



STATE OF ALASKA
ELECTED PUBLIC OFFICERS RETIREMENT SYSTEM

Actuarial Valuation
as of
June 30, 1986

CONTENTS OF REPORT

	<u>Page</u>
HIGHLIGHTS.	1
ANALYSIS OF THE VALUATION	3
SECTION 1 - BASIS OF VALUATION.	5
1.1 SUMMARY OF PLAN PROVISIONS.	6
1.2 MISCELLANEOUS INFORMATION AS OF JUNE 30	8
1.3 ACTUARIAL METHOD AND ASSUMPTIONS.	9
TABLE 1 - DISABILITY RATES.	10
SECTION 2 - VALUATION RESULTS	11
2.1 BREAKDOWN OF PRESENT VALUE OF BENEFITS.	12
2.2 CALCULATION OF TOTAL CONTRIBUTION RATE.	13
2.3 ESTIMATED CASH FLOW	14

HIGHLIGHTS

This report has been prepared by William M. Mercer-Meidinger, Incorporated to:

- (1) present the results of a valuation of the Alaska Elected Public Officers Retirement System as of June 30, 1986;
- (2) review experience under the plan for the year ended June 30, 1986;
- (3) determine the contribution rate for the Elected Public Officers Retirement System;
- (4) provide reporting and disclosure information for financial statements, governmental agencies, and other interested parties.

The report is divided into two sections. Section 1 describes the basis of the valuation. It summarizes the plan provisions, provides information relating to the plan participants, and describes the funding methods and actuarial assumptions used in determining liabilities and costs.

Section 2 contains the results of the valuation. It includes the current annual costs and reporting and disclosure information.

The principle results are as follows:

	<u>1986</u>
Funding Status as of June 30	
(a) Valuation Assets	\$ 0
(b) Present Value of Accrued Benefits	10,025,820
(c) Accrued Benefit Funding Ratio (a) / (b)	0

Recommended Contribution Rates

(a) Normal Cost Rate	18.55%
(b) Past Service Cost Rate	178.68%
(c) Total Annual Cost Rate	197.23%
(d) Total Annual Contribution	\$1,126,662

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions, in conjunction with employee data and financial information provided to us by the plan sponsor, to determine a sound value for the plan liabilities. We believe that this value and the method suggested for funding it are in full compliance with the Governmental Accounting Standards Board, the Internal Revenue Code, and all applicable regulations.

Respectfully submitted,



Robert F. Richardson, ASA
Principal

RFR/js:jam

February 19, 1987

ANALYSIS OF VALUATION

Actuarial Assumptions

This is the first actuarial valuation report for the Elected Public Officers Retirement System for the State of Alaska. The economic actuarial assumptions, for the most part, are identical to those used in the Public Employees' Retirement System. In particular, plan assets are assumed to increase at 9% per year, net of investment expenses. So long as the plan is operated on a "pay-as-you-go" basis, and no assets are accumulated in the Plan, this will be a relatively unimportant assumption. However, the interest assumption is necessary in order to develop present values and other liability calculations which are desired by the Governmental Accounting Standards Board. We have assumed that salaries of elected officials will remain frozen for the next four years. After that time, we have assumed that they will increase at 6% per year. Obviously, this is a very difficult assumption to predict. Nevertheless, because benefits of retired elected public officers are subject to increases along with increases in the salaries for active public officers, this is an extremely important assumption.

Actuarial vs. Pay-As-You-Go Funding

Since inception in 1976, benefits under EPORS have been paid for on a "pay-as-you-go" basis. This means that just enough money has been appropriated each year to pay the benefits as they come due. Under this method, no fund is built up and therefore, there are no investment earnings to help offset the State's cost. In Section 2.3 of this report, we have projected the total benefit payments under EPORS for the next 35 years. Annual benefit payments are projected to increase from their current levels, which are slightly above \$500,000 per year, until 2011 when annual costs peak at slightly under \$2,000,000 per year.

The Governmental Accounting Standard Boards has recommended use of the Projected Unit Credit Actuarial Funding Method to disclose costs and liabilities for public retirement plans. In this manner, it is anticipated that comparisons can be made concerning the costs and liabilities of public retirement systems. This actuarial funding method amortizes all unfunded liabilities over 25 years in level dollar payments. There is also a normal cost component for each active member. Because most of the costs and liabilities of EPORS are associated with inactive members, and because there are no assets in an EPORS fund, the large majority of costs associated with EPORS are "past service costs".

In Section 2.3 you can see the projected annual contributions to EPORS and fund balances based upon actuarial funding. As can be seen, actuarial funding results in a relatively stable annual contribution of approximately \$1,000,000. After 25 years (by 2010), it is projected that no further contributions will have to be made to provide benefits under EPORS. The fund would be projected to be sufficient to provide all future benefits. It is projected that the last eligible member to retire under EPORS will retire in the year 2007.

Of course, projections this far in the future are only valid if actual experience tracks closely with the actuarial assumptions. Since no one can predict future rates of inflation, let alone investment performance and salary increases for elected public officers, these estimates are subject to much variation. Nevertheless, we believe that the assumptions, in the aggregate, are reasonable and that the projections provide an excellent starting place to determine costs under EPORS.

Section 1
BASIS OF VALUATION

In this section, the basis of the valuation is presented and described. This information -- the provisions of the plan and the census of participants -- is the foundation of the valuation, since these are the present facts upon which benefit payments will depend.

A summary of plan provisions is provided in Section 1.1 and participant census information is shown in Section 1.2 to Section 1.4.

The valuation is based upon the premise that the plan will continue in existence, so that future events must also be considered. These future events are assumed to occur in accordance with the actuarial assumptions and concern such events as the earnings of the fund, the number of participants who will retire, die, terminate their services, their ages at such termination and their expected benefits.

The actuarial assumptions and the actuarial cost method, or funding method, which have been adopted to guide the sponsor in funding the plan in a reasonable and acceptable manner, are described in Section 1.5.

Section 1.1
SUMMARY OF PLAN PROVISIONS

(1) Employees Included

All elected public officers elected on or after January 1, 1976.

(2) Employee Contributions

(a) Mandatory Employee Contributions: 7% of salary for each year of service.

(b) Interest Credited: 4-1/2% compounded semi-annually on June 30 and December 31.

(c) Refund at Termination (no vesting): Return of contributions with interest.

(d) Refund at Death: If no widow's pension payable, return of contributions with interest.

(3) Normal Retirement Benefit

(a) Eligibility: Age 60 with 5 or more years of Service.

(b) Type: Life only, with Automatic 50% Joint and Survivor Benefit if married.

(c) Amount: 5% for each year of elected public officer service plus the percent per year of PERS creditable service times the average monthly salary.

(4) Early Retirement Benefit

(a) Eligibility: Age 55 or 20 or more years of service.

(b) Type: Life only, with Automatic 50% Joint and Survivor Benefit if married.

(c) Amount: Actuarial equivalent of Normal Retirement Benefit based on service to Early Retirement Date.

(5) Deferred Vested Benefit

(a) Eligibility: Five or more years of service.

(b) Type: Normal or Early Retirement Benefit.

(c) Amount: Monthly benefit begins on employee's Normal Retirement Date. Amount determined in the same manner as Normal Retirement Benefit.

(6) Disability Benefit

- (a) Eligibility: Five or more years of service.
- (b) Type: Monthly benefit payable until death or recovery.
- (c) Amount: Same as Normal Retirement Benefit except payments commence immediately.

(7) Death Benefit Before Retirement

If not married, accrued contributions with interest are returned. If married, an income benefit is available at death after two years of service. The Benefit is 50% of the accrued Normal Retirement Benefit, but at least 30% of the authorized salary. Under certain conditions, survivor benefits are payable to minor dependents.

(8) Medical Benefits

Each retiree is provided with major medical benefits.

Section 1.2
MISCELLANEOUS INFORMATION AS OF JUNE 30

	<u>1986</u>
<u>Active Members</u>	
(1) Number	12
(2) Average Age	51.56
(3) Average Service Years	16.99
(4) Average Annual Pay	\$43,673
 <u>Vested Terminated Members</u>	
(1) Number	13
(2) Average Age	45.86
(3) Average Service	9.46
 <u>Retirees and Beneficiaries</u>	
(1) Number	24
(2) Average Age	66.35
(3) Average Monthly Benefits	\$ 1,668

Section 1.3
ACTUARIAL METHOD AND ASSUMPTIONS

Valuation of Liabilities

- A. Actuarial Method - Projected Unit Credit. The unfunded accrued benefit liability, including accumulated actuarial gains and losses, is amortized over 25 years.
- B. Actuarial Assumptions -
- | | |
|--------------------|--|
| 1. Interest | 9% per year, compounded annually, net of investment expenses. |
| 2. Mortality | 1984 Unisex Pension Mortality Table. |
| 3. Salary Scale | 6% per year, compounded annually. Due to current economic conditions, it is further assumed that no salary increases will occur until FY 91. |
| 4. Turnover | None. |
| 5. Retirement | At the later of age 60 or the date their term of office expires. |
| 6. Disability | In accordance with Table 1. |
| 7. Health Benefits | Assumed to increase with 9% annual inflation. |
- C. Valuation Assets - Based upon accrued book values.

TABLE 1
 STATE OF ALASKA
 ELECTED PUBLIC OFFICERS RETIREMENT SYSTEM

Disability Rates
Annual Rates Per 1,000 Employees

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
20	.17	45	.41
21	.17	46	.44
22	.18	47	.48
23	.18	48	.52
24	.18	49	.56
25	.19	50	.60
26	.19	51	.65
27	.19	52	.72
28	.20	53	.80
29	.20	54	.89
30	.21	55	1.00
31	.21	56	1.15
32	.22	57	1.34
33	.22	58	1.53
34	.23	59	1.80
35	.24	60	2.11
36	.25	61	2.44
37	.26	62	2.83
38	.27	63	3.26
39	.28	64	3.73
40	.29		
41	.30		
42	.32		
43	.34		
44	.37		

Section 2
VALUATION RESULTS

This section sets forth the results of the actuarial valuation.

Section 2.1 shows the actuarial present values as of June 30, 1986.

Section 2.2 develops the total contribution rate.

Section 2.3 estimates total benefit payments for the next 25 years.

Section 2.1
BREAKDOWN OF PRESENT VALUE OF BENEFITS

	<u>Normal Cost</u>	<u>Present Value of Accrued Benefits</u>
<u>Active Participants</u>		
Retirement Benefits	\$107,088	\$ 1,951,909
Disability Benefits	1,641	29,466
Death Benefits	14,172	260,595
Return Contributions	130	2,310
Health Benefits	10,886	184,951
Indebtedness	<u>0</u>	<u>(41,564)</u>
Subtotal	\$133,917	\$ 2,387,667
 <u>Retirees and Survivors</u>		
Retired Members' Benefits		\$ 5,263,818
Health Benefits		<u>440,055</u>
Subtotal		\$ 5,703,873
 <u>Vested Terminations</u>		
Deferred Retirement Benefits		\$ 1,587,064
Health Benefits		387,943
Indebtedness		<u>(40,727)</u>
Subtotal		\$ 1,934,280
 Total		 \$10,025,820

Section 2.2
CALCULATION OF TOTAL ANNUAL CONTRIBUTION

(1) Total Normal Cost	\$ 133,917
(2) Total Salaries	524,076
(3) Total Normal Cost Rate (1) / (2)	25.55%
(4) Average Employee Contribution Rate	7.0%
(5) Employer Normal Cost Rate (3) - (4)	18.55%
(6) Present Value of Accrued Benefits	\$10,025,820
(7) Assets	0
(8) Total Unfunded Liability, (6) - (7)	10,025,820
(9) Amortization Factor	10.706612
(10) Past Service Payment (8) / (9)	\$ 936,414
(11) Past Service Rate (10) / (2)	178.68%
(12) Total Contribution Rate, (5) + (11)	197.23%
(13) Annual Contribution - Beginning of Year (12) x (2)	\$1,033,635
(14) Interest	93,027
(15) Annual Contribution - End of Year (13) + (14)	\$1,126,662

Section 2.3
ESTIMATED CASH FLOW

<u>Year Starting July 1</u>	<u>Fund Beginning of Year</u>	<u>Annual Contributions</u>	<u>Estimated Annual Payments</u>	<u>Fund End of Year</u>
1986	0	1,126,662	526,061	576,928
1987	567,928	1,126,662	520,169	1,211,938
1988	1,211,938	1,126,662	513,783	1,910,771
1989	1,910,771	1,126,662	506,813	2,679,783
1990	2,679,783	1,126,662	672,586	3,344,773
1991	3,344,773	1,090,481	702,206	4,002,478
1992	4,002,478	1,090,481	745,744	4,673,879
1993	4,673,879	1,090,481	771,863	5,378,412
1994	5,378,412	1,090,481	812,587	6,103,797
1995	6,103,797	1,090,481	837,216	6,868,728
1996	6,868,728	1,090,481	865,426	7,673,024
1997	7,673,024	1,090,481	919,045	8,493,675
1998	8,493,675	1,090,481	946,198	9,359,809
1999	9,359,809	1,090,481	1,085,032	10,158,814
2000	10,158,814	1,077,161	1,113,758	10,986,391
2001	10,986,391	1,077,161	1,214,464	11,783,212
2002	11,783,212	1,077,161	1,399,862	12,458,006
2003	12,458,006	1,063,560	1,533,992	13,039,764
2004	13,039,764	1,051,068	1,744,632	13,441,271
2005	13,441,271	1,027,323	1,804,932	13,792,155
2006	13,792,155	1,027,323	1,828,779	14,149,697
2007	14,149,697	1,027,323	1,929,036	14,434,650
2008	14,434,650	1,020,691	1,931,534	14,736,006
2009	14,736,006	1,020,691	1,910,864	15,086,084
2010	15,086,084	1,020,691	1,951,580	15,425,122
2011	15,425,122	0	1,962,857	14,762,197
2012	14,762,197	0	1,950,961	14,052,041
2013	14,052,041	0	1,952,698	13,276,155
2014	13,276,155	0	1,950,663	12,432,566
2015	12,432,566	0	1,927,223	11,537,550
2016	11,537,550	0	1,917,097	10,572,562
2017	10,572,562	0	1,903,710	9,534,716
2018	9,534,716	0	1,887,138	8,420,781
2019	8,420,781	0	1,867,330	7,227,291
2020	7,227,291	0	1,844,183	5,950,576