



**State of Alaska
National Guard and
Naval Militia Retirement System**

**Actuarial Valuation Report
as of June 30, 1996**

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Table of Contents

Section	Page
Highlights	1
Analysis of Valuation	3
1 Valuation Results	4
1.1 Development of Valuation Assets as of June 30	5
1.2 Breakdown of Present Value of Benefits	6
1.3 Calculation of Total Contribution Amount	7
1.4 Disclosure for G.A.S.B. Statement No. 5	8
2 Basis of Valuation	9
2.1 Summary of System Provisions	10
2.2 Participant Census Information	12
2.3(a) Distributions of Active Participants - All	13
2.3(b) Distributions of Active Participants - Air	14
2.3(c) Distributions of Active Participants - Army	15
2.3(d) Distributions of Active Participants - Navy	16
2.4 Actuarial Method and Assumptions	17
3 Other Historical Information	19
3.1 Statement of Actuarial Present Value of Accumulated Plan Benefits	20

Highlights

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

1. present the results of a valuation of the Alaska National Guard and Naval Militia Retirement System as of June 30, 1996;
2. review experience under the System for the period July 1, 1994 to June 30, 1996;
3. determine the contribution rate for the Retirement System for Fiscal Year 1999 and Fiscal Year 2000;
4. provide reporting and disclosure information for financial statements, governmental agencies, and other interested parties.

The report is divided into three sections. Section 1 contains the results of the valuation. It includes a development of assets during the 1995 and 1996 fiscal years, the current annual costs and reporting and disclosure information.

Section 2 describes the basis of the valuation. It summarizes the System provisions, provides information relating to the System's participants, and describes the funding methods and actuarial assumptions used in determining liabilities and costs.

Section 3 contains additional exhibits showing historical information on the value of accumulated benefits.

The principle results are as follows:

Funding Status as of June 30:	<u>1994</u>	<u>1996</u>
a. Valuation Assets	\$ 2,414,426	\$ 9,948,108
b. Present Value of Accumulated Benefits	14,031,289	12,511,803
c. Accumulated Benefit Funding Ratio, (a)/(b)	17.2%	79.5%
Recommended Contribution Amounts:	<u>FY97/98</u>	<u>FY99/00</u>
a. Normal Cost	\$ 981,905	\$ 671,318
b. Past Service Cost	1,603,014	433,201
c. Total Annual Cost	2,584,919	1,104,519

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 your office to determine a sound value for the System's 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,


Brian R. McGee, FSA


James W. Jacobson, ASA, MAAA

CMB/BRM/JWJ/ksr

Analysis of Valuation

The actuarial methods used to value plan liabilities this year are the same as those used in the June 30, 1994 actuarial report. The interest rate assumption has been increased to 8.25% to more accurately reflect our best estimate of future interest rates. The Highlights section on page 1 of this Report shows that the funding ratio has increased from 17.2% at June 30, 1994 to 79.5% at June 30, 1996.

The average annual rate of return on assets during the period was 9.1%, compared to our previous assumption of 8% resulting in an actuarial gain from investment return. Section 1.1 of the Report shows that the value of assets rose during the period from \$2,414,426 to \$9,948,108. An \$8,000,000 infusion into the System is the primary reason for this sharp increase. Without this additional contribution the funding ratio would have decreased to 15.6%.

Section 1

Valuation Results

This section sets forth the results of the actuarial valuation.

Section 1.1 shows the transactions of the System's fund during FY95 and FY96.

Section 1.2 shows the actuarial present values of benefits and the normal cost as of June 30, 1996.

Section 1.3 develops the total contribution.

Section 1.4 provides the disclosure information required by G.A.S.B. Statement No. 5.

1.1 Development of Valuation Assets as of June 30

	FY96	FY95
Net Assets Available for Benefits, July 1	<u>\$ 2,220,722</u>	<u>\$ 2,414,426</u>
Additions:		
Employer Contributions	\$ 9,104,400	\$ 1,104,352
Investment Income	<u>202,431</u>	<u>294,860</u>
	\$ 9,306,831	\$ 1,399,212
Deductions:		
Retirement Benefits	\$ 1,524,900	\$ 1,535,706
Administrative Expenses	<u>54,545</u>	<u>57,210</u>
	\$ 1,579,445	\$ 1,592,916
Net Assets Available for Benefits, June 30	<u>\$ 9,948,108</u>	<u>\$ 2,220,722</u>
Estimated Investment Return, Net of Administrative Expenses	7.36%	10.81%

1.2 Breakdown of Present Value of Benefits as of June 30, 1996

	<u>Normal Cost</u>	<u>Accrued Liability</u>
Active Members		
Retirement Benefits	\$ 395,332	\$ 5,635,659
Termination Benefits*	174,951	1,713,471
Death Benefits	77,500	611,826
Involuntary Retirement Benefits	<u>23,535</u>	<u>221,711</u>
Subtotal	\$ 671,318	\$ 8,182,667
Inactive Members		
Retirees		<u>\$ 4,329,136</u>
Total		<u><u>\$ 12,511,803</u></u>

* Members who terminate before assumed retirement age, but after completing 20 years of service.

1.3 Calculation of Total Contribution Amount - FY99 and FY00

1.	Accrued Liability	\$ 12,511,803
2.	Assets	9,948,108
3.	Total Unfunded Accrued Liability, (1) - (2)	2,563,695
4.	Amortization Factor (8.5 years)	5.918031
5.	Past Service Payment, (3)/(4)	433,201
6.	Normal Cost	671,318
7.	Total Contribution, (5) + (6)	\$ 1,104,519

1.4 Disclosure for G.A.S.B. Statement No. 5

State of Alaska
National Guard and Naval Militia Retirement System
Disclosure for G.A.S.B. Statement No. 5

***** Pension Benefit Obligation *****

Valuation Date	***** Current Retirees & Terminated *****		***** Current Employees *****		Total
	Contribs With Int	***** Employer Financed *****	Vested	Non-Vested	
June 30, 1991	\$ 4,563,065	\$ 0	\$ 1,887,309	\$ 2,453,044	\$ 8,903,418
June 30, 1992	4,932,509	0	2,888,241	3,959,282	11,780,032
June 30, 1993*	4,740,112	0	3,294,164	4,511,913	12,546,189
June 30, 1994	4,624,226	0	3,964,391	5,442,672	14,031,289
June 30, 1995*	4,284,230	0	4,381,640	6,015,509	14,681,379
June 30, 1996	4,329,136	0	3,399,598	4,783,069	12,511,803

Valuation Date	***** Valuation Assets *****			***** Market Value Assets *****		
	Net Assets Available For Benefits	Unfunded PBO	Assets as Percent of PBO	Net Assets Available For Benefits	Unfunded PBO	Assets as Percent of PBO
June 30, 1991	\$ 3,716,707	\$ 5,186,711	42%	\$ 3,716,707	\$ 5,186,711	42%
June 30, 1992	3,406,085	8,373,947	29%	3,406,085	8,373,947	29%
June 30, 1993*	3,072,076	9,474,113	24%	3,072,076	9,474,113	24%
June 30, 1994	2,414,426	11,616,863	17%	2,414,426	11,616,863	17%
June 30, 1995*	2,220,722	12,460,657	15%	2,220,722	12,460,657	15%
June 30, 1996	9,948,108	2,563,695	80%	9,948,108	2,563,695	80%

* Actuarial update.

Section 2

Basis of Valuation

In this section, the basis of the valuation is presented and described. This information -- the provisions of the System 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 the System's provisions is provided in Section 2.1 and participant census information is shown in Sections 2.2 and 2.3.

The valuation is based upon the premise that the System 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 System in a reasonable and acceptable manner, are described in Section 2.4.

2.1 Summary of System Provisions

(1) **Effective Date**

January 1, 1973.

(2) **Members Included**

Members of the Alaska National Guard who were active on or after January 1, 1973, and members of the Alaska Naval Militia who were active on or after July 1, 1980.

(3) **Retirement**

(a) **Eligibility:**

Members are eligible for voluntary retirement after completing 20 years of satisfactory service in the Alaska National Guard, Alaska Naval Militia or U.S. Armed Forces, and the reserve of them or any combination of that service if they have at least five years of Alaska National Guard or Naval Militia service. Credit is also allowed for Territorial Guard service rendered to the former territory of Alaska.

Members are eligible for involuntary retirement at any time assuming there has been no misconduct.

(b) **Benefit:**

Eligible members may elect to receive:

- (i) monthly benefits of \$100 which are payable for a period equal to the number of months that they were active members;
- (ii) a lump sum benefit equal to the actuarial equivalent of (i); or
- (iii) monthly payments until age 72 equal to the actuarial equivalent of (i).

(4) **Vesting**

Members are 100% vested after 20 years of total service in the Alaska National Guard, Alaska Naval Militia, U.S. Armed Forces or Reserves, or any combination of that service if members have at least five years of Alaska National Guard or Naval Militia service.

(5) Death Benefits

(a) Active Members:

If the member has at least five years of active service in the Alaska National Guard or Naval Militia, the designated beneficiary will receive a lump sum benefit equal to the benefit in 3(b) above.

(b) Retired or Terminated Vested Members:

The designated beneficiary will receive a lump benefit equal to the remaining benefits payable in 3(b) above.

2.2 Participant Census Information

	June 30:	
	<u>1996</u>	<u>1994</u>
Active Air Guard Members		
1. Number	1,920	1,807
2. Average Age	35.27	34.71
3. Average Alaska Guard Service	6.79	6.16
4. Average Total Military Service	13.25	12.60
Active Army Guard Members		
1. Number	1,912	3,256
2. Average Age	34.37	34.93
3. Average Alaska Guard Service	7.06	5.24
4. Average Total Military Service	9.90	8.30
Active Naval Militia Members		
1. Number	117	118
2. Average Age	36.99	37.09
3. Average Alaska Militia Service	4.06	3.81
4. Average Total Military Service	11.26	11.81
Retirees		
1. Number	524	523
2. Average Age	59.37	53.17
3. Average Years Remaining	11.07	11.77

2.3(a) Distributions of Active Participants

State of Alaska National Guard - All Actives

Valuation Date 6/30/96

AGE	Total Military Service										TOTAL
	0 - 4	5 - 9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
0-19	56	0	0	0	0	0	0	0	0	0	56
20-24	345	74	0	0	0	0	0	0	0	0	419
25-29	202	490	81	0	0	0	0	0	0	0	773
30-34	86	288	417	91	0	0	0	0	0	0	882
35-39	43	103	259	335	28	0	0	0	0	0	768
40-44	10	45	103	183	137	13	0	0	0	0	491
45-49	3	21	56	101	98	101	6	0	0	0	386
50-54	0	2	17	37	32	39	16	2	0	0	145
55-59	1	1	0	7	6	4	5	1	0	0	25
60-64	0	0	0	0	1	2	1	0	0	0	4
65-69	0	0	0	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0	0	0	0
75+	0	0	0	0	0	0	0	0	0	0	0
TOTAL	746	1,024	933	754	302	159	28	3	0	0	3,949

2.3(b) Distributions of Active Participants

State of Alaska National Guard - Air Actives

Valuation Date 6/30/96

AGE	Total Military Service										TOTAL
	0 - 4	5 - 9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL	
0-19	31	0	0	0	0	0	0	0	0	0	31
20-24	134	33	0	0	0	0	0	0	0	0	167
25-29	43	239	56	0	0	0	0	0	0	0	338
30-34	13	113	240	73	0	0	0	0	0	0	439
35-39	17	39	139	203	24	0	0	0	0	0	422
40-44	1	16	47	87	97	12	0	0	0	0	260
45-49	0	2	23	31	57	70	6	0	0	0	189
50-54	0	0	6	10	8	21	13	2	0	0	60
55-59	1	0	0	1	1	2	4	1	0	0	10
60-64	0	0	0	0	1	2	1	0	0	0	4
65-69	0	0	0	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0	0	0	0
75+	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
TOTAL	240	442	511	405	188	107	24	3	0	0	1,920

2.3(c) Distributions of Active Participants

Valuation Date 6/30/96

State of Alaska National Guard - Army Actives

AGE	Total Military Service										TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	TOTAL	
0-19	25	0	0	0	0	0	0	0	0	0	25
20-24	202	37	0	0	0	0	0	0	0	0	239
25-29	155	239	24	0	0	0	0	0	0	0	418
30-34	67	172	167	18	0	0	0	0	0	0	424
35-39	21	59	115	127	3	0	0	0	0	0	325
40-44	6	24	51	89	37	1	0	0	0	0	208
45-49	2	17	33	66	36	26	0	0	0	0	180
50-54	0	2	11	25	22	16	3	0	0	0	79
55-59	0	0	0	6	5	2	1	0	0	0	14
60-64	0	0	0	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0	0	0	0
75+	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
TOTAL	478	550	401	331	103	45	4	0	0	0	1,912

2.3(d) Distributions of Active Participants

State of Alaska National Guard - Navy Actives

Valuation Date 6/30/96

AGE	Total Military Service										TOTAL	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+			
0-19	0	0	0	0	0	0	0	0	0	0	0	0
20-24	9	4	0	0	0	0	0	0	0	0	0	13
25-29	4	12	1	0	0	0	0	0	0	0	0	17
30-34	6	3	10	0	0	0	0	0	0	0	0	19
35-39	5	5	5	5	1	0	0	0	0	0	0	21
40-44	3	5	5	7	3	0	0	0	0	0	0	23
45-49	1	2	0	4	5	5	0	0	0	0	0	17
50-54	0	0	0	2	2	2	0	0	0	0	0	6
55-59	0	1	0	0	0	0	0	0	0	0	0	1
60-64	0	0	0	0	0	0	0	0	0	0	0	0
65-69	0	0	0	0	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0	0	0	0	0
75+	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
TOTAL	28	32	21	18	11	7	0	0	0	0	0	117

2.4 Actuarial Method and Assumptions

- A. **Actuarial Method - Projected Unit Credit.** Liabilities and contributions shown in the report are computed using the Projected Unit Credit method of funding. The unfunded accrued benefit liability is amortized over 20 years less the average total military service of active members.

The objective under this method is to fund each participant's benefits under the plan as they accrue. Thus, each participant's total pension is broken down into units, each associated with a year of past or future service. The principle underlying the method is that each unit is funded in the year for which it is credited. Typically, when the method is introduced there will be an initial liability for benefits credited for service prior to that date, and to the extent that this liability is not covered by assets there is an Unfunded Liability to be funded over a chosen period in accordance with an amortization schedule.

An Accrued Liability is calculated at the valuation date as the present value of benefits credited with respect to service to that date.

The Unfunded Liability at the valuation date is the excess of the Accrued Liability over the Assets of the System. The level annual payment to be made over a stipulated number of years to amortize the Unfunded Liability is the Past Service Cost.

The Normal Cost is the present value of those benefits which are expected to be credited with respect to service during the year beginning on the valuation date.

Under this method, differences between the actual experience and that assumed in the determination of costs and liabilities will emerge as adjustments in the Unfunded Liability, subject to amortization.

B. Actuarial Assumptions -

1. Interest 8.25% per year, compounded annually, net of investment expenses.
2. Mortality 1984 Unisex Pension Mortality Table.

2.4 Actuarial Method and Assumptions (continued)

3. Turnover

Turnover is assumed at 25% in the first year, and at 8% in the second; both rates are independent of age.

Turnover after the second year is assumed to follow the T-3 Table published in the Pension Actuary's Handbook. Sample rates are:

<u>Age</u>	<u>Rate</u>
30	.04930
40	.04041
50	.02172

4. Disability

Disability rates under Group Long Term Disability policies, as given in the 1978 Society of Actuaries Study.

5. Retirement Age

Members are assumed to retire after 20 years of total military service, except:

- a. if they complete 20 years of total military service before age 55, it is assumed that they will work one-half of the remaining years to age 55;
- b. if they complete 20 years of total military service after age 60, it is assumed they will retire at age 60.

6. Assets

Market value.

Section 3

Other Historical Information

Section 3.1 shows the Statement of Actuarial Present Value of Accumulated Plan Benefits.

3.1 Statement of Actuarial Present Value of Accumulated Plan Benefits

Actuarial Present Value of Accumulated Plan Benefits
at June 30, 1996

Retired participants and beneficiaries of deceased participants	\$ 4,329,136
Active participants - Vested	3,399,598
Active participants - Non-vested	4,783,069
Total Actuarial Present Value of Accumulated Plan Benefits	\$ 12,511,803

Notes to the Statement of Accumulated Plan Benefits.

1. The actuarial present value of accumulated plan benefits presented in this Statement was determined using the following assumptions:
 - a. Future salary was not considered.
 - b. Future service was considered only to the extent that it would permit active plan participants to become eligible for benefits attributable to service rendered prior to the date of determination.
 - c. Regular valuation assumptions were used as to mortality, withdrawal, retirement ages, disability, and investment return.
2. Accumulated employee contributions with interest total \$0.00.
3. As with many of the comparative plan financial relationships otherwise available, an examination, over periods of time, of the relationship between the *value of accumulated plan benefits* and the *value of plan assets* may give an indication of the progress being made toward the funding of plan benefits. However, in the context of a "going concern" environment, a point in time comparison of these two values *should not be construed to be indicative of the expected ability of the plan to pay future benefits when due*. Furthermore, *that comparison is not valid for assessing a plan termination situation*. Consideration of inflation in the assumed return on plan assets while ignoring inflation's effect on future benefit levels *produces a significant understatement of the value of accumulated plan benefits* when applying going concern concepts. *The accumulated plan benefit value presented in this statement should not be confused with information presented elsewhere regarding funding requirements.*

3.1 Statement of Actuarial Present Value of Accumulated Plan Benefits (continued)

4. The change in the Present Value of Accumulated Plan Benefits during the prior fiscal year is as follows:

A.	Actuarial Present Value of Accumulated Plan Benefits at June 30, 1995	\$ 14,681,379
B.	Increase (Decrease) Attributable to:	
i.	Additional Benefits Accumulated, including Actuarial Experience	(1,474,144)
ii.	Increase due to Decrease in the Discount Period	1,113,514
iii.	Benefits Paid to Participants	(1,524,900)
iv.	Material System Changes	0
v.	Change in Assumptions	<u>(284,046)</u>
C.	Actuarial Present Value of Accumulated Plan Benefits at June 30, 1996	\$ 12,511,803

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