PINE CITY VOLUNTEER FIRE DEPARTMENT RELIEF ASSOCIATION

Actuarial Valuation as of January 1, 1991

March 21, 1991

THE Wyatt COMPANY

ACTUARIAL SERVICES
COMPENSATION PROGRAMS
ADMINISTRATIVE SYSTEMS
INTERNATIONAL SERVICES
ORGANIZATION SURVEYS

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EMPLOYEE BENEFI
EMPLOYEE COMMUNIC
RISK MANAGEMEN
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HEALTH CARE CONSU

April 9, 1991

PERSONAL AND CONFIDENTIAL

Mr. Earl J. Foster
Treasurer
Pine City Volunteer Fire Department
Relief Association
225 North 2nd Street
Pine City, Minnesota 55063

Dear Earl:

Enclosed is an attachment to our actuarial valuation report for the Relief Association. Based on the $1,000 benefit level and the new actuarial assumptions, a contribution of $16,093 is required to keep the plan funded in accordance with state law. As mentioned in the letter accompanying the report, these assumptions recognize improvements in mortality over the last 20 years and the more likely retirement age of age 50 and 20 years of service.

As this is an attachment to the valuation report, this letter and table should be included with the report when it is filed with the state.

Please call if you or your associates have any questions.

Sincerely,

Vicky A. Slomiany
Consulting Actuary

VAS:sm
Enclosure

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PINE CITY 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 Pine City Fire Department Relief Association. The study included the following:

- Determination of annual contribution for a $1,200 plan - $22,991.

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 28 active members included in the valuation. The members have an average attained age of 38.4 and an average entry age of 26.1. 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 50 and completion of 20 years of service.

There are 19 inactive members entitled to benefits under the plan. All are retired and receive benefits from the plan. Table 3(b) is a summary of the benefits for these members.

ASSETS

Mr. Earl Foster 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 $260,894 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 $1,200 effective October 1, 1990 and a five year guarantee was added.

Table 5 sets forth a summary of the actuarial assumptions used in valuing these plan provisions. We changed several assumptions from the prior actuary's assumptions.

We have changed the mortality assumption to reflect improvements in mortality since the development of the 1959-61 U.S. Life Table. We changed the retirement assumption from age 53 and 20 years of service to age 50 and 20 years of service. We have also assumed no disability since there is no disability benefit. 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, 1991, 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 -- $1,000 and the same actuarial assumptions as the prior actuary. On this basis, the required contribution (item 7) as of December 31, 1991 is $9,835.

The contribution is down from the January 1, 1987 valuation which reported a contribution requirement of $11,133. 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.

Column 2 reflects the October 1, 1990 benefit changes -- a $1,200 benefit and a five year guarantee on payments. These changes increased the cost of the plan to $15,650.

In column 3, we value the same benefits as column 2 but we change the mortality assumption to reflect improvements in mortality over the last 20 years and the retirement age assumption. This raises the cost of the plan to $22,991 as of December 31, 1991 ($21,896 if payments are made as early as January 1, 1991).

The contribution is the amount of new money to be contributed to the plan from state aid 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 $74,629.

As of January 1, 1991, there is an unfunded accrued liability of $172,729. The change of $98,100 is a result of the following:

1.	January 1, 1987 Unfunded Accrued Liability	$ 74,629
2.	Decrease due to contributions 1987-1990	33,285

3. Increase due to:

a.	Experience loss 1987-1990	3,228
b.	October 1, 1990 benefit changes	58,659
c.	January 1, 1991 assumption change	69,498
d.	Total increase	131,385

4. January 1, 1991 Unfunded Accrued Liability (1. - 2. + 3.d) $ 172,729

The actuarial loss of $3,228 over the period is composed of two sources. Investment performance in excess of the 5% assumption resulted in a gain of $26,787. Experience under the plan (mortality, turnover and disability) less favorable than that assumed resulted in a loss of $30,015.

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
March 21, 1991

Appendix to Table 1

PINE CITY FIRE DEPARTMENT RELIEF ASSOCIATION

Annual Contribution for $1,000 Annual Benefit

		$1,000 Benefit New Assumptions
1.	Accrued Liability	
	a. Active Members	$164,334
	b. Retired Members	200,255
	c. Total	364,589
2.	Valuation Assets	260,894
3.	Unfunded Accrued Liability (1 - 2)	103,695
4.	Amortization Payment for Unfunded Accrued Liability	8,435
5.	Annual Normal Cost	6,892
6.	Annual Contribution Payable as of January 1, 1991 (4 + 5)	15,327
7.	Annual Contribution Payable as of December 31, 1991 (6 * 1.05)	16,093

Table 1

PINE CITY FIRE DEPARTMENT
RELIEF ASSOCIATION

Annual Contribution for $1,200 Annual Benefit

		1/1/87 Plan $1,000 Benefit	$1,200 Benefit Old Assumptions	$1,200 Benefit New Assumptions
1.	Accrued Liability			
	a. Active Members	$121,151	$145,855	$196,112
	b. Retired Members	184,315	218,270	237,511
	c. Total	305,466	364,125	433,623
2.	Valuation Assets	260,894	260,894	260,894
3.	Unfunded Accrued Liability (1 - 2)	44,572	103,231	172,729
4.	Amortization Payment for Unfunded Accrued Liability	3,917	8,400	13,711
5.	Annual Normal Cost	5,450	6,505	8,185
6.	Annual Contribution Payable as of January 1, 1991 (4 + 5)	9,367	14,905	21,896
7.	Annual Contribution Payable as of December 31, 1991 (6 * 1.05)	9,835	15,650	22,991

Appendix to Table 1

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Table 2

PINE CITY 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	237,511
Current members -	
Accumulated member contributions including allocated investment earnings	0
Vested benefits	63,261
Nonvested benefits	89,404
Total Pension Benefit Obligation	390,176

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

Table 3(a)

PINE CITY FIRE DEPARTMENT
RELIEF ASSOCIATION

Projected Benefits for Active Members as of January 1, 1991 [1]

Name	Birth Date	Entry Date	Projected Annual Benefit
J. Armstrong	10/37	4/72	1,000.00
S. Belko	11/54	4/79	1,000.00
D. Carlson	10/58	11/78	1,000.00
T. Chromey	5/58	7/87	1,000.00
J. Frets	4/59	11/88	1,000.00
B. Grinde	11/58	6/82	1,000.00
J. Haney	8/55	6/87	1,000.00
D. Hill	11/54	4/80	1,000.00
B. Jahnz	6/55	11/75	1,000.00
J. Jahnz	3/58	2/77	1,000.00
E. Johnson	5/41	5/70	1,000.00
G. Johnson	12/49	3/82	1,000.00
R. Johnson	10/55	9/75	1,000.00
H. Lindstrom	8/42	1/66	1,000.00
P. Miller	10/63	6/82	1,000.00
L. Neinstadt	5/48	12/81	1,000.00
M. Parker	12/61	10/89	1,000.00
M. Purdy	8/60	5/86	1,000.00
K. Rike	7/41	7/68	1,000.00
C. Rootkie	4/42	10/66	1,000.00
P. Rootkie	7/71	7/89	1,000.00
J. Schmuacher	8/51	10/76	1,000.00
R. Smetana	7/42	11/71	1,000.00
V. Smetana	5/44	12/65	1,000.00
D. Spindler	6/49	2/78	1,000.00
J. Stahlke	1/58	2/81	1,000.00
R. Wasson	11/52	3/84	1,000.00
J. Woll	9/39	7/73	1,000.00

[1] Assumes retirement at age 50 and 20 years of service.

Table 3(b)

PINE CITY FIRE DEPARTMENT
RELIEF ASSOCIATION

Annual Benefits for Inactive Members as of January 1, 1991

Name	Status	Monthly Benefit
J. Berglund	Retired	1,000.00
K. Bible	Retired	1,000.00
H. Buzzard	Retired	1,000.00
D. Cummings	Retired	1,000.00
E. Foster	Retired	1,000.00
R. Foster	Retired	1,000.00
R. Kubesh	Retired	1,000.00
R. Leibel	Retired	1,000.00
J. Miller	Retired	1,000.00
B. Novak	Retired	1,000.00
B. Olson	Retired	1,000.00
D. Olson	Retired	1,000.00
J. Piha	Retired	1,000.00
E. Pavelka	Retired	1,000.00
A. Surdy	Retired	1,000.00
C. Siebert	Retired	1,000.00
A. Skalicky	Retired	1,000.00
J. Skluzacek	Retired	1,000.00
W. Yost	Retired	1,000.00

Table 4

PINE CITY FIRE DEPARTMENT RELIEF ASSOCIATION

Summary of Current Plan Provisions

1.	Normal Retirement Benefit:	Quarterly benefit of $300 payable on retirement after attainment of age 50 and completion of 20 years of service. No credit granted for more than 20 years of service.
2.	Deferred Vested Benefit:	On termination after completion of 20 years of service, a deferred benefit is payable at age 50. The benefit is equal to the normal retirement benefit.
3.	Lump Sum Death Benefit:	$1,500 payable on death of any active or inactive member.
4.	Surviving Spouse's Benefit:	On death of any retired member who has received benefits for fewer than five years, the member's accrued benefit would be payable immediately to the surviving spouse or child for the remainder of the five year period.

Table 5

PINE CITY 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.	Retirement Age:	Members are assumed to retire after attaining age 50 and completing 20 years of service.
4.	Interest Rate:	Five percent compounded annually.
5.	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.