

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

**Actuarial Valuation Report  
as of June 30, 1992**

**Revised April 27, 1994**

**Prepared by:**

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# 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, 1992;
2. review experience under the System for the period July 1, 1991 to June 30, 1992;
3. determine the contribution rate for the Retirement System for Fiscal Year 1995 and Fiscal Year 1996;
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 1992 fiscal year, 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:

<b>Funding Status as of June 30:</b>	<u>1991</u>	<u>1992</u>	<u>1992*</u>
a. Valuation Assets	\$ 3,716,707	\$ 3,406,085	\$ 3,406,085
b. Present Value of Accrued Benefits	8,903,418	10,754,779	11,780,032
c. Accrued Benefit Funding Ratio, (a)/(b)	41.7%	31.7%	28.9%
<b>Recommended Contribution Rates:</b>	<u>FY94</u>	<u>FY95</u>	<u>FY96*</u>
a. Normal Cost	\$ 479,561	\$ 417,982	\$ 577,733
b. Past Service Cost	484,440	686,370	782,129
c. Total Annual Cost	964,001	1,104,352	1,359,862

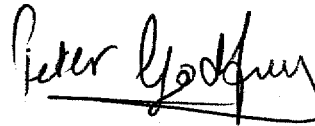
\* Subsequent to the completion of data audit.

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  
Principal



Peter L. Godfrey, FIA  
Associate

JWJ/PLG/jls

## Analysis of Valuation

The actuarial assumptions and methods used to value plan liabilities this year are the same as those used in the June 30, 1991 actuarial report. The Highlights section on page 1 of this Report shows that the funding ratio has deteriorated from 41.7% at June 30, 1991 to 28.9% at June 30, 1992.

The actual rate of return on assets during the year was 15.4%, compared to our assumption of 9%. This caused an actuarial gain from investment return of \$212,000. However, Section 1.1 of the Report again shows, as with last year, that assets actually fell during the year from \$3,716,707 to \$3,406,085. This happened in part because the Statute was amended, effective June 1, 1988, to allow members to receive a lump sum retirement benefit actuarially equivalent to the monthly benefit which, once again, contributed to the reduction in assets, as many members chose to receive a lump sum in lieu of pension.

The main reason for the decline in the funding ratio was the significant increase in the average Alaska Guard Service for active Army Guard members from 3.66 years to 5.29 years or 45%. Alaska Guard service is used to determine the period during which retiree benefits are payable and these data changes effectively increased the cost of providing benefits to Army Guard members by 45%. Alaska Guard service was determined for Army Guard members this year by applying the ratio of Alaska Guard service to Total Guard service, derived from a statistically significant random sample of Army Guard Members, to the entire active Army Guard population. Alaska Guard service for the Air Guard and Naval Militia Members was provided. Partially offsetting these cost increases was a reduction in Total Military service which is used to determine eligibility for a benefit which resulted in a reduction in the FY95 normal cost. However, the data audit, which was completed subsequent to the determination of the FY95 rate, revealed an understatement in the Total Military Service for a significant number of Army Guard employees. This had the effect of reducing the number of years needed to become eligible for a benefit and of increasing the FY96 normal cost and accrued liability.

These statistics are tabulated in Section 2.2 of the Report. The overall effect of these data changes and experience was an increase in the actuarial accrued liability which was greater than anticipated, thus resulting in an actuarial loss. The FY95 contribution rate increased from \$964,001 in FY94 to \$1,104,352 and the data charges discussed above increased the FY96 rate to \$1,359,862.

## **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 FY91 and FY92.

Section 1.2 shows the actuarial present values of benefits and the normal cost as of June 30, 1992.

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

	FY92	FY91
Net Assets Available for Benefits, July 1	<u>\$3,716,707</u>	<u>\$3,788,249</u>
Adjustment for Prior Years' Market Values	N/A	89,385
Additions:		
Employer Contributions	\$ 754,507	\$ 780,913
Investment Income	<u>508,954</u>	<u>435,640</u>
	\$1,263,461	\$1,216,553
Deductions:		
Retirement Benefits	\$1,533,652	\$1,341,803
Administrative Expenses	<u>40,431</u>	<u>35,677</u>
	\$1,574,083	\$1,377,480
Net Assets Available for Benefits, June 30	<u>\$3,406,085</u>	<u>\$3,716,707</u>

## 1.2 Breakdown of Present Value of Benefits

	<u>FY95</u>		<u>FY96**</u>	
	<u>Normal Cost</u>	<u>Accrued Liability</u>	<u>Normal Cost</u>	<u>Accrued Liability</u>
<b>Active Members</b>				
Retirement Benefits	\$ 301,123	\$4,689,085	\$ 412,062	\$5,367,784
Termination Benefits*	42,335	581,156	102,938	1,036,154
Death Benefits	69,385	486,526	54,023	355,847
Involuntary Retirement Benefits	<u>5,139</u>	<u>65,503</u>	<u>8,710</u>	<u>87,738</u>
Subtotal	\$ 417,982	\$5,822,270	\$ 577,733	\$6,847,523
<b>Inactive Members</b>				
Retirees		<u>\$ 4,932,509</u>		<u>\$ 4,932,509</u>
<b>Total</b>		<u>\$10,754,779</u>		<u>\$11,780,032</u>

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

\*\* Subsequent to the completion of data audit.



### 1.3 Calculation of Total Contribution Rate - FY95 and FY96

	<u>FY95</u>	<u>FY96</u>
1. Accrued Liability	\$10,754,779	\$11,780,032
2. Assets	3,406,085	3,406,085
3. Total Unfunded Accrued Liability, (1) - (2)	7,348,694	8,373,947
4. Amortization Factor (25 years)	10.706612	10.706612
5. Past Service Payment, (3)/(4)	686,370	782,129
6. Normal Cost	417,982	577,733
7. Total Contribution, (5) + (6)	\$ 1,104,352	\$ 1,359,862

# 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 \*\*\*\*\*

<u>Valuation Date</u>	***** Current Retirees & Terminated *****		***** Current Employees *****		<u>Total</u>
	<u>Contribs With Int</u>	<u>Contribs With Int</u>	***** Employer Financed ***** <u>Vested</u>	<u>Non-Vested</u>	
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

<u>Valuation Date</u>	***** Valuation Assets *****			***** Market Value Assets *****		
	<u>Net Assets Available For Benefits</u>	<u>Unfunded PBO</u>	<u>Assets as Percent of PBO</u>	<u>Net Assets Available For Benefits</u>	<u>Unfunded PBO</u>	<u>Assets as Percent of PBO</u>
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%

## **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 (a); or
- (iii) monthly payments until age 72 equal to the actuarial equivalent of (a).

### **(4) Vesting**

Members are 100% vested after 20 years of total service in the Alaska National Guard, Alaska Naval Militia or U.S. Armed Forces, 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) Non-Retired 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 Members:**

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

## 2.2 Participant Census Information

	<u>June 30:</u>	
	<u>1992</u>	<u>1991</u>
<b>Active Air Guard Members</b>		
1. Number	1,718	1,335
2. Average Age	33.53	33.91
3. Average Alaska Guard Service	5.01	5.22
4. Average Total Military Service	11.36	11.61
<b>Active Army Guard Members</b>		
1. Number	2,418	2,437
2. Average Age	32.33	32.58
3. Average Alaska Guard Service	5.29	3.66
4. Average Total Military Service	7.13	10.37
<b>Active Naval Militia Members</b>		
1. Number	98	52
2. Average Age	37.00	38.58
3. Average Alaska Militia Service	3.88	3.10
4. Average Total Military Service	11.57	12.23
<b>Retirees</b>		
1. Number	554	503
2. Average Age	57.17	56.90
3. Average Years Remaining	12.67	12.87

## 2.3(a) Distributions of Active Participants

State of Alaska National Guard - All Actives

Valuation Date 6/30/92

AGE	Total Service Group										TOTAL	
	0 - 4	5 - 9	10-14	15-19	20-24	25-29	30-34	35-39	40+			
0-19	165	0	0	0	0	0	0	0	0	0	0	165
20-24	612	103	0	0	0	0	0	0	0	0	0	715
25-29	386	460	80	0	0	0	0	0	0	0	0	926
30-34	183	251	365	34	0	0	0	0	0	0	0	833
35-39	80	109	210	214	17	0	0	0	0	0	0	630
40-44	34	72	111	154	135	11	0	0	0	0	0	517
45-49	19	19	44	73	96	54	3	0	0	0	0	308
50-54	9	3	14	26	16	19	17	3	0	0	0	107
55-59	3	1	1	7	5	3	3	7	0	0	0	30
60-64	0	0	1	1	0	0	0	1	0	0	0	3
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
75-79	0	0	0	0	0	0	0	0	0	0	0	0
80+	<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	1,491	1,018	826	509	269	87	23	11	0	0	0	4,234

### 2.3(b) Distributions of Active Participants

State of Alaska National Guard - Air Actives Valuation Date 6/30/92

AGE	Total Service Group										TOTAL
	0 - 4	5 - 9	10-14	15-19	20-24	25-29	30-34	35-39	40+		
0-19	57	0	0	0	0	0	0	0	0	0	57
20-24	165	64	0	0	0	0	0	0	0	0	229
25-29	82	222	61	0	0	0	0	0	0	0	365
30-34	21	113	217	25	0	0	0	0	0	0	376
35-39	17	44	94	129	14	0	0	0	0	0	298
40-44	2	21	41	65	91	8	0	0	0	0	228
45-49	0	2	15	14	44	33	1	0	0	0	109
50-54	0	0	1	10	6	11	14	2	0	0	44
55-59	0	0	0	1	4	2	1	4	0	0	12
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
75-79	0	0	0	0	0	0	0	0	0	0	0
80+	0	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>344</b>	<b>466</b>	<b>429</b>	<b>244</b>	<b>159</b>	<b>54</b>	<b>16</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>1,718</b>



### 2.3(c) Distributions of Active Participants

State of Alaska National Guard - Army Actives

Valuation Date 6/30/92

AGE	Total Service Group										TOTAL	
	0 - 4	5 - 9	10-14	15-19	20-24	25-29	30-34	35-39	40+			
0-19	108	0	0	0	0	0	0	0	0	0	0	108
20-24	434	35	0	0	0	0	0	0	0	0	0	469
25-29	300	233	18	0	0	0	0	0	0	0	0	551
30-34	160	135	143	8	0	0	0	0	0	0	0	446
35-39	56	61	109	83	3	0	0	0	0	0	0	312
40-44	31	47	67	85	41	3	0	0	0	0	0	274
45-49	19	14	28	56	43	18	1	0	0	0	0	179
50-54	8	3	13	16	9	7	3	0	0	0	0	59
55-59	3	1	1	5	1	1	2	3	0	0	0	17
60-64	0	0	1	1	0	0	0	1	0	0	0	3
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
75-79	0	0	0	0	0	0	0	0	0	0	0	0
80+	<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	1,119	529	380	254	97	29	6	4	0	0	0	2,418

### 2.3(d) Distributions of Active Participants

State of Alaska National Guard - Navy Actives

Valuation Date 6/30/92

AGE	Total Service Group										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	13	4	0	0	0	0	0	0	0	0	0	17
25-29	4	5	1	0	0	0	0	0	0	0	0	10
30-34	2	3	5	1	0	0	0	0	0	0	0	11
35-39	7	4	7	2	0	0	0	0	0	0	0	20
40-44	1	4	3	4	3	0	0	0	0	0	0	15
45-49	0	3	1	3	9	3	1	0	0	0	0	20
50-54	1	0	0	0	1	1	0	1	0	0	0	4
55-59	0	0	0	1	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
75-79	0	0	0	0	0	0	0	0	0	0	0	0
80+	<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	23	17	11	13	4	1	1	0	0	98	



## 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 service, except:

- a. if they complete 20 years of 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 service after age 60, it is assumed they will retire at age 60.

6. Assets

The method of valuing assets was changed in FY90 from book value to market value.

## **Section 3**

### **Other Historical Information**

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, 1992

Retired participants and beneficiaries of deceased participants	\$ 4,932,509
Active participants - Vested	2,888,241
Active participants - Non-vested	3,959,282
Total Actuarial Present Value of Accumulated Plan Benefits	\$11,780,032

#### 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, 1991	\$ 8,903,418
B.	Increase (Decrease) Attributable to:	
i.	Additional Benefits Accumulated, including Actuarial Experience	3,677,973
ii.	Increase due to Decrease in the Discount Period	732,293
iii.	Benefits Paid to Participants	(1,533,652)
iv.	Material System Changes	0
v.	Change in Assumptions	<u>0</u>
C.	Actuarial Present Value of Accumulated Plan Benefits at June 30, 1992	\$ 11,780,032