normal retirement age at commencement of disability (maximum of \$50 per month). The disability benefit is reduced to that amount which, when added to Workers' Compensation, does not exceed the salary the disabled Member received as of the date of the disability or the salary currently payable for the same employment position substantially similar to the one the person held as of the date of the disability, whichever is greater.

Payments stop if disability ceases or death occurs. Payments revert to a retirement annuity at normal retirement age. Benefits may be reduced on resumption of partial employment.

Form of Payment

Same as for retirement.

Benefit Increases

Adjusted by PERA to provide same increase as MPRIF.

Retirement After
Disability
Eligibility

Normal retirement age.

TABLE 14A
BASIC
(Cont)

Amount	Any optional annuity continues. Otherwise the larger of the disability benefit paid before normal retirement age or the normal retirement benefit available at normal retirement age, or an actuarially equivalent optional annuity.
Benefit Increases	Same as for retirement.
DEATH	
Surviving Spouse Benefit Eligibility	Active Member with 18 months of Allowable Service or Member receiving a disability benefit.
Amount	50% of Salary averaged over last 6 months. Maximum family benefit is \$1,000 per month. Benefits paid until spouse's death but no payments while spouse is remarried. Surviving spouse optional annuity may be elected in lieu of this benefit.
Surviving Dependent Children's Benefit Eligibility	Active Member with 18 months of Allowable Service or Member receiving a disability benefit.
Amount	10% of Salary averaged over last 6 months for each child. Family benefit minimum (including spouse's benefit) of 50% of Salary and maximum of \$1,000 per month. Benefits paid until child marries, dies, or attains age 18 (age 22 if full time student).
Surviving Spouse Optional Annuity Eligibility	Member or former Member who dies before retirement or disability benefits commence, if age 50 with 3 years of Allowable Service or any age with 30 years of Allowable Service. If the Member dies before age 55, benefits commence when Member would have qualified for early retirement.
Amount	Survivor's payment of the 100% joint and survivor benefit the Member could have elected if terminated.
Benefit Increases	Adjusted by PERA to provide same increase as MPRIF.
Refund of Contributions Eligibility	Member dies before receiving any retirement benefits and survivor benefits are not payable.

TABLE 14A
BASIC
(Cont)

Amount	The excess of the Member's contributions with 6% interest over any disability or survivor benefits paid.
TERMINATION Refund of Contributions Eligibility	Termination of public service.
Amount	Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989, and 6% interest if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund if 3 or more years of Allowable Service.
Deferred Benefit Eligibility	3 years of Allowable Service.
Amount	Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/71, 5% from 7/1/71 to 1/1/81, and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 3B
COORDINATED

ACTIVE MEMBERS AS OF JUNE 30, 1990

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	1,452	2,063	104						3,619
25-29	1,917	5,277	2,142	199					9,535
30-34	1,913	5,823	3,653	2,461	161				14,011
35-39	1,866	6,414	3,870	3,676	1,554	74			17,454
40-44	2,073	6,173	3,931	3,263	2,167	562	7		18,176
45-49	764	3,441	2,947	2,716	1,741	783	60	1	12,453
50-54	483	2,121	1,952	2,356	1,853	814	120	44	9,743
55-59	304	1,438	1,429	1,745	1,705	935	139	80	7,775
60-64	150	785	859	1,036	1,136	622	88	57	4,733
65+	78	330	326	349	318	130	13	12	1,556
TOTAL	11,000	33,865	21,213	17,801	10,635	3,920	427	194	99,055

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	8,436	13,105	16,450						11,328
25-29	10,461	17,131	20,029	20,369					16,509
30-34	9,795	17,185	22,626	23,383	23,290				18,753
35-39	9,409	16,057	22,557	26,763	26,819	26,919			20,046
40-44	8,211	14,715	20,566	26,104	30,831	32,198	18,681		19,747
45-49	9,529	14,910	18,500	21,939	26,725	32,042	36,997	31,117	19,799
50-54	8,668	14,160	17,393	19,461	21,309	26,728	36,829	35,048	18,601
55-59	8,179	13,216	16,603	19,147	20,169	24,076	37,660	39,494	18,511
60-64	7,093	12,340	15,150	18,531	19,311	22,276	30,959	39,946	17,696
65+	6,627	8,366	11,049	13,552	14,859	16,624	26,090	28,541	12,325
ALL	9,196	15,477	19,998	22,916	24,382	26,903	35,289	37,898	18,622

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

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
101,155	524,119	424,220	407,930	259,301	105,591	15,068	7,352	1,844,736

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 4B
COORDINATED

SERVICE RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	1	1						2
55-59	163	401						564
60-64	492	1,593	161					2,246
65-69	368	2,565	1,021	7				3,961
70-74	38	536	2,009	211	3			2,797
75-79	3	73	398	1,036	23			1,533
80-84	2	20	55	126	356	1		560
85+		4	9	14	96	86		209
TOTAL	1,067	5,193	3,653	1,394	478	87	0	11,872

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	6,674	7,264						6,969
55-59	2,267	2,246						2,252
60-64	4,250	3,468	4,586					3,720
65-69	3,814	3,278	4,205	5,267				3,570
70-74	1,938	2,250	3,093	3,889	3,494			2,976
75-79	297	1,509	2,171	3,319	6,372			2,975
80-84	1,449	751	1,132	2,526	3,203	5,157		2,757
85+		1,542	807	1,419	2,373	2,561		2,303
ALL	3,700	3,115	3,334	3,324	3,190	2,591	0	3,259

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	3,948	16,178	12,178	4,634	1,525	225	0	38,688

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 5B
COORDINATED

DISABILITY RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	21	39	10	2				72
50-54	19	41	6	1				67
55-59	15	71	23	3				112
60-64	27	130	62	18		1		238
65-69		2	1					3
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	82	283	102	24	0	1	0	492

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	3,301	3,072	3,275	2,194				3,143
50-54	3,437	2,666	4,236	2,526				3,023
55-59	5,448	2,494	2,617	2,288				2,909
60-64	3,759	2,847	2,910	1,995		2,211		2,900
65-69		6,777	10,312					7,955
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	3,876	2,791	3,031	2,070	0	2,211	0	2,985

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
318	790	309	50	0	2	0	1,469

PUBLIC EMPLOYEES RETIREMENT FUND

TABLE 6B
COORDINATED

SURVIVORS AS OF JUNE 30, 1990

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	6	23	9	3				41
50-54	4	21	13	3				41
55-59	12	54	14	4				84
60-64	13	79	61	7	3			163
65-69	5	54	84	24	2			169
70-74		19	70	59	14			162
75-79		2	14	49	30	3		98
80-84		1	5	10	19	3		38
85+				5	7	5	7	24
TOTAL	40	253	270	164	75	11	7	820

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	2,042	2,605	4,793	635				2,859
50-54	2,260	2,969	2,847	2,563				2,832
55-59	3,168	2,624	3,018	2,471				2,760
60-64	2,326	3,500	2,737	2,127	2,698			3,047
65-69	3,203	3,141	2,968	2,223	1,349			2,905
70-74		3,639	2,518	2,769	1,818			2,680
75-79		819	1,498	3,011	2,422	3,325		2,579
80-84		939	6,944	1,592	2,544	2,420		2,820
85+				1,698	3,838	1,160	2,031	2,307
ALL	2,639	3,090	2,854	2,579	2,455	2,094	2,031	2,808

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
106	781	771	423	184	23	14	2,302

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

TABLE 11B
 COORDINATED

JULY 1, 1990

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	4.23%	\$83,104
2. Employer Contributions	4.48%	88,016
	-----	-----
3. Total	8.71%	\$171,120
	=====	=====
B. REQUIRED CONTRIBUTIONS - CHAPTER 356 (NORMAL COST ONLY)		
1. Normal Cost		
a. Retirement Benefits	4.04%	\$79,593
b. Disability Benefits	0.29%	5,608
c. Survivors	0.24%	4,687
d. Deferred Retirement Benefits	1.70%	33,322
e. Refunds Due to Death or Withdrawal	0.51%	9,987
	-----	-----
f. Total	6.78%	\$133,197
	-----	-----

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1990 is \$1,964,644

PUBLIC EMPLOYEES RETIREMENT FUND COORDINATED

SUMMARY OF PLAN PROVISIONS

Eligibility	A public employee who is covered under the Social Security Act. General exceptions are employees covered by other public funds and certain part-time employees. City managers and persons holding elective office may choose to become Members.
Contributions Member	4.23% of Salary.
Employer	4.48% of Salary.
Allowable Service	Service during which Member contributions were deducted. May also include certain leaves of absence and military service.
Salary	Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes lump sum payments at separation and Workers' Compensation benefits.
Average Salary	Average of the 5 highest successive years of Salary. Average Salary is based on all Allowable Service if less than 5 years.
RETIREMENT	
Normal Retirement Benefit Eligibility	<p>First hired before July 1, 1989: Age 65 and 3 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.</p> <p>First hired after June 30, 1989: The greater of age 65 or the age eligible for full Social Security retirement benefits and 3 years of Allowable Service. Proportionate Retirement Annuity is available at normal retirement age and 1 year of Allowable Service.</p>
Amount	1.5% of Average Salary for each year of Allowable Service.

TABLE 14B
COORDINATED
(cont)

Early Retirement Benefit
Eligibility

First hired before July 1, 1989:
Age 55 and 3 years of Allowable Service.
Any age with 30 years of Allowable Service.
Rule of 90: Age plus Allowable Service totals
90.

First hired after June 30, 1989:
Age 55 with 3 years of Allowable Service.

Amount

First hired before July 1, 1989:
The greater of
1% of Average Salary for each of the first 10
years of Allowable Service and 1.5% of Average
Salary for each subsequent year with reduction
of 0.25% for each month the Member is under
age 65 at time of retirement or age 62 if 30
years of Allowable Service. No reduction if
age plus years of Allowable Service totals
90.

or

1.5% of Average Salary for each year of
Allowable Service assuming augmentation to age
65 at 3% per year and actuarial reduction for
each month the Member is under age 65.

First hired after June 30, 1989:
1.5% of Average Salary for each year of Allowable
Service assuming augmentation to the age eligible
for full Social Security retirement benefits at
3% per year and actuarial reduction for each
month the Member is under the Social Security
retirement age.

Form of Payment

Life annuity with return on death of any balance of
contributions over aggregate monthly payments.
Actuarially equivalent options are:
50% or 100% joint and survivor with bounce back
feature without additional reduction (option is
cancelled if Member is pre-deceased by
beneficiary).

**TABLE 14B
COORDINATED
(cont)**

Benefit Increases Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Benefit recipients receiving benefits for at least 1 full month but less than 12 months will receive a partial increase.

Members retired under law in effect before July 1, 1973 receive an additional lump sum payment each year. In 1989, this lump sum payment is \$25 times each full year of Allowable Service. In each following year, the lump sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF.

DISABILITY
Disability Benefit
Eligibility

Total and permanent disability before normal retirement age with 3 years of Allowable Service.

Amount

Normal Retirement Benefit based on Allowable Service and Average Salary at disability without reduction for commencement before normal retirement age. The disability benefit is reduced to that amount which, when added to Worker's Compensation, does not exceed the salary the disabled Member received as of the date of the disability or the salary currently payable for the same employment position substantially similar to the one the person held as of the date of the disability, whichever is greater.

Payments stop if disability ceases or death occurs. Payments revert to a retirement annuity at normal retirement age. Benefits may be reduced on resumption of partial employment.

Form of Payment

Same as for retirement.

Benefit Increases

Adjusted by PERA to provide same increase as MPRIF.

Retirement After
Disability
Eligibility

Normal retirement age.

**TABLE 14B
COORDINATED
(cont)**

Amount	Any optional annuity continues. Otherwise the larger of the disability benefit paid before normal retirement age or the normal retirement benefit available at normal retirement age, or an actuarially equivalent optional annuity.
Benefit Increases	Same as for retirement.
DEATH	
Surviving Spouse Optional Annuity Eligibility	Member or former Member who dies before retirement or disability benefits commence, if age 50 with 3 years of Allowable Service or any age with 30 years of Allowable Service. If the Member dies before age 55, benefits commence when Member would have qualified for early retirement.
Amount	Survivor's payment of the 100% joint and survivor benefit the Member could have elected if terminated.
Benefit Increases	Adjusted by PERA to provide same increase as MPRIF.
Refund of Contributions Eligibility	Member dies before receiving any retirement benefits and survivor benefits are not payable.
Amount	The excess of the Member's contributions with 6% interest over any disability or survivor benefits paid.
TERMINATION	
Refund of Contributions Eligibility	Termination of public service.
Amount	Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989, or 6% interest if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund if 3 or more years of Allowable Service.
Deferred Benefit Eligibility	3 years of Allowable Service.

**TABLE 14B
COORDINATED
(cont)**

Amount

Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/71, 5% from 7/1/71 to 1/1/81, and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

PUBLIC EMPLOYEES POLICE AND FIRE FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1990

THE *Wyatt* COMPANY

ACTUARIAL SERVICES
PENSION PROGRAMS
ADMINISTRATIVE SYSTEMS
INTERNATIONAL SERVICES
ORGANIZATION SURVEYS

15TH FLOOR
8400 NORMANDALE LAKE BOULEVARD
MINNEAPOLIS, MINNESOTA 55437

(612) 921-8700

EMPLOYEE BENEFITS
EMPLOYEE COMMUNICATIONS
RISK MANAGEMENT
INSURANCE CONSULTING
HEALTH CARE CONSULTING

October 22, 1990

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

RE: PUBLIC EMPLOYEES POLICE AND FIRE FUND

Commission Members:

We have prepared an actuarial valuation of the Fund as of July 1, 1990 based on membership and financial data supplied by PERA.

We certify that to the best of our knowledge and belief this actuarial valuation was performed in accordance with the requirements of Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on September 20, 1989.

Respectfully submitted,

THE WYATT COMPANY

Robert E. Perkins

Robert E. Perkins, FSA
Consulting Actuary

Michael C. Gunvalson

Michael C. Gunvalson, FSA
Actuary

PUBLIC EMPLOYEES POLICE AND FIRE FUND

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PUBLIC EMPLOYEES POLICE AND FIRE FUND

**REPORT HIGHLIGHTS
(DOLLARS IN THOUSANDS)**

	<u>07/01/89</u> <u>VALUATION</u>	<u>07/01/90</u> <u>VALUATION</u>
A. CONTRIBUTIONS (TABLE 11)		
1. Statutory Contributions - Chapter 353 % of Payroll	20.00%	20.00%
2. Required Contributions - Chapter 356 % of Payroll	16.21%	17.56%
3. Sufficiency (Deficiency) (A1-A2)	3.79%	2.44%
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$656,654	\$755,204
b. Current Benefit Obligations (Table 8)	\$582,299	\$657,453
c. Funding Ratio (a/b)	112.77%	114.87%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$656,654	\$755,204
b. Actuarial Accrued Liability (Table 9)	\$651,776	\$715,963
c. Funding Ratio (a/b)	100.75%	105.48%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$1,211,268	\$1,386,324
b. Current and Expected Future Benefit Obligations	\$1,035,701	\$1,230,055
c. Funding Ratio (a/b)	116.95%	112.70%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	5,891	6,136
b. Projected Annual Earnings	\$197,982	\$216,022
c. Average Annual Earnings (Actual \$)	\$33,608	\$35,206
d. Average Age	37.5	37.6
e. Average Service	10.0	10.1
2. Others		
a. Service Retirements (Table 4)	995	1,057
b. Disability Retirements (Table 5)	84	89
c. Survivors (Table 6)	333	347
d. Deferred Retirements (Table 7)	110	128
e. Terminated Other Non-vested (Table 7)	100	121
f. Total	1,622	1,742

PUBLIC EMPLOYEES POLICE AND FIRE FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine the financial status of the Fund. In order to achieve this purpose, an actuarial valuation is made at the beginning of each fiscal year as required by Section 356.215 of Minnesota Statutes.

Report Highlights

The statutory contributions for the PERA Police and Fire Fund continue to be sufficient. The margin of sufficiency has decreased from 3.79% in 1989 to 2.44% in 1990. According to this valuation a contribution rate of 17.56% is required to comply with Minnesota Law. This contribution rate is based on a new set of assumed separation rates adopted for the July 1, 1990 valuation. All plan provisions and all other actuarial assumptions are the same as the prior valuation. The Fund is in a surplus position and the Supplemental Contribution for amortizing the Unfunded Actuarial Accrued Liability is zero.

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

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This year's ratio is 114.87%. The corresponding ratio for the prior year was 112.77%.

- o The Accrued Liability Funding Ratio is also a measure of funding status and funding progress. It is based on the actuarial cost method that has historically been used. For 1990 the ratio is 105.48%, which is an increase from the 1989 value of 100.75%.

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

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement exists because market values (which include all unrealized gains and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

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

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets", the latter phrase will be used in the remainder of this report.

This Fund participates in the MPRIF (i.e. Minnesota Post Retirement Investment

) Fund). The asset value shown for MPRIF on line A3 is set equal to the MPRIF Reserves reported on line D3 for both market and cost value purposes. This reserve is based on a 5% interest assumption.

Investment performance by SBI (i.e. State Board of Investment) above the 5% level is not shown in the assets but will be added in on January 1, 1991 when benefits will be increased for those annuitants who have been receiving payments for at least 7 months. Next year's valuation will include the 1991 benefit increase in determining the MPRIF value.

) After the MPRIF liability has been calculated for each participating Fund, SBI will determine each Fund's portion of the excess earnings for the January benefit increase as well as the Fund's allocated market share of MPRIF. An approximation of those values on June 30, 1990 is provided below:

MPRIF Reserves	\$181,703,000
Reserves Plus Excess Earnings	190,000,000
MPRIF Market Value	198,000,000

Membership Data (Tables 3, 4, 5, 6 and 7)

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

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

) A reconciliation of members in Table 7 provides a method for tracking what happened to members during the past year.

Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

Current funding levels are evaluated by comparing Current Assets on line A to Current Benefit Obligations on line D5. Current and future funding levels are evaluated by comparing the Total Current and Expected Future Assets on line C to the Total Current and Expected Future Benefit Obligations on line F.

) The Current Benefit Obligation used to measure current funding levels is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

- o For active members - salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.

- o For non-active members - the discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

) The Current Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB).

However, Statement No. 5 uses the terms "Actuarial Present Value of Credited Projected Benefits" and "Pension Benefit Obligation" rather than "Current Benefit Obligation".

The July 1, 1990 Pension Benefit Obligation reported in Table 8 is reformatted for GASB reporting purposes in the table below. This table shows the impact of the change in actuarial assumptions. See page 9 for an explanation of the change in actuarial assumptions.

	<u>Old Assumptions</u>	<u>New Assumptions</u>
Retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits	\$222,683,000	\$222,683,000
Current Employees -		
Accumulated employee contributions including allocated investment income	169,242,000 *	169,242,000 *
Employer-financed vested	174,898,000	175,876,000
Employer-financed nonvested	83,652,000	89,652,000
	-----	-----
Total Pension Benefit Obligation	\$650,475,000	\$657,453,000

* Estimated

The net assets available for benefits, at cost, is \$739,068,000. The assets exceed the total Pension Benefit Obligation after the assumption change by \$81,615,000 to produce a funded ratio of 112.41%.

Actuarial Cost Method (Table 9)

The approach used by the State of Minnesota to determine contribution sufficiency is the Entry Age Normal Actuarial Cost Method. The primary characteristic of this method is that it allocates costs as a level percentage of payroll.

A comparison of this actuarial method (Table 9) to the actuarial balance sheet (Table 8) illustrates the two techniques for allocating liabilities of active members to past and future. As noted in the prior section, the balance sheet allocates benefits and the corresponding liabilities, on the basis of service. The method used in Table 9 allocates liabilities so that the cost each year will be a constant percentage of payroll. Both approaches, however, calculate the value of all future benefits the same way (see line F of Table 8 and line A6, column 1, of Table 9).

An Unfunded Actuarial Accrued Liability is computed under the Entry Age Normal Actuarial Cost Method by comparing the liabilities allocated to past service (Actuarial Accrued Liability) to the Current Assets. This amount, line B3, is funded over the remaining years to the amortization date by a series of payments that remain a constant percentage of payroll each year.

The payments will increase 6.5% each year because that is the assumed rate of increase in payroll. Although the payment schedule will be adequate to amortize the existing unfunded, the lower payments in the earlier years will not be sufficient to cover the interest on the unfunded liability. After a few years the annual payment will cover the interest and also repay a portion of the unfunded.

Sources of Actuarial Gains and Losses (Table 10)

The assumptions used in making the calculations using the Entry Age Normal Actuarial Cost Method are based on long-term expectations. Each year the actual experience will deviate from the long-term expectation. The major sources of gain and loss, which have been identified, are:

- o A gain from salaries where the average increase was 5.9% compared to the expected increase of 6.5%.
- o A gain from Non-MPRIF Assets (i.e. Current Assets reduced by MPRIF Reserves) because the return was 12.6% instead of the assumed 8.5%.

Contribution Sufficiency (Table 11)

This report answers the question of "How adequate are the Statutory Contributions?" by comparing the Statutory Contributions to the Required Contributions.

The Required Contributions, set forth in Chapter 356, consist of:

- o Normal Costs based on the Entry Age Normal Actuarial Cost Method.
- o A Supplemental Contribution for amortizing any Unfunded Actuarial Accrued Liability. Since a surplus exists, no contribution is required to amortize the Unfunded Actuarial Accrued Liability.
- o An Allowance for Expenses.

Table 11 shows the Fund has a contribution sufficiency since the Statutory Contribution Rate is 20.00% compared to the Required Contribution Rate of 17.56%.

Projected Cash Flow (Table 12)

Table 12 illustrates the anticipated cash flow over the amortization period. The cash flow begins with the Non-MPRIF Assets, which are the Current Assets

) reduced by the MPRIF Reserves. Contributions are then added based on the present statutory rates for employers and employees. As members become eligible for payments from MPRIF an amount of reserve is transferred to SBI. The other disbursements represent benefit payments and expenses made directly by the Fund.

This projected cash flow assumes that future payrolls increase by 6.5%. Table 12 is the only table in this report where new members are assumed to be hired in order to replace those who terminate from the active group. This open group method provides a more realistic picture of future cash flow. The statutory interest rate of 8.5% is used to project future investment return.

) The amounts transferred to MPRIF will be affected by the number of members who reach the assumed retirement age during a given year. The amount for 1992 is large because it includes those already over age 60 who are assumed to retire a year from the valuation date.

Changes in Plan Provisions

This valuation does not reflect any changes in plan provisions since the prior valuation.

Changes in Actuarial Assumptions

The rates of separation have been updated to reflect recent plan experience. Sample rates of separation are as follows:

<u>Separation Rates</u>		
<u>Age</u>	<u>Old</u>	<u>New</u>
20	.0700	.0859
30	.0658	.0280
40	.0245	.0126
50	.0050	.0050

) See Table 13 for the complete set of new separation rates.

Prior to the actuarial assumption change the Fund had an Unfunded Actuarial Accrued Liability of \$(28,227,000). With the new separation rate assumption, the Unfunded Actuarial Accrued Liability is \$(39,241,000). The following table shows the impact due to the change in the separation rate assumption.

	<u>Impact Due to Change in Actuarial Assumptions</u>
Actuarial Accrued Liability Pension Benefit Obligation for GASB No. 5	\$(11,014,000)
	6,978,000
Normal Cost	1.22%
Supplemental Contribution	<u>0.00%*</u>
Required Contribution	1.22%

* Does not reflect any amortization of surplus. If the surplus of \$28,227,000 existing before the change in actuarial assumptions was amortized, the supplemental contribution rate before the change would have been (.59%). If the surplus of \$39,241,000 existing after the change in actuarial assumptions was amortized, the supplemental contribution rate would have been (.82%) or a decrease of .23%.

PUBLIC EMPLOYEES POLICE AND FIRE FUND

TABLE 1

ACCOUNTING BALANCE SHEET
(DOLLARS IN THOUSANDS)

July 1, 1990

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash, Equivalents, Short-Term Securities	\$17,137	\$17,137
2. Investments		
a. Fixed Income	161,208	163,242
b. Equity	385,258	342,791
c. Real Estate	43,604	35,629
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	181,703	181,703
4. Other	175	175
 B. TOTAL ASSETS	 ----- \$789,085 =====	 ----- \$740,677 =====
 C. AMOUNTS CURRENTLY PAYABLE	 \$1,609	 \$1,609
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$120,005	\$120,005
2. Employer Reserves	485,768	437,360
3. MPRIF Reserves	181,703	181,703
4. Non-MPRIF Reserves	0	0
 5. Total Assets Available for Benefits	 ----- \$787,476 -----	 ----- \$739,068 -----
 E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	 \$789,085 =====	 \$740,677 =====

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available for Benefits (D5)		\$739,068
2. Market Value (D5)	\$787,476	
3. Cost Value (D5)	739,068	
 4. Market Over Cost (F2-F3)	 ----- \$48,408	
5. 1/3 of Market Over Cost(F4)/3		16,136
 6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		 ----- \$755,204 =====

PUBLIC EMPLOYEES POLICE AND FIRE FUND
 CHANGES IN ASSETS AVAILABLE FOR BENEFITS
 (DOLLARS IN THOUSANDS)

YEAR ENDING JUNE 30, 1990

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$694,227	\$637,868
 B. OPERATING REVENUES		
1. Member Contributions	\$16,224	\$16,224
2. Employer Contributions	24,274	24,274
3. Investment Income	66,039	66,039
4. MPRIF Income	14,525	14,525
5. Net Realized Gain (Loss)	0	0
6. Other	1,720	1,720
7. Net Change in Unrealized Gain (Loss)	(7,951)	0
	-----	-----
8. Total Revenue	\$114,831	\$122,782
	-----	-----
 C. OPERATING EXPENSES		
1. Service Retirements	\$14,985	\$14,985
2. Disability Benefits	1,179	1,179
3. Survivor Benefits	1,467	1,467
4. Refunds	1,038	1,038
5. Expenses	1,167	1,167
6. Other	1,746	1,746
	-----	-----
7. Total Disbursements	\$21,582	\$21,582
	-----	-----
D. OTHER CHANGES IN RESERVES	0	0
 E. ASSETS AVAILABLE AT END OF PERIOD	\$787,476	\$739,068
	=====	=====

TABLE 3

PUBLIC EMPLOYEES POLICE AND FIRE FUND

ACTIVE MEMBERS AS OF JUNE 30, 1990

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	152	153	2						307
25-29	134	666	259	2					1,061
30-34	91	363	535	267	2				1,258
35-39	23	186	281	532	218	3			1,243
40-44	18	75	153	264	427	99			1,036
45-49	3	37	52	74	165	237	21		589
50-54	5	18	24	43	80	142	75	12	399
55-59	4	10	16	18	35	48	30	14	175
60-64		3	6	7	18	9	8	7	58
65+		1		1	1	2	3	2	10
TOTAL	430	1,512	1,328	1,208	946	540	137	35	6,136

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25	17,055	25,184	32,282						21,205
25-29	17,902	28,963	32,963	40,159					28,563
30-34	19,275	29,600	35,623	34,947	36,608				32,561
35-39	17,579	28,711	36,287	36,872	36,002	33,298			35,000
40-44	14,432	25,187	33,831	36,321	38,682	39,790			36,071
45-49	9,578	24,810	26,071	34,157	38,200	40,000	42,366		36,507
50-54	18,063	23,453	23,485	33,008	36,119	39,272	40,469	38,053	36,224
55-59	13,255	27,823	30,548	27,653	30,413	38,992	41,040	40,484	34,582
60-64		3,762	19,695	28,469	32,090	37,378	34,396	52,978	32,565
65+		1,472		24,270	35,514	33,981	32,588	30,922	28,883
ALL	17,631	28,272	34,307	35,831	37,324	39,577	40,358	41,603	33,057

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

	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
	7,581	42,747	45,560	43,284	35,309	21,372	5,529	1,456	202,838

TABLE 4

PUBLIC EMPLOYEES POLICE AND FIRE FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	1							1
50-54	9							9
55-59	51	147						198
60-64	17	97	142					256
65-69	5	66	101	74				246
70-74	1	8	61	78	28			176
75-79		7	8	59	31	2		107
80-84		1		6	29	6		42
85+					3	14	5	22
TOTAL	84	326	312	217	91	22	5	1,057

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	6,550							6,550
50-54	14,863							14,863
55-59	16,156	15,512						15,678
60-64	13,318	16,536	17,081					16,625
65-69	10,293	14,620	13,716	12,958				13,661
70-74	10,936	12,708	9,956	13,959	9,664			11,814
75-79		5,392	5,751	10,258	8,370	6,386		8,983
80-84		8,946		9,221	7,328	6,052		7,455
85+					12,003	6,368	5,437	6,925
ALL	14,918	15,330	14,308	12,481	8,556	6,283	5,437	13,592

TOTAL ANNUAL ANNUITY (IN THOUSANDS) BY YEARS OF RETIREMENT							
<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
1,253	4,998	4,464	2,708	779	138	27	14,367

TABLE 5

PUBLIC EMPLOYEES POLICE AND FIRE FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	7	36	10	5	1			59
50-54	2	14	8	6				30
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	9	50	18	11	1	0	0	89

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	14,331	13,378	11,712	10,417	5,746			12,828
50-54	17,369	15,509	16,827	13,304				15,543
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	15,006	13,974	13,985	11,992	5,746	0	0	13,743

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
135	698	252	132	6	0	0	1,223

TABLE 6

PUBLIC EMPLOYEES POLICE AND FIRE FUND

SURVIVORS AS OF JUNE 30, 1990

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	4	14	17	8	3			46
50-54	1	6	3	4	2	1		17
55-59	2	6	10	10	1	2		31
60-64		9	18	9	8	2	1	47
65-69		4	12	14	8	4		42
70-74	1	5	10	24	15	4	6	65
75-79		3	2	11	11	9	1	37
80-84	1	3	5	5	10	5	3	32
85+		4	5	5	7	4	5	30
TOTAL	9	54	82	90	65	31	16	347

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	17,315	10,142	11,364	7,393	4,289			10,358
50-54	17,534	14,210	11,002	8,436	5,871	2,043		10,784
55-59	13,376	12,140	13,545	8,088	6,282	2,048		10,526
60-64		11,908	9,191	7,060	3,915	2,073	2,093	7,951
65-69		4,914	7,929	8,778	6,549	2,060		7,103
70-74	3,151	3,924	7,403	6,528	6,136	2,077	2,153	5,642
75-79		4,628	2,351	6,151	4,153	2,085	2,142	4,131
80-84	3,254	3,107	2,976	3,434	2,893	2,199	2,105	2,839
85+		3,155	2,623	2,130	2,675	1,973	3,529	2,688
ALL	13,328	8,933	8,890	6,804	4,615	2,080	2,569	6,770

TOTAL ANNUAL BENEFIT (IN THOUSANDS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
120	482	730	612	300	64	41	2,349

PUBLIC EMPLOYEES POLICE AND FIRE FUND
RECONCILIATION OF MEMBERS

TABLE 7

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On June 30, 1989	5,891	110	100
B. Additions	484	35	51
C. Deletions:			
1. Service Retirement	(70)	(12)	(7)
2. Disability	(13)	(5)	0
3. Death	(6)	0	0
4. Terminated-Deferred	(35)		
5. Terminated-Refund	(68)	0	(15)
6. Terminated-Other Non-vested	(35)		
7. Returned as Active		(4)	(11)
D. Data Adjustments	(12)	4	3
	Vested 4,904		
	Non-Vested 1,232		
E. Total on June 30, 1990	6,136	128	121

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On June 30, 1989	995	84	333
B. Additions	97	16	29
C. Deletions:			
1. Service Retirement		(10)	
2. Death	(35)	0	(10)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	(1)	(5)
E. Total on June 30, 1990	1,057	89	347

PUBLIC EMPLOYEES POLICE AND FIRE FUND

TABLE 8

ACTUARIAL BALANCE SHEET
(DOLLARS IN THOUSANDS)

JULY 1, 1990

A. CURRENT ASSETS (TABLE 1, F6)				\$755,204
B. EXPECTED FUTURE ASSETS				
1. Present Value of Expected Future Statutory Supplemental Contributions				117,028
2. Present Value of Future Normal Costs				514,092
3. Total Expected Future Assets				----- 631,120 -----
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS				----- \$1,386,324 -----
D. CURRENT BENEFIT OBLIGATIONS				
1. Benefit Recipients		<u>Non-Vested</u>	<u>Vested</u>	<u>Total</u>
a. Retirement Annuities			\$170,780	\$170,780
b. Disability Benefits			12,823	12,823
c. Surviving Spouse and Child Benefits			29,580	29,580
2. Deferred Retirements with Future Augmentation			8,929	8,929
3. Former Members without Vested Rights			571	571
4. Active Members				
a. Retirement Annuities		3,866	313,276	317,142
b. Disability Benefits		41,426	0	41,426
c. Survivors' Benefits		43,363	0	43,363
d. Deferred Retirements		997	28,713	29,710
e. Refund Liability Due to Death or Withdrawal		0	3,129	3,129
5. Total Current Benefit Obligations		----- \$89,652 -----	----- \$567,801 -----	----- \$657,453 -----
E. EXPECTED FUTURE BENEFIT OBLIGATIONS				----- \$572,602 -----
F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS				----- \$1,230,055 -----
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D5-A)				(\$97,751)
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)				(\$156,269)

PUBLIC EMPLOYEES POLICE AND FIRE FUND

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

JULY 1, 1990

	<u>ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS</u> (1)	<u>ACTUARIAL PRESENT VALUE OF FUTURE NORMAL COSTS</u> (2)	<u>ACTUARIAL ACCRUED LIABILITY</u> (3)=(1)-(2)
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Retirement Annuities	\$770,602	\$358,559	\$412,043
b. Disability Benefits	87,086	51,929	35,157
c. Survivors Benefits	87,864	54,574	33,290
d. Deferred Retirements	55,455	42,053	13,402
e. Refunds Due to Death or Withdrawal	6,365	6,977	(612)
f. Total	\$1,007,372	\$514,092	\$493,280
2. Deferred Retirements with Future Augmentation			
	\$8,929		\$8,929
3. Former Members Without Vested Rights			
	571		571
4. Annuitants in MPRIF			
	181,703		181,703
5. Recipients Not in MPRIF			
	31,480		31,480
6. Total	\$1,230,055	\$514,092	\$715,963
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A6)			\$715,963
2. Current Assets (Table 1,F6)			755,204
3. UAAL (B1-B2)			(\$39,241)
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls through the Amortization Date of July 1, 2020			\$4,796,211
2. Supplemental Contribution Rate (B3/C1)			0.00%

PUBLIC EMPLOYEES POLICE AND FIRE FUND
 CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
 (DOLLARS IN THOUSANDS)

TABLE 10

YEAR ENDING JUNE 30, 1990

A. UAAL AT BEGINNING OF YEAR	(\$4,878)
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING	
1. Normal Cost and Expenses	\$32,874
2. Contribution	(40,498)
3. Interest on A, B1, and B2	(739)
4. Total (B1+B2+B3)	(\$8,363)
C. EXPECTED UAAL AT END OF YEAR (A+B4)	
	(\$13,241)
D. INCREASE (DECREASE) DUE TO ACTUARIAL LOSSES (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED	
1. Salary Increases	(\$4,724)
2. Investment Return	(20,677)
3. MPRIF Mortality	304
4. Mortality of Other Benefit Recipients	1,948
5. Other Items	8,163
6. Total	(\$14,986)
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C+D6)	
	(\$28,227)
F. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO PLAN AMENDMENTS	
	\$0
G. CHANGE IN ACTUARIAL ACCRUED LIABILITY DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS	
	(\$11,014)
H. UAAL AT END OF YEAR (E+F+G)	
	(39,241)

PUBLIC EMPLOYEES POLICE AND FIRE FUND
DETERMINATION OF CONTRIBUTION SUFFICIENCY
(DOLLARS IN THOUSANDS)

TABLE 11

JULY 1, 1990

	<u>% OF PAYROLL</u>	<u>\$ AMOUNT</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 353		
1. Employee Contributions	8.00%	\$17,282
2. Employer Contributions	12.00%	25,923
3. Total	----- 20.00% =====	----- \$43,205 =====
 B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	11.89%	\$25,650
b. Disability Benefits	1.70%	3,678
c. Survivors	1.86%	4,022
d. Deferred Retirement Benefits	1.32%	2,857
e. Refunds Due to Death or Withdrawal	0.21%	464
f. Total	----- 16.98% -----	----- \$36,671 -----
2. Supplemental Contribution Amortization by July 1, 2020 of UAAL of \$(39,241)	0.00%	\$0
3. Allowance for Expenses	0.58%	\$1,253
4. Total	----- 17.56%	----- \$37,924
 C. CONTRIBUTION SUFFICIENCY (DEFICIENCY) (A3-B4)		
	2.44%	\$5,281

Note: Projected Annual Payroll for Fiscal Year Beginning on July 1, 1990 is \$216,022

PUBLIC EMPLOYEES POLICE AND FIRE FUND

TABLE 12

PROJECTED CASH FLOW
(DOLLARS IN THOUSANDS)

<u>FISCAL YEAR</u>	<u>STATUTORY CONTRIBUTIONS</u>	<u>TRANSFERS TO MPRIF</u>	<u>OTHER DISBURSEMENTS</u>	<u>INVESTMENT RETURN</u>	<u>NON-MPRIF ASSETS YEAR END</u>
1990					\$573,501
1991	\$43,205	\$1,941	\$4,259	\$50,320	660,826
1992	46,013	19,615	4,653	57,094	739,665
1993	49,004	10,040	5,104	64,311	837,836
1994	52,189	10,129	5,618	72,765	947,043
1995	55,581	14,719	6,159	81,974	1,063,720
1996	59,194	19,715	6,754	91,807	1,188,252
1997	63,041	22,292	7,398	102,419	1,324,022
1998	67,139	34,343	8,103	113,591	1,462,306
1999	71,503	38,511	8,890	125,320	1,611,728
2000	76,151	43,373	9,760	137,975	1,772,721
2001	81,101	44,874	10,709	151,766	1,950,005
2002	86,372	54,008	11,589	166,633	2,137,413
2003	91,986	76,913	12,493	181,790	2,321,783
2004	97,966	74,233	13,607	197,782	2,529,691
2005	104,333	82,683	14,818	215,314	2,751,837
2006	111,115	97,163	16,114	233,814	2,983,489
2007	118,337	122,017	17,525	252,695	3,214,979
2008	126,029	173,784	18,976	270,437	3,418,685
2009	134,221	161,992	20,504	288,537	3,658,947
2010	142,946	189,166	22,136	308,105	3,898,696
2011	152,237	210,152	23,817	327,916	4,144,880
2012	162,133	203,740	25,645	349,457	4,427,085
2013	172,671	233,901	27,552	372,529	4,710,832
2014	183,895	249,966	29,590	396,355	5,011,526
2015	195,848	291,005	31,541	420,595	5,305,423
2016	208,578	294,919	33,647	445,861	5,631,296
2017	222,136	286,703	35,887	474,391	6,005,233
2018	236,574	293,850	38,219	506,386	6,416,124
2019	251,952	284,347	40,717	542,263	6,885,275
2020	268,329	303,592	43,150	581,916	7,388,778

PUBLIC EMPLOYEES POLICE AND FIRE FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	Pre-Retirement: 8.5% per annum Post-Retirement: 5% per annum
Salary Increases:	Reported salary for prior fiscal year, with new hires annualized, increased 6.5% to current fiscal year and 6.5% annually for each future year.
Mortality:	Pre-Retirement: Male - 1971 Group Annuity Mortality Table male rates projected to 1984 by Scale D Female - 1971 Group Annuity Mortality Table female rates projected to 1984 by Scale D Post-Retirement: Male - Same as above Female - Same as above Post-Disability: Male - 1965 RRB rates Female - 1965 RRB rates
Retirement Age:	Age 60, or if over age 60, one year from the valuation date.
Separation:	Graded rates based on plan experience as of June 30, 1989. Rates are shown in rate table.
Disability:	Rates as shown in rate table.
Expenses:	Prior year expenses expressed as percentage of prior year payroll. (0.58% of payroll)
Return of Contributions:	All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Family Composition:	85% of male Members and 65% of female Members are assumed to be married. Female is four years younger than male. Assume Members have no children.
Social Security:	NA

TABLE 13
(cont)

Benefit Increases After Retirement:	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement assumption.
Special Consideration:	Married Members assumed to elect subsidized joint and survivor form of annuity as follows: Males - 40% elect 50% J & S option; 45% elect 100% J & S option; Females - 15% elect 50% J & S option; 15% elect 100% J & S option;
Actuarial Cost Method:	Entry Age Normal Actuarial Cost Method with normal costs expressed as a level percentage of earnings. Under this method Actuarial Gains(Losses) reduce(increase) the Unfunded Actuarial Accrued Liability.
Asset Valuation Method:	Cost Value plus one-third Unrealized Gains or Losses.
Payment on the Unfunded Actuarial Accrued Liability:	A level percentage of payroll each year to the statutory amortization date assuming payroll increases of 6.5% per annum.
Projected Cash Flow Method:	Cash flows for the non-MPRIF portion of the Fund were projected based on the current plan benefits, participant data, and actuarial assumptions. In addition, new entrants were assumed so that the total payroll would increase by 6.5% per annum.

TABLE 13
(cont)

SEPARATIONS EXPRESSED AS THE
NUMBER OF OCCURRENCES PER 10,000

Age	Death		Withdrawal		Disability		Retirement	
	Male	Female	Male	Female	Male	Female	Male	Female
20	5	2	859	859	11	11	0	0
21	5	2	750	750	11	11	0	0
22	5	2	660	660	12	12	0	0
23	5	3	583	583	12	12	0	0
24	5	3	519	519	13	13	0	0
25	6	3	463	463	13	13	0	0
26	6	3	416	416	14	14	0	0
27	6	3	374	374	14	14	0	0
28	7	3	339	339	14	14	0	0
29	7	4	307	307	15	15	0	0
30	7	4	280	280	16	16	0	0
31	8	4	256	256	16	16	0	0
32	8	4	234	234	17	17	0	0
33	9	5	215	215	17	17	0	0
34	10	5	198	198	18	18	0	0
35	10	5	183	183	19	19	0	0
36	11	6	169	169	20	20	0	0
37	12	6	157	157	22	22	0	0
38	13	7	146	146	23	23	0	0
39	14	7	135	135	24	24	0	0
40	15	8	126	126	26	26	0	0
41	16	9	118	118	28	28	0	0
42	18	9	110	110	29	29	0	0
43	21	10	103	103	31	31	0	0
44	24	11	97	97	34	34	0	0
45	27	12	91	91	36	36	0	0
46	30	13	86	86	41	41	0	0
47	34	14	81	81	46	46	0	0
48	39	15	69	69	52	52	0	0
49	44	17	59	59	60	60	0	0
50	49	18	50	50	69	69	0	0
51	54	20	39	39	80	80	0	0
52	60	21	29	29	91	91	0	0
53	65	23	22	22	104	104	0	0
54	72	25	15	15	119	119	0	0

TABLE 13
(cont)

Age	Death		Withdrawal		Disability		Retirement	
	Male	Female	Male	Female	Male	Female	Male	Female
55	78	27	11	11	135	135	0	0
56	85	30	7	7	152	152	0	0
57	92	33	5	5	171	171	0	0
58	100	37	3	3	192	192	0	0
59	110	41	1	1	215	215	0	0
60	121	46	0	0	0	0	10,000	10,000
61	133	52	0	0	0	0	0	0
62	146	58	0	0	0	0	0	0
63	160	65	0	0	0	0	0	0
64	176	73	0	0	0	0	0	0
65	195	81	0	0	0	0	0	0
66	219	90	0	0	0	0	0	0
67	243	99	0	0	0	0	0	0
68	270	109	0	0	0	0	0	0
69	300	123	0	0	0	0	0	0
70	334	140	0	0	0	0	0	0

PUBLIC EMPLOYEES POLICE AND FIRE FUND

SUMMARY OF PLAN PROVISIONS

Eligibility	All full time, and certain part time, police officers and fire fighters, who are not contributing to any other local retirement fund.
Contributions Member	8% of Salary.
Employer	12% of Salary.
Allowable Service	Police and fire service during which Member contributions were deducted. May also include certain leaves of absence and military service.
Salary	Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes lump sum payments at separation and Workers' Compensation benefits.
Average Salary	Average of the 5 highest successive years of Salary. Average salary is based on all Allowable Service if less than 5 years.
RETIREMENT	
Normal Retirement Benefit Eligibility	Age 55 and 3 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.
Amount	2.5% of Average Salary for each year of Allowable Service.
Early Retirement Benefit Eligibility	Age 50 and 3 years of Allowable Service.
Amount	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date assuming augmentation to age 55 at 3% per year and actuarial reduction for each month the Member is under age 55.
Form of Payment	Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are:

TABLE 14
(cont)

50% or 100% joint and survivor with bounce back feature without additional reduction (option cancelled if Member is pre-deceased by beneficiary.

Benefit Increases

Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Benefit recipients receiving benefits for at least 1 full month but less than 12 full months will receive a partial increase.

Members retired under law in effect before July 1, 1973 receive an additional lump sum payment each year. In 1989, this lump sum payment is the greater of \$25 times each full year of Allowable Service or the difference between \$400 times each full year of Allowable Service and the sum of the benefits paid from any Minnesota public pension plan plus cash payments from the Social Security Administration for the preceding fiscal year July 1, 1988 through June 30, 1989. In each following year, the lump sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF.

DISABILITY

**Duty Disability Benefit
Eligibility**

Under age 55 and physically or mentally unable to perform duties as a police officer or fire fighter as a direct result of an act of duty.

Amount

50% of Average Salary plus 2.5% of Average Salary for each year in excess of 20 years of Allowable Service. The disability benefit is reduced to that amount which when added to Workers' Compensation, does not exceed Salary. Payments revert to retirement annuity at age 55.

**Non-Duty Disability Benefit
Eligibility**

Under age 55 and physically or mentally unable to perform duties as a police officer or fire fighter with 1 year of Allowable Service.

Amount

Normal Retirement Benefit based on Allowable Service (minimum of 15 years) and Average Salary at disability without reduction for commencement before age 55. Payments revert to retirement annuity at age 55.

TABLE 14
(cont)

Form of Payment	Same as for retirement.
Benefit Increases	Adjusted by PERA to provide same increase as MPRIF.
Retirement Benefits	
Eligibility	Age 55.
Amount	Any optional annuity continues. Otherwise the larger of the disability benefit paid before age 55 or the normal retirement benefit available at age 55, or an actuarially equivalent optional annuity.
Benefit Increases	Same as for retirement.
DEATH	
Surviving Spouse Benefit	
Eligibility	Active Member with surviving spouse, married for at least 1 year unless death in the line of duty.
Amount	50% of Salary averaged over last 6 months. Benefit paid until spouse's death but no payments while spouse is remarried.
Surviving Dependent Child Benefit	
Eligibility	Active Member with dependent child.
Amount	10% of Salary averaged over last 6 months for each child. Family benefit minimum (including spouse's benefit) of 50% of Salary and maximum of 70% of Salary. Benefits paid until child marries, dies, or attains age 18. (Age 23 if full-time student).
Surviving Spouse Optional Annuity	
Eligibility	Member who dies before termination if age 50 with 3 years of Allowable Service or any age with 30 years of Allowable Service. If the Member dies before age 55, benefits commence when Member would have been age 55 or as early as age 50 if qualified for early retirement.
Amount	Survivor's payment of the 100% joint and survivor benefit the Member could have elected if terminated. Alternatively, spouse may elect refund of deceased contributions with interest if there are no dependent children.

TABLE 14
(cont)

Benefit Increases	Adjusted by PERA to provide same increase as MPRIF.
TERMINATION	
Refund of Contributions Eligibility	Termination of public service.
Amount	Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989, and 6% interest if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund if 3 or more years of Allowable Service.
Deferred Annuity Eligibility	3 years of Allowable Service.
Amount	Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/71, 5% from 7/1/71 to 1/1/81, and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

POLICE AND FIRE CONSOLIDATION FUND

ACTUARIAL VALUATION REPORT

JULY 1, 1990

THE *Wyatt* COMPANY

ACTUARIAL SERVICES
PENSION PROGRAMS
ADMINISTRATIVE SYSTEMS
INTERNATIONAL SERVICES
ORGANIZATION SURVEYS

15TH FLOOR
8400 NORMANDALE LAKE BOULEVARD
MINNEAPOLIS, MINNESOTA 55437

(612) 921-8700

EMPLOYEE BENEFITS
EMPLOYEE COMMUNICATIONS
RISK MANAGEMENT
INSURANCE CONSULTING
HEALTH CARE CONSULTING

October 22, 1990

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

RE: POLICE AND FIRE CONSOLIDATION FUND

Commission Members:

We have prepared an actuarial valuation of the Consolidation Accounts as of July 1, 1990 based on membership and financial data supplied by PERA.

We certify that to the best of our knowledge and belief this actuarial valuation was performed in accordance with the requirements of Section 353A.09 and Section 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on September 20, 1989.

Respectfully submitted,

THE WYATT COMPANY

Robert E. Perkins

Robert E. Perkins, FSA
Consulting Actuary

Michael C. Gunvalson

Michael C. Gunvalson, FSA
Actuary

POLICE AND FIRE CONSOLIDATION FUND

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WINONA FIRE CONSOLIDATION ACCOUNT

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POLICE AND FIRE CONSOLIDATION FUND

**REPORT HIGHLIGHTS
(ACTUAL DOLLARS)**

	<u>07/01/89</u> <u>VALUATION</u>	<u>07/01/90</u> <u>VALUATION</u>
A. CONTRIBUTIONS (TABLE 11)		
1. Employee Contribution	8.00%	8.00%
2. Required Municipal Contribution	12.00%	12.00%
3. Additional Municipal Contribution	\$1,006,971	\$3,056,618
B. FUNDING RATIOS		
1. Accrued Benefit Funding Ratio		
a. Current Assets (Table 1)	\$29,895,399	\$86,702,305
b. Current Pension Benefit Obligation (Table 8)	\$42,745,655	\$117,386,244
c. Funding Ratio (a/b)	69.94%	73.86%
2. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$29,895,399	\$86,702,305
b. Actuarial Accrued Liability (Table 9)	\$40,603,577	\$122,044,941
c. Funding Ratio (a/b)	73.63%	71.04%
3. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$47,834,163	\$142,306,566
b. Current and Expected Future Pension Benefit Obligation	\$47,834,163	\$142,306,566
c. Funding Ratio (a/b)	100.00%	100.00%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	102	287
b. Projected Annual Earnings	\$3,679,158	\$10,885,238
c. Average Annual Earnings	\$36,070	\$37,928
d. Average Age	44.6	45.9
e. Average Service	19.0	19.7
2. Others		
a. Service Retirements (Table 4)	91	248
b. Disability Retirements (Table 5)	4	16
c. Survivors (Table 6)	45	129
d. Deferred Retirements (Table 7)	1	3
e. Terminated Other Non-vested (Table 7)	1	1
f. Total	142	397
D. NUMBER OF CONSOLIDATION FUND ACCOUNTS		
	3	12

POLICE AND FIRE CONSOLIDATION FUND

COMMENTARY

Purpose

The purpose of this valuation is to determine if the current assets and future anticipated contributions for each Consolidation Account are adequate to provide for future benefits. If future contributions are more than adequate, an actuarial gain arises which will be amortized over 15 years and will reduce the Additional Municipal Contribution. Conversely, if future contributions are inadequate, an actuarial loss is produced which will be amortized over 15 years and will increase the Additional Municipal Contribution.

Report Highlights

This commentary reports the aggregate results for all twelve Accounts. Nine of the Accounts are new this year. The three Accounts last year were Buhl Police, Duluth Police and West St. Paul Fire. Information is provided in the tables at the end of this report for each individual Account listed below:

- | | |
|------------------|-----------------------|
| o Anoka Police | o Red Wing Police |
| o Buhl Police | o Rochester Police |
| o Duluth Police | o St. Cloud Fire |
| o Hibbing Fire | o St. Louis Park Fire |
| o Hibbing Police | o West St. Paul Fire |
| o Red Wing Fire | o Winona Fire |

The Additional Municipal Contribution for the Relief Association Consolidation Accounts increased by \$2,049,647 from \$1,006,971 to produce a new Additional

Municipal Contribution of \$3,056,618. The primary reason for the increase in the Municipal Contribution is the addition of the nine new accounts. This contribution is based on a new set of assumed separation rates adopted for the July 1, 1990 valuation. All plan provisions and all other actuarial assumptions are the same as the prior valuation or, if applicable, the actuarial calculations preliminary to consolidation.

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

- o The Accrued Benefit Funding Ratio is a measure of current funding status, and when viewed over a period of years, presents a view of the funding progress. This year's ratio is 73.86%. The corresponding ratio for the prior year was 69.94%
- o The Accrued Liability Funding Ratio is also a measure of funding status, and funding progress. It is based on the actuarial cost method that has historically been used. For 1990 the ratio is 71.04%, which is a decrease from the 1989 value of 73.63%.
- o The Projected Benefit Funding Ratio is a measure of the adequacy or deficiency in the contribution level. This ratio, which is 100%, verifies that the contributions are adequate based on the new level of Additional Municipal Contributions.

Asset Information (Tables 1 and 2)

Minnesota Statutes require that the asset value used for actuarial purposes recognize only a third of the unrealized gains and losses. This requirement

exists because market values (which include all unrealized gains and losses) are typically volatile and can produce erratic changes in the contribution requirements from year to year.

The calculation of the Actuarial Value of Assets is performed in total for all Consolidation Accounts as shown in Table 1 on lines F1 to F6. The aggregate result is allocated to each individual Consolidation Account based on its proportionate share of the cost value of the Assets Available for Benefits for all Consolidated Accounts. The Actuarial Value of Assets combines the cost value of the Assets Available for Benefits and one-third of the difference between the market value and cost value of those assets.

The term "Actuarial Value of Assets" is used to indicate that the value was determined for use in this actuarial valuation. Since Minnesota Statutes refer to this value as "Current Assets", the latter phrase will be used in the remainder of this report.

The Accounts participate in the MPRIF (i.e. Minnesota Post Retirement Investment Fund). The asset value shown for MPRIF on line A3 is set equal to the MPRIF Reserves reported on line D3 for both market and cost value purposes. This reserve is based on a 5% interest assumption.

Investment performance by SBI (i.e. State Board of Investment) above the 5% level is not shown in the assets but will be added in on January 1, 1991 when benefits will be increased for certain annuitants who selected PERA benefits. Benefits will be increased for those annuitants who retired after consolidation, and who have received payments for at least 7 months. For those annuitants who

retired prior to consolidation, benefits will be increased after payments have been received for at least 18 months. Next year's valuation will include the 1991 benefit increase in determining the MPRIF value.

After the MPRIF liability has been calculated for each participating Fund, SBI will determine each Fund's portion of the excess earnings for the January benefit increase as well as the Fund's allocated market share of MPRIF. An approximation of those values on June 30, 1990 is provided below:

MPRIF Reserves	\$40,666,279
Reserves Plus Excess Earnings	42,600,000
MPRIF Market Value	44,300,000

Membership Data (Tables 3, 4, 5, 6 and 7)

Tables 3 through 6 summarize statistical information about members by category. Active members are grouped by age and completed years of service in Table 3. The earnings shown for these members are for the prior fiscal year.

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

A reconciliation of members in Table 7 provides a method for tracking what happened to members during the past year.

Actuarial Balance Sheet (Table 8)

An actuarial balance sheet provides a method for evaluating current and future levels of funding.

Current funding levels are evaluated by comparing Current Assets on line A to the Pension Benefit Obligation on line D3. Current and future funding levels are evaluated by comparing the Total Current and Expected Future Assets on line C to the Total Current and Expected Future Pension Obligation on line F.

The process used in this valuation will always produce an exact balance when measured on a "current and future" basis (i.e. line C will equal line F). This exact balance is possible because of the annual adjustment in the Additional Municipal Contribution.

The Pension Benefit Obligation (PBO) used to measure current funding levels is calculated in accordance with Statement No. 5 of the Governmental Accounting Standards Board (GASB). Those requirements are:

- o For active members - salary and service are projected to retirement to determine benefits for each member and the ratio of credited service to total service establishes the portion of the projected benefit to be used in calculating the current funding level.
- o For non-active members - the PBO is the discounted value of benefits, including augmentation in cases where benefits have not commenced.

GASB Disclosure

The Current Pension Benefit Obligation amounts in Table 8 are required to be disclosed by Statement No. 5 of the Governmental Accounting Standards Board (GASB). The total Pension Benefit Obligation is \$117,386,244. The net assets available for benefits, at cost, is \$86,372,787. The total Pension Benefit

Obligation exceeds the assets by \$31,013,457 to produce a funded ratio of 73.58%.

Entry Age Normal Cost Calculations (Table 9)

Subdivision 7 of Section 353A.09 of Minnesota Statutes requires disclosure of the Actuarial Accrued Liability, Current Assets, Unfunded Actuarial Accrued Liability and Normal Cost using the Entry Age Normal Actuarial Cost Method.

These items are shown for informational purposes and are not used in calculating contributions.

Table 9 displays the individual elections as of the valuation date. If a member has not elected, the liability shown is the larger of the local Relief Association benefit liability or the PERA Police and Fire benefit liability. The normal cost, although shown as a single number, is also calculated based on the elections made.

Calculation of Net Actuarial Loss (Gain) (Table 10)

The calculation of the actuarial gain or loss produces the annual adjustment in the Additional Municipal Contribution. The concept is the same as that presented in the Actuarial Balance Sheet (Table 8), however the order is turned around. The Balance Sheet approach shows:

Assets
+ Employee Contributions
+ Regular Municipal Contributions
+ Additional Municipal Contributions (after the current year's adjustment)
= Total Current and Expected Future Pension Benefit Obligation

The Actuarial gain or loss calculation renames the "Total Current and Expected Future Pension Benefit Obligation" as the "Actuarial Value of Projected Benefits" and calculates the gain or loss in the following manner:

Actuarial Value of Projected Benefits

- Employee Contributions
- Regular Municipal Contributions
- Assets
- Additional Municipal Contributions (before the current year's adjustment)
- = Loss (Gain)

The loss (gain) funded as a level dollar amount over 15 years determines the current year's adjustment to the Additional Municipal Contribution.

Statutory Contributions (Table 11)

The Statutory Contributions are reported either as a percentage that must be applied to the appropriate compensation to determine the corresponding dollar contributions or as a dollar amount derived from actual calculations. The amounts to be contributed by the Municipality should be adjusted to reflect any available State Aid.

Each year the Additional Municipal Contribution will be adjusted up (down) depending on the amount of actual loss (gain) that is calculated. Another adjustment will occur as each 15 year amortization period is completed.

Projected Cash Flow (Table 12)

Cash flow (which is normally reported in Table 12) has not been projected for the Consolidation Accounts.

Changes in Plan Provisions

This valuation does not reflect any changes in plan provisions since the prior valuation or, if applicable, the actuarial calculations preliminary to consolidation.

Changes in Actuarial Assumptions

The rates of separation were changed in this valuation because they were changed for the Police and Fire Fund. The Standards for Actuarial Work require that the assumptions for the Consolidation Fund be the same as the assumptions for the Police and Fire Fund. Sample separation rates are as follows:

<u>Separation Rates</u>		
<u>Age</u>	<u>Old</u>	<u>New</u>
20	.0700	.0859
30	.0658	.0280
40	.0245	.0126
50	.0050	.0050

See Table 13 for the complete set of new separation rates.

This change in separation rates did not have a significant impact on plan liabilities.

Individual Consolidation Accounts

Additional tables at the end of this report show membership data, liabilities and contributions for the individual Consolidation Accounts.

POLICE AND FIRE CONSOLIDATION FUND

ACCOUNTING BALANCE SHEET
(ACTUAL DOLLARS)

July 1, 1990

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS		
1. Cash, Equivalents, Short-Term Securities	\$2,958,714	\$2,958,714
2. Investments		
a. Fixed Income	11,429,178	11,433,612
b. Equity	28,143,912	27,168,287
c. Real Estate	3,137,986	3,120,623
3. Equity in Minnesota Post-Retirement Investment Fund (MPRIF)	40,666,279	40,666,279
4. Other	1,601,797	1,601,797
	-----	-----
B. TOTAL ASSETS	\$87,937,866	\$86,949,312
	=====	=====
C. AMOUNTS CURRENTLY PAYABLE	\$576,525	\$576,525
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$8,383,079	\$8,383,079
2. Benefit Reserves	38,311,983	37,323,429
3. MPRIF Reserves	40,666,279	40,666,279
4. Non-MPRIF Reserves	0	0
	-----	-----
5. Total Assets Available for Benefits	\$87,361,341	\$86,372,787
	-----	-----
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	\$87,937,866	\$86,949,312
	=====	=====

F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Cost Value of Assets Available for Benefits (D5)		\$86,372,787
2. Market Value (D5)	\$87,361,341	
3. Cost Value (D5)	86,372,787	

4. Market Over Cost (F2-F3)	\$988,554	
5. 1/3 of Market Over Cost(F4)/3		329,518

6. Actuarial Value of Assets (F1+F5) (Same as "Current Assets")		\$86,702,305
		=====

TABLE 2

POLICE AND FIRE CONSOLIDATION FUND
CHANGES IN ASSETS AVAILABLE FOR BENEFITS
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

	<u>MARKET VALUE</u>	<u>COST VALUE</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$30,269,864	\$29,708,167
B. OPERATING REVENUES		
1. Member Contributions	\$596,244	\$596,244
2. Employer Contributions	5,348,059	5,348,059
3. Investment Income	2,365,823	2,365,823
4. MPRIF Income	1,904,323	1,904,323
5. Net Realized Gain (Loss)	0	0
6. Other	(22,447)	(22,447)
7. Net Change in Unrealized Gain (Loss)	426,857	0
	-----	-----
8. Total Revenue	\$10,618,859	\$10,192,002
	-----	-----
C. OPERATING EXPENSES		
1. Service Retirements	\$3,377,427	\$3,377,427
2. Disability Benefits	151,915	151,915
3. Survivor Benefits	216,144	216,144
4. Refunds	183,303	183,303
5. Expenses	59,871	59,871
6. Other	373,319	373,319
	-----	-----
7. Total Disbursements	\$4,361,979	\$4,361,979
	-----	-----
D. OTHER CHANGES IN RESERVES	50,834,597	50,834,597
E. ASSETS AVAILABLE AT END OF PERIOD	\$87,361,341	\$86,372,787
	=====	=====

TABLE 3

POLICE AND FIRE CONSOLIDATION FUND

ACTIVE MEMBERS AS OF JUNE 30, 1990

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34			1	10					11
35-39				47	4				51
40-44			1	24	27	19			71
45-49			1	2	15	48	10		76
50-54					7	18	15	6	46
55-59					1	6	11	9	27
60-64								5	5
65+									0
TOTAL	0	0	3	83	54	91	36	20	287

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34			26,595	33,065					32,476
35-39				33,966	31,640				33,784
40-44			22,010	34,014	37,699	37,300			36,126
45-49			38,534	39,493	34,155	35,960	39,110		36,145
50-54					37,747	35,725	36,683	40,337	36,947
55-59					26,865	35,494	31,207	42,375	35,721
60-64								32,937	32,937
65+									0
ALL	0	0	29,046	34,004	36,072	36,163	35,684	39,404	35,613

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	0	87,139	2,822,361	1,947,869	3,290,811	1,284,619	788,082	10,220,881

TABLE 4

POLICE AND FIRE CONSOLIDATION FUND

SERVICE RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	3	8	2					13
55-59	1	23	11	1	1			37
60-64	3	18	22	19	4			66
65-69	1	8	13	13	17	4		56
70-74		1	3	12	5	10	4	35
75-79				8	5	6	4	23
80-84					3	3	5	11
85+						1	6	7
TOTAL	8	58	51	53	35	24	19	248

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	17,804	16,174	14,621					16,311
55-59	25,045	16,969	16,986	14,368	17,420			17,134
60-64	24,527	19,639	17,064	17,552	16,119			18,189
65-69	30,971	20,126	17,397	16,917	15,597	9,001		16,772
70-74		21,700	19,223	17,365	18,155	17,338	14,707	17,449
75-79				18,389	18,579	12,199	13,556	15,975
80-84					15,695	18,517	16,560	16,858
85+						7,046	14,363	13,318
ALL	22,876	18,205	17,163	17,420	16,509	14,382	14,844	17,107

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	183,011	1,055,895	875,316	923,268	577,802	345,167	282,028	4,242,487

TABLE 5

POLICE AND FIRE CONSOLIDATION FUND

DISABILITY RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS DISABLED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	1	4	1	1	2			9
50-54	1	6						7
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	2	10	1	1	2	0	0	16

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	17,729	14,440	14,067	14,827	14,296			14,775
50-54	19,128	15,660						16,155
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	18,429	15,172	14,067	14,827	14,296	0	0	15,379

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS OF DISABILITY

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	36,857	151,717	14,067	14,827	28,591	0	0	246,059

TABLE 6

POLICE AND FIRE CONSOLIDATION FUND

SURVIVORS AS OF JUNE 30, 1990

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	3	3	5	1				12
50-54	1	5	1	1	1			9
55-59			2	2	2		1	7
60-64		9	2	2	1	1	1	16
65-69		2	6	4		1	2	15
70-74			3	3	2	1		9
75-79		2	1		2	3	4	12
80-84	1	4	2	1	3	3	7	21
85+		2	2	3	6	4	11	28
TOTAL	5	27	24	17	17	13	26	129

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	16,235	9,251	4,426	7,324				8,826
50-54	7,039	10,781	9,036	7,324	14,493			10,200
55-59			13,055	9,204	7,573		3,121	8,969
60-64		10,945	6,574	10,298	11,753	10,370	9,036	10,213
65-69		10,843	10,019	10,151		7,324	8,180	9,739
70-74			8,716	10,286	6,843	8,038		8,748
75-79		8,180	9,036		8,180	9,256	6,496	7,959
80-84	8,358	7,067	8,381	7,324	8,466	10,283	6,056	7,588
85+		8,895	6,079	8,349	5,912	5,253	6,852	6,673
ALL	12,821	9,788	8,110	9,264	7,783	8,105	6,626	8,453

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH							
<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
64,103	264,265	194,642	157,486	132,308	105,360	172,267	1,090,431

POLICE AND FIRE CONSOLIDATION FUND
RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	102	1	1
B. Additions	193	2	0
C. Deletions:			
1. Service Retirement	(3)	0	0
2. Disability	(2)	0	0
3. Death	(2)	0	0
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	0
D. Data Adjustments	(1)	0	0
	Vested		
	272		
	Non-Vested		
	15		
E. Total on June 30, 1990	287	3	1

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	91	4	45
B. Additions	163	13	89
C. Deletions:			
1. Service Retirement		0	
2. Death	(6)	(1)	(5)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	248	16	129

POLICE AND FIRE CONSOLIDATION FUND

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (TABLE 1, F6)		\$86,702,305
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		8,718,620
2. Present Value of Regular Municipal Contributions		13,077,930
3. Present Value of Additional Municipal Contributions		33,807,711
4. Total Expected Future Assets		<u>\$55,604,261</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		<u>\$142,306,566</u>
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$70,338,374
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	12,238,816	
b. Employer-financed vested	31,668,201	
c. Employer-financed nonvested	3,140,853	
d. Total		47,047,870
3. Total Pension Benefit Obligation		<u>\$117,386,244</u>
E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		<u>\$24,920,322</u>
F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$142,306,566
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$30,683,939
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

TABLE 9

POLICE AND FIRE CONSOLIDATION FUND
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>NUMBER OF PARTICIPANTS</u>	<u>ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS</u>	<u>ACTUARIAL ACCRUED LIABILITY</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	140	\$31,224,040	\$23,296,805
b. No Election (Greater Value)	147	40,744,152	28,409,762
	---	-----	-----
c. Total	287	\$71,968,192	\$51,706,567
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	4	789,617	789,617
	---	-----	-----
c. Total	4	\$789,617	\$789,617
3. Benefit Recipients			
a. Elected PERA Police and Fire	293	\$44,598,817 *	\$44,598,817 *
b. Elected Relief Association	100	24,949,940	24,949,940
	---	-----	-----
c. Total	393	\$69,548,757	\$69,548,757
4. Total			
a. Elected PERA Police and Fire	433	\$75,822,857	\$67,895,622
b. Elected Relief Association	100	24,949,940	24,949,940
c. No Election (Greater Value)	151	41,533,769	29,199,379
	---	-----	-----
d. Total	684	\$142,306,566	\$122,044,941
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$122,044,941
2. Current Assets (Table 1,F6)			86,702,305

3. UAAL (B1-B2)			\$35,342,636
			=====
C. NORMAL COST			
			\$2,020,678

* Includes Minnesota Post Retirement Investment Fund reserves of \$40,666,279.

TABLE 10

POLICE AND FIRE CONSOLIDATION FUND
CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9)	
1. Elected PERA Police and Fire	\$75,822,857
2. Elected Relief Association	24,949,940
3. No Election (Greater Value)	41,533,769

4. Total	\$142,306,566

B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$3,866,248
2. No Election (Greater Value)	4,852,372

3. Total	\$8,718,620

C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$5,799,371
2. No Election (Greater Value)	7,278,559

3. Total	\$13,077,930

D. CURRENT VALUE OF ASSETS (TABLE 1, F6)	
	\$86,702,305
E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$5,189,092 through the Amortization Date of December 31, 2010	\$52,125,075
2. 15 Year Amortization of Prior Years' Loss (Gain) (Table 11B, B.2.b + B.2.c)	(\$3,721,394)

3. Total	\$48,403,681

F. LOSS (GAIN) [A-B-C-D-E]	
	(\$14,595,970)
	=====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	(\$207,899)
2. Election of PERA Police and Fire Fund	(13,145,957)
3. Other	(1,242,114)

4. Total	(\$14,595,970)
	=====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	
	(\$1,687,401)

POLICE AND FIRE CONSOLIDATION FUND
 DETERMINATION OF STATUTORY CONTRIBUTIONS
 (ACTUAL DOLLARS)

JULY 1, 1990

		<u>AMOUNT</u> %	<u>AMOUNT</u> \$
A. EMPLOYEE CONTRIBUTIONS		8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)			
1. Regular Municipal Contribution		12.00%	
2. Additional Municipal Contribution			
	<u>Established</u>	<u>Current Balance</u>	<u>Last Payment</u>
a. Initial		52,125,075	12/31/2010
b. 7/1/88		190,201	12/31/2002
c. 7/1/89		(3,911,595)	12/31/2003
d. 7/1/90		(14,595,970)	12/31/2004
		=====	
e. Total		33,807,711	5,189,092 23,742 (468,815) (1,687,401) ----- \$3,056,618 * =====

C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$3,056,618

* Contribution is assumed to be paid on December 31, 1990.

POLICE AND FIRE CONSOLIDATION FUND

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

Interest:	Pre-Retirement:	8.5% per annum
	Post-Retirement:	5.0% per annum
PERA Police and Fire: Relief Association:		8.5% per annum
Salary Increases:	Reported salary for prior fiscal year, increased 6.5% to current fiscal year and 6.5% annually for each future year.	
Mortality:	Pre-Retirement:	
	Male -	1971 Group Annuity Mortality Table male rates projected to 1984 by Scale D
	Female -	1971 Group Annuity Mortality Table female rates projected to 1984 by Scale D
	Post-Retirement:	
	Male -	Same as above
	Female -	Same as above
	Post-Disability:	
	Male -	1965 RRB rates
	Female -	1965 RRB rates
Retirement Age:		
PERA Police and Fire	Age 60, or if over age 60, one year from the valuation date.	
Anoka Police	Age 58 and 20 years of service, or if over 58, one year from the valuation date.	
Buhl Police	Age 58 and 20 years of service, or if over 58, one year from the valuation date.	
Duluth Police	Age 58 and 5 years of service, or if over 58, one year from the valuation date.	
Hibbing Fire	Age 58 and 20 years of service, or if over 58, one year from the valuation date.	
Hibbing Police	Age 58 and 20 years of service, or if over 58, one year from the valuation date.	
Red Wing Fire	Age 58 and 20 years of service, or if over 58, one year from the valuation date.	

TABLE 13
(cont)

Retirement Age (cont):	
Red Wing Police	Age 53 and 20 years of service, or if over 58, one year from the valuation date.
Rochester Police	Age 60 and 20 years of service, or if over 58, one year from the valuation date.
St. Cloud Fire	Age 60 and 20 years of service, or if over 58, one year from the valuation date.
St. Louis Park Fire	Age 62 and 20 years of service, or if over 58, one year from the valuation date.
West St. Paul Fire	Age 58 and 20 years of service, or if over 58, one year from the valuation date.
Winona Fire	Age 58 and 20 years of service, or if over 58, one year of from the valuation date.
Separation:	Graded rates based on PERA Police and Fire Fund experience as of June 30, 1990. Rates are shown in rate table.
Disability:	Rates as shown in rate table.
Return of Contributions:	
PERA Police and Fire	All employees withdrawing after becoming eligible for a deferred benefit were assumed to take the larger of their contributions accumulated with interest or the value of their deferred benefit.
Relief Association	If a relief association allows for the return of contributions, the contributions are returned to the Member if the Member is not eligible for any other benefit.
Family Composition:	85% of male Members and 65% of female Members are assumed to be married. Female is four years younger than male. Assume Members have no children.
Social Security:	NA
Benefit Increases	
After Retirement:	
PERA Police and Fire	Payment of earnings on retired reserves in excess of 5% accounted for by 5% post-retirement interest
Relief Association	6.5% per annum. The following are exceptions:

Benefit Increases
After Retirement:

Buhl Police - 3.5% per annum

Red Wing Police - 6.5% per annum; increased in accordance with CPI increases if on active duty as of January 1, 1973 or later

Rochester Police - If hired before July 1, 1969: 6.5% per annum. If hired after June 30, 1969: 3.25% per annum

Special Consideration:
PERA Police and Fire

Married members assumed to elect subsidized joint and survivor form of annuity as follows:

Males - 40% elect 50% J & S option;
45% elect 100% J & S option.

Females - 15% elect 50% J & S option;
15% elect 100% J & S option.

Relief Association

NA

Actuarial Cost Method:

Calculations of the Actuarial Accrued Liability and Normal Cost under the Entry Age Normal Actuarial Cost Method are disclosed in the report.

The Additional Municipal Contribution is derived by subtracting the following items from the Actuarial Present Value of Projected Benefits:

- Present Value of Future Employee Contributions
- Present Value of Future Regular Municipal Contributions
- Current Value of Assets
- Present Value of Additional Municipal Contributions (amount determined in the prior year)

Any excess (deficit) is a loss (gain) to be funded over 15 years and is added to the prior year Additional Municipal Contributions.

Asset Valuation Method:

Cost Value plus one-third Unrealized Gains or Losses.

TABLE 13
(cont)

**SEPARATIONS EXPRESSED AS THE
NUMBER OF OCCURRENCES PER 10,000**

Age	PERA P&F Death		PERA P&F Withdrawal		PERA P&F Disability		PERA P&F Retirement	
	Male	Female	Male	Female	Male	Female	Male	Female
20	5	2	859	859	11	11	0	0
21	5	2	750	750	11	11	0	0
22	5	2	660	660	12	12	0	0
23	5	3	583	583	12	12	0	0
24	5	3	519	519	13	13	0	0
25	6	3	463	463	13	13	0	0
26	6	3	416	416	14	14	0	0
27	6	3	374	374	14	14	0	0
28	7	3	339	339	14	14	0	0
29	7	4	307	307	15	15	0	0
30	7	4	280	280	16	16	0	0
31	8	4	256	256	16	16	0	0
32	8	4	234	234	17	17	0	0
33	9	5	215	215	17	17	0	0
34	10	5	198	198	18	18	0	0
35	10	5	183	183	19	19	0	0
36	11	6	169	169	20	20	0	0
37	12	6	157	157	22	22	0	0
38	13	7	146	146	23	23	0	0
39	14	7	135	135	24	24	0	0
40	15	8	126	126	26	26	0	0
41	16	9	118	118	28	28	0	0
42	18	9	110	110	29	29	0	0
43	21	10	103	103	31	31	0	0
44	24	11	97	97	34	34	0	0
45	27	12	91	91	36	36	0	0
46	30	13	86	86	41	41	0	0
47	34	14	81	81	46	46	0	0
48	39	15	69	69	52	52	0	0
49	44	17	59	59	60	60	0	0
50	49	18	50	50	69	69	0	0
51	54	20	39	39	80	80	0	0
52	60	21	29	29	91	91	0	0
53	65	23	22	22	104	104	0	0
54	72	25	15	15	119	119	0	0

TABLE 13
(cont)

<u>Age</u>	<u>PERA P&F Death</u>		<u>PERA P&F Withdrawal</u>		<u>PERA P&F Disability</u>		<u>PERA P&F Retirement</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
55	78	27	11	11	135	135	0	0
56	85	30	7	7	152	152	0	0
57	92	33	5	5	171	171	0	0
58	100	37	3	3	192	192	0	0
59	110	41	1	1	215	215	0	0
60	121	46	0	0	0	0	10,000	10,000
61	133	52	0	0	0	0	0	0
62	146	58	0	0	0	0	0	0
63	160	65	0	0	0	0	0	0
64	176	73	0	0	0	0	0	0
65	195	81	0	0	0	0	0	0
66	219	90	0	0	0	0	0	0
67	243	99	0	0	0	0	0	0
68	270	109	0	0	0	0	0	0
69	300	123	0	0	0	0	0	0
70	334	140	0	0	0	0	0	0

POLICE AND FIRE CONSOLIDATION FUND
SUMMARY OF PERA POLICE AND FIRE PLAN PROVISIONS

Eligibility	All full time, and certain part time, police officers and firefighters, who are not contributing to any other local retirement fund.
Contributions Member	8% of Salary.
Employer	12% of Salary.
Allowable Service	Police and fire service during which Member contributions were deducted. May also include certain leaves of absence and military service.
Salary	Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes lump sum payments at separation and Workers' Compensation benefits.
Average Salary	Average of the 5 highest successive years of Salary. Average salary is based on all Allowable Service if less than 5 years.
RETIREMENT	
Normal Retirement Benefit Eligibility	Age 55 and 3 years of Allowable Service. Proportionate Retirement Annuity is available at age 65 and 1 year of Allowable Service.
Amount	2.5% of Average Salary for each year of Allowable Service.
Early Retirement Benefit Eligibility	Age 50 and 3 years of Allowable Service.
Amount	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date assuming augmentation to age 55 at 3% per year and actuarial reduction for each month the Member is under age 55.
Form of Payment	Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are:

TABLE 14
(cont)

50% or 100% joint and survivor with bounce back feature without additional reduction (option cancelled if Member is pre-deceased by beneficiary).

Benefit Increases

Benefits may be increased each January 1 depending on the investment performance of the Minnesota Post Retirement Investment Fund (MPRIF). A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Benefit recipients receiving benefits for at least 1 full month but less than 12 full months will receive a partial increase.

Members retired under law in effect before July 1, 1973 receive an additional lump sum payment each year. In 1989, this lump sum payment is the greater of \$25 times each full year of Allowable Service or the difference between \$400 times each full year of Allowable Service and the sum of the benefits paid from any Minnesota public pension plan plus cash payments from the Social Security Administration for the preceding fiscal year July 1, 1988 through June 30, 1989. In each following year, the lump sum payment will increase by the same percentage increase that is applied to regular annuities paid from MPRIF.

DISABILITY

Duty Disability Benefit
Eligibility

Under age 55 and physically or mentally unable to perform duties as a police officer or firefighter as a direct result of an act of duty.

Amount

50% of Average Salary plus 2.5% of Average Salary for each year in excess of 20 years of Allowable Service. The disability benefit is reduced to that amount which when added to Workers' Compensation, does not exceed Salary. Payments revert to retirement annuity at age 55.

Non-Duty Disability Benefit
Eligibility

Under age 55 and physically or mentally unable to perform duties as a police officer or firefighter with 1 year of Allowable Service.

Amount

Normal Retirement Benefit based on Allowable Service (minimum of 15 years) and Average Salary at disability without reduction for commencement before age 55. Payments revert to retirement annuity at age 55.

**TABLE 14
(cont)**

Form of Payment	Same as for retirement.
Benefit Increases	Adjusted by PERA to provide same increase as MPRIF.
Retirement Benefits Eligibility	Age 55.
Amount	Any optional annuity continues. Otherwise the larger of the disability benefit paid before age 55 or the normal retirement benefit available at age 55, or an actuarially equivalent optional annuity.
Benefit Increases	Same as for retirement.
DEATH	
Surviving Spouse Benefit Eligibility	Active Member with surviving spouse, married for at least 1 year unless death in the line of duty.
Amount	50% of Salary averaged over last 6 months. Benefit paid until spouse's death but no payments while spouse is remarried.
Surviving Dependent Child Benefit Eligibility	Active Member with dependent child.
Amount	10% of Salary averaged over last 6 months for each child. Family benefit minimum (including spouse's benefit) of 50% of Salary and maximum of 70% of Salary. Benefits paid until child marries, dies, or attains age 18. (Age 23 if full-time student).
Surviving Spouse Optional Annuity Eligibility	Member who dies before termination if age 50 with 3 years of Allowable Service or any age with 30 years of Allowable Service. If the Member dies before age 55, benefits commence when Member would have been age 55 or as early as age 50 if qualified for early retirement.
Amount	Survivor's payment of the 100% joint and survivor benefit the Member could have elected if terminated. Alternatively, spouse may elect refund of deceased's contributions with interest if there are no dependent children.

TABLE 14
(cont)

Benefit Increases Adjusted by PERA to provide same increase as MPRIF.

TERMINATION

Refund of Contributions
Eligibility

Termination of public service.

Amount

Member's contributions with 5% interest compounded annually if termination occurred before May 16, 1989, and 6% interest if termination occurred on or after May 16, 1989. A deferred annuity may be elected in lieu of a refund if 3 or more years of Allowable Service.

Deferred Annuity
Eligibility

3 years of Allowable Service.

Amount

Benefit computed under law in effect at termination and increased by the following annual percentage: 0% before 7/1/71, 5% from 7/1/71 to 1/1/81, and 3% thereafter until January 1 of the year following attainment of age 55 and 5% thereafter until the annuity begins. Amount is payable as a normal or early retirement.

POLICE AND FIRE CONSOLIDATION FUND

SUMMARY OF LOCAL POLICE OR FIREFIGHTER PLAN PROVISIONS

Eligibility	A Member of a local relief association consolidating with PERA Police and Fire Fund who elects to retain benefit coverage in the local relief association benefit plan.
Contributions	
Member	8% of Contribution Salary.
Employer	12% of Contribution Salary.
Allowable Service	Any service rendered in the municipality in which the Local relief association is located before the effective date of consolidation and any service rendered by a covered employee as a police officer or firefighter in the municipality in which the local relief association is located.
Salary	
Benefit Salary	
Anoka Police	Salary of a First Grade Patrol Officer.
Buhl Police	Final salary.
Duluth Police	Salary of a First Grade Patrol Officer with 16 years of service.
Hibbing Fire	Average Salary for final six months of employment.
Hibbing Police	Average Salary for final six months of employment.
Red Wing Fire	Average Annual Salary for highest three paid years.
Red Wing Police	Final Salary.
Rochester Police	Salary of a First Grade Patrol Officer.
St. Cloud Fire	Salary of a First Grade Firefighter with 25 or more years of service.
St. Louis Park Fire	Salary of the highest grade full-time firefighter.
West St. Paul Fire	Salary of a First Grade Firefighter.
Winona Fire	Salary of a First Grade Firefighter.

TABLE 15
(cont)

Contribution Salary Greater of Benefit Salary or actual salary. The following are exceptions:

Buhl Police - Benefit Salary.

Hibbing Fire - Benefit Salary.

Hibbing Police - Benefit Salary.

Red Wing Fire - Actual salary.

Red Wing Police - Benefit Salary.

RETIREMENT

Normal Retirement Benefit Eligibility

Anoka Police	Age 50 and 20 years of Allowable Service.
Buhl Police	Age 50 and 20 years of Allowable Service.
Duluth Police	Age 50 and 5 years of Allowable Service.
Hibbing Fire	Age 55 and 20 years of Allowable Service.
Hibbing Police	Age 55 and 20 years of Allowable Service.
Red Wing Fire	Age 50 and 20 years of Allowable Service.
Red Wing Police	Age 50 and 20 years of Allowable Service.
Rochester Police	Age 55 and 20 years of Allowable Service or, if hired prior to July 1, 1969, Age 50 and 20 years of Allowable Service.
St. Cloud Fire	Age 50 and 20 years of Allowable Service.
St. Louis Park Fire	Age 50 and 20 years of Allowable Service.
West St. Paul Fire	Age 55 and 20 years of Allowable Service.
Winona Fire	Age 50 and 20 years of Allowable Service.

Amount

Anoka Police	2.5% of Benefit Salary for each of the first 20 years of Allowable Service.
Buhl Police	4.25% of Benefit Salary for each of the first 20 years of Allowable Service and \$120 per year for each year of Allowable Service in excess of 20 years of Allowable Service but no more than 25 years of Allowable Service.

TABLE 15
(cont)

Normal Retirement Benefit
Amount (cont)

Duluth Police	1.9875% of Benefit Salary for each of the first 20 years of Allowable Service, 1.25% of Benefit Salary for the 21st year of Allowable Service, and 2.5% of Benefit Salary for each year of Allowable Service in excess of 21 years but not more than 25 years of Allowable Service.
Hibbing Fire	2.65% of Benefit Salary for each of the first 20 years of Allowable Service and \$120 per year for each year of Allowable Service in excess of 20 years but no more than 25 years.
Hibbing Police	2.65% of Benefit Salary for each of the first 20 years of Allowable Service and \$120 per year for each year of Allowable Service in excess of 20 years but no more than 25 years.
Red Wing Fire	2.0% of Benefit Salary for each of the first 25 years of Allowable Service and 1.0% of Benefit Salary for each year of Allowable Service in excess of 25 years.
Red Wing Police	2.5% of Benefit Salary for each of the first 20 years of Allowable Service.
Rochester Police	2.333% of Benefit Salary for each of the first 20 years of Allowable Service, 1.333% of Benefit Salary for each year of Allowable Service in excess of 20 years but not in excess of 27 years and 0.5% of Benefit Salary for each year of allowable Service in excess of 25 years.
St. Cloud Fire	2.333% of Benefit Salary for each of the first 20 years of Allowable Service, 1.333% of Benefit Salary for each year of Allowable Service in excess of 20 years but not in excess of 27 years and 0.5% of Benefit Salary for each year of allowable Service in excess of 25 years.
St. Louis Park Fire	2.6% of Benefit Salary for each of the first 20 years of Allowable Service and 1.0% of Benefit Service for each year of Allowable Service in excess of 20 years but not more than 30 years. If member had 20 or more years of Allowable Service on June 16, 1985 the 2.6% in the above formula is replaced by 2.6175%.

TABLE 15
(cont)

Normal Retirement Benefit Amount (cont)	
West St. Paul Fire	2% of Benefit Salary for each of the first 20 years of Allowable Service, 1% of Allowable Service in excess of 20 years but not more than 24 years of Allowable Service, 3% of Benefit Salary for the 25th year of Allowable Service, and 1% of Benefit Salary for each year of Allowable Service in excess of 25 but not more than 30 years of Allowable Service.
Winona Fire	2.133% of Benefit Salary for each of the first 20 years of Allowable Service, 1.333% of Benefit Salary for each year of Allowable Service in excess of 20 years but not more than 28 years and 0.5% of Benefit Salary for each year of Allowable Service in excess of 25 years.
Form of Payment	Life annuity.
Benefit Increases	
Anoka Police	Same increase that Benefit Salary is increased.
Buhl Police	3.5% if there is any increase in the salary base.
Duluth Police	Same increase that Benefit Salary is increased.
Hibbing Fire	One-half of the dollar amount that Benefit Salary is increased.
Hibbing Police	One-half of the dollar amount that Benefit Salary is increased.
Red Wing Fire	Same increase as the Consumer Price Index has increased over the preceding year.
Red Wing Police	Same increase as the Consumer Price Index has increased over the preceding year.
Rochester Police	Same increase that Benefit Salary is increased unless employed after July 1, 1969, then increase is one-half of the dollar increase granted to members employed prior to July 1, 1969. The additional benefit of 0.5% of Benefit Salary for each year of Allowable Service in excess of 25 years is not increased.
St. Cloud Fire	Same increase that Benefit Salary is increased.
St. Louis Park Fire	Same increase that Benefit Salary is increased.

TABLE 15
(cont)

Benefit Increases (cont) West St. Paul Fire	Same increase that Benefit Salary is increased.
Winona Fire	Same increase that Benefit Salary is increased. The additional benefit of 0.5% of Benefit Salary for each year of Allowable Service in excess of 25 years is not increased.
DISABILITY	
Duty Disability Benefit Eligibility	Not eligible for a retirement benefit and physically unfit to perform duties as a police officer or firefighter as a direct result of an act of duty.
Amount	
Anoka Police	The retirement benefit calculated using the Benefit Salary as of the date of disability and the Allowable Service as of the date of disability with a minimum of 20 years of Allowable Service. Payments cease at age 50.
Buhl Police	The retirement benefit calculated using the Benefit Salary as of the date of disability and the Allowable Service as of the date of disability with a minimum of 20 years of Allowable Service. Payments cease at age 50.
Duluth Police	The retirement benefit calculated using the Benefit Salary as of the date of disability and the Allowable Service as of the date of disability with a minimum of 20 years of Allowable Service. Payments cease at age 50.
Hibbing Fire	<p>First Class Disability: An amount equal to the amount which would be paid under Minnesota workers' compensation laws.</p> <p>Second Class Disability: 75% of First Class Disability.</p> <p>Third Class Disability: 50% of First Class Disability.</p>
Hibbing Police	\$1,440 per year.
Red Wing Fire	40% of Benefit Salary if less than 20 years of Allowable Service plus 2% of Benefit Salary for each year of Allowable Service in excess of 20 years but not more than 25 years.

TABLE 15
(cont)

Duty Disability Benefit Amount (cont)	
Red Wing Police	The retirement benefit calculated using the Benefit Salary as of the date of disability and the Allowable Service as of the date of disability with a minimum of 20 years of Allowable Service. Payments cease at age 50.
Rochester Police	An amount equal to 48% of the Benefit Salary.
St. Cloud Fire	An amount equal to 48% of the Benefit Salary.
St. Louis Park Fire	50% of Benefit Salary if less than 20 years of Allowable Service. If 20 or more years of Allowable Service, an amount equal to the retirement benefit.
West St. Paul Fire	An amount equal to 40% of the Benefit Salary.
Winona Fire	42.667% of Benefit Salary.
Non-Duty Disability Benefit Eligibility	Not eligible for a retirement benefit and physically unfit to perform duties as a police officer or firefighter which did not arise as a direct result of an act of duty.
Amount	Same as the Duty Disability Benefit. The following are exceptions: Red Wing Fire - 2% of Benefit Salary for each year of Allowable Service with a minimum of 10% of Benefit Salary and a maximum of 40% of Benefit Salary.
Form of Payment	Same as for retirement.
Benefit Increases	Same as for retirement.
Retirement Benefits Eligibility	Age 50 and continued disability. The following are exceptions: Hibbing Fire - Age 55 and continued disability. Hibbing Police - Age 55 and continued disability. West St. Paul Fire - Age 55 and continued disability.

TABLE 15
(cont)

Retirement Benefits (cont) Amount	The larger of the disability benefit paid before Eligibility or the retirement benefit available at Eligibility.
Benefit Increases	Same as for retirement.

DEATH

Surviving Spouse Benefit Eligibility	Any active, retired, disabled or deferred Member with surviving spouse.
Amount	
Anoka Police	30% of the Benefit Salary.
Buhl Police	72.25% of Benefit Salary.
Duluth Police	25% of the Benefit Salary.
Hibbing Fire	30% of Benefit Salary.
Hibbing Police	30% of Benefit Salary.
Red Wing Fire	25% of the Benefit Salary.
Red Wing Police	Equal to the service pension of disability person.
Rochester Police	24% of the Benefit Salary.
St. Cloud Fire	32% of the Benefit Salary.
St. Louis Park Fire	40% of the Benefit Salary if former member had at least 20 years of Allowable Service. If less than 20 years of Allowable Service, a prorata portion of 40% of the Benefit Salary.
West St. Paul Fire	30% of the Benefit Salary.
Winona Fire	24% of the Benefit Salary.
Benefit Increases	Same as retirement. The following are exceptions: Buhl Police - None. Hibbing Fire - None. Hibbing Police - None.

TABLE 15
(cont)

Surviving Dependent
Child Benefit
Eligibility

Any active, deferred, retired or disabled Member with a child younger than age 18. The following are exceptions:

Buhl Police - Any active, deferred, retired or disabled Member with a child younger than age 18, or if the child is a full-time student, younger than age 22.

Duluth Police - Any active, deferred, retired or disabled Member with a child younger than age 18, or if the child is a full-time student, younger than age 22.

Hibbing Police - Any active, deferred, retired or disabled Member with a child younger than age 16.

Amount

Anoka Police	\$25 per month.
Buhl Police	\$1,500 per year if surviving spouse benefit is payable. If no surviving spouse benefit is payable, then surviving spouse benefit is payable divided in equal shares to all surviving children.
Duluth Poice	10% of Benefit Salary.
Hibbing Fire	10% of Benefit Salary.
Hibbing Police	10% of Benefit Salary.
Red Wing Fire	8% of Benefit Salary.
Red Wing Police	Determined by Board of Directors upon remarriage of spouse.
Rochester Police	8% of Benefit Salary.
St. Cloud Fire	5.3334% of Benefit Salary.
St. Louis Park Fire	5% of Benefit Salary.
West St. Paul Fire	5% of Benefit Salary.
Winona Fire	8% of Benefit Salary.
Benefit Increases	Same as retirement. The following are exceptions:

Surviving Dependent
Child Benefit
Benefit Increases (cont)

Anoka Police - None.
Buhl Police - None.
Hibbing Fire - None.
Hibbing Police - None.
Red Wing Police - None.

TERMINATION

Refund of Contributions
Eligibility

Termination of public service and not eligible for any other benefits.

Amount

Members' accumulated contributions without interest. The following are exceptions:

Duluth Police - No refunds.

Rochester Police - 75% of the Members' accumulated contributions without interest.

Winona Fire - 75% of the Members' accumulated contributions without interest.

Deferred Annuity
Eligibility

Any active Member with sufficient Allowable Service for the retirement benefit, but does not meet the age requirement for the retirement benefit. The following are exceptions:

St. Louis Park Fire - Prior to age 50 with minimum of 10 years of Allowable Service.

Amount

The amount calculated under the retirement benefit using the Allowable Service and Benefit Salary as of date of termination. The following are exceptions:

St. Cloud Fire - The amount calculated under the retirement benefit using the Allowable Service and Benefit Salary as of date of termination. Benefit cannot exceed 53.3333% of Benefit Salary.

TABLE 15
(cont)

Deferred Annuity
Amount (cont)

West St. Paul Fire - For the first 20 years of Allowable Service, 0.5% of Benefit Salary for each year of Allowable Service rendered before October 1, 1965, and 2% of Benefit Salary for each year of Allowable Service rendered after September 30, 1965, and 1% of Benefit Salary for each year of Allowable Service in excess of 20 years but not more than 52% of Benefit Salary.

Winona Fire - The amount calculated under the retirement benefit using the Allowable Service and Benefit Salary as of date of termination. Benefit cannot exceed 50.6667% of Benefit Salary.

Benefit Increases

Same as retirement. The following are exceptions:

Red Wing Police - None.

TABLE 3A

ANOKA POLICE CONSOLIDATION ACCOUNT

ACTIVE MEMBERS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39									0
40-44									0
45-49					40,468	45,633			43,051
50-54									0
55-59									0
60-64									0
65+									0
ALL	0	0	0	0	40,468	45,633	0	0	43,051

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	0	0	0	40,468	45,633	0	0	86,101

TABLE 4A

ANOKA POLICE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54		16,962						16,962
55-59			17,647					17,647
60-64			17,647	17,647				17,647
65-69				17,647	17,647			17,647
70-74				17,647				17,647
75-79								0
80-84								0
85+								0
ALL	0	16,962	17,647	17,647	17,647	0	0	17,549

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	16,962	35,294	52,941	17,647	0	0	122,844

TABLE 6A

ANOKA POLICE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59								0
60-64				11,753	11,753			11,753
65-69								0
70-74					11,297			11,297
75-79							936	936
80-84								0
85+								0
ALL	0	0	0	11,753	11,525	0	936	8,935

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	0	0	11,753	23,050	0	936	35,739

ANOKA POLICE CONSOLIDATION ACCOUNT

RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	0	0	0
B. Additions	2	0	0
C. Deletions:			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	0
D. Data Adjustments	0	0	0
	Vested	1	
	Non-Vested	1	
E. Total on June 30, 1990	2	0	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	0	0	0
B. Additions	7	0	4
C. Deletions:			
1. Service Retirement		0	
2. Death	0	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	7	0	4

ANOKA POLICE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (2.56% OF TABLE 1, F6)		\$2,219,578
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		68,588
2. Present Value of Regular Municipal Contributions		102,882
3. Present Value of Additional Municipal Contributions		314,471
4. Total Expected Future Assets		----- \$485,941
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		----- \$2,705,519
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$2,087,299
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	118,662	
b. Employer-financed vested	100,933	
c. Employer-financed nonvested	196,918	
d. Total		416,513
3. Total Pension Benefit Obligation		----- \$2,503,812
E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		----- \$201,707
F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$2,705,519
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$284,234
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

ANOKA POLICE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>NUMBER OF PARTICIPANTS</u>	<u>ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS</u>	<u>ACTUARIAL ACCRUED LIABILITY</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	2	618,220	459,215
	---	---	---
c. Total	2	\$618,220	\$459,215
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	0	0	0
	---	---	---
c. Total	0	\$0	\$0
3. Benefit Recipients			
a. Elected PERA Police and Fire	10	\$1,941,690 *	\$1,941,690 *
b. Elected Relief Association	1	145,609	145,609
	---	---	---
c. Total	11	\$2,087,299	\$2,087,299
4. Total			
a. Elected PERA Police and Fire	10	\$1,941,690	\$1,941,690
b. Elected Relief Association	1	145,609	145,609
c. No Election (Greater Value)	2	618,220	459,215
	---	---	---
d. Total	13	\$2,705,519	\$2,546,514
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$2,546,514
2. Current Assets (2.56% of Table 1,F6)			2,219,578

3. UAAL (B1-B2)			\$326,936
			=====
C. NORMAL COST			
			\$16,879

* Includes Minnesota Post Retirement Investment Fund reserves of \$1,780,970.

ANOKA POLICE CONSOLIDATION ACCOUNT
CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9A)	
1. Elected PERA Police and Fire	\$1,941,690
2. Elected Relief Association	145,609
3. No Election (Greater Value)	618,220

4. Total	\$2,705,519

B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$0
2. No Election (Greater Value)	68,588

3. Total	\$68,588

C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$0
2. No Election (Greater Value)	102,882

3. Total	\$102,882

D. CURRENT VALUE OF ASSETS (2.56% OF TABLE 1, F6)	\$2,219,578
E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$101,834 through the Amortization Date of December 31, 2010	\$1,022,935

2. Total	\$1,022,935

F. LOSS (GAIN) [A-B-C-D-E]	(\$708,464)
	=====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	\$34,335
2. Election of PERA Police and Fire Fund	(659,741)
3. Other	(83,058)

4. Total	(\$708,464)
	=====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	(\$81,904)

**ANOKA POLICE CONSOLIDATION ACCOUNT
DETERMINATION OF STATUTORY CONTRIBUTIONS
(ACTUAL DOLLARS)**

JULY 1, 1990

		<u>AMOUNT</u> <u>%</u>	<u>AMOUNT</u> <u>\$</u>
A. EMPLOYEE CONTRIBUTIONS		8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)			
1. Regular Municipal Contribution		12.00%	
2. Additional Municipal Contribution			
a. <u>Established</u> Initial	<u>Current</u> <u>Balance</u> 1,022,935	<u>Last</u> <u>Payment</u> 12/31/2010	101,834
b. 7/1/90	(708,464)	12/31/2004	(81,904)
c. Total	----- \$314,471 =====		----- \$19,930 * =====
C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$19,930			

* Contribution is assumed to be paid on December 31, 1990.

TABLE 3B

BUHL POLICE CONSOLIDATION ACCOUNT

ACTIVE MEMBERS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE							ALL	
	<1	1-4	5-9	10-14	15-19	20-24	25-29		30+
<25									0
25-29									0
30-34									0
35-39									0
40-44									0
45-49									0
50-54									0
55-59									0
60-64								30,613	30,613
65+									0
ALL	0	0	0	0	0	0	0	30,613	30,613

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	0	0	0	0	0	0	30,613	30,613

TABLE 4B

BUHL POLICE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59		21,172						21,172
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
ALL	0	21,172	0	0	0	0	0	21,172

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	21,172	0	0	0	0	0	21,172

TABLE 6B

BUHL POLICE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59								0
60-64								0
65-69			11,011					11,011
70-74								0
75-79								0
80-84								0
85+								0
ALL	0	0	11,011	0	0	0	0	11,011

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	0	0	11,011	0	0	0	0	11,011

BUHL POLICE CONSOLIDATION ACCOUNT

RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	1	0	0
B. Additions	0	0	0
C. Deletions:			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	0
D. Data Adjustments	0	0	0
	Vested	1	
	Non-Vested	0	
E. Total on June 30, 1990	1	0	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	1	0	1
B. Additions	0	0	0
C. Deletions:			
1. Service Retirement		0	
2. Death	0	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	1	0	1

BUHL POLICE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (0.89% OF TABLE 1, F6)		\$771,651
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		2,608
2. Present Value of Regular Municipal Contributions		3,912
3. Present Value of Additional Municipal Contributions		67,798
4. Total Expected Future Assets		----- \$74,318 -----
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		----- \$845,969 -----
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$433,290
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	54,931	
b. Employer-financed vested	345,521	
c. Employer-financed nonvested	0	
d. Total		400,452
3. Total Pension Benefit Obligation		----- \$833,742 -----
E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		----- \$12,227 -----
F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$845,969
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$62,091
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

BUHL POLICE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>NUMBER OF PARTICIPANTS</u>	<u>ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS</u>	<u>ACTUARIAL ACCRUED LIABILITY</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	1	412,679	403,735
	---	-----	-----
c. Total	1	\$412,679	\$403,735
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	0	0	0
	---	-----	-----
c. Total	0	\$0	\$0
3. Benefit Recipients			
a. Elected PERA Police and Fire	2	\$433,290 *	\$433,290 *
b. Elected Relief Association	0	0	0
	---	-----	-----
c. Total	2	\$433,290	\$433,290
4. Total			
a. Elected PERA Police and Fire	2	\$433,290	\$433,290
b. Elected Relief Association	0	0	0
c. No Election (Greater Value)	1	412,679	403,735
	---	-----	-----
d. Total	3	\$845,969	\$837,025
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$837,025
2. Current Assets (0.89% of Table 1,F6)			771,651

3. UAAL (B1-B2)			\$65,374
			=====
C. NORMAL COST			
			\$8,943

* Includes Minnesota Post Retirement Investment Fund reserves of \$433,290.

BUHL POLICE CONSOLIDATION ACCOUNT
CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9B)	
1. Elected PERA Police and Fire	\$433,290
2. Elected Relief Association	0
3. No Election (Greater Value)	412,679

4. Total	\$845,969

B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$0
2. No Election (Greater Value)	2,608

3. Total	\$2,608

C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$0
2. No Election (Greater Value)	3,912

3. Total	\$3,912

D. CURRENT VALUE OF ASSETS (0.89% OF TABLE 1, F6)	\$771,651
E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$9,556 through the Amortization Date of December 31, 2010	\$95,991
2. 15 Year Amortization of Prior Years' Loss (Gain) (Table 11B, B.2.b + B.2.c)	\$2,985

3. Total	\$98,976

F. LOSS (GAIN) [A-B-C-D-E]	(\$31,178)
	=====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	\$1,244
2. Election of PERA Police and Fire Fund	0
3. Other	(32,422)

4. Total	(\$31,178)
	=====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	(\$3,604)

**BUHL POLICE CONSOLIDATION ACCOUNT
DETERMINATION OF STATUTORY CONTRIBUTIONS
(ACTUAL DOLLARS)**

JULY 1, 1990

		AMOUNT <u> </u> %	AMOUNT <u> </u> \$
A. EMPLOYEE CONTRIBUTIONS		8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)			
1. Regular Municipal Contribution		12.00%	
2. Additional Municipal Contribution			
	<u>Established</u>	<u>Current Balance</u>	<u>Last Payment</u>
a.	Initial	95,991	12/31/2010 9,556
b.	7/1/88	2,860	12/31/2002 357
c.	7/1/89	125	12/31/2003 15
d.	7/1/90	(31,178)	12/31/2004 (3,604)
		-----	-----
e.	Total	\$67,798 =====	\$6,324 * =====

C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$6,324

* Contribution is assumed to be paid on December 31, 1990.

TABLE 3C

DULUTH POLICE CONSOLIDATION ACCOUNT
 ACTIVE MEMBERS AS OF JUNE 30, 1990

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34				1					1
35-39				13	1				14
40-44				7	10	12			29
45-49				1	1	14	6		22
50-54						4	5	2	11
55-59								5	5
60-64									0
65+									0
TOTAL	0	0	0	22	12	30	11	7	82

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34				40,702					40,702
35-39				40,082	40,639				40,122
40-44				38,600	43,048	40,373			40,867
45-49				36,716	39,755	39,327	39,043		39,150
50-54						39,208	45,000	50,603	43,913
55-59								44,122	44,122
60-64									0
65+									0
ALL	0	0	0	39,486	42,573	39,730	41,751	45,974	40,884

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	0	0	868,686	510,870	1,191,888	459,258	321,816	3,352,518

TABLE 4C

DULUTH POLICE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	1	5	1					7
55-59		4	3	1				8
60-64	1	6	4	3	3			17
65-69		2	5	1	5	1		14
70-74			3	4	1	7	4	19
75-79				4	3	4	3	14
80-84					1		1	2
85+							3	3
TOTAL	2	17	16	13	13	12	11	84

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	17,729	14,769	14,368					15,135
55-59		17,757	18,133	14,368				17,474
60-64	35,196	20,033	18,434	18,434	15,874			19,533
65-69		20,052	18,584	18,434	17,892	14,820		18,267
70-74			19,223	18,434	18,434	17,531	14,707	17,441
75-79				18,434	18,434	17,079	16,928	17,724
80-84					18,434		14,820	16,627
85+							15,723	15,723
ALL	26,463	17,951	18,318	18,121	17,635	17,154	15,600	17,779

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
52,925	305,171	293,093	235,578	229,252	205,849	171,601	1,493,469

DULUTH POLICE CONSOLIDATION ACCOUNT

DISABILITY RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	17,729							17,729
50-54	19,128	16,321						17,725
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	18,429	16,321	0	0	0	0	0	17,726

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS OF DISABILITY							
<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
36,857	16,321	0	0	0	0	0	53,178

TABLE 6C

DULUTH POLICE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

AGE	YEARS SINCE DEATH							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	3	2	1					6
50-54			1					1
55-59								0
60-64		1					1	2
65-69			1	2			1	4
70-74			2	1				3
75-79		1	1		1	2	2	7
80-84	1	1	1		2	1	2	8
85+		1	1	2	2		5	11
TOTAL	4	6	8	5	5	3	11	42

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50	16,235	8,691	3,615					11,617
50-54			9,036					9,036
55-59								0
60-64		9,036					9,036	9,036
65-69			9,036	9,037			9,036	9,036
70-74			9,037	9,036				9,036
75-79		9,036	9,036		9,036	8,700	8,864	8,891
80-84	8,358	9,036	9,036		9,037	9,036	9,037	8,952
85+		7,822	9,036	8,864	9,037		9,036	8,895
ALL	14,266	8,719	8,359	8,967	9,036	8,812	9,005	9,327

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	57,064	52,312	66,868	44,836	45,182	26,435	99,054	391,751

DULUTH POLICE CONSOLIDATION ACCOUNT

RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	88	1	1
B. Additions	0	0	0
C. Deletions:			
1. Service Retirement	(2)	0	0
2. Disability	(2)	0	0
3. Death	(2)	0	0
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	0
D. Data Adjustments	0	0	0
	Vested	82	
	Non-Vested	0	
E. Total on June 30, 1990	82	1	1

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	85	1	40
B. Additions	2	3	4
C. Deletions:			
1. Service Retirement		0	
2. Death	(3)	(1)	(2)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	84	3	42

DULUTH POLICE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (31.43% OF TABLE 1, F6)		\$27,250,534
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		2,826,682
2. Present Value of Regular Municipal Contributions		4,240,022
3. Present Value of Additional Municipal Contributions		10,009,330
4. Total Expected Future Assets		<u>\$17,076,034</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		<u>\$44,326,568</u>
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$20,849,936
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	4,073,698	
b. Employer-financed vested	10,970,187	
c. Employer-financed nonvested	0	
d. Total		15,043,885
3. Total Pension Benefit Obligation		<u>\$35,893,821</u>
E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		<u>\$8,432,747</u>
F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$44,326,568
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$8,643,287
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

DULUTH POLICE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>NUMBER OF PARTICIPANTS</u>	<u>ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS</u>	<u>ACTUARIAL ACCRUED LIABILITY</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	14	\$4,902,885	\$4,241,770
b. No Election (Greater Value)	68	18,573,747	12,361,450
	---	-----	-----
c. Total	82	\$23,476,632	\$16,603,220
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	2	505,279	505,279
	---	-----	-----
c. Total	2	\$505,279	\$505,279
3. Benefit Recipients			
a. Elected PERA Police and Fire	121	\$18,388,290 *	\$18,388,290 *
b. Elected Relief Association	8	1,956,367	1,956,367
	---	-----	-----
c. Total	129	\$20,344,657	\$20,344,657
4. Total			
a. Elected PERA Police and Fire	135	\$23,291,175	\$22,630,060
b. Elected Relief Association	8	1,956,367	1,956,367
c. No Election (Greater Value)	70	19,079,026	12,866,729
	---	-----	-----
d. Total	213	\$44,326,568	\$37,453,156
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$37,453,156
2. Current Assets (31.43% of Table 1,F6)			27,250,534

3. UAAL (B1-B2)			\$10,202,622
			=====
C. NORMAL COST			
			\$659,088

* Includes Minnesota Post Retirement Investment Fund reserves of \$16,971,620.

DULUTH POLICE CONSOLIDATION ACCOUNT
CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9C)	
1. Elected PERA Police and Fire	\$23,291,175
2. Elected Relief Association	1,956,367
3. No Election (Greater Value)	19,079,026

4. Total	\$44,326,568

B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$320,270
2. No Election (Greater Value)	2,506,412

3. Total	\$2,826,682

C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$480,404
2. No Election (Greater Value)	3,759,618

3. Total	\$4,240,022

D. CURRENT VALUE OF ASSETS (31.43% OF TABLE 1, F6)	\$27,250,534
E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$1,289,796 through the Amortization Date of December 31, 2010	\$12,956,162
2. 15 Year Amortization of Prior Years' Loss (Gain) (Table 11B, B.2.b + B.2.c)	(\$2,723,118)

3. Total	\$10,233,044

F. LOSS (GAIN) [A-B-C-D-E]	(\$223,714)
	=====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	(\$293,992)
2. Election of PERA Police and Fire Fund	(166,002)
3. Other	236,280

4. Total	(\$223,714)
	=====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	(\$25,863)

DULUTH POLICE CONSOLIDATION ACCOUNT
DETERMINATION OF STATUTORY CONTRIBUTIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>AMOUNT</u> <u>%</u>	<u>AMOUNT</u> <u>\$</u>
A. EMPLOYEE CONTRIBUTIONS	8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)		
1. Regular Municipal Contribution	12.00%	
2. Additional Municipal Contribution		
a. <u>Established</u> <u>Current</u> <u>Last</u>		
b. Initial	12,956,162	12/31/2010
c. 7/1/88	187,341	12/31/2002
d. 7/1/89	(2,910,459)	12/31/2003
e. 7/1/90	(223,714)	12/31/2004
e. Total	----- \$10,009,330 =====	----- 1,289,796 23,385 (348,826) (25,863) ----- \$938,492 * =====

C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$938,492

* Contribution is assumed to be paid on December 31, 1990.

TABLE 3D

HIBBING FIRE CONSOLIDATION ACCOUNT
ACTIVE MEMBERS AS OF JUNE 30, 1990

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>TOTAL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25									0
25-29									0
30-34				1					1
35-39				6	1				7
40-44				4	1				5
45-49					1	3			4
50-54						2			2
55-59					1				1
60-64								1	1
65+									0
TOTAL	0	0	0	11	4	5	0	1	21

AVERAGE ANNUAL EARNINGS

<u>AGE</u>	<u>YEARS OF SERVICE</u>								<u>ALL</u>
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	
<25									0
25-29									0
30-34				27,095					27,095
35-39				30,679	28,200				30,325
40-44				27,782	27,988				27,823
45-49					27,802	26,880			27,111
50-54						29,120			29,120
55-59					26,865				26,865
60-64								37,452	37,452
65+									0
ALL	0	0	0	29,300	27,714	27,776	0	37,452	29,023

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>TOTAL</u>
0	0	0	322,296	110,855	138,880	0	37,452	609,483

TABLE 4D

HIBBING FIRE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59		4						4
60-64		1	7					8
65-69			1	1				2
70-74				1				1
75-79								0
80-84								0
85+						1	1	2
TOTAL	0	5	8	2	0	1	1	17

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59		17,316						17,316
60-64		15,905	16,127					16,099
65-69			11,981	14,705				13,343
70-74				16,088				16,088
75-79								0
80-84								0
85+						7,046	6,341	6,694
ALL	0	17,034	15,608	15,397	0	7,046	6,341	14,954

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	85,169	124,867	30,793	0	7,046	6,341	254,216

TABLE 6D

HIBBING FIRE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59							3,121	3,121
60-64			5,824					5,824
65-69								0
70-74								0
75-79								0
80-84		3,121					3,121	3,121
85+			3,121		3,121	3,121	3,121	3,121
ALL	0	3,121	4,473	0	3,121	3,121	3,121	3,346

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH							
<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	3,121	8,945	0	3,121	6,242	18,727	40,156

HIBBING FIRE CONSOLIDATION ACCOUNT
RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	0	0	0
B. Additions	21	0	0
C. Deletions:			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated-Deferred	0	0	0
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0	0	0
7. Returned as Active	0	0	0
D. Data Adjustments	0	0	0
	Vested 21		
	Non-Vested 0		
E. Total on June 30, 1990	21	0	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	0	0	0
B. Additions	17	0	12
C. Deletions:			
1. Service Retirement	0	0	0
2. Death	0	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	0
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	17	0	12

HIBBING FIRE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (4.13% OF TABLE 1, F6)		\$3,580,805
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		607,593
2. Present Value of Regular Municipal Contributions		911,390
3. Present Value of Additional Municipal Contributions		1,631,595

4. Total Expected Future Assets		\$3,150,578

C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		\$6,731,383
		=====
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$3,129,311
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	765,391	
b. Employer-financed vested	1,354,983	
c. Employer-financed nonvested	0	
d. Total		2,120,374

3. Total Pension Benefit Obligation		\$5,249,685
E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$1,481,698

F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$6,731,383
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$1,668,880
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

HIBBING FIRE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>NUMBER OF PARTICIPANTS</u>	<u>ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS</u>	<u>ACTUARIAL ACCRUED LIABILITY</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	21	\$3,602,072	\$2,337,313
b. No Election (Greater Value)	0	0	0
	---	-----	-----
c. Total	21	\$3,602,072	\$2,337,313
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	0	0	0
	---	-----	-----
c. Total	0	\$0	\$0
3. Benefit Recipients			
a. Elected PERA Police and Fire	29	\$3,129,311 *	\$3,129,311 *
b. Elected Relief Association	0	0	0
	---	-----	-----
c. Total	29	\$3,129,311	\$3,129,311
4. Total			
a. Elected PERA Police and Fire	50	\$6,731,383	\$5,466,624
b. Elected Relief Association	0	0	0
c. No Election (Greater Value)	0	0	0
	---	-----	-----
d. Total	50	\$6,731,383	\$5,466,624
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$5,466,624
2. Current Assets (4.13% of Table 1,F6)			3,580,805

3. UAAL (B1-B2)			\$1,885,819
			=====
C. NORMAL COST			
			\$109,243

* Includes Minnesota Post Retirement Investment Fund reserves of \$3,005,735.

HIBBING FIRE CONSOLIDATION ACCOUNT
CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9D)	
1. Elected PERA Police and Fire	\$6,731,383
2. Elected Relief Association	0
3. No Election (Greater Value)	0

4. Total	\$6,731,383

B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$607,593
2. No Election (Greater Value)	0

3. Total	\$607,593

C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$911,390
2. No Election (Greater Value)	0

3. Total	\$911,390

D. CURRENT VALUE OF ASSETS (4.13% OF TABLE 1, F6)	\$3,580,805

E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$429,018 through the Amortization Date of December 31, 2010	\$4,309,539

2. Total	\$4,309,539

F. LOSS (GAIN) [A-B-C-D-E]	(\$2,677,944)
	=====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	\$1,098
2. Election of PERA Police and Fire Fund	(1,713,137)
3. Other	(965,905)

4. Total	(\$2,677,944)
	=====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	(\$309,590)

HIBBING FIRE CONSOLIDATION ACCOUNT
DETERMINATION OF STATUTORY CONTRIBUTIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>AMOUNT</u> <u>%</u>	<u>AMOUNT</u> <u>\$</u>
A. EMPLOYEE CONTRIBUTIONS	8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)		
1. Regular Municipal Contribution	12.00%	
2. Additional Municipal Contribution		
a. <u>Established</u> Initial	<u>Current</u> <u>Balance</u> 4,309,539	<u>Last</u> <u>Payment</u> 12/31/2010
b. 7/1/90	(2,677,944)	12/31/2004
c. Total	----- \$1,631,595 =====	----- (309,590) ----- \$119,428 * =====
C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$119,428		

* Contribution is assumed to be paid on December 31, 1990.

TABLE 3E

HIBBING POLICE CONSOLIDATION ACCOUNT

ACTIVE MEMBERS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34			26,595						26,595
35-39				25,328	25,815				25,450
40-44			22,010	25,081	26,437				24,652
45-49					26,615	29,494			28,774
50-54					26,185	26,910	26,717		26,499
55-59							30,177		30,177
60-64									0
65+									0
ALL	0	0	24,303	25,229	26,247	28,848	29,312	0	26,931

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
	0	0	48,605	126,146	131,236	115,391	117,249	0	538,627

TABLE 4E

HIBBING POLICE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59		18,795						18,795
60-64		19,413	22,690					21,052
65-69			16,722	15,673		1,498		12,392
70-74								0
75-79						1,498		1,498
80-84					14,325		16,537	15,431
85+								0
ALL	0	19,001	19,706	15,673	14,325	1,498	16,537	14,806

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	57,002	39,412	31,346	28,650	2,996	33,074	192,480

TABLE 6E

HIBBING POLICE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54		8,738						8,738
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+					3,121		3,121	3,121
ALL	0	8,738	0	0	3,121	0	3,121	4,525

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	0	8,738	0	0	6,242	0	3,121	18,101

HIBBING POLICE CONSOLIDATION ACCOUNT
RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	0	0	0
B. Additions	20	0	0
C. Deletions:			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	0
D. Data Adjustments	0	0	0
	Vested	19	
	Non-Vested	1	
E. Total on June 30, 1990	20	0	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	0	0	0
B. Additions	13	0	4
C. Deletions:			
1. Service Retirement		0	
2. Death	0	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	13	0	4

HIBBING POLICE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (2.81% OF TABLE 1, F6)		\$2,436,335
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		462,303
2. Present Value of Regular Municipal Contributions		693,455
3. Present Value of Additional Municipal Contributions		1,902,491
4. Total Expected Future Assets		<u>\$3,058,249</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		<u>\$5,494,584</u>
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$2,036,401
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	846,831	
b. Employer-financed vested	1,250,997	
c. Employer-financed nonvested	168,256	
d. Total		2,266,084
3. Total Pension Benefit Obligation		<u>\$4,302,485</u>
E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		<u>\$1,192,099</u>
F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$5,494,584
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$1,866,150
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

HIBBING POLICE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>NUMBER OF PARTICIPANTS</u>	<u>ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS</u>	<u>ACTUARIAL ACCRUED LIABILITY</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	18	\$2,980,714	\$2,029,775
b. No Election (Greater Value)	2	477,469	436,128
	---	-----	-----
c. Total	20	\$3,458,183	\$2,465,903
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	0	0	0
	---	-----	-----
c. Total	0	\$0	\$0
3. Benefit Recipients			
a. Elected PERA Police and Fire	17	\$2,036,401 *	\$2,036,401 *
b. Elected Relief Association	0	0	0
	---	-----	-----
c. Total	17	\$2,036,401	\$2,036,401
4. Total			
a. Elected PERA Police and Fire	35	\$5,017,115	\$4,066,176
b. Elected Relief Association	0	0	0
c. No Election (Greater Value)	2	477,469	436,128
	---	-----	-----
d. Total	37	\$5,494,584	\$4,502,304
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$4,502,304
2. Current Assets (2.81% of Table 1,F6)			2,436,335

3. UAAL (B1-B2)			\$2,065,969
			=====
C. NORMAL COST			
			\$100,700

* Includes Minnesota Post Retirement Investment Fund reserves of \$1,898,418.

HIBBING POLICE CONSOLIDATION ACCOUNT
CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9E)	
1. Elected PERA Police and Fire	\$5,017,115
2. Elected Relief Association	0
3. No Election (Greater Value)	477,469

4. Total	\$5,494,584

B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$447,910
2. No Election (Greater Value)	14,393

3. Total	\$462,303

C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$671,865
2. No Election (Greater Value)	21,590

3. Total	\$693,455

D. CURRENT VALUE OF ASSETS (2.81% OF TABLE 1, F6)	\$2,436,335

E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$326,333 through the Amortization Date of December 31, 2010	\$3,278,056

2. Total	\$3,278,056

F. LOSS (GAIN) [A-B-C-D-E]	(\$1,375,565)
	=====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	\$56,512
2. Election of PERA Police and Fire Fund	(1,263,001)
3. Other	(169,076)

4. Total	(\$1,375,565)
	=====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	(\$159,025)

HIBBING POLICE CONSOLIDATION ACCOUNT
DETERMINATION OF STATUTORY CONTRIBUTIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>AMOUNT</u> <u>%</u>	<u>AMOUNT</u> <u>\$</u>
A. EMPLOYEE CONTRIBUTIONS	8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)		
1. Regular Municipal Contribution	12.00%	
2. Additional Municipal Contribution		
a. <u>Established</u> Initial	<u>Current</u> <u>Balance</u> 3,278,056	<u>Last</u> <u>Payment</u> 12/31/2010
b. 7/1/90	(1,375,565)	12/31/2004
c. Total	<u>\$1,902,491</u>	<u>326,333</u> <u>(159,025)</u> <u>\$167,308 *</u>
C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$167,308		

* Contribution is assumed to be paid on December 31, 1990.

TABLE 3F

RED WING FIRE CONSOLIDATION ACCOUNT

ACTIVE MEMBERS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39									0
40-44									0
45-49					43,823				43,823
50-54					43,504	43,755		36,905	42,446
55-59						42,971	32,730	50,467	44,159
60-64									0
65+									0
ALL	0	0	0	0	43,641	43,363	32,730	45,946	43,291

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	0	0	0	305,487	86,726	32,730	137,839	562,782

TABLE 4F

RED WING FIRE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59		13,423	13,317					13,402
60-64			11,480					11,480
65-69				13,666	10,414			12,040
70-74				13,235				13,235
75-79								0
80-84								0
85+								0
ALL	0	13,423	12,399	13,451	10,414	0	0	12,867

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	53,693	24,797	26,901	10,414	0	0	115,805

TABLE 6F

RED WING FIRE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50			2,104					2,104
50-54								0
55-59								0
60-64				8,843				8,843
65-69		7,192						7,192
70-74								0
75-79								0
80-84							4,583	4,583
85+						4,398		4,398
ALL	0	7,192	2,104	8,843	0	4,398	4,583	4,475

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	7,192	6,311	8,843	0	4,398	4,583	31,327

RED WING FIRE CONSOLIDATION ACCOUNT

RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	0	0	0
B. Additions	14	0	0
C. Deletions:			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	0
D. Data Adjustments	(1)	0	0
	Vested	11	
	Non-Vested	2	
E. Total on June 30, 1990	13	0	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	0	0	0
B. Additions	10	0	7
C. Deletions:			
1. Service Retirement		0	
2. Death	(1)	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	9	0	7

RED WING FIRE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (5.02% OF TABLE 1, F6)		\$4,352,456
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		305,590
2. Present Value of Regular Municipal Contributions		458,384
3. Present Value of Additional Municipal Contributions		985,811

4. Total Expected Future Assets		\$1,749,785

C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		\$6,102,241
		=====
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$2,282,202
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	673,698	
b. Employer-financed vested	1,827,555	
c. Employer-financed nonvested	443,084	
d. Total		2,944,337

3. Total Pension Benefit Obligation		\$5,226,539

E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$875,702

F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$6,102,241
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$874,083
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

TABLE 9F

RED WING FIRE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>NUMBER OF PARTICIPANTS</u>	<u>ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS</u>	<u>ACTUARIAL ACCRUED LIABILITY</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	11	\$3,160,749	\$2,617,979
b. No Election (Greater Value)	2	659,290	491,405
	---	-----	-----
c. Total	13	\$3,820,039	\$3,109,384
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	0	0	0
	---	-----	-----
c. Total	0	\$0	\$0
3. Benefit Recipients			
a. Elected PERA Police and Fire	1	\$212,016 *	\$212,016 *
b. Elected Relief Association	15	2,070,186	2,070,186
	---	-----	-----
c. Total	16	\$2,282,202	\$2,282,202
4. Total			
a. Elected PERA Police and Fire	12	\$3,372,765	\$2,829,995
b. Elected Relief Association	15	2,070,186	2,070,186
c. No Election (Greater Value)	2	659,290	491,405
	---	-----	-----
d. Total	29	\$6,102,241	\$5,391,586
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$5,391,586
2. Current Assets (5.02% of Table 1,F6)			4,352,456

3. UAAL (B1-B2)			\$1,039,130
			=====
C. NORMAL COST			
			\$111,224

* Includes Minnesota Post Retirement Investment Fund reserves of \$212,016.

RED WING FIRE CONSOLIDATION ACCOUNT
CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9F)	
1. Elected PERA Police and Fire	\$3,372,765
2. Elected Relief Association	2,070,186
3. No Election (Greater Value)	659,290

4. Total	\$6,102,241

B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$245,315
2. No Election (Greater Value)	60,275

3. Total	\$305,590

C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$367,972
2. No Election (Greater Value)	90,412

3. Total	\$458,384

D. CURRENT VALUE OF ASSETS (5.02% OF TABLE 1, F6)	\$4,352,456
E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$140,194 through the Amortization Date of December 31, 2010	\$1,408,266

2. Total	\$1,408,266

F. LOSS (GAIN) [A-B-C-D-E]	(\$422,455)
	=====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	\$12,650
2. Election of PERA Police and Fire Fund	(1,156,259)
3. Other	721,154

4. Total	(\$422,455)
	=====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	(\$48,839)

RED WING FIRE CONSOLIDATION ACCOUNT
DETERMINATION OF STATUTORY CONTRIBUTIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>AMOUNT</u> <u>%</u>	<u>AMOUNT</u> <u>\$</u>
A. EMPLOYEE CONTRIBUTIONS	8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)		
1. Regular Municipal Contribution	12.00%	
2. Additional Municipal Contribution		
a. <u>Established</u> Initial	<u>Current</u> <u>Balance</u> 1,408,266	<u>Last</u> <u>Payment</u> 12/31/2010
b. 7/1/90	(422,455)	12/31/2004
c. Total	----- \$985,811 =====	----- 140,194 ----- (48,839) ----- \$91,355 * =====
C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$91,355		

* Contribution is assumed to be paid on December 31, 1990.

TABLE 3G

RED WING POLICE CONSOLIDATION ACCOUNT

ACTIVE MEMBERS AS OF JUNE 30, 1990

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39									0
40-44				1	2				3
45-49					2	3			5
50-54									0
55-59									0
60-64									0
65+									0
TOTAL	0	0	0	1	4	3	0	0	8

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39									0
40-44				39,019	43,385				41,930
45-49					25,552	47,316			38,610
50-54									0
55-59									0
60-64									0
65+									0
ALL	0	0	0	39,019	34,469	47,316	0	0	39,855

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	0	0	39,019	137,874	141,947	0	0	318,840

TABLE 4G

RED WING POLICE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54		20,557	14,873					17,715
55-59		16,796	17,127					16,906
60-64				14,982				14,982
65-69						4,128		2,064
70-74								0
75-79						3,378	3,438	3,408
80-84								0
85+								0
ALL	0	18,049	16,000	14,982	0	3,753	3,438	11,551

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	54,148	32,000	29,964	0	7,506	3,438	127,056

TABLE 5G

RED WING POLICE CONSOLIDATION ACCOUNT

DISABILITY RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50			14,067	14,827				14,447
50-54								0
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	0	0	14,067	14,827	0	0	0	14,447

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	0	14,067	14,827	0	0	0	28,894

TABLE 6G

RED WING POLICE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54		14,564						14,564
55-59			18,785		4,936			11,861
60-64								0
65-69								0
70-74					2,388			2,388
75-79								0
80-84								0
85+							2,388	2,388
ALL	0	14,564	18,785	0	3,662	0	2,388	8,612

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	14,564	18,785	0	7,324	0	2,388	43,061

RED WING POLICE CONSOLIDATION ACCOUNT

RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	0	0	0
B. Additions	8	0	0
C. Deletions:			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	0
D. Data Adjustments	0	0	0
	Vested	3	
	Non-Vested	5	
E. Total on June 30, 1990	8	0	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	0	0	0
B. Additions	11	2	5
C. Deletions:			
1. Service Retirement		0	
2. Death	0	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	11	2	5

RED WING POLICE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (5.93% OF TABLE 1, F6)		\$5,141,447
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		171,592
2. Present Value of Regular Municipal Contributions		257,388
3. Present Value of Additional Municipal Contributions		2,781,697

4. Total Expected Future Assets		\$3,210,677

C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		\$8,352,124
		=====
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$4,603,450
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	373,618	
b. Employer-financed vested	1,101,210	
c. Employer-financed nonvested	1,304,003	
d. Total		2,778,831

3. Total Pension Benefit Obligation		\$7,382,281

E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$969,843

F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$8,352,124
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$2,240,834
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

RED WING POLICE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	NUMBER OF PARTICIPANTS	ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS	ACTUARIAL ACCRUED LIABILITY
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	8	3,748,674	3,008,182
	---	-----	-----
c. Total	8	\$3,748,674	\$3,008,182
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	0	0	0
	---	-----	-----
c. Total	0	\$0	\$0
3. Benefit Recipients			
a. Elected PERA Police and Fire	5	\$191,588 *	\$191,588 *
b. Elected Relief Association	13	4,411,862	4,411,862
	---	-----	-----
c. Total	18	\$4,603,450	\$4,603,450
4. Total			
a. Elected PERA Police and Fire	5	\$191,588	\$191,588
b. Elected Relief Association	13	4,411,862	4,411,862
c. No Election (Greater Value)	8	3,748,674	3,008,182
	---	-----	-----
d. Total	26	\$8,352,124	\$7,611,632
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$7,611,632
2. Current Assets (5.93% of Table 1,F6)			5,141,447

3. UAAL (B1-B2)			\$2,470,185
			=====
C. NORMAL COST			
			\$118,420

* Includes Minnesota Post Retirement Investment Fund reserves of \$102,678.

RED WING POLICE CONSOLIDATION ACCOUNT
 CALCULATION OF NET ACTUARIAL LOSS (GAIN)
 (ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9G)	
1. Elected PERA Police and Fire	\$191,588
2. Elected Relief Association	4,411,862
3. No Election (Greater Value)	3,748,674

4. Total	\$8,352,124

B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$0
2. No Election (Greater Value)	171,592

3. Total	\$171,592

C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$0
2. No Election (Greater Value)	257,388

3. Total	\$257,388

D. CURRENT VALUE OF ASSETS (5.93% OF TABLE 1, F6)	\$5,141,447
E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$193,055 through the Amortization Date of December 31, 2010	\$1,939,262

2. Total	\$1,939,262

F. LOSS (GAIN) [A-B-C-D-E]	\$842,435
	=====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	(\$23,049)
2. Election of PERA Police and Fire Fund	(7,160)
3. Other	872,644

4. Total	\$842,435
	=====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	\$97,392

RED WING POLICE CONSOLIDATION ACCOUNT
 DETERMINATION OF STATUTORY CONTRIBUTIONS
 (ACTUAL DOLLARS)

JULY 1, 1990

		<u>AMOUNT</u> %	<u>AMOUNT</u> \$
A. EMPLOYEE CONTRIBUTIONS		8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)			
1. Regular Municipal Contribution		12.00%	
2. Additional Municipal Contribution			
	<u>Established</u>	<u>Current</u>	<u>Last</u>
	<u>Initial</u>	<u>Balance</u>	<u>Payment</u>
a.		1,939,262	12/31/2010
			193,055
b.	7/1/89	842,435	12/31/2004
		-----	97,392
c.	Total	\$2,781,697	\$290,447 *
		=====	=====
C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$290,447			

* Contribution is assumed to be paid on December 31, 1990.

TABLE 3H

ROCHESTER POLICE CONSOLIDATION ACCOUNT

ACTIVE MEMBERS AS OF JUNE 30, 1990

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34				5					5
35-39				15	1				16
40-44				5	3	3			11
45-49					1	15	3		19
50-54						3	4	1	8
55-59						1	2		3
60-64									0
65+									0
TOTAL	0	0	0	25	5	22	9	1	62

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34				33,588					33,588
35-39				32,740	31,905				32,688
40-44				32,080	32,980	34,703			33,041
45-49					33,063	34,174	34,659		34,192
50-54						34,870	34,550	32,291	34,388
55-59						33,025	30,677		31,460
60-64									0
65+									0
ALL	0	0	0	32,777	32,781	34,289	33,726	32,291	33,444

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	0	0	819,436	163,907	754,353	303,530	32,291	2,073,517

TABLE 4H

ROCHESTER POLICE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	1	1						2
55-59		3	2					5
60-64		7	3	6				16
65-69		3		3	2			8
70-74		1		3	2	1		7
75-79				1	2			3
80-84						1	2	3
85+							1	1
TOTAL	1	15	5	13	6	2	3	45

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	17,944	18,028						17,986
55-59		18,648	18,221					18,477
60-64		19,710	16,751	18,640				18,754
65-69		20,632		17,742	15,576			18,284
70-74		21,700		18,839	17,677	18,756		18,904
75-79				18,756	18,798			18,784
80-84						18,756	17,454	17,888
85+							18,839	18,839
ALL	17,944	19,703	17,339	18,488	17,350	18,756	17,916	18,575

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT							
<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
17,944	295,539	86,694	240,342	104,100	37,512	53,747	835,878

ROCHESTER POLICE CONSOLIDATION ACCOUNT

DISABILITY RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50					10,474			10,474
50-54		16,490						16,490
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	0	16,490	0	0	10,474	0	0	14,986

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	49,470	0	0	10,474	0	0	59,944

TABLE 6H

ROCHESTER POLICE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54		8,056						8,056
55-59				8,038				8,038
60-64		8,675						8,675
65-69				8,038				8,038
70-74			8,074			8,038		8,056
75-79								0
80-84		8,056	7,726					7,946
85+					8,038		8,074	8,056
ALL	0	8,321	7,900	8,038	8,038	8,038	8,074	8,162

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	58,248	15,800	16,076	8,038	8,038	8,074	114,274

ROCHESTER POLICE CONSOLIDATION ACCOUNT

RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	0	0	0
B. Additions	62	2	0
C. Deletions:			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	0
D. Data Adjustments	0	0	0
	Vested	61	
	Non-Vested	1	
E. Total on June 30, 1990	62	2	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	0	0	0
B. Additions	45	4	16
C. Deletions:			
1. Service Retirement		0	
2. Death	0	0	(2)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	45	4	14

ROCHESTER POLICE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (19.12% OF TABLE 1, F6)		\$16,577,481
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		2,083,070
2. Present Value of Regular Municipal Contributions		3,124,607
3. Present Value of Additional Municipal Contributions		5,548,099
4. Total Expected Future Assets		<u>\$10,755,776</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		<u>\$27,333,257</u>
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$13,627,946
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	2,640,539	
b. Employer-financed vested	5,454,100	
c. Employer-financed nonvested	277,637	
d. Total		8,372,276
3. Total Pension Benefit Obligation		<u>\$22,000,222</u>
E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		<u>\$5,333,035</u>
F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$27,333,257
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$5,422,741
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

ROCHESTER POLICE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	NUMBER OF PARTICIPANTS	ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS	ACTUARIAL ACCRUED LIABILITY
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	33	\$6,602,966	\$4,180,089
b. No Election (Greater Value)	29	7,102,345	5,216,184
	---	-----	-----
c. Total	62	\$13,705,311	\$9,396,273
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	2	284,338	284,338
	---	-----	-----
c. Total	2	\$284,338	\$284,338
3. Benefit Recipients			
a. Elected PERA Police and Fire	31	\$5,691,328 *	\$5,691,328 *
b. Elected Relief Association	32	7,652,280	7,652,280
	---	-----	-----
c. Total	63	\$13,343,608	\$13,343,608
4. Total			
a. Elected PERA Police and Fire	64	\$12,294,294	\$9,871,417
b. Elected Relief Association	32	7,652,280	7,652,280
c. No Election (Greater Value)	31	7,386,683	5,500,522
	---	-----	-----
d. Total	127	\$27,333,257	\$23,024,219
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$23,024,219
2. Current Assets (19.12% of Table 1,F6)			16,577,481

3. UAAL (B1-B2)			\$6,446,738
			=====
C. NORMAL COST			
			\$371,005

* Includes Minnesota Post Retirement Investment Fund reserves of \$5,202,573.

ROCHESTER POLICE CONSOLIDATION ACCOUNT
CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9H)	
1. Elected PERA Police and Fire	\$12,294,294
2. Elected Relief Association	7,652,280
3. No Election (Greater Value)	7,386,683

4. Total	\$27,333,257

B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$1,223,452
2. No Election (Greater Value)	859,618

3. Total	\$2,083,070

C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$1,835,179
2. No Election (Greater Value)	1,289,428

3. Total	\$3,124,607

D. CURRENT VALUE OF ASSETS (19.12% OF TABLE 1, F6)	\$16,577,481

E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$885,157 through the Amortization Date of December 31, 2010	\$8,891,512

2. Total	\$8,891,512

F. LOSS (GAIN) [A-B-C-D-E]	(\$3,343,413)
	=====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	\$25,401
2. Election of PERA Police and Fire Fund	(\$1,771,212)
3. Other	(1,597,602)

4. Total	(\$3,343,413)
	=====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	(\$386,523)

ROCHESTER POLICE CONSOLIDATION ACCOUNT
 DETERMINATION OF STATUTORY CONTRIBUTIONS
 (ACTUAL DOLLARS)

JULY 1, 1990

		<u>AMOUNT</u> <u>%</u>	<u>AMOUNT</u> <u>\$</u>
A. EMPLOYEE CONTRIBUTIONS		8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)			
1. Regular Municipal Contribution		12.00%	
2. Additional Municipal Contribution			
a. <u>Established</u> Initial	<u>Current</u> <u>Balance</u> 8,891,512	<u>Last</u> <u>Payment</u> 12/31/2010	885,157
b. 7/1/90	(3,343,413)	12/31/2004	(386,523)
c. Total	----- \$5,548,099 =====		----- \$498,634 * =====
C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$498,634			

* Contribution is assumed to be paid on December 31, 1990.

TABLE 31

**ST. CLOUD FIRE CONSOLIDATION ACCOUNT
ACTIVE MEMBERS AS OF JUNE 30, 1990**

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39									0
40-44					4	2			6
45-49					4	4			8
50-54						2	2	2	6
55-59							2		2
60-64								1	1
65+									0
TOTAL	0	0	0	0	8	8	4	3	23

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39									0
40-44					30,618	30,895			30,710
45-49					30,196	30,677			30,436
50-54						30,867	34,837	35,810	33,838
55-59							34,794		34,794
60-64								33,620	33,620
65+									0
ALL	0	0	0	0	30,407	30,779	34,815	35,080	31,912

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	0	0	0	243,257	246,228	139,261	105,239	733,985

TABLE 41

ST. CLOUD FIRE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

AGE	YEARS RETIRED							TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	1							1
55-59		2	2					4
60-64		1	2	1	1			5
65-69	1	1	2	1	3	1		9
70-74					1	1		2
75-79								0
80-84								0
85+							1	1
TOTAL	2	4	6	2	5	2	1	22

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54	17,740							17,740
55-59		17,090	16,636					16,863
60-64		18,148	18,148	15,988	16,852			17,457
65-69	30,971	18,148	18,148	16,852	16,852	15,556		18,709
70-74					18,148	16,852		17,500
75-79								0
80-84								0
85+							13,827	13,827
ALL	24,356	17,619	17,644	16,420	17,111	16,204	13,827	17,713

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT							
<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
48,711	70,475	105,864	32,840	85,556	32,408	13,827	389,681

TABLE 61

ST. CLOUD FIRE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		10,370						10,370
50-54								0
55-59				10,370				10,370
60-64		10,370				10,370		10,370
65-69								0
70-74								0
75-79						10,370		10,370
80-84							10,370	10,370
85+		9,968				10,370	10,370	10,236
ALL	0	10,290	0	10,370	0	10,370	10,370	10,334

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	51,449	0	10,370	0	31,110	20,740	113,669

ST. CLOUD FIRE CONSOLIDATION ACCOUNT
RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	0	0	0
B. Additions	23	0	0
C. Deletions:			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated-Deferred	0	0	0
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0	0	0
7. Returned as Active	0	0	0
D. Data Adjustments	0	0	0
	Vested	18	
	Non-Vested	5	
E. Total on June 30, 1990	23	0	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	0	0	0
B. Additions	22	0	11
C. Deletions:			
1. Service Retirement		0	
2. Death	0	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	22	0	11

ST. CLOUD FIRE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (7.39% OF TABLE 1, F6)		\$6,407,300
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		550,667
2. Present Value of Regular Municipal Contributions		826,000
3. Present Value of Additional Municipal Contributions		4,339,280

4. Total Expected Future Assets		\$5,715,947

C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		\$12,123,247
		=====
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$6,221,289
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	1,195,916	
b. Employer-financed vested	2,288,955	
c. Employer-financed nonvested	750,955	
d. Total		4,235,826

3. Total Pension Benefit Obligation		\$10,457,115
E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$1,666,132

F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$12,123,247
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$4,049,815
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

TABLE 9I

ST. CLOUD FIRE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>NUMBER OF PARTICIPANTS</u>	<u>ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS</u>	<u>ACTUARIAL ACCRUED LIABILITY</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	10	\$2,515,103	\$2,103,437
b. No Election (Greater Value)	13	3,386,855	2,490,592
	---	-----	-----
c. Total	23	\$5,901,958	\$4,594,029
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	0	0	0
	---	-----	-----
c. Total	0	\$0	\$0
3. Benefit Recipients			
a. Elected PERA Police and Fire	30	\$5,427,590 *	\$5,427,590 *
b. Elected Relief Association	3	793,699	793,699
	---	-----	-----
c. Total	33	\$6,221,289	\$6,221,289
4. Total			
a. Elected PERA Police and Fire	40	\$7,942,693	\$7,531,027
b. Elected Relief Association	3	793,699	793,699
c. No Election (Greater Value)	13	3,386,855	2,490,592
	---	-----	-----
d. Total	56	\$12,123,247	\$10,815,318
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$10,815,318
2. Current Assets (7.39% of Table 1,F6)			6,407,300

3. UAAL (B1-B2)			\$4,408,018
			=====
C. NORMAL COST			
			\$147,090

* Includes Minnesota Post Retirement Investment Fund reserves of \$4,871,200.

ST. CLOUD FIRE CONSOLIDATION ACCOUNT
CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9I)	
1. Elected PERA Police and Fire	\$7,942,693
2. Elected Relief Association	793,699
3. No Election (Greater Value)	3,386,855

4. Total	\$12,123,247

B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$207,089
2. No Election (Greater Value)	343,578

3. Total	\$550,667

C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$310,633
2. No Election (Greater Value)	515,367

3. Total	\$826,000

D. CURRENT VALUE OF ASSETS (7.39% OF TABLE 1, F6)	\$6,407,300

E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$635,640 through the Amortization Date of December 31, 2010	\$6,385,083

2. Total	\$6,385,083

F. LOSS (GAIN) [A-B-C-D-E]	(\$2,045,803)
	=====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	\$173,413
2. Election of PERA Police and Fire Fund	(2,358,732)
3. Other	139,516

4. Total	(\$2,045,803)
	=====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	(\$236,510)

ST. CLOUD FIRE CONSOLIDATION ACCOUNT
 DETERMINATION OF STATUTORY CONTRIBUTIONS
 (ACTUAL DOLLARS)

JULY 1, 1990

	<u>AMOUNT</u> %	<u>AMOUNT</u> \$
A. EMPLOYEE CONTRIBUTIONS	8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)		
1. Regular Municipal Contribution	12.00%	
2. Additional Municipal Contribution		
a. <u>Established</u> Initial	<u>Current</u> Balance 6,385,083	<u>Last</u> Payment 12/31/2010
b. 7/1/90	(2,045,803)	12/31/2004
c. Total	----- \$4,339,280 =====	----- (236,510) ----- \$399,130 * =====
C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$399,130		

* Contribution is assumed to be paid on December 31, 1990.

ST. LOUIS PARK FIRE CONSOLIDATION ACCOUNT
ACTIVE MEMBERS AS OF JUNE 30, 1990

<u>AGE</u>	<u>YEARS OF SERVICE</u>							<u>TOTAL</u>	
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>		<u>30+</u>
<25									0
25-29									0
30-34				1					1
35-39				3					3
40-44				4	3				7
45-49			1			1			2
50-54					1	2			3
55-59						2			2
60-64									0
65+									0
TOTAL	0	0	1	8	4	5	0	0	18

AVERAGE ANNUAL EARNINGS

<u>AGE</u>	<u>YEARS OF SERVICE</u>							<u>ALL</u>	
	<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>		<u>30+</u>
<25									0
25-29									0
30-34				35,929					35,929
35-39				36,757					36,757
40-44				37,259	37,865				37,518
45-49			38,534			35,789			37,162
50-54					37,844	38,910			38,554
55-59						38,529			38,529
60-64									0
65+									0
ALL	0	0	38,534	36,904	37,860	38,133	0	0	37,549

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<u><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30+</u>	<u>TOTAL</u>
0	0	38,534	295,235	151,439	190,665	0	0	675,873

TABLE 4J

ST. LOUIS PARK FIRE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59					17,420			17,420
60-64		20,935		20,653				20,794
65-69		22,592		24,527	22,793			23,304
70-74					18,841			18,841
75-79				20,904				20,904
80-84						21,740		21,740
85+								0
ALL	0	21,487	0	21,684	19,685	21,740	0	21,090

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	64,462	0	86,737	59,054	21,740	0	231,993

ST. LOUIS PARK FIRE CONSOLIDATION ACCOUNT

DISABILITY RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		18,117			18,117			18,117
50-54								0
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	0	18,117	0	0	18,117	0	0	18,117

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	18,117	0	0	18,117	0	0	36,234

TABLE 6J

ST. LOUIS PARK FIRE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54		14,493			14,493			14,493
55-59								0
60-64		16,166						16,166
65-69		14,493		14,493				14,493
70-74				14,499				14,499
75-79								0
80-84						14,493		14,493
85+								0
ALL	0	15,329	0	14,496	14,493	14,493	0	14,912

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	61,317	0	28,992	14,493	14,493	0	119,295

ST. LOUIS PARK FIRE CONSOLIDATION ACCOUNT

RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	0	0	0
B. Additions	18	0	0
C. Deletions:			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated-Deferred	0	0	0
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0	0	0
7. Returned as Active	0	0	0
D. Data Adjustments	0	0	0
	Vested	18	
	Non-Vested	0	
E. Total on June 30, 1990	18	0	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	0	0	0
B. Additions	11	2	8
C. Deletions:			
1. Service Retirement		0	
2. Death	0	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	11	2	8

ST. LOUIS PARK FIRE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (7.68% OF TABLE 1, F6)		\$6,658,737
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		665,874
2. Present Value of Regular Municipal Contributions		998,811
3. Present Value of Additional Municipal Contributions		2,834,952

4. Total Expected Future Assets		\$4,499,637

C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		\$11,158,374
		=====
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$6,221,737
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	805,534	
b. Employer-financed vested	1,967,068	
c. Employer-financed nonvested	0	
d. Total		2,772,602

3. Total Pension Benefit Obligation		\$8,994,339
E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$2,164,035

F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$11,158,374
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$2,335,602
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

ST. LOUIS PARK FIRE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	NUMBER OF PARTICIPANTS	ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS	ACTUARIAL ACCRUED LIABILITY
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	2	\$504,397	\$411,107
b. No Election (Greater Value)	16	4,432,240	2,738,066
	---	-----	-----
c. Total	18	\$4,936,637	\$3,149,173
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	0	0	0
	---	-----	-----
c. Total	0	\$0	\$0
3. Benefit Recipients			
a. Elected PERA Police and Fire	3	\$752,218 *	\$752,218 *
b. Elected Relief Association	18	5,469,519	5,469,519
	---	-----	-----
c. Total	21	\$6,221,737	\$6,221,737
4. Total			
a. Elected PERA Police and Fire	5	\$1,256,615	\$1,163,325
b. Elected Relief Association	18	5,469,519	5,469,519
c. No Election (Greater Value)	16	4,432,240	2,738,066
	---	-----	-----
d. Total	39	\$11,158,374	\$9,370,910
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$9,370,910
2. Current Assets (7.68% of Table 1,F6)			6,658,737

3. UAAL (B1-B2)			\$2,712,173
			=====
C. NORMAL COST			
			\$149,931

* Includes Minnesota Post Retirement Investment Fund reserves of \$752,218.

ST. LOUIS PARK FIRE CONSOLIDATION ACCOUNT
CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9J)	
1. Elected PERA Police and Fire	\$1,256,615
2. Elected Relief Association	5,469,519
3. No Election (Greater Value)	4,432,240

4. Total	\$11,158,374

B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$41,156
2. No Election (Greater Value)	624,718

3. Total	\$665,874

C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$61,734
2. No Election (Greater Value)	937,077

3. Total	\$998,811

D. CURRENT VALUE OF ASSETS (7.68% OF TABLE 1, F6)	\$6,658,737

E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$325,922 through the Amortization Date of December 31, 2010	\$3,273,927

2. Total	\$3,273,927

F. LOSS (GAIN) [A-B-C-D-E]	(\$438,975)
	=====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	\$69,079
2. Election of PERA Police and Fire Fund	(379,848)
3. Other	(128,206)

4. Total	(\$438,975)
	=====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	(\$50,749)

ST. LOUIS PARK FIRE CONSOLIDATION ACCOUNT
 DETERMINATION OF STATUTORY CONTRIBUTIONS
 (ACTUAL DOLLARS)

JULY 1, 1990

		<u>AMOUNT</u> %	<u>AMOUNT</u> \$
A. EMPLOYEE CONTRIBUTIONS		8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)			
1. Regular Municipal Contribution		12.00%	
2. Additional Municipal Contribution			
a. <u>Established</u> Initial	<u>Current</u> <u>Balance</u> 3,273,927	<u>Last</u> <u>Payment</u> 12/31/2010	325,922
b. 7/1/90	(438,975)	12/31/2004	(50,749)
c. Total	----- \$2,834,952 =====		----- \$275,173 * =====
C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$275,173			

* Contribution is assumed to be paid on December 31, 1990.

TABLE 3K

WEST ST. PAUL FIRE CONSOLIDATION ACCOUNT

ACTIVE MEMBERS AS OF JUNE 30, 1990

AGE	YEARS OF SERVICE								TOTAL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39				1					1
40-44				1	2				3
45-49				1	1	3	1		6
50-54						2			2
55-59									0
60-64									0
65+									0
TOTAL	0	0	0	3	3	5	1	0	12

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34									0
35-39				36,873					36,873
40-44				36,390	39,539				38,489
45-49				42,269	41,269	39,299	52,865		42,383
50-54						41,270			41,270
55-59									0
60-64									0
65+									0
ALL	0	0	0	38,511	40,116	40,087	52,865	0	40,765

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	0	0	115,532	120,347	200,437	52,865	0	489,181

WEST ST. PAUL FIRE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59	25,045							25,045
60-64			18,193					18,193
65-69			17,284	15,282				16,616
70-74				15,282				15,282
75-79								0
80-84								0
85+								0
ALL	25,045	0	17,587	15,282	0	0	0	18,062

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	25,045	0	52,760	30,564	0	0	0	108,369

WEST ST. PAUL FIRE CONSOLIDATION ACCOUNT

DISABILITY RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		13,613						13,613
50-54		14,084						14,084
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	0	13,927	0	0	0	0	0	13,927

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	41,781	0	0	0	0	0	41,781

WEST ST. PAUL FIRE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59					10,210			10,210
60-64								0
65-69			10,916					10,916
70-74								0
75-79								0
80-84								0
85+								0
ALL	0	0	10,916	0	10,210	0	0	10,740

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	0	32,748	0	10,210	0	0	42,958

WEST ST. PAUL FIRE CONSOLIDATION ACCOUNT
RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	13	0	0
B. Additions	0	0	0
C. Deletions:			
1. Service Retirement	(1)	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	0
D. Data Adjustments	0	0	0
	Vested	12	
	Non-Vested	0	
E. Total on June 30, 1990	12	0	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	5	3	4
B. Additions	1	0	0
C. Deletions:			
1. Service Retirement		0	
2. Death	0	0	0
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	6	3	4

WEST ST. PAUL FIRE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (5.23% OF TABLE 1, F6)		\$4,534,531
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		444,726
2. Present Value of Regular Municipal Contributions		667,089
3. Present Value of Additional Municipal Contributions		369,195
4. Total Expected Future Assets		<u>\$1,481,010</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		<u>\$6,015,541</u>
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$2,886,911
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	579,831	
b. Employer-financed vested	1,342,510	
c. Employer-financed nonvested	0	
d. Total		1,922,341
3. Total Pension Benefit Obligation		<u>\$4,809,252</u>
E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		<u>\$1,206,289</u>
F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$6,015,541
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$274,721
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

WEST ST. PAUL FIRE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	NUMBER OF PARTICIPANTS	ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS	ACTUARIAL ACCRUED LIABILITY
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	10	\$2,639,182	\$1,872,106
b. No Election (Greater Value)	2	489,448	281,063
	---	-----	-----
c. Total	12	\$3,128,630	\$2,153,169
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	0	0	0
	---	-----	-----
c. Total	0	\$0	\$0
3. Benefit Recipients			
a. Elected PERA Police and Fire	8	\$1,459,040 *	\$1,459,040 *
b. Elected Relief Association	5	1,427,871	1,427,871
	---	-----	-----
c. Total	13	\$2,886,911	\$2,886,911
4. Total			
a. Elected PERA Police and Fire	18	\$4,098,222	\$3,331,146
b. Elected Relief Association	5	1,427,871	1,427,871
c. No Election (Greater Value)	2	489,448	281,063
	---	-----	-----
d. Total	25	\$6,015,541	\$5,040,080
	===	=====	=====
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$5,040,080
2. Current Assets (5.23% of Table 1,F6)			4,534,531

3. UAAL (B1-B2)			\$505,549
			=====
C. NORMAL COST			
			\$90,952

* Includes Minnesota Post Retirement Investment Fund reserves of \$1,242,258.

WEST ST. PAUL FIRE CONSOLIDATION ACCOUNT

CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9K)	
1. Elected PERA Police and Fire	\$4,098,222
2. Elected Relief Association	1,427,871
3. No Election (Greater Value)	489,448
4. Total	<u>\$6,015,541</u>
B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$378,908
2. No Election (Greater Value)	65,818
3. Total	<u>\$444,726</u>
C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$568,362
2. No Election (Greater Value)	98,727
3. Total	<u>\$667,089</u>
D. CURRENT VALUE OF ASSETS (5.23% OF TABLE 1, F6)	\$4,534,531
E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$152,692 through the Amortization Date of December 31, 2010	\$1,533,810
2. 15 Year Amortization of Prior Years' Loss (Gain) (Table 11B, B.2.b)	(\$1,001,261)
3. Total	<u>\$532,549</u>
F. LOSS (GAIN) [A-B-C-D-E]	<u>(\$163,354)</u>
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	(\$28,780)
2. Election of PERA Police and Fire Fund	(284,906)
3. Other	150,332
4. Total	<u>(\$163,354)</u>
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	(\$18,885)

WEST ST. PAUL FIRE CONSOLIDATION ACCOUNT
 DETERMINATION OF STATUTORY CONTRIBUTIONS
 (ACTUAL DOLLARS)

JULY 1, 1990

		<u>AMOUNT</u> <u>%</u>	<u>AMOUNT</u> <u>\$</u>
A. EMPLOYEE CONTRIBUTIONS		8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)			
1. Regular Municipal Contribution		12.00%	
2. Additional Municipal Contribution			
	<u>Established</u>	<u>Current</u>	<u>Last</u>
	<u>Initial</u>	<u>Balance</u>	<u>Payment</u>
a.	Initial	1,533,810	12/31/2010
b.	7/1/89	(1,001,261)	12/31/2003
c.	7/1/90	(163,354)	12/31/2004
		-----	-----
c.	Total	\$369,195	\$13,803 *
		=====	=====

C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$13,803

* Contribution is assumed to be paid on December 31, 1990.

TABLE 3L

WINONA FIRE CONSOLIDATION ACCOUNT

ACTIVE MEMBERS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL EARNINGS

AGE	YEARS OF SERVICE								ALL
	<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	
<25									0
25-29									0
30-34				29,491					29,491
35-39				29,505					29,505
40-44					32,129	29,164			30,152
45-49						29,822			29,822
50-54						30,605	30,219		30,316
55-59						29,955	29,689	29,915	29,830
60-64								31,501	31,501
65+									0
ALL	0	0	0	29,501	32,129	29,777	29,954	30,708	29,974

PRIOR FISCAL YEAR EARNINGS (ACTUAL DOLLARS) BY YEARS OF SERVICE

<1	1-4	5-9	10-14	15-19	20-24	25-29	30+	TOTAL
0	0	0	236,011	32,129	178,663	179,726	122,832	749,361

TABLE 4L

WINONA FIRE CONSOLIDATION ACCOUNT

SERVICE RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL ANNUITY

AGE	YEARS RETIRED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50								0
50-54								0
55-59		13,834	14,640					14,237
60-64	19,193		16,110	15,360				16,506
65-69		18,268	16,838	14,241	14,376			15,616
70-74				15,868		15,055		15,462
75-79				16,857				16,857
80-84						15,055		15,055
85+								0
ALL	19,193	16,051	16,107	15,658	14,376	15,055	0	15,887

TOTAL ANNUAL ANNUITY (ACTUAL DOLLARS) BY YEARS OF RETIREMENT								
<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL	
38,386	32,102	80,535	125,262	43,129	30,110	0	349,524	

TABLE 5L

WINONA FIRE CONSOLIDATION ACCOUNT

DISABILITY RETIREMENTS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS DISABLED							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50		13,014						13,014
50-54								0
55-59								0
60-64								0
65-69								0
70-74								0
75-79								0
80-84								0
85+								0
TOTAL	0	13,014	0	0	0	0	0	13,014

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS OF DISABILITY

<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
0	26,028	0	0	0	0	0	26,028

TABLE 6L

WINONA FIRE CONSOLIDATION ACCOUNT

SURVIVORS AS OF JUNE 30, 1990

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

AVERAGE ANNUAL BENEFIT

AGE	YEARS SINCE DEATH							ALL
	<1	1-4	5-9	10-14	15-19	20-24	25+	
<50			12,206	7,324				9,765
50-54	7,039			7,324				7,182
55-59			7,324					7,324
60-64			7,324					7,324
65-69			7,320			7,324	7,324	7,323
70-74				7,324				7,324
75-79		7,324			7,324		7,320	7,323
80-84				7,324	7,324	7,320		7,323
85+				7,320				7,320
ALL	7,039	7,324	8,544	7,323	7,324	7,322	7,322	7,593

TOTAL ANNUAL BENEFIT (ACTUAL DOLLARS) BY YEARS SINCE DEATH

	<1	1-4	5-9	10-14	15-19	20-24	25+	TOTAL
	7,039	7,324	34,174	36,616	14,648	14,644	14,644	129,089

WINONA FIRE CONSOLIDATION ACCOUNT

RECONCILIATION OF MEMBERS

	<u>ACTIVES</u>	<u>TERMINATED</u>	
		<u>DEFERRED RETIREMENT</u>	<u>OTHER NON-VESTED</u>
A. On July 1, 1989	0	0	0
B. Additions	25	0	0
C. Deletions:			
1. Service Retirement	0	0	0
2. Disability	0	0	0
3. Death	0	0	0
4. Terminated-Deferred	0		
5. Terminated-Refund	0	0	0
6. Terminated-Other Non-vested	0		
7. Returned as Active		0	0
D. Data Adjustments	0	0	0
	Vested	25	
	Non-Vested	0	
E. Total on June 30, 1990	25	0	0

	<u>RECIPIENTS</u>		
	<u>RETIREMENT ANNUITANTS</u>	<u>DISABLED</u>	<u>SURVIVORS</u>
A. On July 1, 1989	0	0	0
B. Additions	24	2	18
C. Deletions:			
1. Service Retirement		0	
2. Death	(2)	0	(1)
3. Annuity Expired	0	0	0
4. Returned as Active	0	0	
D. Data Adjustments	0	0	0
E. Total on June 30, 1990	22	2	17

WINONA FIRE CONSOLIDATION ACCOUNT

ACTUARIAL BALANCE SHEET
(ACTUAL DOLLARS)

JULY 1, 1990

A. CURRENT ASSETS (7.81% OF TABLE 1, F6)		\$6,771,450
B. EXPECTED FUTURE ASSETS		
1. Present Value of Employee Contributions		529,327
2. Present Value of Regular Municipal Contributions		793,990
3. Present Value of Additional Municipal Contributions		3,022,992
4. Total Expected Future Assets		<u>\$4,346,309</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS		<u>\$11,117,759</u>
D. CURRENT PENSION BENEFIT OBLIGATION		
1. Retirees and Beneficiaries Currently Receiving Benefits and Terminated Employees Not Yet Receiving Benefits		\$5,958,602
2. Current Employees		
a. Accumulated employee contributions including allocated investment income*	110,167	
b. Employer-financed vested	3,664,182	
c. Employer-financed nonvested	0	
d. Total		3,774,349
3. Total Pension Benefit Obligation		<u>\$9,732,951</u>
E. EXPECTED FUTURE PENSION BENEFIT OBLIGATION		<u>\$1,384,808</u>
F. TOTAL CURRENT AND EXPECTED FUTURE PENSION BENEFIT OBLIGATION		\$11,117,759
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D3-A)		\$2,961,501
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F-C)		\$0

* Estimated

WINONA FIRE CONSOLIDATION ACCOUNT
SUMMARY OF ENTRY AGE NORMAL COST CALCULATIONS
(ACTUAL DOLLARS)

JULY 1, 1990

	<u>NUMBER OF PARTICIPANTS</u>	<u>ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS</u>	<u>ACTUARIAL ACCRUED LIABILITY</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members			
a. Elected PERA Police and Fire	21	\$4,315,972	\$3,503,229
b. No Election (Greater Value)	4	843,185	523,742
c. Total	25	\$5,159,157	\$4,026,971
2. Former Members			
a. Elected PERA Police and Fire	0	\$0	\$0
b. No Election (Greater Value)	0	0	0
c. Total	0	\$0	\$0
3. Benefit Recipients			
a. Elected PERA Police and Fire	36	\$4,936,055 *	\$4,936,055 *
b. Elected Relief Association	5	1,022,547	1,022,547
c. Total	41	\$5,958,602	\$5,958,602
4. Total			
a. Elected PERA Police and Fire	57	\$9,252,027	\$8,439,284
b. Elected Relief Association	5	1,022,547	1,022,547
c. No Election (Greater Value)	4	843,185	523,742
d. Total	66	\$11,117,759	\$9,985,573
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. AAL (A4)			\$9,985,573
2. Current Assets (7.81% of Table 1,F6)			6,771,450
3. UAAL (B1-B2)			\$3,214,123
C. NORMAL COST			
			\$137,203

* Includes Minnesota Post Retirement Investment Fund reserves of \$4,193,303.

WINONA FIRE CONSOLIDATION ACCOUNT
CALCULATION OF NET ACTUARIAL LOSS (GAIN)
(ACTUAL DOLLARS)

YEAR ENDING JUNE 30, 1990

A. ACTUARIAL PRESENT VALUE OF PROJECTED BENEFITS (TABLE 9L)	
1. Elected PERA Police and Fire	\$9,252,027
2. Elected Relief Association	1,022,547
3. No Election (Greater Value)	843,185
4. Total	----- \$11,117,759
B. PRESENT VALUE OF FUTURE EMPLOYEE CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$394,555
2. No Election (Greater Value)	134,772
3. Total	----- \$529,327
C. PRESENT VALUE OF FUTURE REGULAR MUNICIPAL CONTRIBUTIONS	
1. Elected PERA Police and Fire	\$591,832
2. No Election (Greater Value)	202,158
3. Total	----- \$793,990
D. CURRENT VALUE OF ASSETS (7.81% OF TABLE 1, F6)	\$6,771,450
E. PRESENT VALUE OF FUTURE ADDITIONAL MUNICIPAL CONTRIBUTIONS	
1. Initial Contribution - Annual Payment of \$699,895 through the Amortization Date of December 31, 2010	\$7,030,532
2. Total	----- \$7,030,532
F. LOSS (GAIN) [A-B-C-D-E]	----- (\$4,007,540) =====
G. ANALYSIS OF LOSS (GAIN)	
1. MPRIF Mortality	(\$235,810)
2. Election of PERA Police and Fire Fund	(3,385,959)
3. Other	(385,771)
4. Total	----- (\$4,007,540) =====
H. 15 YEAR AMORTIZATION OF LOSS (GAIN)	(\$463,301)

WINONA FIRE CONSOLIDATION ACCOUNT
 DETERMINATION OF STATUTORY CONTRIBUTIONS
 (ACTUAL DOLLARS)

JULY 1, 1990

		<u>AMOUNT</u> %	<u>AMOUNT</u> \$
A. EMPLOYEE CONTRIBUTIONS		8.00%	
B. EMPLOYER CONTRIBUTIONS (BEFORE ADJUSTMENT FOR STATE AID)			
1. Regular Municipal Contribution		12.00%	
2. Additional Municipal Contribution			
	<u>Established</u>	<u>Current</u>	<u>Last</u>
	<u>Initial</u>	<u>Balance</u>	<u>Payment</u>
a.		7,030,532	12/31/2010
			699,895
b.	7/1/90	(4,007,540)	12/31/2004
		-----	(463,301)
c.	Total	\$3,022,992	\$236,594 *
		=====	=====
C. TOTAL STATUTORY CONTRIBUTION IS 20.00% OF COMPENSATION PLUS \$236,594			

* Contribution is assumed to be paid on December 31, 1990.