HUTCHINSON FIRE DEPARTMENT RELIEF ASSOCIATION

Actuarial Valuation as of January 1, 1991

June 18, 1991

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HUTCHINSON FIRE DEPARTMENT RELIEF ASSOCIATION
ACTUARIAL VALUATION
AS OF JANUARY 1, 1991

PURPOSE AND SUMMARY

The following report sets forth the results of our study for the Hutchinson Fire Department Relief Association. The study included the following:

- Determination of annual contribution for the current plan - $36,405.
- Determination of annual contribution for a $1 benefit increase - $11,387.

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

EMPLOYEE DATA

Based on data provided by the Association, there are 40 active members included in the valuation. The members have an average attained age of 33.5 and an average entry age of 26.6. Table 3(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.

There are 38 inactive members entitled to benefits under the plan. There are 2 retired members receiving benefits from the plan and 12 members are entitled to a deferred benefit. Table 3(b) is a summary of the benefits for these members.

ASSETS

Mr. Gary Henke provided us with a statement of the value of the Special Fund prepared by the Association's accountant as of January 1, 1991. Assets are valued at $558,677 on such date on a market value basis. We have used this value for valuation purposes.

PLAN PROVISIONS AND ACTUARIAL ASSUMPTIONS

Table 4 is a summary of the principal plan provisions of the current plan. Benefits were increased to $6 during 1987 and the death benefit was increased to $5,000. Table 5 sets forth a summary of the actuarial assumptions used in valuing these plan provisions.

We have changed the prior actuary's mortality assumption to reflect improvements in mortality since the development of the 1959-61 U.S. Life Table. All other assumptions remain the same.

We certify that this Actuarial Valuation 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 value of the Special Fund. Any excess of accrued liability over asset value, known as the unfunded accrued liability, is to be funded with a payment to be made annually for a number of years specified by law, known as the amortization payment. The current unfunded accrued liability must be funded over 16 years. Increases in the unfunded accrued liability due to changes in the benefits or actuarial assumptions must be amortized over 20 years.

The amortization payment is added to the normal cost for 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, the January 1 contribution amount would be multiplied by 1.05.

SUMMARY OF VALUATION RESULTS

Table 1 sets forth a summary of the results of the valuation of the current plan.

Column 1 uses the same benefit level -- $6 and the same actuarial assumptions as the prior actuary. On this basis, the required contribution (item 7) as of December 31, 1991 is $31,124.

The contribution is down from the January 1, 1987 valuation which reported a contribution requirement of $35,925. The principal reason for the decrease is that contributions over the period 1987-1990 in excess of the minimum requirements reduced the unfunded accrued liability and its required amortization payment.

In column 2, we value the same benefits as column 1 but we change the mortality assumption to reflect improvements in mortality over the last 20 years. This raises the cost of the plan to $36,405 as of December 31, 1991.

The contribution is the amount of new money to be contributed to the plan from state aid, city contribution and rural transfer to keep the plan funded in accordance with state law. It excludes investment earnings.

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, 1987, the prior actuary reported an unfunded accrued liability of $119,478.

As of January 1, 1991, there is an unfunded accrued liability of $219,523. The change is a result of the following:

1.	January 1, 1987 Unfunded Accrued Liability	$ 119,478
2.	Decrease due to:	
	a. Contributions 1987-1990	67,921
	b. Experience gain 1987-1990	29,519
	c. Total decrease	97,440

3.	Increase due to:		
	a.	1987 benefit changes	143,933
	b.	January 1, 1991 assumption change	53,552
	c.	Total increase	197,485
4.	January 1, 1991 Unfunded Accrued Liability (1 - 2c + 3c)		$ 219,523

The actuarial gain of $29,519 over the period is composed of two sources. Investment performance in excess of the 5% assumption resulted in a gain of $57,531. Experience under the plan (mortality, turnover and disability) less favorable than that assumed resulted in a loss of $28,012.

BENEFIT STUDY

Table 1(b) summarizes the results of our benefit study for the Association. The first column of the table sets forth the annual contribution for the current plan. The next columns set forth the determination of the annual contribution necessary to fund the benefit increase. To determine the total new plan cost, one determines the cost of the increased benefit and adds in the cost of the current plan.

The last two columns set forth examples of this calculation. Using column 1 and multiples of the benefit increase column, one may determine the required contribution for any benefit level under the plan.

FINANCIAL DISCLOSURE

Table 2 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 are below this value.

* *

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

Minneapolis/St. Paul
June 18, 1991

Table 1(a)

HUTCHINSON FIRE DEPARTMENT
RELIEF ASSOCIATION

Annual Contribution for Current Plan [1]

	Old Assumptions	New Assumptions
1. Accrued Liability		
a. Active Members	$144,417	$158,881
b. Retired Members	455,384	487,323
c. Deferred Members	124,847	131,996
d. Total	724,648	778,200
2. Valuation Assets	558,677	558,677
3. Unfunded Accrued Liability (1 - 2)	165,971	219,523
4. Amortization Payment for Unfunded Accrued Liability	15,969	20,062
5. Annual Normal Cost	13,673	14,609
6. Annual Contribution Payable as of January 1, 1991 (4 + 5)	29,642	34,671
7. Annual Contribution Payable as of December 31, 1991 (6 * 1.05)	31,124	36,405

[1] Assumption change is a change in the mortality table.

Table 1(b)

HUTCHINSON FIRE DEPARTMENT RELIEF ASSOCIATION

Annual Contribution for a $1 Increase

	Current Plan	$1 Increase	Examples [1] $6.50 Plan	Examples [1] $7.00 Plan
1. Accrued Liability				
a. Active Members	$158,881	$ 24,239	$171,001	$183,120
b. Retired Members	487,323	71,468	523,057	558,791
c. Deferred Members	131,996	19,353	141,673	151,349
d. Total	778,200	115,060	835,731	893,260
2. Valuation Assets	558,677	0	558,677	558,677
3. Unfunded Accrued Liability (1 - 2)	219,523	115,060	277,054	334,583
4. Amortization Payment for Unfunded Accrued Liability	20,062	8,793	24,459	28,855
5. Annual Normal Cost	14,609	2,051	15,635	16,660
6. Annual Contribution Payable as of January 1, 1991 (4 + 5)	34,671	10,844	40,094	45,515
7. Annual Contribution Payable as of December 31, 1991 (6 * 1.05)	36,405	11,387	42,099	47,791

1 These are examples of determination of contribution for increased benefits. New costs equal column 1 plus amount of benefit increase times column 2.

Table 2

HUTCHINSON FIRE DEPARTMENT RELIEF ASSOCIATION

Financial Disclosure Information as of January 1, 1991[1]

Pension Benefit Obligation	
Retirees and beneficiaries currently receiving benefits and terminated members not yet receiving benefits	619,319
Current members -	
Accumulated member contributions including allocated investment earnings	0
Vested benefits	72,182
Nonvested benefits	46,045
Total Pension Benefit Obligation	737,546

[1] Assumes future rate of return on plan assets of 5%, and benefit level of $6.

Table 3(a)

HUTCHINSON FIRE DEPARTMENT RELIEF ASSOCIATION

Projected Benefits for Active Members [1]

Name		Birth Date	Entry Date	Projected Annual Benefit
J	ARLT	1/68	10/90	2160.00
J	BRODD	1/50	11/72	2160.00
B	BROWN	3/63	4/88	1944.00
J	BURKS	2/59	11/79	2160.00
R	CARLSON	10/57	2/86	1728.00
J	DOBRATZ	10/62	8/86	2088.00
J	DRAHOS	6/57	7/86	1656.00
B	EMANS	9/53	5/75	2160.00
J	EMANS	6/63	12/86	2088.00
P	FALLON	7/66	9/90	2088.00
B	FENSKE	2/64	10/89	1944.00
D	FENSKE	2/64	12/89	1944.00
G	FORCIER	11/58	6/85	1872.00
D	FRANZEN	2/47	8/81	1440.00
T	GLAESER	5/61	8/89	1728.00
L	GOLDSCHMID	10/61	9/89	1800.00
R	HAGEN	4/51	9/86	1440.00
G	HENKE	9/47	11/77	1656.00
O	HENKE	8/46	12/67	2160.00
E	HOMAN	6/48	1/73	1944.00
C	JOHNSON	12/61	7/83	2160.00
R	KUTTNER	9/45	12/83	1440.00
C	LINGBEEK	7/59	7/87	1800.00
T	PESSEK	2/49	9/84	1440.00
D	PIEHL	2/67	8/89	2160.00
J	POPP	12/63	1/85	2160.00
C	POWELL	2/63	5/86	2088.00
S	POWELL	10/60	12/86	1944.00
B	PRECHT	7/46	3/74	1800.00
R	REDMAN	12/51	2/80	1728.00
B	REINER	10/67	4/90	2160.00
C	REINER	11/62	5/87	2016.00
K	REINER	12/63	11/89	1944.00
J	REYNOLDS	6/44	4/71	1800.00
B	SCHANTZEN	9/62	11/89	1872.00
M	SCHMIDT	9/52	7/85	1440.00
S	SCHRAMM	8/45	9/71	1944.00
M	SCHUETZE	10/60	2/90	1656.00
D	STEELE	7/65	6/90	2016.00
R	VIEYRA	11/48	6/78	1656.00

[1] Assumes retirement at age 53 and 20 years of service.

Table 3(b)

HUTCHINSON FIRE DEPARTMENT RELIEF ASSOCIATION

Annual Benefits for Inactive Members

Name		Status	Annual Benefit
W	BACON	RETIRED	2160.00
S	BEEM	RETIRED	1440.00
R	BLUHM	RETIRED	1440.00
W	BRODD	RETIRED	1944.00
H	EMANS	RETIRED	1440.00
G	FIELD	RETIRED	1728.00
E	FITZLOFF	RETIRED	1944.00
R	FITZLOFF	RETIRED	1728.00
L	GRAMS	RETIRED	432.00
C	GRUETT	RETIRED	1512.00
T	HANSON	RETIRED	1512.00
M	JOHNSON	RETIRED	1584.00
D	KLABUNDE	RETIRED	967.68
M	LIPKE	RETIRED	1440.00
D	MCLAIN	RETIRED	1584.00
L	PETERSON	RETIRED	1192.32
R	POPP	RETIRED	2016.00
H	RIGGLE	RETIRED	432.00
F	ROLFE	RETIRED	1728.00
L	SCHLUETER	RETIRED	1440.00
H	SEMERAU	RETIRED	1800.00
E	SMITH	RETIRED	2160.00
F	THODE	RETIRED	1077.12
M	TORGERSON	RETIRED	1440.00
L	WYLIE	RETIRED	1440.00
D	ZIEMAN	RETIRED	1656.00
W	GREVE	DEFERRED	506.88
C	HELGEMO	DEFERRED	673.92
G	HOTOVEC	DEFERRED	506.88
W	KARG	DEFERRED	506.88
H	KEMPER	DEFERRED	1077.12
D	LADE	DEFERRED	766.08
M	MONGE	DEFERRED	967.68
G	NELSON	DEFERRED	1192.32
S	NIES	DEFERRED	1512.00
L	RANNOW	DEFERRED	432.00
T	SCHLOEDER	DEFERRED	432.00
L	THOMPSON	DEFERRED	1440.00

Table 4

HUTCHINSON FIRE DEPARTMENT RELIEF ASSOCIATION

Summary of Current Plan Provisions

1.	Normal Retirement Benefit:	Monthly benefit of $6 per year of service payable on retirement after attainment of age 50 and completion of 20 years of service. No credit granted for more than 30 years of service.
2.	Deferred Vested Benefit:	On termination after completion of 10 years of service, a deferred benefit is payable at age 50. The benefit is equal to the accrued normal retirement benefit times the vesting percentage. The vesting percentage is 60% after 10 years plus 4% for each year in excess of 10 to a maximum of 100%.
3.	Lump Sum Death Benefit:	$5,000 payable on death of any active or inactive member.
4.	Disability Benefit:	Lump sum of $50.00 per year of service payable on total and permanent disability.

Table 5

HUTCHINSON FIRE DEPARTMENT
RELIEF ASSOCIATION

Actuarial Assumptions and Method

1.	Mortality:	The 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 Railroad Retirement Board 12th valuation rates of disablement.
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.