

STATE OF ALASKA
PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Actuarial Valuation
as of
January 1, 1978

T A B L E O F C O N T E N T S

	<u>Page</u>
SUMMARY	1
ANALYSIS OF THE VALUATION	3
SECTION 1 THE BASIS OF THE VALUATION	9
1.1 BRIEF OUTLINE OF THE PLAN	10
1.2 MISCELLANEOUS INFORMATION AS OF JANUARY 1	17
1.3 ANNUAL EARNINGS BY AGE AND SERVICE	18
1.4 ACTUARIAL METHOD AND ASSUMPTIONS	19
TABLE 1 - PROPOSED EMPLOYEE TURNOVER ASSUMPTIONS	21
TABLE 2 - DISABILITY RATES	22
SECTION 2 DETAILED VALUATION RESULTS	23
2.1 DEVELOPMENT OF VALUATION ASSETS AS OF JANUARY 1, 1978.	24
2.2 BREAKDOWN OF PRESENT VALUE OF BENEFITS	25
2.3 DEVELOPMENT OF CONSOLIDATED EMPLOYER CONTRIBUTION RATE FOR FISCAL YEAR 1979-80	26
2.3(a) DEVELOPMENT OF CONSOLIDATED EMPLOYER CONTRIBUTION RATE FOR FISCAL YEAR 1979-80 ONLY FOR POLICE AND FIRE MEMBERS	27
2.3(b) DEVELOPMENT OF CONSOLIDATED EMPLOYER CONTRIBUTION RATE FOR FISCAL YEAR 1979-80 ONLY FOR "OTHER" MEMBERS	28
2.4 CALCULATION OF TOTAL CONTRIBUTION RATES FOR FISCAL YEAR 1979-80	29
2.4(a) CALCULATION OF TOTAL CONTRIBUTION RATES FOR FISCAL YEAR 1979-80 ONLY FOR POLICE AND FIRE MEMBERS	30
2.4(b) CALCULATION OF TOTAL CONTRIBUTION RATES FOR FISCAL YEAR 1979-80 ONLY FOR "OTHER" MEMBERS	31
2.5 CONTRIBUTION RATES - 30-YEAR AMORTIZATION	32
2.5(a) CONTRIBUTION RATES - 25-YEAR AMORTIZATION	35

Benefit Services / Consulting Actuaries

SUMMARY

In accordance with your request, we have completed a valuation of the Alaska Public Employees' Retirement System as of January 1, 1978. The principal results of the actuarial valuation are presented in this summary and analysis; the two sections which follow are meant to provide the necessary supporting details.

Section 1 presents the fundamental information on which the valuation was based. Included is a summary of plan provisions, information about plan participants, and disclosure of the actuarial method and assumptions used.

Section 2 presents the detailed actuarial valuation results. Its subsections present a step-by-step derivation of the recommended contribution. In addition, information requested by the auditors of the Retirement System is presented.

The purposes of an actuarial valuation are:

1. To examine the status of funding of the Plan, and
2. To determine the contribution rates for the State for each political subdivision in the System.

The most significant results of the valuation are as follows:

	<u>1977</u>	<u>1978</u>
(1) Status of Funding as of January 1		
(a) Valuation Assets	\$159,121,540	\$218,748,056
(b) Present Value of Accrued Benefits	241,611,952	316,421,966
(c) Accrued Benefit Funding Ratio	65.9%	69.1%
(2) Contributions For Fiscal Year	<u>1978-79</u>	<u>1979-80</u>
(a) Consolidated Rate	9.96%	9.82%
(b) Average Past Service Rate	2.09%	1.98%
(c) Average Total Contribution Rate	12.05%	11.80%

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions, in conjunction with employee data provided to us, to determine a sound value for the Plan liabilities. I certify that, to the best of my knowledge and belief, the attached statements are true and correct.

Respectfully submitted,



Robert F. Richardson, MAAA
Vice President

RFR:jn

September 28, 1978

ANALYSIS OF THE VALUATION

Actuarial Method and Assumptions

This actuarial valuation report is based upon the actuarial methods and assumptions adopted at the Spring Board Meeting of the State of Alaska Public Employees' Retirement System in March 1978. The methods and assumptions which were adopted are as follows:

(1) Actuarial Cost Method

Annual contributions will continue to be determined under the attained age normal actuarial cost method. The unfunded past service liability is funded with level payments over 30 years. In this report we have also included calculations based upon a 25-year amortization of unfunded past service liabilities.

(2) Interest

Cost calculations are now based upon a 6% interest assumption rather than the 5% interest assumption which had been used in prior reports.

(3) Salary Scale

The new salary scale is 6% per year until age 39 and 5% per year for ages 40 and up. The prior actuarial assumption assumed 5% per year increases for all ages.

(4) In the new mortality table is the 1971 Group Annuity Table.

Previous reports were based upon the 1951 Group Annuity Mortality Table with projection C to 1965.

(5) Employee Turnover

The new employee turnover table is based upon actual experience

of the System during 1976. The previous employee turnover assumption was based upon a turnover study completed during 1973.

(6) Disability

No change in the disability incidence rate was adopted. Post-disability mortality is now assumed to follow rates recently published by the Pension Benefit Guaranty Corporation which reflect mortality of those receiving Social Security Disability Benefits. The percentage of disabilities which are deemed to be "occupational" was increased from 80% to 94% for police and fire members and it was increased from 20% to 28% for "other" members.

(7) Retirement Age

It is now assumed that employees will retire half way between the earliest age at which they can receive unreduced benefits and age 60. The former actuarial assumption assumed that employees would retire as soon as they could receive unreduced retirement benefits from the System.

(8) Contribution Refund

Based upon actual experience during 1976, it is now assumed that 89% of the employees who terminate after becoming vested but before having ten years of service or attaining age 50, will leave their contributions and thereby retain their deferred vested benefits. All other employees who terminate after becoming vested are assumed to keep their contributions in the System and thereby receive deferred vested benefits.

The former assumption was that only 10% of those terminating would retain their deferred vested benefit. Other participants would take their contributions and thereby forfeit their deferred vested benefit.

(9) C.O.L.A.

No change was made in the assumption that 60% of those receiving retirement benefits would be eligible for cost-of-living adjustments.

(10) Personal Leave

In order to fund for recently enacted legislation, we are now assuming that each employee who receives retirement benefits under the System will have accumulated 4.7 days of unused personal leave for each year of service.

(11) Valuation Assets

In order to take into consideration market value changes in the assets of the total System, assets used for valuation purposes are based upon the three-year average ratio between market and book values. Formerly, the assets used for valuation purposes were set equal to the book value of the System's assets.

Although there were several changes made in actuarial assumptions, there was relatively little impact on the System's accrued benefit funding ratio or upon contribution rates. These new assumptions increased the average total contribution rate from 11.92% to 12.05%. The change in assumptions increased the accrued benefit funding ratio from 64.4% to 65.9%.

Actuarial Experience During 1977

As can be seen in the prior summary, the accrued benefit funding ratio increased from 65.9% to 69.1%. This is one of the best indicators that the System is being funded in a satisfactory manner. Both the consolidated rate and the average past service rate were virtually unchanged, both showing slight drops. This also is a healthy sign indicating that the actuarial methods and assumptions are reasonable, in the aggregate, in determining the cost of benefits under the System. Legislation which allows credit for unused personal leave and the PRPA's granted in July of 1978 led to increases in liabilities and costs. Increases in annual salary greater than our assumed actuarial assumption also tended to increase liabilities and costs. However, factors which tended to reduce costs were the higher than anticipated investment return rate on the funds, the slight decrease in average age, and slightly higher than anticipated employee turnover.

Member Data

As can be seen in Exhibit 1.2, the number of active members, retirees, and beneficiaries continues to grow significantly. While salaries continue to grow rapidly, the percentage increase was down slightly during 1977 when compared with 1976. For example, the average salary of all participants with one or more years of service increased 13% during 1976 while the same average increased only 11.7% during 1977. Salary increases for employees with long service increased even less than that. For example, the average salary of employees with five or more years of service increased from \$24,333 to \$26,597, an increase of 9.3%. As

reported previously, the average age decreased slightly while average credited service remained unchanged at 4.48 years. The number of retirees and beneficiaries likewise continues to grow rapidly, with a resulting decrease in the average age of those receiving benefits with an increase in their average monthly benefit.

Alternate Amortization Periods

In prior years there has been some discussion concerning a reduction in the amortization period. If the amortization period were reduced from 30 years to 25 years, the average total contribution rate for all employers would increase from 11.80% to 11.95%. I have also included in this report how this change in amortization periods would affect the State and all other political subdivisions in the System.

Police and Fire Costs vs. "Other" Costs

In this report I have included exhibits which develop an average contribution rate for police and fire members at 15.82%, with an average total contribution rate for "other" members as being 11.28%. The higher cost associated with police and fire members reflects the higher benefit accrual rate for years of credited service after ten years and the more liberal retirement eligibility provisions. Partially offsetting the higher costs associated with the provisions affecting police and fire members is the fact that they contribute 5% toward their benefits and the fact that their average age (34.92) is almost 2½ years younger than the average age of the "other" members (37.31). Although the average police and fireman has more service than "other" members

(6.25 years vs. 4.32), the average past service rate for police and fire members is less (1.83% vs. 1.99%); again, because of their younger average age.

Summary and Conclusions

The results of this valuation report indicate that the average total contribution rate for the 1979-80 fiscal year should be 11.80%, down slightly from 12.05% for the previous fiscal year. Actuarial gains during 1977 more than offset actuarial losses and increased liabilities due to legislation, thus resulting in an increase in the accrued benefit funding ratio from 65.9% to 69.1%. We do not recommend any changes in actuarial method or assumptions at this time.

SECTION 1

THE BASIS OF THE VALUATION

The foundation of an actuarial valuation is the information and assumptions used in preparing it. In this section, the salient Plan provisions, employee census data, and actuarial methods and assumptions used in preparing the valuation are outlined.

1.1 BRIEF OUTLINE OF THE
ALASKA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

(1) Effective Date

January 1, 1961, with amendments through July 1978.

(2) Administration of Plan

The Commissioner of Administration is responsible for administration of the System, Public Employees' Retirement Board adopts rules and regulations to carry out provisions of the Act, and Commissioner of Revenue invests the Fund. The Attorney General is the attorney for the System and represents it in legal proceedings.

(3) Employers Included

State of Alaska and any political subdivisions and public or quasi-public organizations thereof. As of January 1, 1978, there were 70 participating employer groups in addition to the State for which separate contribution rates are determined.

(4) Employees Included

All permanent full-time or part-time employees of the State and participating political subdivisions, exclusive of those covered by the Alaska Teachers' Retirement System, the Alaska Judges' System, or any employee on whose behalf the State is making contributions to another Retirement System. Elected officials may elect to participate at their option.

(5) Service Considered

Future:

The later of hire, 1/1/61, or date of employers' participation in the System, to date of termination, death, or retirement. Up to 5 years of military service may be recognized if claimed, verified, and appropriate employee contribution paid. Permanent part-time employees receive service credit on a pro-rata basis.

Past:

Service credit for all service with State and Territory prior to January 1, 1961, if the employee completed three years of service after January 1, 1961. Elected official has past service credit only if he pays contributions for all of his service after January 1, 1961. Service with political subdivision prior to its participation in the System is included at the option of the political subdivision.

Break in Future Service:

Any termination. But if employee returns and makes contribution equal to refund paid plus interest, the service before the break is reinstated.

(6) Average Monthly Compensation

Total compensation during three consecutive calendar years of credited service which yield the highest average monthly compensation (total compensation during period divided by number of months included).

(7) Employer Contributions

Separate contribution rate for each employer equal to the sum of:

(1) Consolidated Rate

A uniform rate for all participating employers sufficient to amortize all future service liabilities (less value of employee contributions) over the future working lifetimes of the covered group.

(2) Past Service Rate

A rate determined separately for each employer sufficient to amortize such employer's unfunded past service liabilities over 30 years.

(8) Employee Contributions

Mandatory Employee Contributions:

Police & Fire - 5%

Other - 4 1/4%

Refund at Termination (no vesting):

Return of voluntary and mandatory contributions with interest.

Refund at Death:

If no widow's pension payable, return of voluntary and mandatory contributions with interest.

(9) Normal Retirement Benefit

Eligibility:

The first of the month following the earlier of: age 55 with 5 or more years of Credited Service; or 20 years Credited Service - Police & Fire, or 30 years Credited Service - Other.

Type:

Life only with optional joint and survivor benefit
(actuarially reduced).

Amount:

2% of Average Monthly Compensation for each year of
service - Other.

2% of Average Monthly Compensation for the first 10
years of service plus 2 1/2% for years of service in
excess of 10 - Police & Fire.

(10) Early Retirement Benefit

Eligibility:

Age 50 and 5 or more years Credited Service - all employees.

Type:

Life only.

Amount:

Actuarial equivalent of Normal Retirement Benefit based on
service and compensation to Early Retirement Date.

(11) Deferred Vested Benefit

Eligibility:

Five or more years of Credited Service, withdrawal of
employee contributions voids vested rights.

Type:

Life only or joint and survivor benefit (actuarially
reduced).

Amount:

Monthly benefit begins on employee's Normal Retirement Date.

Amount determined the same as Normal Retirement Benefit taking into account compensation and service prior to termination.

(12) Disability Benefit

Occupational Disability:

Eligibility:

No age or service requirements.

Type:

Monthly benefit payable until death, recovery, or normal retirement.

Amount:

40% of gross monthly compensation at date of disability.

The benefit terminates at Normal Retirement Date with full Normal Retirement Benefit commencing at that point.

Non-Occupational Disability:

Eligibility:

Five or more years of Credited Service.

Type:

Monthly benefit payable until death, recovery, or normal retirement.

Amount:

Same as vested benefit except payments commence immediately.

(13) Death Benefit Before Retirement

Occupational:

No age or service requirements.

Benefit: 40% of gross monthly compensation at date of death or disability, if earlier. At participant's Normal Retirement Date, benefit converts to Normal Retirement benefit based on pay at date of disability or death and credited service, including period from date of disability or death to Normal Retirement Date.

Non-Occupational:

If no widow's benefit is payable, lump-sum death benefit of \$1,000 plus \$100 per each completed year of Credited Service and the participant's contributions with interest. Alternatively, an income benefit is available at death after five years of Credited Service based on 50% Joint and Survivor equivalent of accrued Normal Retirement Benefit.

(14) Death Benefits After Retirement

The employee's beneficiary receives a lump sum equal to the excess of his contribution account immediately prior to retirement over the sum of the pension payments previously received by the employee.

(15) Post-Retirement Pension Adjustment

Commissioner of Administration may recommend post-retirement increases on account of increasing cost of living up to 4% each year.

(16) Cost-of-Living Allowance

A retired employee who remains in Alaska is eligible for an additional allowance, equal to 10% of his basic retirement benefit,

or \$50 per month, whichever is greater. A person who receives a surviving spouse's pension shall receive an additional allowance of 75% of the allowance payable to a retired employee, if he or she stays in Alaska.

(17) Optional Employee Savings Account

An employee can voluntarily contribute up to 5% of his compensation. This amount is recorded in a separate account and is payable:

- (a) In the event of termination before retirement for any reason other than death, as a lump sum to the employee,
- (b) In the event of termination on account of death, as a lump sum to the employee's beneficiary,
- (c) On retirement, as a lump sum, life annuity on cash refund basis or installments over limited period.

1.2 MISCELLANEOUS INFORMATION

AS OF JANUARY 1

	<u>Active Members</u>		
	<u>1976</u>	<u>1977</u>	<u>1978</u>
(1) Number	13,789	14,804	16,623
(2) Number With Complete Information	13,427	14,545	16,068
(3) Average Age	37.70	37.29	37.11
(4) Average Service	4.34	4.48	4.48
(5) Average Annual Salary	\$16,535	\$18,232	\$20,559

	<u>Retirees and Beneficiaries</u>		
(1) Number	941	1,339	1,683
(2) Average Age	64.04	63.38	62.82
(3) Average Monthly Benefit	\$ 346	\$ 416	\$ 498

STATE OF ALASKA - PUBLIC EMPLOYEES RETIREMENT SYSTEM

VALUATION DATE: 1/1/78

1.3 ANNUAL EARNINGS BY AGE AND SERVICE

AGE GROUP	ANNUAL EARNINGS BY AGE		ANNUAL EARNINGS BY SERVICE	
	TOTAL ANNUAL EARNINGS	AVERAGE ANNUAL EARNINGS	TOTAL ANNUAL EARNINGS	AVERAGE ANNUAL EARNINGS
0-19	3562865.	11837.	0	13356.
20-24	28884752.	14790.	1	18235.
25-29	59244216.	18450.	2	20479.
30-34	64187612.	20935.	3	21825.
35-39	49003000.	22634.	4	22453.
40-44	38910636.	22835.	0-4	17935.
45-49	35631536.	23304.	5-9	24450.
50-54	29304846.	23463.	10-14	28174.
55-59	19383964.	23159.	15-19	30599.
60-64	10218692.	22810.	20-24	31155.
65-69	2968857.	21830.	25-29	33134.
70-74	412631.	18756.	30-34	32354.
75-79	30615.	15307.	35-39	0.
80+	0.	0.	40+	0.
TOTAL	341744256.	20559.	TOTAL	20559.

SERVICE GROUPS BY AGE GROUPS

AGE GROUP	SERVICE GROUPS BY AGE GROUPS										TOTAL	
	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL	AVERAGE ANNUAL EARNINGS		
0-19	0	0	0	0	0	0	0	0	0	0	301	13356.
20-24	29	0	0	0	0	0	0	0	0	0	1953	18235.
25-29	367	7	1	0	0	0	0	0	0	0	3211	20479.
30-34	604	141	5	0	0	0	0	0	0	0	3066	21825.
35-39	507	240	89	0	0	0	0	0	0	0	2165	22453.
40-44	331	185	149	25	0	0	0	0	0	0	1704	17935.
45-49	339	204	144	67	11	0	0	0	0	0	1529	24450.
50-54	274	222	137	48	16	3	0	0	0	0	1249	28174.
55-59	210	158	76	31	20	4	0	0	0	0	837	30599.
60-64	113	82	54	32	8	1	0	0	0	0	448	31155.
65-69	42	26	14	4	2	1	0	0	0	0	136	33134.
70-74	4	2	3	1	0	0	0	0	0	0	22	32354.
75-79	1	0	0	0	0	0	0	0	0	0	2	0.
80+	0	0	0	0	0	0	0	0	0	0	0	0.
TOTAL	2821	1267	672	208	57	9	0	0	0	0	16623	20559.

1.4 ACTUARIAL METHOD AND ASSUMPTIONS

Valuation of Liabilities

- A. Actuarial Method - Attained Age Normal, also known as Aggregate Method with Supplemental Liability. The unfunded accrued benefit liability is amortized over 30 years.
- B. Actuarial Assumptions -
1. Interest 6% per year, compounded annually, net of investment expenses.
 2. Salary Scale 6% per year until age 39 and 5% per year for ages 40 and up.
 3. Mortality 1971 Group Annuity Mortality Table.
 4. Turnover Based upon the 1976 actual total turnover experience. (See Table 1).
 5. Disability Incidence rates in accordance with Table 2. Post-disability mortality in accordance with rates published by the Pension Benefit Guaranty Corporation to reflect mortality of those receiving disability benefits under Social Security. 94% of the disabilities are assumed to be occupational for police and fire; 28% for others.
 6. Retirement Age The average of age 60 and the earliest age for which unreduced retirement benefits will be available.
 7. Contribution Refunds 89% of those terminating before age 50 with 5 to 10 years of service will leave their contributions and thereby retain their deferred vested benefit. All others who terminate after becoming vested are assumed to keep their contributions in the System.
 8. C.O.L.A. 60% of those receiving retirement benefits will be eligible for C.O.L.A.
 9. Personal Leave 4.7 days of unused personal leave will be available for each year of service.
 10. Expenses No loading for expenses.

Valuation of Assets

Based upon the three-year average ratio between market and book values of the System's assets.

TABLE 1
 PROPOSED EMPLOYEE TURNOVER ASSUMPTIONS

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	.3274	.3753
21	.3175	.3710
22	.3076	.3668
23	.2588	.3420
24	.2100	.3180
25	.1750	.2950
26	.1400	.2733
27	.1050	.2516
28	.1043	.2437
29	.1037	.2358
30	.1031	.2280
31	.1025	.2202
32	.1019	.2124
33	.1016	.2043
34	.1013	.1962
35	.1010	.1881
36	.1007	.1800
37	.1004	.1719
38	.0957	.1679
39	.0910	.1639
40	.0863	.1600
41	.0816	.1561
42	.0766	.1522
43	.0753	.1453
44	.0740	.1384
45	.0727	.1315
46	.0714	.1246
47	.0700	.1179
48	.0767	.1150
49	.0834	.1120
50	.0901	.1090
51	.0968	.1060
52	.1037	.1031
53	.1070	.1050
54	.1085	.1069
55	.1100	.1088
56	.1115	.1107
57	.1130	.1126
58	.1135	.1145
59	.1140	.1164
60 and up	.1145	.1183

TABLE 2
 PUBLIC EMPLOYEES' RETIREMENT SYSTEM
 OF ALASKA

Disability Rates

All Employees

Annual Rates Per 1,000 Employees

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.70	45	1.62
21	.71	46	1.76
22	.72	47	1.91
23	.73	48	2.07
24	.74	49	2.23
25	.75	50	2.40
26	.76	51	2.60
27	.78	52	2.86
28	.80	53	3.18
29	.82	54	3.55
30	.84	55	4.00
31	.86	56	4.59
32	.88	57	5.34
33	.90	58	6.10
34	.93	59	7.20
35	.96	60	8.43
36	.99	61	9.75
37	1.03	62	11.30
38	1.07	63	13.05
39	1.11	64	14.90
40	1.15		
41	1.20		
42	1.27		
43	1.36		
44	1.48		

SECTION 2
DETAILED VALUATION RESULTS

This section presents in detail the results of the actuarial valuation that were outlined in the Summary.

2.1 DEVELOPMENT OF VALUATION ASSETS

AS OF JANUARY 1, 1978

	<u>Market Value</u>	<u>Book Value</u>	<u>Ratio (M/B)</u>
(1) January 1, 1978	\$218,022,012	\$217,789,781	1.0011
(2) January 1, 1977	169,378,688	164,408,624	1.0302
(3) January 1, 1976	118,578,687	120,780,957	.9818
(4) Average Ratio			1.0044
(5) Book Value at January 1, 1978			\$217,789,781
(6) Valuation Assets at January 1, 1978 (4) x (5)			\$218,748,056

2.2 BREAKDOWN OF PRESENT VALUE
OF BENEFITS

	<u>Present Value of Accrued Benefit</u>	<u>Present Value of Fully Projected Benefit</u>
Retirement Benefits	\$106,402,935	\$266,864,323
Termination Benefits	81,150,479	232,310,974
Disability Benefits	4,209,535	9,624,411
Death Benefits	10,212,815	21,717,767
Voluntary Contributions	196,308	196,308
Liability for Inactive Members	<u>13,621,610</u>	<u>13,621,610</u>
Total Present Value of Benefits for all Non-Retired Members	<u>\$215,793,682</u>	<u>\$544,335,393</u>
Present Value of Benefits for Retirees	\$100,628,284	\$100,628,284
Total Present Value of Benefits	<u>\$316,421,966</u>	<u>\$644,963,677</u>

2.3 DEVELOPMENT OF CONSOLIDATED
EMPLOYER CONTRIBUTION RATE
FOR FISCAL YEAR 1979-80

(1) Present Value of Fully Projected Benefits	\$644,963,677
(2) Present Value of Accrued Benefits	316,421,966
(3) Present Value of Future Member Contributions	98,978,085
(4) Present Value of Future Consolidated Employer Contributions (1) - (2) - (3)	229,563,626
(5) Present Value of Future Salaries	2,437,824,903
(6) Consolidated Employer Contribution Rate for All Members (4) ÷ (5)	9.42%
(7) Rate for Retiree Medical Insurance	.40%
(8) Total Consolidated Employer Contribution Rate	<u>9.82%</u>

2.3(a) DEVELOPMENT OF CONSOLIDATED
EMPLOYER CONTRIBUTION RATE
FOR FISCAL YEAR 1979-80
ONLY FOR POLICE AND FIRE MEMBERS

(1) Present Value of Fully Projected Benefits	\$86,584,290
(2) Present Value of Accrued Benefits	32,999,030
(3) Present Value of Future Member Contributions	16,294,250
(4) Present Value of Future Consolidated Employer Contributions (1) - (2) - (3)	37,291,010
(5) Present Value of Future Salaries	274,414,287
(6) Consolidated Employer Contribution Rate For Police and Fire Members	13.59%
(7) Rate for Retiree Medical Insurance	.40%
(8) Total Consolidated Employer Contribution Rate for Police and Fire Members	13.99%

2.3(b) DEVELOPMENT OF CONSOLIDATED
EMPLOYER CONTRIBUTION RATE
FOR FISCAL YEAR 1979-80
ONLY FOR "OTHER"* MEMBERS

(1) Present Value of Fully Projected Benefits	\$558,379,387
(2) Present Value of Accrued Benefits	283,422,936
(3) Present Value of Future Member Contributions	82,683,835
(4) Present Value of Future Consolidated Employer Contributions (1) - (2) - (3)	192,272,616
(5) Present Value of Future Salaries	2,163,410,616
(6) Consolidated Employer Contribution Rate For "Other" Members	8.89%
(7) Rate for Retiree Medical Insurance	.40%
(8) Total Consolidated Employer Contribution Rate For "Other" Members	9.29%

* "Other" excludes police and fire members and includes elected officials and all remaining employees.

2.4 CALCULATION OF TOTAL CONTRIBUTION RATES
FOR FISCAL YEAR 1979-80

(1) Present Value of Accrued Benefits	\$316,421,966
(2) Valuation Assets	218,748,056
(3) Total Unfunded Liability	97,673,910
(4) 30-Year Amortization Factor	14.590721
(5) Past Service Payment	6,694,248
(6) Total Salaries	338,699,692
(7) Average Past Service Rate	1.98%
(8) Consolidated Rate	9.82%
(9) Average Total Contribution Rate	11.80%

2.4(a) CALCULATION OF TOTAL CONTRIBUTION RATES
FOR FISCAL YEAR 1979-80
ONLY FOR POLICE AND FIRE MEMBERS

(1) Present Value of Accrued Benefits	\$32,999,030
(2) Valuation Assets	22,812,808*
(3) Total Unfunded Liability	10,186,222
(4) 30-Year Amortization Factor	14.590721
(5) Past Service Payment	698,130
(6) Total Salaries	38,125,804
(7) Past Service Rate	1.83%
(8) Consolidated Rate	13.99%
(9) Total Contribution Rate	15.82%

* Pro-rating assets over present value of accrued benefits.

2.4(b) CALCULATION OF TOTAL CONTRIBUTION RATES
FOR FISCAL YEAR 1979-80
ONLY FOR "OTHER" MEMBERS

(1) Present Value of Accrued Benefits	\$283,422,936
(2) Valuation Assets	195,935,248*
(3) Total Unfunded Liability	87,487,688
(4) 30-Year Amortization Factor	14.590721
(5) Past Service Payment	5,996,118
(6) Total Salaries	300,573,888
(7) Past Service Rate	1.99%
(8) Consolidated Rate	9.29%
(9) Total Contribution Rate	11.28%

* Pro-rating assets over present value of accrued benefits.

2.5 CONTRIBUTION RATES

30-YEAR AMORTIZATION

FOR THE FISCAL YEAR STARTING JULY 1, 1979
BASED UPON A 30-YEAR AMORTIZATION OF THE UNFUNDED LIABILITY

	ACCRUED LIABILITY	ADJUSTED ASSETS	UNFUNDED LIABILITY	ANNUAL EARNINGS	CONSOL. RATE	PAST SRV RATE	TOTAL RATE	RATE GROUP
1 STATE OF ALASKA	137047066.	75734661.	61312405.	188543370.	9.82	2.23	12.05	
2 SOUTH WEST REGION SCHOOL DISTRICT	51294.	63200.	-11906.	463994.	9.82	-0.18	9.64	
3 ARNETTE ISLAND SCHOOL DISTRICT	139685.	44202.	95483.	447230.	9.82	1.46	11.28	
4 BERING STRAITS SCHOOL DISTRICT	107047.	83301.	23746.	611786.	9.82	0.27	10.09	
5 CHATHAM SCHOOL DISTRICT	46231.	16376.	29855.	74410.	9.82	2.75	12.57	
6 ALASKA MUNICIPAL LEAGUE	125037.	59188.	65849.	77252.	9.82	5.84	15.66	
7 VALDEZ, CITY OF	532722.	316783.	215939.	1048674.	9.82	1.41	11.23	
8 JUREAU BOROUGH SCHOOL DISTRICT	1234416.	653220.	581196.	2264548.	9.82	1.76	11.58	
9 MATANUSKA-SUSTITNA BOROUGH	534005.	540366.	-6361.	1179909.	9.82	1.89	11.71	1
10 MATANUSKA-SUSTITNA SCHOOL	1047601.	318666.	728935.	1439224.	9.82	1.89	11.71	1
11 ANCHORAGE BOROUGH SCHOOL	15657694.	5288136.	10369558.	25392816.	9.82	2.80	12.62	3
12 COPPER RIVER SCHOOL DISTRICT	172798.	80660.	92138.	562360.	9.82	1.12	10.94	
13 UNIVERSITY OF ALASKA	9732055.	7723596.	2008459.	20403427.	9.82	0.69	10.51	
14 HAINES, CITY OF	72222.	71264.	959.	227429.	9.82	0.03	9.85	
15 KENAI, CITY OF	361175.	544849.	-183674.	1088750.	9.82	-1.16	8.66	
16 NORTH STAR BOROUGH	1028045.	1091565.	-63520.	3061310.	9.82	0.57	10.39	4
17 NORTH STAR BOROUGH SCHOOL DISTRICT	2724630.	1865677.	858953.	6567520.	9.82	0.57	10.39	4
18 ALASKA CENTRAL RAILHELT SCHOOLS	92187.	27260.	64927.	468162.	9.82	0.95	10.77	
19 UNIVERSITY OF ALASKA - GFO.	1228106.	978500.	249606.	1869724.	9.82	0.69	10.51	3
20 CITY AND BOROUGH OF SITKA	1258123.	640381.	617742.	1501394.	9.82	2.22	12.04	5
21 CHUGACH REGIONAL SCHOOL DISTRICT	1999.	-8134.	10133.	33113.	9.82	2.10	11.92	
22 GATEWAY BOROUGH	199837.	208761.	-8924.	506697.	9.82	-0.17	9.70	
23 SOLDOTNA, CITY OF	16833.	44173.	-27340.	159992.	9.82	-1.17	8.65	
24 IDITAROD AREA SCHOOL DISTRICT	29709.	34680.	-4971.	360979.	9.82	-0.09	9.73	
25 KUSPUK SCHOOL DISTRICT	15174.	36591.	-21417.	217387.	9.82	-0.68	9.14	

STATE OF ALASKA - P.F.R.S. CONTRIBUTION RATES.
 FOR THE FISCAL YEAR STARTING JULY 1, 1979
 BASED UPON A 30-YEAR AMORTIZATION OF THE UNFUNDED LIABILITY

	ACCRUED LIABILITY	ADJUSTED ASSETS	UNFUNDED LIABILITY	ANNUAL EARNINGS	CONSOL. RATE	PAST SRV RATE	TOTAL RATE	RATE GROUP
26 CITY AND BOROUGH OF JUNEAU	3849822.	3224297.	625525.	6647975.	9.82	0.64	10.46	
27 SELAWIK CITY SCHOOL DISTRICT	28135.	145071.	-116936.	93121.	9.82	-8.61	1.21	
28 KODIAK, CITY OF	1116860.	607455.	509405.	1567522.	9.82	2.23	12.05	
29 FAIRBANKS, CITY OF	4753795.	2198563.	2555232.	7198053.	9.82	2.88	12.70	6
30 FAIRBANKS PUBLIC UTILITIES	2027226.	374164.	1653062.	2803674.	9.82	2.88	12.70	6
31 ANCHORAGE, GREATER BOROUGH	0.	0.	0.	0.	9.82	0.00	9.82	2
32 SKAGWAY, CITY OF	50623.	61989.	-11366.	205079.	9.82	-0.38	9.44	
33 SITKA, BOROUGH SCHOOLS	478515.	320623.	157892.	896688.	9.82	2.22	12.04	5
34 ANCHORAGE, CITY OF	0.	0.	0.	0.	9.82	0.00	9.82	2
35 WRANGELL, CITY OF	319417.	183951.	135466.	611476.	9.82	1.52	11.34	
36 BETHEL, CITY OF	17854.	27920.	-10066.	70068.	9.82	-0.98	8.84	
37 VALDEZ CITY SCHOOLS	82888.	88696.	-5808.	356125.	9.82	-0.11	9.71	
38 HOONAH CITY SCHOOLS	234002.	79355.	154647.	429958.	9.82	2.47	12.29	
39 NOME MUNICIPAL UTILITIES	409519.	213610.	195909.	786606.	9.82	1.71	11.53	
40 KOTZEBUE, CITY OF	18110.	68663.	-50553.	143512.	9.82	-2.41	7.41	
41 GALENA CITY SCHOOLS	14089.	21189.	-7100.	59807.	9.82	-0.81	9.01	
42 KING COVE CITY SCHOOL DISTRICT	26095.	16554.	9541.	71941.	9.82	0.91	10.73	
43 PETERSBURG, CITY OF	728178.	173497.	554681.	1043433.	9.82	3.64	13.46	
44 BRISTOL BAY BOROUGH	285522.	42653.	242869.	217106.	9.82	7.67	17.49	
45 NORTH SLOPE BOROUGH	687679.	460424.	227255.	2139310.	9.82	0.73	10.55	
46 WRANGELL SCHOOLS	22256.	11461.	10795.	71831.	9.82	1.03	10.85	
47 UNORGANIZED BOROUGH SCHOOLS	232775.	554306.	-321531.	516537.	9.82	-4.27	5.55	
48 CORDOVA, CITY OF	267132.	153692.	113440.	611823.	9.82	1.27	11.09	
49 NOME CITY SCHOOLS	242748.	-44286.	287034.	643407.	9.82	3.06	12.88	
50 DELTA JUNCTION, CITY OF	0.	11618.	0.	0.	9.82	0.00	9.82	

STATE OF ALASKA - P.E.R.S. CONTRIBUTION RATES
 FOR THE FISCAL YEAR STARTING JULY 1, 1979
 BASED UPON A 30-YEAR AMORTIZATION OF THE UNFUNDED LIABILITY

	ACCURED LIABILITY	ADJUSTED ASSETS	UNFUNDED LIABILITY	ANNUAL EARNINGS	CONSOI. RATE	PAST SRV RATE	TOTAL RATE	RATE GROUP
51 KING COVE, CITY OF	9928.	13720.	-3792.	99230.	9.82	-0.26	9.56	
52 ALASKA HOUSING FINANCE CORPORATION	65163.	378491	27314.	189019.	9.82	0.99	10.81	
53 LOWER YUKON SCHOOL DISTRICT	112868.	77130.	35738.	1087517.	9.82	0.23	10.05	
54 NORTHWEST ARCTIC SCHOOL DISTRICT	551839.	301672.	250167.	2476674.	9.82	0.69	10.51	
55 SOUTHEAST ISLANDS SCHOOL DISTRICT	7074.	14250.	-7176.	61334.	9.82	-0.80	9.02	
56 PRINCE OF REGION SCHOOL DISTRICT	37171.	22650.	14523.	178735.	9.82	0.56	10.38	
57 LOWER KUSKOKWIM SCHOOL DISTRICT	249373.	206185.	43188.	1289843.	9.82	0.23	10.05	
58 KODIAK ISLAND BOROUGH SCHOOL DISTRICT	648781.	162060.	486721.	1536592.	9.82	2.17	11.99	
59 YUKON FLATS SCHOOL DISTRICT	113373.	64985.	48388.	591920.	9.82	0.56	10.38	
60 YUKON-KOYUKOK SCHOOL DISTRICT	131105.	80404.	50701.	614750.	9.82	0.57	10.39	
61 NORTH SLOPE BOROUGH SCHOOL DISTRICT	306953.	410441.	-103488.	2653016.	9.82	-0.27	9.55	
62 ALEUTIAN REGION SCHOOL DISTRICT	43639.	35745.	7894.	181213.	9.82	0.30	10.12	
63 CORDOVA COMMUNITY HOSPITAL	236232.	75817.	160415.	423615.	9.82	2.60	12.42	
64 LAKE AND PENINSULA SCHOOL DISTRICT	55551.	38618.	16933.	241731.	9.82	0.48	10.30	
65 SITKA COMMUNITY HOSPITAL	173799.	78799.	95000.	616919.	9.82	1.06	10.88	
66 SOUTH CENTRAL REGIONAL RESOURCE CENTER	1527.	6250.	-4723.	37409.	9.82	-0.87	8.95	
67 SOUTH EAST REGIONAL RESOURCE CENTER	2528.	5459.	-2931.	13957.	9.82	-1.44	8.38	
68 BRISTOL BAY REGIONAL RESOURCE CENTER	1015.	1283.	-268.	26687.	9.82	-0.07	9.75	
69 NORTHWEST REGIONAL RESOURCE CENTER	866.	2047.	-1181.	11176.	9.82	-0.72	9.10	
70 NORTH PACIFIC FISHERY MANAGEMENT COUNCIL	4740.	7382.	-2642.	52568.	9.82	-0.34	9.48	
71 WESTERN REGIONAL RESOURCE CENTER	1244.	1505.	-261.	32992.	9.82	-0.05	9.77	
72 CITY OF ST. PAUL	3047.	3101.	-54.	39302.	9.82	-0.01	9.81	
73 MUNICIPALITY OF ANCHORAGE	1458921.	10981921.	3608000.	19551853.	9.82	0.29	10.11	2
** STATE & POLITICAL SUBDIVISION TOTALS	206696670.	118071044.	88625626.	317764761.	9.82	1.91	11.73	

2.5(a) CONTRIBUTION RATES

FOR THE FISCAL YEAR STARTING JULY 1, 1979
 BASED UPON A 25-YEAR AMORTIZATION OF THE UNFUNDED LIABILITY

	ACCRUED LIABILITY	ADJUSTED ASSETS	UNFUNDED LIABILITY	ANNUAL EARNINGS	CONSOI. RATE	PAST SRV RATE	TOTAL RATE	RATE GROUP
1 STATE OF ALASKA	137047066.	75734661.	61312405.	188543370.	9.82	2.40	12.22	
2 SOUTH WEST REGION SCHOOL DISTRICT	51294.	63200.	-11906.	463994.	9.82	-0.19	9.63	
3 ANNETTE ISLAND SCHOOL DISTRICT	139685.	44202.	95483.	447230.	9.82	1.58	11.40	
4 BERING STRAITS SCHOOL DISTRICT	107047.	83301.	23746.	611786.	9.82	0.29	10.11	
5 CHATHAM SCHOOL DISTRICT	46231.	16376.	29855.	74410.	9.82	2.96	12.78	
6 ALASKA MUNICIPAL LEAGUE	125037.	59188.	65849.	77252.	9.82	6.29	16.11	
7 VALDEZ, CITY OF	532722.	316783.	215939.	1048674.	9.82	1.52	11.34	
8 JUNEAU BOROUGH SCHOOL DISTRICT	1234416.	653220.	581196.	2264548.	9.82	1.89	11.71	
9 MATANUSKA-SUSITNA BOROUGH	534005.	540366.	-6361.	1179909.	9.82	2.04	11.86	1
10 MATANUSKA-SUSITNA SCHOOL	1047601.	318666.	728935.	1439224.	9.82	2.04	11.86	1
11 ANCHORAGE BOROUGH SCHOOL	15657694.	5288136.	10369558.	25392816.	9.82	3.01	12.83	
12 COPPER RIVER SCHOOL DISTRICT	172798.	80660.	92138.	562360.	9.82	1.21	11.03	
13 UNIVERSITY OF ALASKA	9732055.	7723596.	2008459.	20403427.	9.82	0.75	10.57	3
14 BAINES, CITY OF	72222.	71264.	958.	227429.	9.82	0.03	9.85	
15 KENAI, CITY OF	361175.	544849.	-183674.	1088750.	9.82	-1.24	8.58	
16 NORTH STAR BOROUGH	1028045.	1091565.	-63520.	3061310.	9.82	0.61	10.43	4
17 NORTH STAR BOROUGH SCHOOL DISTRICT	2724630.	1865677.	858953.	6567520.	9.82	0.61	10.43	4
18 ALASKA CENTRAL RAILBELT-SCHOOLS	92187.	27260.	64927.	468162.	9.82	1.02	10.84	
19 UNIVERSITY OF ALASKA - GEN.	1228106.	978500.	249606.	1869724.	9.82	0.75	10.57	3
20 CITY AND BOROUGH OF SITKA	1258123.	640381.	617742.	1501394.	9.82	2.39	12.21	5
21 CHUGACH REGIONAL SCHOOL DISTRICT	1999.	-8134.	10133.	33113.	9.82	2.26	12.08	
22 GATEWAY BOROUGH	199837.	208761.	-8924.	506697.	9.82	-0.13	9.69	
23 SOLDOTNA, CITY OF	16833.	44173.	27340.	159992.	9.82	-1.26	8.56	
24 IDITAROD AREA SCHOOL DISTRICT	29709.	14680.	-4971.	360979.	9.82	-0.10	9.72	
25 KUSPIK SCHOOL DISTRICT	15174.	36591.	-21417.	217387.	9.82	-0.73	9.09	

25-YEAR AMORTIZATION

FOR THE FISCAL YEAR STARTING JULY 1, 1979
 BASED UPON A 25-YEAR AMORTIZATION OF THE UNFUNDED LIABILITY

	ACCRUED LIABILITY	ADJUSTED ASSETS	UNFUNDED LIABILITY	ANNUAL EARNINGS	CONSOL. RATE	PAST SRV RATE	TOTAL RATE	RATE GROUP
26 CITY AND BOROUGH OF JUNEAU	3849822.	3224297.	625525.	6647975.	9.82	0.69	10.51	
27 SELAWIK CITY SCHOOL DISTRICT	28135.	145071.	-116936.	93121.	9.82	-9.27	0.55	
28 KODIAK, CITY OF	1116860.	607455.	509405.	1567522.	9.82	2.40	12.22	
29 FAIRBANKS, CITY OF	4753795.	2198563.	2555232.	7198053.	9.82	3.11	12.93	6
30 FAIRBANKS PUBLIC UTILITIES	2027226.	374164.	1653062.	2803674.	9.82	3.11	12.93	6
31 ANCHORAGE, GREATER BOROUGH	0.	0.	0.	0.	9.82	0.00	9.82	2
32 SKAGWAY, CITY OF	50623.	61989.	-11366.	205079.	9.82	-0.41	9.41	
33 SITKA, BOROUGH SCHOOLS	478515.	320623.	157892.	896688.	9.82	2.39	12.21	5
34 ANCHORAGE, CITY OF	0.	0.	0.	0.	9.82	0.00	9.82	2
35 WRANGELL, CITY OF	319417.	183951.	135466.	611476.	9.82	1.63	11.45	
36 BETHEL, CITY OF	17854.	27920.	-10066.	70068.	9.82	-1.06	8.76	
37 VALDEZ CITY SCHOOLS	82888.	88696.	-5808.	356325.	9.82	-0.12	9.70	
38 HOONAH CITY SCHOOLS	234002.	79355.	154647.	429958.	9.82	2.65	12.47	
39 NOME MUNICIPAL UTILITIES	409519.	213610.	195909.	786606.	9.82	1.84	11.66	
40 KOTZEBU, CITY OF	18110.	68663.	-50553.	143512.	9.82	-2.60	7.22	
41 GALENA CITY SCHOOLS	14089.	21189.	-7100.	59807.	9.82	-0.88	8.94	
42 KING COVE CITY SCHOOL DISTRICT	26095.	16554.	9541.	71941.	9.82	0.98	10.80	
43 PETERSBURG, CITY OF	728178.	173497.	554681.	1043433.	9.82	3.92	13.74	
44 BRISTOL BAY BOROUGH	285522.	42653.	242869.	217106.	9.82	8.26	18.08	
45 NORTH SLOPE BOROUGH	687679.	460424.	227255.	2139310.	9.82	0.78	10.60	
46 WRANGELL SCHOOLS	22256.	11461.	10795.	71831.	9.82	1.11	10.93	
47 UNORGANIZED BOROUGH SCHOOLS	232775.	554306.	-321531.	516537.	9.82	-4.59	5.23	
48 COOROVA, CITY OF	267132.	153692.	113440.	611823.	9.82	1.37	11.19	
49 NOME CITY SCHOOLS	242748.	-44286.	287034.	643407.	9.82	3.29	13.11	
50 DELTA JUNCTION, CITY OF	0.	11618.	0.	0.	9.82	0.00	9.82	

STATE OF ALASKA - P.E.R.S. CONTRIBUTION RATES
 FOR THE FISCAL YEAR STARTING JULY 1, 1979
 BASED UPON A 25-YEAR AMORTIZATION OF THE UNFUNDED LIABILITY

	ACCURED LIABILITY	ADJUSTED ASSETS	UNFUNDED LIABILITY	ANNUAL EARNINGS	CONSOL. RATE	PAST SRV RATE	TOTAL RATE	RATE GROUP
51 KING COVE. CITY OF	9928.	13720.	-3792.	99230.	9.82	-0.28	9.54	
52 ALASKA HOUSING FINANCE CORPORATION	65163.	37849.	-27314.	189019.	9.82	1.07	10.89	
53 LOWER YUKON SCHOOL DISTRICT	112868.	77130.	-35738.	1087517.	9.82	0.24	10.06	
54 NORTHWEST ARCTIC SCHOOL DISTRICT	551839.	301672.	-250167.	2476674.	9.82	0.75	10.57	
55 SOUTHEAST ISLANDS SCHOOL DISTRICT	7074.	14250.	-7176.	61334.	9.82	-0.86	8.96	
56 PRIBILOF REGION SCHOOL DISTRICT	37173.	22650.	-14523.	178735.	9.82	0.60	10.42	
57 LOWER KUSKOKWIM SCHOOL DISTRICT	249373.	206185.	43188.	1289843.	9.82	0.25	10.07	
58 KODIAK ISLAND BOROUGH SCHOOL DISTRICT	648781.	162060.	486721.	1536592.	9.82	2.34	12.16	
59 YUKON FLATS SCHOOL DISTRICT	113373.	64985.	48388.	591920.	9.82	0.60	10.42	
60 YUKON-KOYUKOK SCHOOL DISTRICT	131105.	80404.	50701.	614750.	9.82	0.61	10.43	
61 NORTH SLOPE BOROUGH SCHOOL DISTRICT	306953.	410441.	-103488.	2653016.	9.82	-0.29	9.53	
62 ALPHEMIAN REGION SCHOOL DISTRICT	43639.	55745.	7894.	181213.	9.82	0.32	10.14	
63 CORDOVA COMMUNITY HOSPITAL	236232.	75817.	160415.	423615.	9.82	2.79	12.61	
64 LAKE AND PENINSULA SCHOOL DISTRICT	55551.	38618.	16933.	241731.	9.82	0.52	10.34	
65 SITKA COMMUNITY HOSPITAL	173799.	78799.	95000.	616919.	9.82	1.14	10.96	
66 SOUTH CENTRAL REGIONAL RESOURCE CENTER	1527.	6250.	-4723.	37409.	9.82	-0.93	8.89	
67 SOUTH EAST REGIONAL RESOURCE CENTER	2528.	5459.	-2931.	13957.	9.82	-1.55	8.27	
68 BRISTOL BAY REGIONAL RESOURCE CENTER	1015.	1283.	-268.	26687.	9.82	-0.07	9.75	
69 NORTHWEST REGIONAL RESOURCE CENTER	866.	2047.	-1181.	11176.	9.82	-0.78	9.04	
70 NORTH PACIFIC FISHERY MANAGEMENT COUNCIL	4740.	7382.	-2642.	52568.	9.82	-0.37	9.45	
71 WESTERN REGIONAL RESOURCE CENTER	1244.	1505.	-261.	32992.	9.82	-0.06	9.76	
72 CITY OF ST. PAUL	3047.	3101.	-54.	39302.	9.82	-0.01	9.81	
73 MUNICIPALITY OF ANCHORAGE	14589921.	10981921.	3608000.	19551853.	9.82	0.31	10.13	2
** STATE & POLITICAL SUBDIVISION TOTALS	206696670.	118071044.	88625626.	317764761.	9.82	2.06	11.88	