

HIBBING FIREMEN'S RELIEF ASSOCIATION

ACTUARIAL CALCULATIONS PRELIMINARY  
TO CONSOLIDATION

This report incorporates the Laws of Minnesota 1989 Chapter 319.

STATE OF MINNESOTA  
DEPARTMENT OF STATE  
FILED

OCT 6 1989

*Jan Anderson*

Secretary of State

✓ 39653

September 15, 1989

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

**RE:HIBBING FIREMEN'S RELIEF ASSOCIATION**

Commission Members:

We have performed actuarial calculations preliminary to consolidation for the Relief Association as of July 1, 1989 based on membership and financial data supplied by the Relief Association.

This report incorporates the Laws of Minnesota 1989 Chapter 319 which provides for:

- o A level benefit for PERA Police and Fire of 2.5% for all years of service.
- o An increase in the pre-retirement interest rate from 8.0% to 8.5% for PERA Police and Fire, and an increase in both the pre-retirement interest rate and the post-retirement interest rate from 8.0% to 8.5% for the Relief Association. (The new amortization date of 2020 does not apply to a consolidated relief association)
- o A partial post retirement adjustment for individuals in the Minnesota Post Retirement Investment Fund who have received benefits for less than twelve full months.

We certify that to the best of our knowledge and belief this actuarial work was performed in accordance with the requirements of Sections 353A.05 and 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on August 22, 1988.

Respectfully submitted,

THE WYATT COMPANY

*Robert E. Perkins*

Robert E. Perkins, FSA  
Consulting Actuary

*Michael C. Gunvalson*

Michael C. Gunvalson, FSA  
Actuary

cc: The Honorable Arne Carlson, State Auditor  
The Honorable Joan Anderson Growe, Secretary of State  
Howard Bicker, State Board of Investment  
James Hacking, Public Employees Retirement Association  
James Noble, Legislative Auditor  
Thomas J. Triplett, Commissioner of Finance  
Mark Pederson, Secretary of Hibbing Firemen's Relief Association  
Patrick L. Garrity, City Clerk-Treasurer City of Hibbing

## REPORT PRELIMINARY TO CONSOLIDATION

The purpose of this report is to estimate the cost of consolidating the Relief Association with PERA Police and Fire (P&F) as specified in Minnesota Statutes, Chapter 353A prior to potential final municipal approval of the consolidation question.

The consolidation process provides the Relief Association members and their beneficiaries an opportunity to change their retirement benefit plan coverage by electing between Relief Association and P&F benefits. In order to evaluate the financial aspects of consolidation, the costs in Table 1 have been determined under three possible outcomes - all individuals elect Relief Association benefits (column 2), all individuals elect P&F benefits (column 3) and each individual elects the benefit plan which has the greater total benefit plan actuarial value (column 4).

Table 1 also compares the consolidation calculations to those found in the actuarial valuation of the Relief Association as of December 31, 1988, prepared by Gabriel, Roeder, Smith & Company. Since the Relief Association benefits are identical for columns 1 and 2, the differences in liabilities and costs are due primarily to the use of different actuarial assumptions as required by statute, and to a lesser extent, to the differences in data and the date of the calculation. Table 2 shows the data and lists the major assumptions.

Whenever a retired member or the retired member's surviving spouse elects P&F benefits, the reserve for that benefit must be transferred to the Minnesota Post Retirement Investment Fund (MPRIF). The amount to be transferred if all benefit

recipients who are eligible for MPRIF elect P&F benefits is \$3,106,720, which is more than the current market value of assets. This amount includes an estimated increase of 3.8% for those who meet the MPRIF eligibility rules for a January 1, 1990 benefit adjustment.

Current benefit recipients who are not eligible for MPRIF will be paid directly by PERA. Their benefits will be escalated by the same percentage that applies to MPRIF annuitants, however no funds are required to be transferred to MPRIF.

Although the costs shown in Table 1 represent an appropriate range of estimates available today, the costs are subject to change in future years following the consolidation. The true cost of any pension plan is not completely determined until the last benefit payment has been made to the last benefit recipient. Prior to that date, annual budgets are determined by making assumptions regarding future experience.

Each year in the future following consolidation, municipal costs will be redetermined based on the elections made by members and beneficiaries and will consist of the following components:

- . Regular contributions (line 7) - a variable cost which will depend on the compensation of members still active.
  
- . Additional contributions (line 6) - a fixed cost which is an annual amount of \$429,018, the amount required to amortize the initial unfunded consolidation actuarial liability shown in column 4 of Table 1 by the year 2010.

- . Additional contributions (undeterminable at this time) - a variable cost which will depend on actual experience. Any actuarial gains (for example, investment results in excess of 8.5%) will reduce future contributions and actuarial losses (for example, salary increases in excess of 6.5%) will increase future contributions.

HIBBING FIREMEN'S RELIEF ASSOCIATION  
ACTUARIAL CALCULATIONS

TABLE 1

	Prior Valuation	Election Of Benefits Under The Consolidation		
	Relief Association (1) 12/31/88	All Elect Relief Association (2) 7/1/89	All Elect PERA P&F (3) 7/1/89	All Elect Greater Value (4) 7/1/89
Date of Calculations				
Actuarial Present Value of Projected Benefits	\$8,250,164	\$7,445,581	\$6,389,025	\$7,530,185
Actuarial Accrued Liability	6,604,612	6,450,819	5,401,465	6,534,811
Normal Cost	142,346	97,223	87,834	97,833
<u>Determination of Municipality Contributions (Before Adjustment For State Aid)</u>				
1. Actuarial Present Value of Projected Benefits	\$8,250,164	\$7,445,581	\$6,389,025	\$7,530,185
2. Present Value of Future Member Contributions	NA	472,450	518,504	472,450
3. Present Value of Future Regular Municipal Contributions	NA	708,674	777,756	708,674
4. Market Value of Assets	1,786,866	1,820,650 *	3,106,720 **	1,820,650
5. Unfunded Amount to be Amortized (1-2-3-4)	4,829,856 ***	4,443,807	1,986,045	4,528,411
6. Additional Municipal Contribution (5 amortized by 2010)	367,595	421,002 ****	188,156 ****	429,018 ****
7. Regular Municipal Contribution	94,155 *****	68,775	68,775	68,775
8. Total Municipal Contribution (6+7)	461,750	489,777	256,931	497,793

\* Equal to market value reported by Hibbing and assuming no changes by the State Board of Investments.

\*\* Under the assumption that all elect PERA P&F, the City of Hibbing must contribute \$1,286,070 to the existing assets in order to have sufficient cash for transfer to the Post Fund. This extra contribution reduces the unfunded amount to be amortized by the year 2010 (line 5) and reduces the total municipal contribution (line 8) by \$121,841.

\*\*\* Based on the Actuarial Accrued Liability less the Current Assets of \$1,774,756.

\*\*\*\* An increase (decrease) in Market Value of \$100,000 will decrease (increase) the municipal contribution by \$9,474.

\*\*\*\*\* Equals the Employer Normal Cost.

HIBBING FIREMEN'S RELIEF ASSOCIATION  
DATA AND ASSUMPTIONS

TABLE 2

	<u>Prior Valuation</u>	<u>Consolidation Calculation</u>	
	<u>Relief Association</u> (1)	<u>All Elect Relief Association</u> (2)	<u>All Elect PERA P&amp;F</u> (3)
Number in Plan			
Active Members	22	21	21
Deferred Former Members	0	0	0
Retired Members and Beneficiaries	28	30	30
Member Contribution			
Percentage	8.0%	8.0%	8.0%
Compensation Base	\$602,397	\$573,129	\$573,129
Contribution	48,192	45,850	45,850
Municipal Contribution			
Percentage	NA	12.0%	12.0%
Compensation Base	NA	\$573,129	\$573,129
Contribution	NA	68,775	68,775
Interest - Before Retirement	5.0%	8.5%	8.5%
After Retirement	5.0%	8.5%	5.0%
Salary Increase	3.5%	6.5%	6.5%
Post Retirement Benefit Increase	3.5%	6.5%	NA
Retirement Age/Service	58/20	58/20	60/3
Other Assumptions	per Hibbing Firemen's Relief Association Report	per PERA P&F Report	per PERA P&F Report



**HIBBING POLICE RELIEF ASSOCIATION**

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- o A level benefit for PERA Police and Fire of 2.5% for all years of service.
- o An increase in the pre-retirement interest rate from 8.0% to 8.5% for PERA Police and Fire, and an increase in both the pre-retirement interest rate and the post-retirement interest rate from 8.0% to 8.5% for the Relief Association. (The new amortization date of 2020 does not apply to a consolidated relief association)
- o A partial post retirement adjustment for individuals in the Minnesota Post Retirement Investment Fund who have received benefits for less than twelve full months.

We certify that to the best of our knowledge and belief this actuarial work was performed in accordance with the requirements of Sections 353A.05 and 356.215, Minnesota Statutes, and the requirements of the Standards for Actuarial Work, adopted by the Commission on August 22, 1988.

Respectfully submitted,

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cc: The Honorable Arne Carlson, State Auditor  
The Honorable Joan Anderson Growe, Secretary of State  
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John Maras, Hibbing Police Relief Association  
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Table 1 also compares the consolidation calculations to those found in the actuarial valuation of the Relief Association as of December 31, 1988, prepared by Gabriel, Roeder, Smith & Company. Since the Relief Association benefits are identical for columns 1 and 2, the differences in liabilities and costs are due primarily to the use of different actuarial assumptions as required by statute, and to a lesser extent, to the differences in data. Table 2 shows the data and lists the major assumptions.

Whenever a retired member or the retired member's surviving spouse elects P&F benefits, the reserve for that benefit must be transferred to the Minnesota Post Retirement Investment Fund (MPRIF). The amount to be transferred if all benefit

recipients who are eligible for MPRIF elect P&F benefits is \$1,864,197, which is less than the current market value of assets. This amount includes an estimated increase of 3.8% for those who meet the MPRIF eligibility rules for a January 1, 1990 benefit adjustment.

Current benefit recipients who are not eligible for MPRIF will be paid directly by PERA. Their benefits will be escalated by the same percentage that applies to MPRIF annuitants, however no funds are required to be transferred to MPRIF.

Although the costs shown in Table 1 represent an appropriate range of estimates available today, the costs are subject to change in future years following the consolidation. The true cost of any pension plan is not completely determined until the last benefit payment has been made to the last benefit recipient. Prior to that date, annual budgets are determined by making assumptions regarding future experience.

Each year in the future following consolidation, municipal costs will be redetermined based on the elections made by members and beneficiaries and will consist of the following components:

- . Regular contributions (line 7) - a variable cost which will depend on the compensation of members still active.
  
- . Additional contributions (line 6) - a fixed cost which is an annual amount of \$326,333, the amount required to amortize the initial unfunded consolidation actuarial liability shown in column 4 of Table 1 by the year 2010.

Additional contributions (undeterminable at this time) - a variable cost which will depend on actual experience. Any actuarial gains (for example, investment results in excess of 8.5%) will reduce future contributions and actuarial losses (for example, salary increases in excess of 6.5%) will increase future contributions.

HIBBING POLICE RELIEF ASSOCIATION  
ACTUARIAL CALCULATIONS

TABLE 1

	Prior Valuation Relief Association (1) 12/31/88	Election Of Benefits Under The Consolidation		
		All Elect Relief Association (2) 1/1/89	All Elect PERA P&F (3) 1/1/89	All Elect Greater Value (4) 1/1/89
Date of Calculations				
Actuarial Present Value of Projected Benefits	\$7,438,484	\$6,487,624	\$5,394,583	\$6,564,767
Actuarial Accrued Liability	5,793,231	5,457,126	4,349,491	5,529,735
Normal Cost	168,518	116,121	101,455	116,332
<u>Determination of Municipality Contributions (Before Adjustment For State Aid)</u>				
1. Actuarial Present Value of Projected Benefits	\$7,438,484	\$6,487,624	\$5,394,583	\$6,564,767
2. Present Value of Future Member Contributions	NA	469,535	527,251	470,586
3. Present Value of Future Regular Municipal Contributions	NA	704,302	790,876	705,880
4. Market Value of Assets	1,914,935	1,914,935 *	1,914,935 **	1,914,935 *
5. Unfunded Amount to be Amortized (1-2-3-4)	3,839,487 **	3,398,852	2,161,521	3,473,366
6. Additional Municipal Contribution (5 amortized by 2010)	292,219	319,332 ***	203,081 ***	326,333 ***
7. Regular Municipal Contribution	118,697 ****	74,731	74,731	74,731
8. Total Municipal Contribution (6+7)	410,916	394,063	277,812	401,064

\* Equal to market value reported by Hibbing and assuming no changes by the State Board of Investments.

\*\* Based on the Actuarial Accrued Liability less the Current Assets of \$1,953,744.

\*\*\* An increase (decrease) in Market Value of \$100,000 will decrease (increase) the municipal contribution by \$9,395.

\*\*\*\* Equals the Employer Normal Cost.

HIBBING POLICE RELIEF ASSOCIATION  
DATA AND ASSUMPTIONS

TABLE 2

	Prior Valuation	Consolidation Calculation	
	Relief Association (1)	All Elect Relief Association (2)	All Elect PERA P&F (3)
Number in Plan			
Active Members	20	20	20
Deferred Former Members	0	0	0
Retired Members and Beneficiaries	18	18	18
Member Contribution			
Percentage	8.0%	8.0%	8.0%
Compensation Base	\$622,756	\$622,756	\$622,756
Contribution	49,820	49,820	49,820
Municipal Contribution			
Percentage	NA	12.0%	12.0%
Compensation Base	NA	\$622,756	\$622,756
Contribution	NA	74,731	74,731
Interest - Before Retirement	5.0%	8.5%	8.5%
After Retirement	5.0%	8.5%	5.0%
Salary Increase	3.5%	6.5%	6.5%
Post Retirement Benefit Increase	3.5%	6.5%	NA
Retirement Age/Service	58/20	58/20	60/3
Other Assumptions	per Hibbing Police Relief Association Report	per PERA P&F Report	per PERA P&F Report

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*Paul Anderson Howe*  
Secretary of State

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