

**SPRING LAKE PARK FIREMEN'S
RELIEF ASSOCIATION**

**Actuarial Valuation and Benefit Study
as of January 1, 1992**

June 4, 1992

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**SPRING LAKE PARK FIREMEN'S RELIEF ASSOCIATION
ACTUARIAL VALUATION AND BENEFIT STUDY
AS OF JANUARY 1, 1992**

PURPOSE AND SUMMARY

The following report sets forth the results of our study for the Spring Lake Park Firemen's Relief Association. The study included the following:

- Determination of annual contribution for the current plan. - \$94,653
- Determination of annual contribution to fund \$2 benefit increase increments up to \$24.

The results of our study are summarized in the tables of the report and discussed further herein.

EMPLOYEE DATA

Based on data provided by the Association, there are 60 active members included in the valuation. The members have an average attained age of 36.4 and an average entry age of 27.3. Table 2(a) sets forth the prospective benefit each member may expect to receive if he remains in the Association until the normal retirement date assumed in the valuation, age 53 and completion of 20 years of service. The hire dates shown on the table have been adjusted for periods of absence from service.

There are 17 retired members, 3 disabled members, and 2 beneficiaries currently receiving benefits from the plan, and 2 deferred disabled and 5 deferred vested members entitled to future benefits. Table 2(b) is a summary of the benefits for these members.

ASSETS

The Association provided us with a copy of the financial statement of the Special Fund as of January 1, 1992. Assets less accounts payable are valued at \$2,908,034 on such date. We have used this value for valuation purposes.

ACTUARIAL ASSUMPTIONS AND METHOD

Table 3 is a summary of the principal plan provisions of the current plan. The monthly benefit level was raised effective January 1, 1989 from \$14 to \$18 per year of service. Table 4 sets forth a summary of the actuarial assumptions used in valuing these plan provisions. We have used the same assumptions as used for the January 1, 1989 valuation. We certify that this Actuarial Valuation and Benefit Study has been prepared in accordance with Chapters 356.20 to 356.23 of the Minnesota State Statutes as they apply to volunteer relief associations defined in Chapter 69.771.

As required by law, the funding method used for the valuation is the entry age normal cost method. Under this method, the normal cost is computed as that level amount which would fund all benefits if it was contributed every year from each fireman's entry into the plan until his retirement. The total normal cost for the plan is the sum of the normal costs for all active members.

The present value of all future benefits payable from the plan for all active and inactive members less the present value of all future normal costs is defined as the accrued liability. The accrued liability is the amount that would have accumulated in the Special Fund if all the actuarial assumptions had been exactly realized in all prior years and if funding for all members, based on current plan benefits, had commenced immediately upon their date of joining the Association.

The accrued liability then is compared to the market value of the Special Fund. Any excess of accrued liability over market value, known as the unfunded accrued liability, is to be funded with a payment to be made annually for number of years specified by law, known as the amortization payment. Increases in the unfunded accrued liability due to changes in the benefits or actuarial assumptions must be paid over 20 years. As of the valuation date, assets exceed the accrued liability of the current plan so no amortization payment is required.

The normal cost is the total annual contribution due as of the valuation date.

Interest must be added to the contribution at the rate of 5% from the valuation date to the date of payment. Thus, if payment were made as of December 31, 1992, the January 1 contribution amount would be multiplied by 1.05.

SUMMARY OF VALUATION RESULTS

Table 1(a) sets forth a summary of the results of the valuation of the current plan. The plan provides a monthly benefit of \$18 per year of service (maximum 30 years) payable on retirement after attainment of age 50 and 20 years of service. Death benefits, deferred vested benefits, and disability benefits are also provided.

The annual contribution required to fund the plan is \$94,653. Based on our January 1, 1989 study, a contribution of \$136,254 was expected for an \$18 benefit level. The decrease in the contribution is attributable to two factors:

- The decrease in active membership from 70 to 60.
- There is no amortization payment because the unfunded liability has been funded.

The annual contribution of \$94,653 is that amount of new money which must be contributed to the Special Fund each year to keep the plan funded in accordance with state law. The sources of new money are State Aid and the city tax levy. Interest earnings on the Special Fund cannot be used to meet the contribution requirements.

CHANGE IN THE UNFUNDED ACCRUED LIABILITY

Chapter 356 requires a reconciliation of the unfunded accrued liability from one valuation to the next valuation.

As of January 1, 1989, there was an unfunded accrued liability of (\$156,609). As of January 1, 1992, the liability had decreased to (\$182,828). The change of (\$26,219) is a result of the following:

1.	January 1, 1989 Unfunded Accrued Liability	\$ (156,609)
2.	Decrease due to:	
	a. Contributions 1989-1991	48,367
	b. Experience gains 1989-1991	509,867
	c. Total decrease	558,234
3.	Increase due to benefit increase 1/89	532,015
4.	January 1, 1992 Unfunded Accrued Liability (1.-2.c. + 3)	\$ (182,828)

The experience gain over the period is principally due to favorable investment returns which accounted for \$355,253 of the total experience gain of \$509,867.

RESULTS OF BENEFIT STUDY

Tables 1(b) sets forth the results of our benefit study for the Association. Table 1(b) shows the determination of the required annual contribution if the benefit level was raised from \$18 to \$24, in \$2 increments. The first \$2 of benefit increase adds \$18,385 to the cost of the current plan. The existing overfunding is used to offset part of the cost. Additional \$2 increases cost \$33,056. For a \$20 monthly benefit level, the annual cost of the plan is \$113,038, and the annual cost for a \$22 monthly benefit is \$146,094.

In the final determination of what benefits are to be provided by the plan, the Association must be sure that projected income from the State Aid and City Aid equals or exceeds the contribution requirements set forth in this report.

FINANCIAL DISCLOSURE

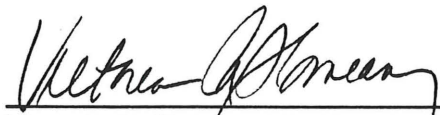
Table 1(c) sets forth the information required by Government Accounting Standards Board Statement 5 for disclosure in the city's financial statements. The values represent the current value of the benefits earned to date under the plan. Plan assets greatly exceed this value, indicating the plan is well funded.

* * * * *

If in connection with this study any additional work is required, we will be happy to proceed as directed.

Respectfully submitted,

THE WYATT COMPANY


Victoria A. Slomiany
Fellow, Society of Actuaries


Mark A. Gilje

Minneapolis/St. Paul
June 4, 1992

Table 1(a)

SPRING LAKE PARK FIREMEN'S RELIEF ASSOCIATION

Results of Actuarial Valuation as of January 1, 1992

1. Accrued Liability	
a. Active Members	1,180,860
b. Retired Members and Beneficiaries	1,106,487
c. Disabled Members in Payment Status	97,677
d. Deferred Disabled Members	61,484
e. Deferred Vested Members	278,698
f. Total	2,725,206
2. Valuation Assets	2,908,034
3. Unfunded Accrued Liability (1-2)	(182,828)
4. Amortization Payment for Unfunded Accrued Liability	0
5. Annual Normal Cost	90,146
6. Annual Contribution Payable as of January 1, 1992 (4+5)	90,146
7. Annual Contribution Payable as of December 31, 1992 (6*1.05)	94,653

Table 1(b)

SPRING LAKE PARK FIREMEN'S RELIEF ASSOCIATION

Results of Benefit Study as of January 1, 1992

	<u>Monthly Benefit Level</u>			
	<u>\$18</u>	<u>\$20</u>	<u>\$22</u>	<u>\$24</u>
1. Accrued Liability				
a. Active Members	1,180,860	1,311,868	1,442,876	1,573,884
b. Retired Members	1,106,487	1,229,430	1,352,373	1,475,316
c. Disabled Members in Payment Status	97,677	108,530	119,383	130,236
d. Deferred Disabled Members	61,484	68,316	75,147	81,979
e. Deferred Vested Members	278,698	309,664	340,631	371,597
f. Total	2,725,206	3,027,808	3,330,410	3,633,012
2. Valuation Assets	2,908,034	2,908,034	2,908,034	2,908,034
3. Unfunded Accrued Liability (1-2)	(182,828)	119,774	422,376	724,978
4. Amortization Payment for Unfunded Accrued Liability	0	9,153	32,279	55,405
5. Annual Normal Cost	90,146	98,502	106,858	115,214
6. Annual Contribution Payable as of January 1, 1992 (4+5)	90,146	107,655	139,137	170,619
7. Annual Contribution Payable as of December 31, 1992 (6*1.05)	94,653	113,038	146,094	179,150

Table 1(c)

**SPRING LAKE PARK FIREMEN'S
RELIEF ASSOCIATION**

Financial Disclosure Information
as of January 1, 1992¹

Pension Benefit Obligation

Retirees and beneficiaries currently receiving benefits and terminated members not yet receiving benefits	1,544,000
Current members -	
Accumulated member contributions including allocated investment earnings	0
Vested benefits	234,000
Nonvested benefits	629,000
Total Pension Benefit Obligation	2,407,000

¹Assumes future rate of return on plan assets of 5%.

Table 2(a)

SPRING LAKE PARK FIREMEN'S RELIEF ASSOCIATION

Projected Benefits for Active Members as of January 1, 1992 *

<u>Name</u>	<u>Birth Date</u>	<u>Entry Date</u>	<u>Projected Annual Benefit</u>
S ACKERMANN	7/55	11/81	5,832.00
D ANDERSON	3/59	11/89	4,752.00
W BATES	12/50	11/80	4,968.00
D BECKMAN	6/64	3/86	6,480.00
E BOCHNIAK	3/39	5/71	4,320.00
J BOHAN	6/57	3/83	5,616.00
D CAROON	5/59	12/88	4,968.00
P CAVANAUGH	11/54	2/87	4,320.00
T CLARK	7/66	1/87	6,480.00
J COPELAND	3/54	3/82	5,184.00
J DIEMERT	6/53	8/79	5,616.00
S DREWITZ	3/58	5/77	6,480.00
J DURKOT	4/53	10/80	5,400.00
E EMERSON	9/51	4/78	5,616.00
M ERKO	9/57	7/82	6,048.00
R FISKE	10/67	1/87	6,480.00
J HANSEN	7/49	1/80	4,752.00
R HANSEN	9/55	2/87	4,536.00
B HANSON	10/61	3/85	6,264.00
G HAWKE	10/46	9/70	6,264.00
C HAWKINS	10/57	1/86	5,184.00
T HAWLEY	11/63	3/83	6,480.00
H HOVLAND	4/46	9/75	4,968.00
D HOWARD	9/56	1/87	4,752.00
R KROGER II	11/60	8/88	5,400.00
R KRONE	12/58	11/84	5,832.00
D KRUEGER	8/51	5/82	4,752.00
J KVITRUD	10/51	6/78	5,616.00
H LUNDSTROM	6/62	3/89	5,400.00
J MAHAFFEY	9/37	4/72	4,320.00
T MAHAFFEY	5/63	4/87	6,048.00
K MARTIN	10/61	1/86	6,048.00
B MATTI	4/64	3/83	6,480.00
M MCCALLEY	6/47	12/81	4,320.00
R MORRISON	2/54	3/86	4,320.00

* Assuming retirement at age 53 and completion of 20 years of service.
Hire dates have been adjusted for leaves of absence.

Table 2(a)

SPRING LAKE PARK FIREMEN'S RELIEF ASSOCIATION

Projected Benefits for Active Members as of January 1, 1992 *

<u>Name</u>	<u>Birth Date</u>	<u>Entry Date</u>	<u>Projected Annual Benefit</u>
L MYSLICKI	7/46	11/79	4,320.00
M O'DELL	9/63	4/90	5,616.00
D OLSON	10/61	3/80	6,480.00
F PAULSON	6/43	1/74	4,536.00
B PAYNE	11/46	11/89	4,320.00
M POTTHOFF	4/52	2/86	4,320.00
R REYNOLDS	4/62	7/83	6,480.00
E ROSENGREN	11/47	7/74	5,616.00
T SAMSAL	2/54	8/81	5,400.00
J SANTER	8/65	5/86	6,480.00
S SAUVE	4/57	1/86	4,968.00
T SKILLINGS	4/48	4/87	4,320.00
S SMITH	2/59	5/90	4,536.00
M STRAND	1/61	7/82	6,480.00
J STROINSKI	2/58	1/86	5,184.00
C SUMMERFIEL	6/58	3/86	5,184.00
S SWENO	2/67	6/88	6,480.00
G TESKE	12/46	8/74	5,400.00
E THORSON	7/47	9/82	4,320.00
K VITO	8/51	2/75	6,264.00
R VOLD	1/48	12/84	4,320.00
M WELLE	8/53	3/79	5,832.00
S WEST	11/51	11/74	6,480.00
D YAEKEL	4/63	11/82	6,480.00
N ZIKMUND	5/58	12/82	6,048.00

* Assuming retirement at age 53 and completion of 20 years of service.
 Hire dates have been adjusted for leaves of absence.

Table 2(b)

SPRING LAKE PARK FIREMEN'S RELIEF ASSOCIATION

Monthly Benefits for Inactive Members as of January 1, 1992

D	ANDERSON	WIDOW	405.00
W	BECKER	RETIRED	360.00
I	BRANDT	RETIRED	360.00
W	COX	RETIRED	450.00
S	DOLIN	DEF DIS	180.00
F	DOLL	RETIRED	360.00
L	DRABANT	RETIRED	360.00
R	FAGERSTROM	DEFERRED	360.00
J	FORBES	RETIRED	522.00
G	HAFSLUND	RETIRED	378.00
R	JOHNSON	DISABLED	180.00
L	KOLAR	RETIRED	360.00
T	MATTSON	RETIRED	360.00
R	NELSON	DEFERRED	378.00
R	NELSON	DEFERRED	396.00
C	NORLING	DEF DIS	252.00
V	OLSON	DISABLED	198.00
O	OSEN	RETIRED	360.00
R	PACKENHAM	RETIRED	378.00
L	PASK	RETIRED	360.00
J	POLENIK	DEFERRED	243.00
F	RAMOLA	DEFERRED	360.00
W	SCHOEN	DISABLED	180.00
W	SCHULDT	RETIRED	378.00
G	SIMON	RETIRED	360.00
T	SKEATE	RETIRED	360.00
E	SORENSEN	RETIRED	360.00
L	ST.MARIE	RETIRED	450.00
H	SYVERSON	WIDOW	149.00

Table 3

SPRING LAKE PARK FIREMEN'S RELIEF ASSOCIATION

Summary of Current Plan Provisions

1. Normal Retirement Benefit: Monthly benefit of \$18 per year of service payable on retirement after attainment of age 50 and completion of 20 years of service. Maximum benefit of \$540.
2. Deferred Vested Benefit: On termination after completion of 20 years of service, the monthly benefit determined in 1, is payable on attainment of age 50.
3. Disability Benefit:
 - . Short Term Disability: On disability a benefit of \$25 per day is payable up to 26 weeks.
 - . Long Term Disability:

Service Related - \$18 per month per year of service, maximum \$540. Benefit is payable after 26 weeks of disability.

Non-Service Related - 10 years of service is required. Benefit equals \$18.00 per month per year of service to a maximum of \$360 payable at normal retirement date.
4. Lump Sum Death Benefit: \$3,000 payable on the death of any active member.
5. Spouse's Benefits:

On death of any retiree, or disabled service related member, 75% of the member's accrued benefit is payable immediately to the surviving spouse.

On death of any deferred inactive or active member not in the line of duty with vested rights, 75% of the members accrued benefit is payable to the surviving spouse commencing on the date the member would have attained age 50 and completed 20 years of service.

**Table 3
(Continued)**

SPRING LAKE PARK FIREMEN'S RELIEF ASSOCIATION

Summary of Current Plan Provisions

- | | | |
|----|----------------------|--|
| 5. | Spouse's Benefit | On death of any active member in the line of duty, 100% of the member's accrued benefit is payable to the surviving spouse. |
| 6. | Children's Benefits: | On death of the firefighter's surviving spouse, the surviving children will receive the pension that was payable to the surviving spouse. Benefit ceases upon the last surviving child's attainment of age 18. |

Table 4

SPRING LAKE PARK FIREMEN'S RELIEF ASSOCIATION

Actuarial Assumptions and Method

1. Mortality: 1971 Group Annuity Mortality Table, without margins, projected to 1976 by Scale E. This table used for all rates of mortality.
2. Withdrawal: The rate of withdrawal is .060 at age 20 decreasing uniformly to zero at age 45 with no withdrawal after that age.
3. Disability: The 1947-49 Weekly Indemnity Tabular Annual Claims Cost was used for valuing the short term disability on a one year term cost basis. The Railroad Retirement Board 12th Valuation rates of disablement were used for valuing the long term disability benefit on a full funding basis. Both tables were loaded for the size and nature of the group.
4. Retirement Age: Members are assumed to retire after attaining age 53 and completing 20 years of service.
5. Interest Rate: Five percent compounded annually.
6. Actuarial Cost Method: The entry age normal cost method has been used with the normal cost determined as a level amount each year from the date of joining the Association to the assumed retirement age.
7. In/Out of Duty: 25% of all active deaths and disabilities were presumed to be in the line of duty or service related.