1983 ACTUARIAL REPORT AND EXPERIENCE STUDY

for

Dilworth Fire Department Relief Association

Hewitt Associates

Independent consultants and actuaries
in compensation, employee benefits, communication,
and related financial and human resource functions

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Section 1. A Brief Summary of the Census Data

The data on which this actuarial valuation is based is summarized below. The summary also shows results under the proposed by-laws.

Members Not Yet Receiving Benefits

	Number	Prospective Retirement Annuities	Accrued Lump Sum Retirement Benefits
Active Members	33	$3,960	$110,950
Deferred Annuitant Members	--	---	---

Members Currently Receiving Benefits

	Number	Annual Annuity Payments
Retired Members	1	$120
Disabled Members	--	--
Widows of Deceased Members	2	$240
Children of Deceased Members	--	--

Section 2. The Actuarial Valuation

The results of the valuation on December 31, 1982, are shown below.

		Annuity Basis	Lump Sum Basis
1.	Actuarial Liability	$ 17,289	$99,140
2.	Special Fund Assets	99,684	99,684
3.	Unfunded Actuarial Liability (Prior Service Deficit)	$(82,395)	$ (544)
4.	Normal Cost	$ 1,708	$10,164

The actuarial assumptions used in determining these results will be found in Appendix A.

Explanation of Actuarial Terminology

Actuarial Liability: The present value of benefits earned for service prior to the valuation date under the actuarial method used. The actuarial method used spreads the cost of total expected benefits equally over each member's anticipated period of active membership. The dollar amount shown as the Actuarial Liability represents the number of dollars that should be in the Special Fund to provide for benefits already earned.

Unfunded Actuarial Liability (Prior Service Deficit): This amount is the difference between the Actuarial Liability (the amount that should be in the Special Fund to fully provide for benefits already earned) and the actual amount of Special Fund assets.

Normal Cost: The amount necessary, according to the actuarial method used, to pay for benefits earned in 1983 (and each future year until another actuarial valuation is completed).

Section 3. Contributions

The Volunteer Firefighter's Relief Association Financing Guidelines Act of 1971 (Chapter 261, as amended by Chapter 509 of Minnesota Statutes 1980) specifies minimum support rates required on an annual basis. The minimum support rates from the municipality and state aid are determined as the amount required to meet the Normal Cost plus amortizing any current unfunded actuarial liability by the established date for full funding. This total contribution is shown below.

The contribution required by the municipality for any year is determined by taking Item 4 below, and subtracting one year's estimated state aid expected from the state pursuant to Minnesota Statutes, Chapter 69.

Contribution to Amortize Unfunded Actuarial Liability (Prior Service Deficit) by the Date for Full Funding, December 31, 1998

	Annuity Basis	Lump Sum Basis
1. Normal Cost	$1,708	$10,164
2. Amortization Contribution on Unfunded Actuarial Liability	(3,258)	(54)
3. Total Contribution Required, if made 1/1/83 (including State Aid)	0	$10,110
4. Interest at 5% to 12/31/83	0	506
5. Total Contribution, if made 12/31/82	$ 0	$10,616

Section 4. Income of Fund During 1982

Members' Contributions	$ 0
Contributions by Municipality	533
State Aid	8,383
Other	0
Total Contributions	$8,916
Investment Income	$8,120

Section 5. Experience of the Plan

Since the previous experience study of the plan, the unfunded actuarial liability has changed as follows:

Unfunded actuarial liability, 1/1/79	$(32,232)
Decrease due to amortization payment, 1979	(9,458)
Decrease due to amortization payment, 1980	(9,931)
Decrease due to amortization payment, 1981	(10,427)
Decrease due to amortization payment, 1982	(10,948)
Decrease due to actuarial gain since 1979	(9,399)
Net increase in unfunded actuarial liability	$(50,163)
Unfunded actuarial liability, before changes	$(82,395)
Increase in unfunded actuarial liability due to proposed by-laws	81,851
Unfunded actuarial liability after proposed by- laws	$ (544)

The average entry age of all active employees is 29.6.

For employees hired within the last five years, and still active as of January 1, 1983, the average entry ages are as follows:

Year of Hire	Number of Active Employees	Average Entry Age
1978	1	26.0
1979	3	32.7
1980	3	34.7
1981	2	29.0
1982	0	--

There have been no new retirees within the last five years. There was one new surviving spouse whose age as of 1/1/83 is 61.

Section 6. The Preparation of the Report

This report has been prepared in accordance with generally accepted actuarial principles and practices. This actuarial survey was made in accordance with our understanding of the requirements of the Volunteer Firefighter's Relief Association Financing Guidelines Act of 1971 (Chapter 261, as amended by Chapter 509 of Minnesota Statutes 1980). The usual care has been exercised in making the calculations and presenting the results. The contents of this report are, therefore, believed to be a correct appraisal of the state of affairs of the Plan.

Respectfully submitted,

HEWITT ASSOCIATES

Michael Sze

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Associate, Society of Actuaries

APPENDIX A

ACTUARIAL ASSUMPTIONS

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Mortality Rates	The mortality rates used are based on the United States Life Table, 1959-61, White Males and White Females. These tables were used for active members, retired members and for survivors.
Withdrawal Rates	The rate of withdrawal of .060 at age 20 decreasing uniformly to zero at age 45 with no withdrawal after that age.
Disability Rates	The expected Normal Cost of any disability benefit has been determined using claim statistics based on rates developed by the New York State Employees' Retirement System, and the resulting cost has been included in the Normal Cost shown on page 2.
Retirement Age	Members are assumed to retire after attaining age 53 and 20 years of service.
Interest Rate	Five percent compounded annually.
Actuarial 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 Department to the assumed retirement age.

APPENDIX B

SUMMARY OF PLAN PROVISIONS

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	Annuity Basis	Lump Sum Basis
Retirement Benefit		
Requirements	Twenty years of service and 50 years of age.	Twenty years of service and 50 years of age.
Amount	Benefit When Minimum Requirements Are Met: $120 per year.	$350 per year of Service.
Vesting Benefit		
Requirements	Not applicable.	10 years service.
Amount	None.	60% of accrued benefit after 10 years service, with vesting percentage increased 4% per year of additional service.
Disability Benefit		
Requirements	None	None
Amount	$14 per week, for up to 10 weeks.	Accrued retirement benefit.
Widow's and Children's Death benefit		
Requirements	None.	None.
Amount — Widow	$120 per year.	Accrued retirement benefit.
Children	If both parents are deceased, benefit continues to children under 18.	If both parents are deceased, unpaid benefits are payable to children or estate.

APPENDIX C

CENSUS DATA

DILWORTH FIRE DEPARTMENT RELIEF ASSOCIATION

	Active Members			
Code Number	Age Nearest Birthday	Completed Years of Service	Projected Annual Annuity	Projected Lump Sum
1	59	25	$120	$ 8,750
2	54	18	120	6,300
3	51	14	120	5,600
4	57	29	120	10,150
5	56	20	120	7,000
6	47	20	120	9,100
7	49	21	120	8,750
8	41	10	120	7,700
9	31	10	120	11,200
10	45	10	120	6,300
11	34	10	120	10,150
12	35	10	120	9,800
13	28	7	120	11,200
14	36	8	120	8,750
15	51	7	120	3,150
16	30	7	120	10,500
17	37	7	120	8,050
18	27	6	120	11,200
19	25	7	120	12,250
20	27	5	120	10,850
21	30	4	120	9,450
22	31	9	120	10,850
23	41	8	120	7,000
24	48	21	120	9,100
25	32	3	120	8,400
26	38	3	120	6,300
27	43	3	120	4,550
28	22	1	120	11,200
29	39	2	120	5,600
30	26	0	120	9,450
31	40	4	120	5,950
32	40	4	120	5,950
33	30	4	120	9,450

DILWORTH FIRE DEPARTMENT RELIEF ASSOCIATION

RETIRED MEMBERS

Code Number	Age	Annual Benefit
1	64	120
2	48	120
3	61	120