BUCK
A Gallagher Company

May 3, 2024

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, 2023

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, 2023. The valuations have been performed by a projection or "roll forward" of liabilities and costs from the last valuation date of June 30, 2022 to June 30, 2023. Actual asset values as of June 30, 2023 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 calculations of the Employer and State Contributions are reasonable actuarially determined contributions as defined in Actuarial Standard of Practice No. 4 (ASOP 4).

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 due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, Buck recommends requesting its advanced review any statement to be based on information contained in this report. Buck will accept no liability for any such statement made without its prior review.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the actuarial assumptions, changes in 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, 2023 and performing a full actuarial valuation, the actuarial liabilities were projected or "rolled forward" from the June 30, 2022 valuation date to June 30, 2023 by assuming the actuarial assumptions during the year were exactly realized.

The actuarial value of assets was calculated as of June 30, 2023 using actual assets and cash flows during FY23. 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, 2022 valuation reports dated August 15, 2023 (JRS) and May 31, 2023 (NGNMRS), with the following exceptions:

- For JRS, the salary increase and pensioner benefit increase assumptions were modified effective June 30, 2023 to be 5% for FY23, 0% for FY24, 5% for FY25, 0% for FY26-FY28, and 3% per year thereafter to better reflect expected short-term experience.
- For JRS, the amounts included in the Normal Cost for administrative expenses were changed from $102,000 to $103,000 for pension and remained level at $34,000 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 $331,000 to $327,000, based on the most recent two years of actual administrative expenses paid from plan assets.

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. A description of the assumption-setting process is provided in the June 30, 2022 valuation reports. In our professional judgment, the combined effect of the assumptions is expected to have no significant bias. We certify that the assumptions and methods used for funding purposes meet the requirements of all applicable Actuarial Standards of Practice.

Actuarial Standards of Practice No. 27 (ASOP 27) and No. 35 (ASOP 35) require the actuary to disclose the information and analysis used to support the actuary's determination that the assumptions selected by the plan sponsor do not significantly conflict with those that, in the actuary's professional judgment, are reasonable for the purpose of the measurement. Buck provides advice on reasonable assumptions when performing periodic experience studies. The Board selects the assumptions used, and the signing actuaries review the assumptions annually through discussions with the Board staff and analysis of actuarial experience.

In the case of the Board's selected expected return on assets, the signing actuaries have used economic information provided by Buck's Investment Consulting and Financial Risk Management practices. Buck's Capital Market Assumptions provide relevant expected returns, standard deviations, and correlations. Projected returns are then developed for the portfolio using the GEMS® Economic Scenario Generator from Conning. This sophisticated model uses a multifactor approach to create internally consistent, realistic economic scenarios for all asset classes that reflect the current economic environment as a starting point. Equity returns include stochastic volatility with jumps to reflect extreme, infrequent events. However, such scenarios do not typically impact the 5th through 95th percentiles of projected returns. Corporate bond yields are generated by adding credit spreads to the corresponding zero-coupon Treasury yields. The credit spreads are driven by several factors, including equity returns, and also contain a shock process to allow the model to

generate such scenarios as the 2008 Financial Crisis. GEMS® does not, however, model specific risks such as war, pandemics, political risks, severe economic dislocations occurring with greater frequency or severity than predicted by the model, or the risk that relationships among macroeconomic variables may differ from those of the past. From these scenarios, a probabilistic model of expected returns is created, reflecting the duration of investment and the approximate allocation of assets in the portfolio to various asset classes. Under current calibrations, GEMS® will tend to show higher expected returns for longer durations and a greater divergence between arithmetic and geometric average returns at higher standard deviations of portfolio return.

Based on their analysis, including consistency with other assumptions used in the valuation, the percentiles generated by the GEMS® model described above, and review of actuarial gain/loss analysis, the signing actuaries believe the assumptions, in their professional judgment, do not significantly conflict with what are reasonable for the purpose of the measurement.

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, 2023 roll-forward valuations are shown below (results from the June 30, 2022 valuations are shown for comparison purposes):

	June 30, 2022	June 30, 2023
Judicial Retirement System		
• Funded Status[1]		
○ Pension	101.6%	112.6%
○ Healthcare	228.7%	226.5%
• Employer/State Contribution Rates[2]		
○ Pension	52.49%	40.48%
○ Healthcare	6.75%	6.93%
○ Total	59.24%	47.41%
National Guard and Naval Militia Retirement System		
• Funded Status[1]	162.9%	160.1%
• Actuarially Determined Contribution, not less than zero[3]	$ 0	$ 0

[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, 2022 valuation determined the contribution rates for FY25. The June 30, 2023 valuation determines the contribution rates for FY26. Total contribution rates are not less than the Normal Cost rate.

[3] The June 30, 2022 valuation determined the contribution for FY25. The June 30, 2023 valuation determines the contribution for FY26.

The following table summarizes the FY23 actuarial gains/(losses). Net actuarial gains/losses decrease/increase the unfunded actuarial accrued liability versus what was expected based on the previous valuation. Figures in the tables below for JRS are combined for pension and healthcare.

	JRS	NGNMRS
Asset Gain/(Loss)	$ 149,000	$ (458,000)
Liability Gain/(Loss)	N/A	N/A
Healthcare Benefit Payment Gain/(Loss)	(169,000)	N/A
Contribution Gain/(Loss)	4,799,000	0
Administrative Expense Gain/(Loss)	11,000	47,000
Total Gain/(Loss)	$ 4,790,000	$ (411,000)

Other items that increased/(decreased) the actuarial accrued liability as of June 30, 2023 are shown below:

	JRS	NGNMRS
New Salary/Pensioner Benefit Increase Assumptions	$ (17,196,000)	$ N/A

Risk Information

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. Please see pages 16-19 of this report for further details regarding ASOP 51, as well as information on the Low-Default-Risk Obligation Measure (LDROM) now required to be disclosed under Actuarial Standard of Practice No. 4 (ASOP 4).

Use of Models

Actuarial Standard of Practice No. 56 (ASOP 56) provides guidance to actuaries performing actuarial services that involve designing, developing, selecting, modifying, using, reviewing, or evaluating models. In addition to the GEMS® model disclosed above, Buck uses third-party software to perform 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 maintains 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.

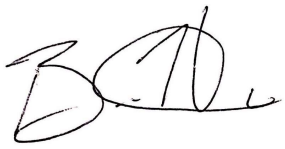
Additional models used in valuing health benefits for JRS are described in Section 4.2 of the June 30, 2022 report dated August 15, 2023.

This report was prepared under the overall direction of David Kershner, who meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. He is a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries, and a Fellow of the Conference of Consulting Actuaries.

We are available to discuss this report with you at your convenience. David can be reached at 602-803-6174 and Brett can be reached at 260-423-1072.

Respectfully submitted,

David J. Kershner, FSA, EA, MAAA, FCA
Principal
Buck, A Gallagher Company



Brett Hunter, ASA, EA, MAAA
Senior Consultant
Buck, A Gallagher Company

The undersigned actuary is responsible for all assumptions related to the average annual per capita health claims cost and the health care cost trend rates, and hereby affirms his qualification to render opinions in such matters in accordance with the Qualification Standards of the American Academy of Actuaries.

Robert Besenhofer, ASA, MAAA, FCA
Director
Buck, A Gallagher Company

Attachments

cc: Mr. Kevin Worley, State of Alaska

Judicial Retirement System

Funded Status as of June 30		2022	2023
Pension			
a.	Actuarial Accrued Liability	$ 227,227,808	$ 215,813,907
b.	Valuation Assets	230,801,847	243,016,248
c.	Unfunded Actuarial Accrued Liability, (a) - (b)	$ (3,574,039)	$ (27,202,341)
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	101.6%	112.6%
e.	Fair Value of Assets	$ 227,181,866	$ 239,742,591
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	100.0%	111.1%
Healthcare			
a.	Actuarial Accrued Liability	$ 17,864,257	$ 19,234,976
b.	Valuation Assets	40,855,819	43,561,548
c.	Unfunded Actuarial Accrued Liability, (a) - (b)	$ (22,991,562)	$ (24,326,572)
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	228.7%	226.5%
e.	Fair Value of Assets	$ 40,267,620	$ 43,039,373
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	225.4%	223.8%

Comparative Summary of Contribution Rates		FY 2025	FY 2026
Pension			
a.	Normal Cost Rate Net of Member Contributions	35.32%	32.29%
b.	Past Service Cost Rate	17.17%	8.19%
c.	Total Employer/State Contribution Rate, (a) + (b), not less than (a)	52.49%	40.48%
Healthcare			
a.	Normal Cost Rate	6.75%	6.93%
b.	Past Service Cost Rate	(10.19%)	(11.01%)
c.	Total Employer/State Contribution Rate, (a) + (b), not less than (a)	6.75%	6.93%
Total			
a.	Normal Cost Rate Net of Member Contributions	42.07%	39.22%
b.	Past Service Cost Rate	17.17%	8.19%
c.	Total Employer/State Contribution Rate, (a) + (b)	59.24%	47.41%

Judicial Retirement System (continued)

Actuarial Contributions as of June 30, 2023 for FY26	Pension	Healthcare
Normal Cost Rate		
1. Total Normal Cost	$ 5,422,765	$ 972,119
2. Base Salaries for Upcoming Fiscal Year	14,035,020	14,035,020
3. Normal Cost Rate, (1) ÷ (2)	38.64%	6.93%
4. Average Member Contribution Rate	6.35%	0.00%
5. Employer Normal Cost Rate, (3) - (4)	32.29%	6.93%
Past Service Rate		
1. Actuarial Accrued Liability	$ 215,813,907	$ 19,234,976
2. Valuation Assets	243,016,248	43,561,548
3. Unfunded Actuarial Accrued Liability, (1) - (2)	$ (27,202,341)	$ (24,326,572)
4. Funded Ratio, (2) ÷ (1)	112.6%	226.5%
5. Past Service Cost Amortization Payment	1,150,003	(1,545,624)
6. Base Salaries for Upcoming Fiscal Year	14,035,020	14,035,020
7. Past Service Rate, (5) ÷ (6)	8.19%	(11.01%)
Total Employer / State Contribution Rate, not less than Normal Cost Rate	**40.48%**	**6.93%**

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	4	$ 5,864,449	$ 2,894,036	$ 770,670
FY03/04 Loss[1]	6/30/2004	6	855,068	562,111	104,003
Revaluation of Liabilities[1]	6/30/2005	7	9,115,451	6,589,591	1,066,626
FY05/06 Loss[1]	6/30/2006	8	18,186,558	14,164,135	2,047,207
FY07 Loss	6/30/2007	9	1,364,721	1,127,971	147,863
FY08 Gain	6/30/2008	10	(29,014,739)	(25,165,577)	(3,028,936)
FY09 Loss	6/30/2009	11	21,273,454	19,171,541	2,139,732
Change in Assumptions	6/30/2010	12	13,976,981	12,981,395	1,354,507
FY10 Loss	6/30/2010	12	6,474,780	6,013,578	627,470
FY11 Loss	6/30/2011	13	7,397,917	7,048,258	692,246
FY12 Loss	6/30/2012	14	11,916,371	11,578,829	1,076,647
FY13 Loss	6/30/2013	15	7,033,497	6,701,863	592,913
Change in Assumptions	6/30/2014	16	4,219,851	4,204,556	355,444
FY14 Gain	6/30/2014	16	(14,458,986)	(14,406,592)	(1,217,902)
FY15 Gain	6/30/2015	17	(3,325,706)	(3,335,671)	(270,474)
FY16 Gain	6/30/2016	18	(9,932,623)	(9,995,267)	(779,951)
FY17 Gain	6/30/2017	19	(1,137,538)	(1,145,106)	(86,244)
Change in Assumptions	6/30/2018	20	10,343,783	10,388,773	757,175
FY18 Gain	6/30/2018	20	(12,096,419)	(12,149,034)	(885,470)
Change in Assumptions	6/30/2019	21	(14,775,890)	(14,883,353)	(1,052,217)
FY19 Loss	6/30/2019	21	3,344,559	3,368,884	238,172
Change in Assumptions	6/30/2020	22	(21,604,253)	(21,778,605)	(1,496,681)
FY20 Loss	6/30/2020	22	5,424,705	5,468,482	375,808
FY21 Gain	6/30/2021	23	(11,633,233)	(11,713,960)	(784,029)
Change in Assumptions	6/30/2022	24	(1,189,628)	(1,194,461)	(77,999)
FY22 Gain	6/30/2022	24	(2,902,472)	(2,914,265)	(190,303)
Change in Assumptions	6/30/2023	25	(17,358,229)	(17,358,229)	(1,107,644)
FY23 Gain	6/30/2023	25	(3,426,224)	(3,426,224)	(218,630)
Total				**$ (27,202,341)**	**$ 1,150,003**

[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		
	Date Created	Years Remaining	Initial	Outstanding	Beginning-of-Year Payment
Initial Unfunded Liability[1]	6/30/2002	4	$ 2,295,257	$ 1,132,684	$ 301,629
FY03/04 Loss[1]	6/30/2004	6	334,660	220,001	40,705
Revaluation of Liabilities[1]	6/30/2005	7	3,567,649	2,579,064	417,461
FY05/06 Loss[1]	6/30/2006	8	7,117,943	5,543,627	801,246
FY07 Gain	6/30/2007	9	(810,073)	(669,542)	(87,769)
Change in Assumptions	6/30/2008	10	789,072	684,393	82,374
FY08 Gain	6/30/2008	10	(14,011,596)	(12,152,786)	(1,462,713)
FY09 Loss	6/30/2009	11	901,355	812,299	90,661
Change in Assumptions	6/30/2010	12	2,006,196	1,863,293	194,420
FY10 Gain	6/30/2010	12	(1,930,656)	(1,793,132)	(187,099)
FY11 Loss	6/30/2011	13	550,376	524,362	51,500
Change in Assumptions	6/30/2012	14	353,605	343,587	31,948
FY12 Gain	6/30/2012	14	(5,516,210)	(5,359,961)	(498,391)
FY13 Loss	6/30/2013	15	226,259	223,110	19,739
Change in Assumptions	6/30/2014	16	772,305	769,506	65,052
FY14 Gain	6/30/2014	16	(3,342,464)	(3,330,353)	(281,541)
FY15 Gain	6/30/2015	17	(1,416,996)	(1,421,242)	(115,242)
Change in Method	6/30/2016	18	(3,567,789)	(3,590,291)	(280,158)
FY16 Gain	6/30/2016	18	(425,711)	(428,396)	(33,429)
FY17 Gain	6/30/2017	19	(586,113)	(590,013)	(44,437)
Change in Assumptions/Methods/EGWP	6/30/2018	20	1,009,960	1,014,353	73,930
FY18 Gain	6/30/2018	20	(2,148,478)	(2,157,822)	(157,271)
Change in Assumptions	6/30/2019	21	126,754	127,674	9,026
FY19 Gain	6/30/2019	21	(155,028)	(156,155)	(11,040)
Change in Assumptions	6/30/2020	22	200,955	202,577	13,922
FY20 Gain	6/30/2020	22	(2,842,610)	(2,865,549)	(196,928)
FY21 Gain	6/30/2021	23	(1,754,192)	(1,766,365)	(118,225)
Change in Assumptions	6/30/2022	24	(802,844)	(806,106)	(52,639)
Medical/Prescription Drug Plan Changes	6/30/2022	24	(223,750)	(224,659)	(14,670)
FY22 Gain	6/30/2022	24	(1,845,814)	(1,853,313)	(121,022)
Change in Assumptions	6/30/2023	25	162,192	162,192	10,350
FY23 Gain	6/30/2023	25	(1,363,609)	(1,363,609)	(87,013)
Total				**$ (24,326,572)**	**$ (1,545,624)**

[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)

Changes in Fair Value of Assets During FY23	Pension	Healthcare
1. Fair Value of Assets as of June 30, 2022	$ 227,181,866	$ 40,267,620
2. Additions:		
a. Employee Contributions	$ 906,106	$ 0
b. Employer Contributions	7,518,356	921,731
c. State Appropriation	3,225,000	0
d. Interest and Dividend Income	3,643,436	655,621
e. Net Appreciation / Depreciation in Fair Value of Investments	14,066,948	2,525,508
f. Employer Group Waiver Plan	0	199,648
g. Other	0	4,725
h. Total Additions	$ 29,359,846	$ 4,307,233
3. Deductions:		
a. Medical Benefits	$ 0	$ 1,391,918
b. Retirement Benefits	16,032,039	0
c. Refund of Contributions	39,292	0
d. Investment Expenses	629,801	110,878
e. Administrative Expenses	97,989	32,684
f. Total Deductions	$ 16,799,121	$ 1,535,480
4. Fair Value of Assets as of June 30, 2023	$ 239,742,591	$ 43,039,373
5. Approximate Fair Value Investment Return Rate during FY23 Net of Investment Expenses	7.6%	7.7%

Judicial Retirement System (continued)

Development of Actuarial Value of Assets		Pension	Healthcare
1.	Deferral of Investment Gain / (Loss) for FY23		
	a. Fair Value of Assets as of June 30, 2022	$ 227,181,866	$ 40,267,620
	b. Contributions	11,649,462	921,731
	c. Employer Group Waiver Plan	0	199,648
	d. Benefit Payments	16,071,331	1,391,918
	e. Administrative Expenses	97,989	32,684
	f. Actual Investment Return (net of investment expenses)	17,080,583	3,074,976
	g. Expected Return Rate (net of investment expenses)	7.25%	7.25%
	h. Expected Return, Weighted for Timing	16,380,049	2,908,603
	i. Investment Gain / (Loss) for the Year, (f) - (h)	700,534	166,373
2.	Actuarial Value as of June 30, 2023		
	a. Fair Value as of June 30, 2023	$ 239,742,591	$ 43,039,373
	b. Deferred Investment Gain / (Loss)	(3,273,657)	(522,175)
	c. Preliminary Actuarial Value at June 30, 2023, (a) - (b)	243,016,248	43,561,548
	d. Upper Limit: 120% of Fair Value as of June 30, 2023	287,691,109	51,647,248
	e. Lower Limit: 80% of Fair Value as of June 30, 2023	191,794,073	34,431,498
	f. Actuarial Value as of June 30, 2023, (c) limited by (d) and (e)	243,016,248	43,561,548
3.	Ratio of Actuarial Value of Assets to Fair Value of Assets	101.4%	101.2%
4.	Approximate Actuarial Value Investment Return Rate during FY23 Net of Investment Expenses	7.3%	7.4%

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, 2019	$ (2,647,188)	$ (2,117,751)	$ (529,437)	$ 0
June 30, 2020	(6,148,327)	(3,688,995)	(1,229,666)	(1,229,666)
June 30, 2021	42,620,191	17,048,076	8,524,038	17,048,077
June 30, 2022	(32,754,159)	(6,550,832)	(6,550,832)	(19,652,495)
June 30, 2023	700,534	0	140,107	560,427
Total	**$ 1,771,051**	**$ 4,690,498**	**$ 354,210**	**$ (3,273,657)**

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, 2019	$ (409,783)	$ (327,827)	$ (81,956)	$ 0
June 30, 2020	(1,023,945)	(614,367)	(204,789)	(204,789)
June 30, 2021	7,559,703	3,023,882	1,511,940	3,023,881
June 30, 2022	(5,790,607)	(1,158,121)	(1,158,121)	(3,474,365)
June 30, 2023	166,373	0	33,275	133,098
Total	**$ 501,741**	**$ 923,567**	**$ 100,349**	**$ (522,175)**

National Guard and Naval Militia Retirement System

Funded Status as of June 30		2022	2023
a.	Actuarial Accrued Liability	$ 28,366,668	$ 28,928,732
b.	Valuation Assets	46,215,854	46,312,767
c.	Unfunded Actuarial Accrued Liability, (a) - (b)	$ (17,849,186)	$ (17,384,035)
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	162.9%	160.1%
e.	Fair Value of Assets	$ 44,088,041	$ 44,501,184
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	155.4%	153.8%

Actuarial Determined Contribution Amounts		FY 2025	FY 2026
a.	Normal Cost	$ 690,172	$ 690,172
b.	Administrative Expense Load	331,000	327,000
c.	Past Service Cost	(2,691,240)	(2,621,106)
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 FY23		
1. Fair Value of Assets as of June 30, 2022	$	44,088,041
2. Additions:		
a. Employer Contributions	$	0
b. Investment Income		2,551,427
c. Other		0
d. Total Additions	$	2,551,427
3. Deductions:		
a. Retirement Benefits	$	1,745,217
b. Investment Expenses		98,026
c. Administrative Expenses		295,041
d. Total Deductions	$	2,138,284
4. Fair Value of Assets as of June 30, 2023	$	44,501,184
5. Approximate Fair Value Investment Return Rate during FY23 Net of Investment Expenses		5.7%

National Guard and Naval Militia Retirement System (continued)

Development of Actuarial Value of Assets

1.	Deferral of Investment Gain / (Loss) for FY23	
	a. Fair Value of Assets as of June 30, 2022	$ 44,088,041
	b. Contributions	0
	c. Benefit Payments	1,745,217
	d. Administrative Expenses	295,041
	e. Actual Investment Return (net of investment expenses)	2,453,401
	f. Expected Return Rate (net of investment expenses)	5.75%
	g. Expected Return, Weighted for Timing	2,473,039
	h. Investment Gain / (Loss) for the Year, (e) - (g)	(19,638)
2.	Actuarial Value as of June 30, 2023	
	a. Fair Value as of June 30, 2023	$ 44,501,184
	b. Deferred Investment Gain / (Loss)	(1,811,583)
	c. Preliminary Actuarial Value at June 30, 2023, (a) - (b)	46,312,767
	d. Upper Limit: 120% of Fair Value as of June 30, 2023	53,401,421
	e. Lower Limit: 80% of Fair Value as of June 30, 2023	35,600,947
	f. Actuarial Value as of June 30, 2023, (c) limited by (d) and (e)	46,312,767
3.	Ratio of Actuarial Value of Assets to Fair Value of Assets	104.1%
4.	Approximate Actuarial Value Investment Return Rate during FY23 Net of Investment Expenses	4.7%

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, 2019	$ (407,413)	$ (325,932)	$ (81,481)	$ 0
June 30, 2020	(685,847)	(411,507)	(137,169)	(137,171)
June 30, 2021	6,594,160	2,637,664	1,318,832	2,637,664
June 30, 2022	(7,160,610)	(1,432,122)	(1,432,122)	(4,296,366)
June 30, 2023	(19,638)	0	(3,928)	(15,710)
Total	**$ (1,679,348)**	**$ 468,103**	**$ (335,868)**	**$ (1,811,583)**

Risk Information

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, judgment, 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 differ from the rate assumed in the actuarial valuation (7.25% for JRS and 5.75% for NGNMRS)
- Contribution Risk – potential that actual contributions will differ from actuarially determined contributions
- 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 projected under valuation mortality assumptions
- Salary Increase Risk[2] – potential that future salaries will differ from the valuation assumptions
- Inflation Risk[2] – potential that the consumer price index (CPI) for urban wage earners and clerical workers for Anchorage will differ from the rate assumed in the actuarial valuation (2.50% for JRS)
- Other Demographic Risk – potential that other demographic experience will differ from the valuation assumptions

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.

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[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 and to NGNMRS.

[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, 2022 reports dated August 15, 2023 (JRS) and May 31, 2023 (NGNMRS). This historical experience illustrates how returns can vary over time.

The plans invest in diversified portfolios of assets with the objective of maximizing investment returns at reasonable levels of risk. Actuarial Standard of Practice No. 4 (ASOP 4) requires the actuary to disclose a Low-Default-Risk Obligation Measure (LDROM) of each plan's pension liabilities and provide commentary to help the intended users of this report understand the significance of the LDROM with respect to funded status, contributions, and participant benefit security.

The LDROM for each plan is based on a discount rate derived from low-default-risk fixed income securities whose cash flows are reasonably consistent with the pattern of pension benefits expected to be paid in the future. The LDROM amounts shown here represent what the plans' pension liabilities would be if each plan invested its assets solely in a portfolio of high-quality bonds whose cash flows approximately match future pension benefit payments. Consequently, the difference between the LDROM and the Actuarial Accrued Liability represents the taxpayer savings from investing in a diversified portfolio of assets versus only investing in high-quality bonds. Furthermore, this difference also represents the cost of reducing investment risk.

As of June 30, 2023, the LDROM for the JRS pension plan is $260.3 million based on an interest rate of 5.37%. As of the same date, the LDROM for NGNMRS is $30.1 million based on an interest rate of 5.34%. The interest rates used for the LDROM were determined separately for each plan by calculating a single equivalent discount rate using projected pension benefit payments and the Buck Above Median Yield Curve as of June 30, 2023. Please note that the interest rates used for the LDROM are based on bond yields as of the measurement date and will therefore vary for different measurement dates. For NGNMRS, the LDROM is also based on lump sums calculated at an interest rate of 5.34%. All other assumptions are the same as those used for funding purposes.

Actuaries play a role in helping to determine funding methods and policies that can achieve affordable and appropriate contributions and risk management. The funded status based on the Actuarial Accrued Liability, as well as the actuarially determined contributions, are calculated using the expected return on assets, which reflects the actual investment portfolio. Since the assets are not invested solely in an all-bond portfolio, the LDROM does not indicate a plan's pension funded status or progress, nor does it provide information on necessary plan contributions.

Regarding participant benefit security, if a plan were to be funded on an LDROM basis, participant benefits currently accrued as of the measurement date might be considered more secure, since the investment risk would be significantly reduced. However, the fact that assets are invested in a diversified portfolio does not

mean that the participants' benefits are not secure. The security of participant benefits relies on a combination of the assets in the plan, the investment returns generated from those assets, and the promise of future contributions from the plan sponsor. Reducing investment risk by investing solely in bonds may significantly increase the actuarially determined contributions, and thereby increase contribution risk by decreasing the ability of the plan sponsor to make necessary contributions to fund the benefits. Unnecessarily high contribution requirements in the near term may not be affordable and could imperil plan sustainability and benefit security. Participant benefits will remain secure if reasonable and appropriate contributions with managed risk are calculated and paid.

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 actuarially determined 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 10% 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 mitigate this risk by assuming future improvement in mortality. However, any improvement in future mortality greater than that expected under 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 Risk[1]

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 Risk[1]

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). 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.