



January 6, 2022

State of Alaska
The Alaska Retirement Management Board
The Department of Revenue, Treasury Division
The Department of Administration, Division of Retirement and Benefits
P.O. Box 110203
Juneau, AK 99811-0203

**Re: Judicial Retirement System and National Guard and Naval Militia Retirement System
Roll-Forward Actuarial Valuations as of June 30, 2021**

Dear Members of The Alaska Retirement Management Board, The Department of Revenue and
The Department of Administration:

We have completed the roll-forward actuarial valuations for the State of Alaska Judicial Retirement System (JRS) and the National Guard and Naval Militia Retirement System (NGNMRS) as of June 30, 2021. The valuations have been performed by a projection or “roll forward” of results from the last valuation date of June 30, 2020 to June 30, 2021. Actual asset values as of June 30, 2021 were reflected. A summary of results and description of assumptions and methods are included in this report.

The purposes of these roll-forward valuations are to (i) determine the employer contributions necessary to meet the Board’s funding policy for each System, (ii) disclose the funding assets and liability measures as of the valuation date, and (iii) review the current funded status of each System and assess the funded status as an appropriate measure for determining future actuarially determined contributions.

The Board and staff of the State of Alaska may use this report for the review of the operations of JRS and NGNMRS. Use of this report for any other purpose or by anyone other than the Board or staff of the State of Alaska may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, you should ask Buck to review any statement you wish to make on the results contained in this report. Buck will not accept any liability for any such statement made without the review by Buck.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the actuarial assumptions, changes expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. In particular, retiree group benefits models necessarily rely on the use of approximations and estimates and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. An analysis of the potential range of such future differences is beyond the scope of these valuations.

Actuarial Assumptions and Methods

In lieu of collecting new participant data as of June 30, 2021 and performing a full actuarial valuation, the actuarial liabilities are projected or “rolled forward” from the June 30, 2020 valuation date to June 30, 2021 by assuming the actuarial assumptions during the year are exactly realized.

The actuarial value of assets was calculated as of June 30, 2021 using actual assets and cash flows during FY21. The asset valuation method recognizes 20% of the investment gain or loss each year, for a period of five years. Valuation assets are constrained to a range of 80% to 120% of the fair value of assets.

All data, actuarial assumptions, methods, and plan provisions are the same as those shown in the June 30, 2020 valuation reports dated May 20, 2021, with the following exceptions:

- For JRS, the amounts included in the Normal Cost for administrative expenses were changed from \$83,000 to \$102,000 for pension and from \$24,000 to \$31,000 for healthcare, based on the most recent two years of actual administrative expenses paid from plan assets.
- For NGNMRS, the amount included in the Normal Cost for administrative expenses was changed from \$256,000 to \$268,000, based on the most recent two years of actual administrative expenses paid from plan assets.
- For NGNMRS, the June 30, 2020 actuarial accrued liability used for the roll-forward valuation reflects a valuation system coding update that was recommended by the reviewing actuary. This update decreased the June 30, 2020 actuarial accrued liability by \$38,250.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of each System and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under each System.

Funded Status

Where presented, references to “funded ratio”, “funded status”, and “unfunded actuarial accrued liability” typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded actuarial accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but make no assessment regarding the funded status of the plans if the plans were to settle (i.e. purchase annuities) for a portion or all of their liabilities.

Summary of Results

The results of the June 30, 2021 roll-forward valuations are shown below (results from the June 30, 2020 valuations are shown for comparison purposes):

	June 30, 2020	June 30, 2021
Judicial Retirement System		
• Funded Status ¹		
○ Pension	92.0%	98.6%
○ Healthcare	207.6%	211.4%
○ Total	100.5%	107.1%
• Employer/State Contribution Rates ²		
○ Pension	63.6%	58.7%
○ Healthcare	<u>6.5%</u>	<u>6.5%</u>
○ Total	70.1%	65.2%
National Guard and Naval Militia Retirement System		
• Funded Status ¹	191.9%	196.9%
• Actuarially Determined Contribution, not less than zero ³	\$ 0	\$ 0

The following table summarizes the FY21 actuarial gains/(losses). Net actuarial gains/losses decrease/increase the unfunded actuarial accrued liability versus what was expected based on the previous valuation.

	JRS	NGNMRS
Asset Gain/(Loss)	\$ 9,349,000	\$ 1,040,000
Liability Gain/(Loss)	N/A	41,000 ⁴
Healthcare Benefit Payment Gain/(Loss)	(608,000)	N/A
Contribution Gain/(Loss)	4,665,000	0
Administrative Expense Gain/(Loss)	<u>(19,000)</u>	<u>(41,000)</u>
Total Gain/(Loss)	\$ 13,387,000	\$ 1,040,000

¹ The funded status shown is based on the actuarial value of assets. The funded status is different based on the fair value of assets.

² The June 30, 2020 valuation determined the contribution rates for FY23. The June 30, 2021 valuation determines the contribution rates for FY24. Total contribution rates are not less than the Normal Cost rate.

³ The June 30, 2020 valuation determined the contribution for FY23. The June 30, 2021 valuation determines the contribution for FY24.

⁴ The June 30, 2020 actuarial accrued liability used for the roll-forward valuation reflects a valuation system coding update that was recommended by the reviewing actuary. The amount shown includes interest to June 30, 2021.

Assessment of Risks

Actuarial Standard of Practice No. 51 (ASOP 51) applies to actuaries performing funding calculations related to a pension plan. ASOP 51 does not apply to actuaries performing services in connection with other post-employment benefits, such as medical benefits. Accordingly, ASOP 51 does not apply to the healthcare portion of JRS. See pages 16-18 of this report for further details regarding ASOP 51.

Use of Models

Actuarial Standard of Practice No. 56 (ASOP 56) provides guidance to actuaries when performing actuarial services with respect to designing, developing, selecting, modifying, using, reviewing, or evaluating models. Buck uses third-party software in the performance of annual actuarial valuations and projections. The model is intended to calculate the liabilities associated with the provisions of each plan using data and assumptions as of the measurement date under the funding methods specified in this report. The output from the third-party vendor software is used as input to internally developed models that apply applicable funding methods and policies to the derived liabilities and other inputs, such as plan assets and contributions, to generate many of the exhibits found in this report. Buck has an extensive review process in which the results of the liability calculations are checked using detailed sample life output, changes from year to year are summarized by source, and significant deviations from expectations are investigated. Other funding outputs and the internal models are similarly reviewed in detail and at a higher level for accuracy, reasonability, and consistency with prior results. Buck also reviews the third-party model when significant changes are made to the software. This review is performed by experts within Buck who are familiar with applicable funding methods, as well as the manner in which the model generates its output. If significant changes are made to the internal models, extra checking and review are completed. Significant changes to the internal models that are applicable to multiple clients are generally developed, checked, and reviewed by multiple experts within Buck who are familiar with the details of the required changes.

Additional models used in valuing health benefits for JRS are described in Section 4.2 of the June 30, 2020 report dated May 20, 2021.

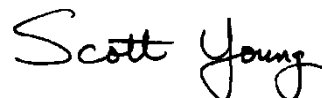
This report was prepared under our supervision and in accordance with all applicable Actuarial Standards of Practice. We are Fellows of the Society of Actuaries, Enrolled Actuaries, Fellows of the Conference of Consulting Actuaries, and Members of the American Academy of Actuaries. We meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Please let us know if you have any questions or if you would like to discuss these results in more detail. David can be reached at 602-803-6174 and Scott can be reached at 216-315-1929.

Sincerely,



David J. Kershner, FSA, EA, MAAA, FCA
Principal
Buck



Scott Young, FSA, EA, MAAA, FCA
Director
Buck

Attachments

cc: Mr. Kevin Worley, State of Alaska

Judicial Retirement System

Funded Status as of June 30		2020	2021
Pension			
a.	Actuarial Accrued Liability	\$ 211,742,043	\$ 218,717,460
b.	Valuation Assets	<u>194,788,043</u>	<u>215,641,198</u>
c.	Unfunded Actuarial Accrued Liability, (a) - (b)	\$ 16,954,000	\$ 3,076,262
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	92.0%	98.6%
e.	Fair Value of Assets	\$ 189,844,025	\$ 245,047,997
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	89.7%	112.0%
Healthcare			
a.	Actuarial Accrued Liability	\$ 16,763,770	\$ 17,920,646
b.	Valuation Assets	<u>34,805,639</u>	<u>37,884,167</u>
c.	Unfunded Actuarial Accrued Liability, (a) - (b)	\$ (18,041,869)	\$ (19,963,521)
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	207.6%	211.4%
e.	Fair Value of Assets	\$ 34,036,503	\$ 43,173,349
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	203.0%	240.9%
Total			
a.	Actuarial Accrued Liability	\$ 228,505,813	\$ 236,638,106
b.	Valuation Assets	<u>229,593,683</u>	<u>253,525,365</u>
c.	Unfunded Actuarial Accrued Liability, (a) - (b)	\$ (1,087,869)	\$ (16,887,259)
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	100.5%	107.1%
e.	Fair Value of Assets	\$ 223,880,528	\$ 288,221,346
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	98.0%	121.8%

Comparative Summary of Contribution Rates		FY 2023	FY 2024
Pension			
a.	Normal Cost Rate Net of Member Contributions	38.85%	38.99%
b.	Past Service Cost Rate	<u>24.74%</u>	<u>19.71%</u>
c.	Total Employer/State Contribution Rate, (a) + (b), not less than (a)	63.59%	58.70%
Healthcare			
a.	Normal Cost Rate	6.49%	6.54%
b.	Past Service Cost Rate	<u>(8.24)%</u>	<u>(9.33)%</u>
c.	Total Employer/State Contribution Rate, (a) + (b), not less than (a)	6.49%	6.54%
Total			
a.	Normal Cost Rate Net of Member Contributions	45.34%	45.53%
b.	Past Service Cost Rate	<u>24.74%</u>	<u>19.71%</u>
c.	Total Employer/State Contribution Rate, (a) + (b), not less than (a)	70.08%	65.24%

Judicial Retirement System (continued)

Actuarial Contributions as of June 30, 2021 for FY24	Pension	Healthcare	Total
Normal Cost Rate			
1. Total Normal Cost	\$ 5,952,927	\$ 860,927	\$ 6,813,854
2. Base Salaries for Upcoming Fiscal Year	13,157,172	13,157,172	13,157,172
3. Normal Cost Rate, (1) ÷ (2)	45.24%	6.54%	51.78%
4. Average Member Contribution Rate	6.25%	0.00%	6.25%
5. Employer Normal Cost Rate, (3) - (4)	38.99%	6.54%	45.53%
Past Service Rate			
1. Actuarial Accrued Liability	\$ 218,717,460	\$ 17,920,646	\$ 236,638,106
2. Valuation Assets	<u>215,641,198</u>	<u>37,884,167</u>	<u>253,525,365</u>
3. Unfunded Actuarial Accrued Liability, (1) - (2)	\$ 3,076,262	\$ (19,963,521)	\$ (16,887,259)
4. Funded Ratio, (2) ÷ (1)	98.6%	211.4%	107.1%
5. Past Service Cost Amortization Payment	2,593,806	(1,227,111)	1,366,695
6. Base Salaries for Upcoming Fiscal Year	13,157,172	13,157,172	13,157,172
7. Past Service Rate, (5) ÷ (6)	19.71%	(9.33)%	10.38%
Total Employer Contribution Rate, not less than Normal Cost Rate	58.70%	6.54%	65.24%

Judicial Retirement System (continued)

Schedule of Past Service Cost Amortizations - Pension

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability ¹	6/30/2002	6	\$ 5,864,449	\$ 3,943,106	\$ 731,664
FY03/04 Loss ¹	6/30/2004	8	855,068	681,204	98,849
Revaluation of Liabilities ¹	6/30/2005	9	9,115,451	7,702,909	1,014,308
FY05/06 Loss ¹	6/30/2006	10	18,186,558	16,102,295	1,947,827
FY07 Loss	6/30/2007	11	1,364,721	1,254,213	140,759
FY08 Gain	6/30/2008	12	(29,014,739)	(27,481,906)	(2,884,889)
FY09 Loss	6/30/2009	13	21,273,454	20,625,359	2,039,004
Change in Assumptions	6/30/2010	14	13,976,981	13,791,031	1,291,385
FY10 Loss	6/30/2010	14	6,474,780	6,388,639	598,229
FY11 Loss	6/30/2011	15	7,397,917	7,407,859	660,308
FY12 Loss	6/30/2012	16	11,916,371	12,057,403	1,027,469
FY13 Loss	6/30/2013	17	7,033,497	6,922,837	566,097
Change in Assumptions	6/30/2014	18	4,219,851	4,312,578	339,526
FY14 Gain	6/30/2014	18	(14,458,986)	(14,776,719)	(1,163,359)
FY15 Gain	6/30/2015	19	(3,325,706)	(3,400,048)	(258,478)
FY16 Gain	6/30/2016	20	(9,932,623)	(10,131,681)	(745,694)
FY17 Gain	6/30/2017	21	(1,137,538)	(1,154,977)	(82,492)
Change in Assumptions	6/30/2018	22	10,343,783	10,431,580	724,547
FY18 Gain	6/30/2018	22	(12,096,419)	(12,199,094)	(847,313)
Change in Assumptions	6/30/2019	23	(14,775,890)	(14,884,472)	(1,007,300)
FY19 Loss	6/30/2019	23	3,344,559	3,369,137	228,005
Change in Assumptions	6/30/2020	24	(21,604,253)	(21,700,673)	(1,433,384)
FY20 Loss	6/30/2020	24	5,424,705	5,448,915	359,915
FY21 Gain	6/30/2021	25	(11,633,233)	<u>(11,633,233)</u>	<u>(751,177)</u>
Total				\$ 3,076,262	\$ 2,593,806

¹ The pension and healthcare split was done based on the ratio of unfunded actuarial accrued liability as of June 30, 2006.

Judicial Retirement System (continued)

Schedule of Past Service Cost Amortizations - Healthcare

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability ¹	6/30/2002	6	\$ 2,295,257	\$ 1,543,274	\$ 286,362
FY03/04 Loss ¹	6/30/2004	8	334,660	266,612	38,688
Revaluation of Liabilities ¹	6/30/2005	9	3,567,649	3,014,800	396,985
FY05/06 Loss ¹	6/30/2006	10	7,117,943	6,302,194	762,350
FY07 Gain	6/30/2007	11	(810,073)	(744,478)	(83,552)
Change in Assumptions	6/30/2008	12	789,072	747,387	78,456
FY08 Gain	6/30/2008	12	(14,011,596)	(13,271,372)	(1,393,151)
FY09 Loss	6/30/2009	13	901,355	873,897	86,393
Change in Assumptions	6/30/2010	14	2,006,196	1,979,505	185,360
FY10 Gain	6/30/2010	14	(1,930,656)	(1,904,968)	(178,380)
FY11 Loss	6/30/2011	15	550,376	551,115	49,124
Change in Assumptions	6/30/2012	16	353,605	357,788	30,489
FY12 Gain	6/30/2012	16	(5,516,210)	(5,581,498)	(475,626)
FY13 Loss	6/30/2013	17	226,259	230,466	18,846
Change in Assumptions	6/30/2014	18	772,305	789,275	62,139
FY14 Gain	6/30/2014	18	(3,342,464)	(3,415,915)	(268,932)
FY15 Gain	6/30/2015	19	(1,416,996)	(1,448,671)	(110,131)
Change in Method	6/30/2016	20	(3,567,789)	(3,639,291)	(267,852)
FY16 Gain	6/30/2016	20	(425,711)	(434,243)	(31,960)
FY17 Gain	6/30/2017	21	(586,113)	(595,099)	(42,504)
Change in Assumptions/ Methods/EGWP	6/30/2018	22	1,009,960	1,018,532	70,744
FY18 Gain	6/30/2018	22	(2,148,478)	(2,166,713)	(150,494)
Change in Assumptions	6/30/2019	23	126,754	127,684	8,641
FY19 Gain	6/30/2019	23	(155,028)	(156,166)	(10,568)
Change in Assumptions	6/30/2020	24	200,955	201,852	13,333
FY20 Gain	6/30/2020	24	(2,842,610)	(2,855,296)	(188,600)
FY21 Gain	6/30/2021	25	(1,754,192)	<u>(1,754,192)</u>	<u>(113,271)</u>
Total				\$ (19,963,521)	\$ (1,227,111)

¹ The pension and healthcare split was done based on the ratio of unfunded actuarial accrued liability as of June 30, 2006.

Judicial Retirement System (continued)

Schedule of Past Service Cost Amortizations - Total

Layer	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Remaining	Initial	Outstanding	
Initial Unfunded Liability	6/30/2002	6	\$ 8,159,706	\$ 5,486,380	\$ 1,018,026
FY03/04 Loss	6/30/2004	8	1,189,728	947,816	137,537
Revaluation of Liabilities	6/30/2005	9	12,683,100	10,717,709	1,411,293
FY05/06 Loss	6/30/2006	10	25,304,501	22,404,489	2,710,177
FY07 Loss	6/30/2007	11	554,648	509,735	57,207
Change in Assumptions	6/30/2008	12	789,072	747,387	78,456
FY08 Gain	6/30/2008	12	(43,026,335)	(40,753,278)	(4,278,040)
FY09 Loss	6/30/2009	13	22,174,809	21,499,256	2,125,397
Change in Assumptions	6/30/2010	14	15,983,177	15,770,536	1,476,745
FY10 Loss	6/30/2010	14	4,544,124	4,483,671	419,849
FY11 Loss	6/30/2011	15	7,948,293	7,958,974	709,432
Change in Assumptions	6/30/2012	16	353,605	357,788	30,489
FY12 Loss	6/30/2012	16	6,400,161	6,475,905	551,843
FY13 Loss	6/30/2013	17	7,259,756	7,153,303	584,943
Change in Assumptions	6/30/2014	18	4,992,156	5,101,853	401,665
FY14 Gain	6/30/2014	18	(17,801,450)	(18,192,634)	(1,432,291)
FY15 Gain	6/30/2015	19	(4,742,702)	(4,848,719)	(368,609)
Change in Method	6/30/2016	20	(3,567,789)	(3,639,291)	(267,852)
FY16 Gain	6/30/2016	20	(10,358,334)	(10,565,924)	(777,654)
FY17 Gain	6/30/2017	21	(1,723,651)	(1,750,076)	(124,996)
Change in Assumptions/ Methods/EGWP	6/30/2018	22	11,353,743	11,450,112	795,291
FY18 Gain	6/30/2018	22	(14,244,897)	(14,365,807)	(997,807)
Change in Assumptions	6/30/2019	23	(14,649,136)	(14,756,788)	(998,659)
FY19 Loss	6/30/2019	23	3,189,531	3,212,971	217,437
Change in Assumptions	6/30/2020	24	(21,403,298)	(21,498,821)	(1,420,051)
FY20 Loss	6/30/2020	24	2,582,095	2,593,619	171,315
FY21 Gain	6/30/2021	25	(13,387,425)	<u>(13,387,425)</u>	<u>(864,448)</u>
Total				\$ (16,887,259)	\$ 1,366,695

Judicial Retirement System (continued)

Changes in Fair Value of Assets During FY21	Pension	Healthcare	Total
1. Fair Value of Assets as of June 30, 2020	\$ 189,844,025	\$ 34,036,503	\$ 223,880,528
2. Additions:			
a. Employee Contributions	\$ 837,686	\$ 0	\$ 837,686
b. Employer Contributions	6,962,607	654,383	7,616,990
c. State Contributions	5,145,000	0	5,145,000
d. Interest and Dividend Income	2,685,812	478,159	3,163,971
e. Net Appreciation / Depreciation in Fair Value of Investments	54,575,739	9,641,569	64,217,308
f. Employer Group Waiver Plan	0	168,159	168,159
g. Other	<u>7,891</u>	<u>14,345</u>	<u>22,236</u>
h. Total Additions	\$ 70,214,735	\$ 10,956,615	\$ 81,171,350
3. Deductions:			
a. Medical Benefits	\$ 0	\$ 1,692,383	\$ 1,692,383
b. Retirement Benefits	14,368,857	0	14,368,857
c. Refund of Contributions	0	0	0
d. Investment Expenses	544,884	95,170	640,054
e. Administrative Expenses	<u>97,022</u>	<u>32,216</u>	<u>129,238</u>
f. Total Deductions	\$ 15,010,763	\$ 1,819,769	\$ 16,830,532
4. Fair Value of Assets as of June 30, 2021	\$ 245,047,997	\$ 43,173,349	\$ 288,221,346
5. Approximate Fair Value Investment Return Rate during FY21 Net of Investment Expenses	30.0%	29.9%	30.0%

Judicial Retirement System (continued)

Development of Actuarial Value of Assets	Pension	Healthcare	Total
1. Investment Gain / (Loss) for FY21			
a. Fair Value of Assets as of June 30, 2020	\$ 189,844,025	\$ 34,036,503	\$ 223,880,528
b. Contributions	12,945,293	654,383	13,599,676
c. Employer Group Waiver Plan	0	168,159	168,159
d. Benefit Payments	14,368,857	1,692,383	16,061,240
e. Administrative Expenses	97,022	32,216	129,238
f. Actual Investment Return (net of investment expenses)	56,724,558	10,038,903	66,763,461
g. Expected Return Rate (net of investment expenses)	7.38%	7.38%	7.38%
h. Expected Return, Weighted for Timing	14,104,367	2,479,200	16,583,567
i. Investment Gain / (Loss) for the Year, (f) - (h)	42,620,191	7,559,703	50,179,894
2. Actuarial Value as of June 30, 2021			
a. Fair Value as of June 30, 2021	\$ 245,047,997	\$ 43,173,349	\$ 288,221,346
b. Deferred Investment Gain / (Loss)	29,406,799	5,289,182	34,695,981
c. Preliminary Actuarial Value at June 30, 2021, (a) - (b)	215,641,198	37,884,167	253,525,365
d. Lower Limit: 80% of Fair Value as of June 30, 2021	196,038,398	34,538,679	230,577,077
e. Upper Limit: 120% of Fair Value as of June 30, 2021	294,057,596	51,808,019	345,865,615
f. Actuarial Value as of June 30, 2021, (c) limited by (d) and (e)	\$ 215,641,198	\$ 37,884,167	\$ 253,525,365
3. Ratio of Actuarial Value of Assets to Fair Value of Assets	88.0%	87.7%	88.0%
4. Approximate Actuarial Value Investment Return Rate during FY21 Net of Investment Expenses	11.5%	11.6%	11.5%

Judicial Retirement System (continued)

Pension				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2017	\$ 7,229,597	\$ 5,783,677	\$ 1,445,920	\$ 0
June 30, 2018	292,590	175,554	58,518	58,518
June 30, 2019	(2,647,188)	(1,058,876)	(529,437)	(1,058,875)
June 30, 2020	(6,148,327)	(1,229,665)	(1,229,665)	(3,688,997)
June 30, 2021	<u>42,620,191</u>	<u>0</u>	<u>8,524,038</u>	<u>30,096,153</u>
Total	\$ 41,346,863	\$ 3,670,690	\$ 8,269,374	\$ 29,406,799

Healthcare				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2017	\$ 1,282,441	\$ 1,025,952	\$ 256,489	\$ 0
June 30, 2018	98,500	59,100	19,700	19,700
June 30, 2019	(409,783)	(163,914)	(81,956)	(163,913)
June 30, 2020	(1,023,945)	(204,789)	(204,789)	(614,367)
June 30, 2021	<u>7,559,703</u>	<u>0</u>	<u>1,511,941</u>	<u>6,047,762</u>
Total	\$ 7,506,916	\$ 716,349	\$ 1,501,385	\$ 5,289,182

Total				
Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2017	\$ 8,512,038	\$ 6,809,629	\$ 1,702,409	\$ 0
June 30, 2018	391,090	234,654	78,218	78,218
June 30, 2019	(3,056,971)	(1,222,790)	(611,393)	(1,222,788)
June 30, 2020	(7,172,272)	(1,434,454)	(1,434,454)	(4,303,364)
June 30, 2021	<u>50,179,894</u>	<u>0</u>	<u>10,035,979</u>	<u>40,143,915</u>
Total	\$ 48,853,779	\$ 4,387,039	\$ 9,770,759	\$ 34,695,981

National Guard and Naval Militia Retirement System

Funded Status as of June 30		2020	2021
a.	Actuarial Accrued Liability	\$ 22,417,247	\$ 22,975,269
b.	Valuation Assets	<u>43,020,393</u>	<u>45,248,391</u>
c.	Unfunded Actuarial Accrued Liability, (a) - (b)	\$ (20,603,146)	\$ (22,273,122)
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	191.9%	196.9%
e.	Fair Value of Assets	\$ 42,095,708	\$ 49,813,036
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	187.8%	216.8%

Actuarial Determined Contribution Amounts		FY 2023	FY 2024
a.	Normal Cost	\$ 503,140	\$ 503,140
b.	Administrative Expense Load	256,000	268,000
c.	Past Service Cost	<u>(3,224,638)</u>	<u>(3,486,009)</u>
d.	Total Annual Contribution, (a) + (b) + (c), not less than 0	\$ 0	\$ 0

National Guard and Naval Militia Retirement System (continued)

Changes in Fair Value of Assets During FY21

1. Fair Value of Assets as of June 30, 2020	\$	42,095,708
2. Additions:		
a. Employer Contributions	\$	0
b. Investment Income		9,571,576
c. Other		<u>1,690</u>
d. Total Additions	\$	9,573,266
3. Deductions:		
a. Retirement Benefits	\$	1,454,330
b. Investment Expenses		97,169
c. Administrative Expenses		<u>304,439</u>
d. Total Deductions	\$	1,855,938
4. Fair Value of Assets as of June 30, 2021	\$	49,813,036
5. Approximate Fair Value Investment Return Rate during FY21 Net of Investment Expenses		23.0%

National Guard and Naval Militia Retirement System (continued)

Development of Actuarial Value of Assets

1. Investment Gain / (Loss) for FY21		
a. Fair Value of Assets as of June 30, 2020	\$	42,095,708
b. Contributions		0
c. Benefit Payments		1,454,330
d. Administrative Expenses		304,439
e. Actual Investment Return (net of investment expenses)		9,476,097
f. Expected Return Rate (net of investment expenses)		7.00%
g. Expected Return, Weighted for Timing		2,881,937
h. Investment Gain / (Loss) for the Year, (e) - (g)		6,594,160
2. Actuarial Value as of June 30, 2021		
a. Fair Value as of June 30, 2021	\$	49,813,036
b. Deferred Investment Gain / (Loss)		4,564,645
c. Preliminary Actuarial Value at June 30, 2021, (a) - (b)		45,248,391
d. Lower Limit: 80% of Fair Value as of June 30, 2021		39,850,429
e. Upper Limit: 120% of Fair Value as of June 30, 2021		59,775,643
f. Actuarial Value as of June 30, 2021, (c) limited by (d) and (e)	\$	45,248,391
3. Ratio of Actuarial Value of Assets to Fair Value of Assets		90.8%
4. Approximate Actuarial Value Investment Return Rate during FY21 Net of Investment Expenses		9.5%

Fiscal Year Ending	Asset Gain / (Loss)	Gain / (Loss) Recognized in Prior Years	Gain / (Loss) Recognized This Year	Gain / (Loss) Deferred to Future Years
June 30, 2017	\$ 704,309	\$ 563,448	\$ 140,861	\$ 0
June 30, 2018	(681,054)	(408,633)	(136,211)	(136,210)
June 30, 2019	(407,413)	(162,966)	(81,483)	(162,964)
June 30, 2020	(685,847)	(137,169)	(137,169)	(411,509)
June 30, 2021	<u>6,594,160</u>	<u>0</u>	<u>1,318,832</u>	<u>5,275,328</u>
Total	\$ 5,524,155	\$ (145,320)	\$ 1,104,830	\$ 4,564,645

Actuarial Standard of Practice No. 51

Funding future retirement benefits prior to when those benefits become due involves assumptions regarding future economic and demographic experience. These assumptions are applied to calculate actuarial liabilities, current contribution requirements, and the funded status of the plans. However, to the extent future experience deviates from the assumptions used, variations will occur in these calculated values. These variations create risk to the plans. Understanding the risks to the funding of the plans is important.

Actuarial Standard of Practice No. 51 (ASOP 51)¹ requires certain disclosures of potential risks to the plans and provides useful information for intended users of actuarial reports that determine plan contributions or evaluate the adequacy of specified contribution levels to support benefit provisions.

Under ASOP 51, risk is defined as the potential of actual future measurements deviating from expected future measurements resulting from actual future experience deviating from actuarially assumed experience.

It is important to note that not all risk is negative, but all risk should be understood and accepted based on knowledge, judgement, and educated decisions. Future measurements may deviate in ways that produce positive or negative financial impacts to the plan.

In the actuary's professional judgment, the following risks may reasonably be anticipated to significantly affect the pension plans' future financial condition and contribution requirements.

- Investment Risk – potential that the investment return will be different than the return expected in the actuarial valuation (7.38% for JRS and 7.00% for NGNMRS)
- Contribution Risk – potential that the contribution actually made will be different than the actuarially determined contribution
- Long-Term Return on Investment Risk – potential that changes in long-term capital market assumptions or the plan's asset allocation will create the need to update the long-term return on investment assumption
- Longevity Risk – potential that participants live longer than expected compared to the valuation mortality assumptions
- Salary Increase Risk² – potential that future salaries will be different than expected in the actuarial valuation
- Inflation Risk² – potential that the consumer price index (CPI) for urban wage earners and clerical workers for Anchorage is different than the 2.5% inflation rate assumed in the valuation
- Other Demographic Risk – potential that other demographic experience will be different than expected

The following information is provided to comply with ASOP 51 and furnish beneficial information on potential risks to the plan. **This list is not all-inclusive**; it is an attempt to identify the more significant risks and how those risks might affect the results shown in this report.

¹ ASOP 51 does not apply to the healthcare portion of JRS. Accordingly, all comments in this section relate to the pension portion of JRS.

² Salary increase risk and inflation risk apply to JRS only.

Note that ASOP 51 does not require the actuary to evaluate the ability or willingness of the plan sponsor to make contributions to the plans when due, or to assess the likelihood or consequences of potential future changes in law. In addition, this valuation report is not intended to provide investment advice or to provide guidance on the management or reduction of risk.

Assessment of Risks

Investment Risk

Plan costs are very sensitive to the market return.

- Any return on assets lower than assumed will increase costs.
- The plans use an actuarial value of assets that smooths gains and losses on market returns over a five-year period to help control some of the volatility in costs due to investment risk.
- Historical experience of actual returns is shown in Section 2.5 (JRS) and Section 2.4 (NGNMRS) of the June 30, 2020 reports dated May 20, 2021. This historical experience illustrates how returns can vary over time.

Contribution Risk

There is a risk to the plans when the employer's and/or State's actual contribution amount and the actuarially determined contribution differ.

- If the actual contributions are lower than the actuarially determined contributions, the plans may not be sustainable in the long term.
- Any underpayment of the contribution will increase future contribution amounts to help pay off the additional Unfunded Actuarial Accrued Liability associated with the underpayment(s).
- As long as the Board consistently adopts the actuarially determined contributions, this risk is mitigated due to Alaska statutes requiring the State to contribute additional funds necessary to pay the total contributions adopted by the Board.

Long-Term Return on Investment Risk

Inherent in the long-term return on investment assumption is the expectation that the current rate will be used until the last benefit payment of the plan is made. There is a risk that sustained changes in economic conditions, changes in long-term future capital market assumptions, or changes to the plans' asset allocations will necessitate an update to the long-term return on investment assumption used.

- Under a lower long-term return on investment assumption, less investment return is available to pay plan benefits. This may lead to a need for increased employer contributions.
- The liabilities will be higher at a lower assumed rate of return because future benefits will have a lower discount rate applied when calculating the present value.
- A 1% decrease in the long-term return on investment assumption will increase the actuarial accrued liability by approximately 11% for JRS and 9% for NGNMRS.

Longevity Risk

Plan costs will be increased as participants are expected to live longer.

- Benefits are paid over a longer lifetime when life expectancy is expected to increase. The longer duration of payments leads to higher liabilities.
- Health care has been improving, which affects the life expectancy of participants. As health care improves, leading to longer life expectancies, costs to the plans could increase.
- The mortality assumptions for the plans mitigates this risk by assuming future improvements in mortality. However, any improvement in future mortality greater than that expected by the current mortality assumptions would lead to increased costs for the plans.

JRS provides cost-of-living adjustments on retirement benefits (based on salary changes of sitting judges) that increase longevity risk, because members who live longer than expected will incur more benefit payment increases than expected and therefore increase costs.

Salary Increase Risk¹

Plan costs will be increased if actual salary increases are larger than expected.

- Higher-than-expected salary increases will produce higher benefits.
- The higher benefits may be partially offset by increased employee contributions due to higher salaries.
- If future payroll grows at a rate different than assumed, contributions as a percentage of payroll will be affected.

Inflation Risk¹

Inflation risk may be associated with the interaction of inflation with other assumptions, but this is not significant as a standalone assumption, and therefore is considered as part of the associated assumption risk instead of being discussed here.

Other Demographic Risk

The plans are subject to risks associated with other demographic assumptions (e.g., retirement and termination rates). Differences between actual and expected experience for these assumptions tend to have less impact on the overall costs of the plans. The demographic assumptions used in the valuations are re-evaluated regularly as part of the four-year experience studies to ensure the assumptions are consistent with long-term expectations.

¹ Salary increase risk and inflation risk apply to JRS only.