



Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve



PERS
of MISSISSIPPI

**Report on the Annual Valuation of the
Supplemental Legislative
Retirement Plan of Mississippi**

Prepared as of June 30, 2023





Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

November 10, 2023

Board of Trustees
Public Employees' Retirement System of Mississippi
429 Mississippi Street
Jackson, MS 39201-1005

Ladies and Gentlemen:

Presented in this report are the results of the annual actuarial valuation of the Supplemental Legislative Retirement Plan of Mississippi (SLRP). The purpose of the valuation is to:

- Measure the System's funding progress as of the valuation date,
- To determine the unfunded actuarial accrued liability amortization period beginning July 1, 2023 using the Fixed Contribution Rate (FCR) of 8.40% of payroll,
- To determine the actuarially determined contribution (ADC) for the fiscal year beginning July 1, 2025 using the assumptions and methods in the Board's funding policy,
- To project the System's funding progress for the next thirty years and provide clear reporting and risk analysis of the funding metrics as outlined in the Board's funding policy using a "Signal Light" approach, and
- To assist the Board in determining whether an increase or decrease is needed in the Fixed Contribution Rate.

The results may not be applicable for other purposes. The date of the valuation was June 30, 2023.

The valuation was based upon data, furnished by the Executive Director and the PERS staff, concerning active, inactive, and retired members along with pertinent financial information. While not verifying data at the source, the actuary performed tests for consistency and reasonableness. The complete cooperation of the PERS staff in furnishing materials requested is hereby acknowledged with appreciation.

Your attention is directed particularly to the presentation of results on page 1 and the projection results on pages 5 and 6. Since all three funding policy metrics are in the Yellow Status, we do not recommend an increase in the Fixed Contribution Rate (FCR) of 8.40% of annual compensation at this time. However, if there is any negative experience in the near future, the Fixed Contribution Rate may need to be increased.



Board of Trustees
November 10, 2023
Page 2

Since the previous valuation, the Board adopted new actuarial assumptions based on the experience investigation for the four-year period ending June 30, 2022. The results of this study were presented to the Board in April, 2023 and the Board adopted the demographic assumption recommendations with regard to the rates of retirement and disability. The Board also adopted a decrease in the investment return assumption from 7.55% to 7.00% at its August, 2023 meeting. The complete list of actuarial assumption changes is shown on page 2 of this report. No changes were made to the plan provisions since the previous valuation.

The valuation was prepared in accordance with the principles of practice prescribed by the Actuarial Standards Board. We have reviewed the actuarial methods, including the asset valuation method, and continue to believe they are appropriate for the purpose of determining employer contribution levels.

In order to prepare the results in this report, we have utilized actuarial models that were developed to measure liabilities and develop actuarial costs. These models include tools that we have produced and tested, along with commercially available valuation software that we have reviewed to confirm the appropriateness and accuracy of the output. In utilizing these models, we develop and use input parameters and assumptions about future contingent events along with recognized actuarial approaches to develop the needed results.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. An analysis of the potential range of future measurements is provided in Section XI of this report.

This actuarial valuation was performed to determine the adequacy of the Board approved contribution rate to fund the plan. The asset values used to determine unfunded liabilities and funded ratios are not market values but less volatile market related values. A smoothing technique is applied to market values to determine the market related values. The unfunded liability amounts and funded ratios using the market value of assets would be different. The interest rate used for determining liabilities is based on the expected return on assets. Therefore, liability amounts in this report cannot be used to assess a settlement of the obligation.



Board of Trustees
November 10, 2023
Page 3

To the best of our knowledge, this report is complete and accurate. The valuation was performed by, and under the supervision of, independent actuaries who are members of the American Academy of Actuaries with experience in performing valuations for public retirement systems. The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The actuarial calculations were performed by qualified actuaries according to generally accepted actuarial procedures and methods. The calculations are based on the current provisions of the plan, and on actuarial assumptions that are, in the aggregate, internally consistent and reasonably based on the actual experience of the plan.

Respectfully submitted,

A handwritten signature in blue ink that reads 'Edward J. Koebel'.

Edward J. Koebel, EA, FCA, MAAA
Chief Executive Officer

A handwritten signature in blue ink that reads 'Ben Mobley'.

Ben Mobley, ASA, FCA, MAAA
Consulting Actuary



Table of Contents

<u>VALUATION RESULTS</u>		
<u>Section</u>	<u>Item</u>	<u>Page No.</u>
I	Executive Summary	1
II	Membership Data	8
III	Valuation Balance Sheet	9
IV	Comments on Valuation	12
V	Derivation of Experience Gains and Losses	14
VI	Fixed Contribution Rate (FCR)	15
VII	Actuarially Determined Contribution Rate (ADC)	17
VIII	Supplemental Disclosure Information	19

<u>PROJECTION RESULTS</u>		
<u>Section</u>	<u>Item</u>	<u>Page No.</u>
IX	Projection Results	27
X	Cash Flow Projections	35
XI	Sensitivity Analysis	39
XII	Projection Summary	46

<u>APPENDICES</u>		
<u>Schedule</u>	<u>Item</u>	<u>Page No.</u>
A	Development of Assets	47
B	Statement of Actuarial Assumptions and Methods	49
C	Summary of Main Benefit and Contribution Provisions	53
D	Detailed Tabulations of the Data	61
E	Analysis of Financial Experience	67
F	Funding Policy	68



Section I: Executive Summary

1. This report, prepared as of June 30, 2023, presents the results of the annual actuarial valuation of the Plan. For convenience of reference, the principal results of the valuation and a comparison with the preceding year's results are summarized below. The current valuation and reported benefit amounts reflect any benefit increases granted to retirees as of July 1, 2023.

VALUATION DATE	June 30, 2023	June 30, 2022
Investment Return Assumption	7.00%	7.55%
Active members included in valuation		
Number	172	174
Annual compensation	\$ 8,425,049	\$ 8,179,673
Retirees		
Number	228	230
Annual allowances	\$ 1,633,116	\$ 1,614,217
Assets		
Market related actuarial value	\$ 21,465,000	\$ 20,808,000
Market value of assets (MVA)	\$ 20,830,000	\$ 20,139,000
Unfunded actuarial accrued liability (UAAL)	\$ 7,065,466	\$ 5,325,030
Funded Ratio based on actuarial value	75.2%	79.6%
Employer Fixed Contribution Rate (FCR)		
Normal Cost*	3.21%	2.67%
Accrued liability	<u>5.19</u>	<u>4.73</u>
Total**	8.40%	7.40%
Payment period based on the FCR	26.5 years	21.9 years
Actuarially Determined Contribution (ADC) Rate		
Normal Cost*	3.21%	2.67%
Accrued liability	<u>5.36</u>	<u>4.02</u>
Total	8.57%	6.69%
Amortization Period for ADC	25.0 years	30.0 years
ADC Ratio to Fixed Contribution Rate	102.02%	90.41%
Unfunded actuarial accrued liability based on MVA	\$ 7,700,466	\$ 5,994,030
Funded Ratio based on market value	73.0%	77.1%

* Includes load for administrative expenses. See Section VI for more contribution rate detail.

** The FCR of 8.40% will begin July 1, 2024.



Section I: Executive Summary

2. The valuation balance sheet showing the results and liabilities of the valuation is given in Section III.
3. Comments on the valuation results are provided in Section IV, comments on the experience and actuarial gains and losses during the valuation year are provided in Section V and the rates of contribution payable by employers are provided in Section VI and Section VII.
4. Schedule A of this report presents the development of the assets. The estimated investment return for the plan year ending June 30, 2023 on a market value of assets basis was 7.49% and on actuarial value of assets basis was 7.07%. These can be compared to the assumed rate of return for the same period of 7.55%.
5. Schedule B details the actuarial assumptions and methods employed. Since the previous valuation, various economic and demographic assumptions have been revised. The changes are summarized below and shown in more detail in Schedule B:
 - The investment rate of return assumption was reduced from 7.55% to 7.00%.
 - Disability rates and service retirement rates were adjusted to reflect actual experience more closely.
 - The assumed load for administrative expenses was decreased from 0.28% to 0.15% of payroll.
6. Schedule C gives a summary of the benefit and contribution provisions of the plan. There have been no changes since the previous valuation.
7. The funded ratio shown in the Summary of Principal Results is the ratio of actuarial value of assets to the actuarial accrued liability. The funded status is different based on the market value of assets. The funded ratio is an indication of progress in funding the promised benefits. Since the ratio is less than 100%, there is a need for additional contributions toward the payment of the unfunded accrued liability. In addition, this funded ratio does not have any relationship to measuring the sufficiency if the plan had to settle its liabilities.
8. The employer contribution rate, or Fixed Contribution Rate (FCR), of 7.40% of annual compensation has been the contribution rate for employers since January 1, 2012. However, the FCR is scheduled to increase to 8.40% of annual compensation beginning July 1, 2024. As shown on page 1 of the report, the amortization period to pay off the Unfunded Actuarial Accrued Liability (UAAL) using the FCR of 8.40% is over 26 years, which is a snapshot view of the UAAL as of the valuation date of June 30, 2023.



Section I: Executive Summary

However, this snapshot calculation of the amortization period does not take into consideration the smoothing in of the investment experience that the System will encounter over the next four years. The majority of this anticipated experience over the next four years will be negative.

9. In addition, as shown on page 1 of the report, the Actuarially Determined Contribution (ADC) Rate for the 2023 valuation year is 8.57% of annual compensation and the ratio of the ADC to the FCR (8.57% to 8.40%) is calculated at 102.02% as of June 30, 2023. Per the Board's Funding Policy, which is provided in Schedule F, this actuarial metric is in the Yellow Status as the ratio is between 100% and 110%.
10. The projection results, shown beginning in Section IX, allow the Board to see a forecast of the System's funding progress over time, allow the Board to review the funding goals and benchmarks outlined in the funding policy, and provide the status of the metrics/targets in the Funding Policy that determines whether or not a contribution rate increase should be recommended. The objective of the current funding policy is to accumulate sufficient assets during a member's employment to fully finance the benefit the member receives throughout retirement. In order to reach that objective, some goals and benchmarks were established as follows:
 - Preservation of the defined benefit structure for providing lifetime benefits to the SLRP membership,
 - Maintain an increasing trend in the funded ratio over the projection period with an ultimate goal of being 100% funded,
 - Ensure benefit improvements are funded through increases in contribution requirements in accordance with Article 14, S 272A, of the Mississippi Constitution,
 - Contribution rate stability as a percentage of payroll (Fixed Contribution Rate – FCR),
 - Require clear reporting and risk analysis of the metrics by the actuary as outlined in Section II of the policy using a “Signal Light” approach to assist the Board in determining whether increases or decreases are needed in the employer contribution rate.

Section I: Executive Summary

11. For SLRP, if any one of the following metrics are in the Red Signal Light status in conjunction with the annual valuation report and the projection report, the actuary shall determine and recommend to the Board an employer contribution rate increase to consider that is sufficient to get all three metrics back into the Green Signal Light status.

- Funded Ratio – defined as the actuarial value of assets divided by the actuarial accrued liability. One of the funding goals is to have an increasing funded ratio over the projection period with an ultimate goal of having a 100% funded ratio. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Funded Ratio above 90% in 2047
Yellow	Funded Ratio between 70% and 90% in 2047
Red	Funded Ratio below 70% in 2047

- Cash flow as a percentage of assets – defined as the difference between total contributions coming into the trust and the benefit payments made to retirees and beneficiaries going out of the trust as a percentage of beginning year market value of assets. Over the projection period, this percentage will fluctuate from year to year so for Signal Light testing, the net cash flow percentage over the entire projection period will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Net Cash Flow Percentage above negative 5.25% (-5.25%) during the projection period
Yellow	Net Cash Flow Percentage between negative 5.25% (-5.25%) and negative 7.00% (-7.00%) during the projection period
Red	Net Cash Flow Percentage below negative 7.00% (-7.00%) during the projection period



Section I: Executive Summary

- Actuarially Determined Contribution (ADC) – defined as the contribution requirement determined by the actuary using a contribution allocation procedure based on the principal elements disclosed in Section III of the funding policy:
 - Actuarial Cost Method
 - Asset Smoothing Method
 - Amortization Method

The calculation of the ADC will be determined during the actuarial valuation. The ratio of the ADC to the fixed contribution rate (ADC/FCR) as set by the Funding Policy will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	ADC ratio at or below 100% of fixed contribution rate
Yellow	ADC ratio between 100% and 110% of fixed contribution rate
Red	ADC ratio above 110% of fixed contribution rate

12. A summary of the estimated metrics from the projection results for the next five years and in the long-term are shown in the following two tables below. More details will be shown beginning in Section IX but as you can see from the first table below, the funded ratio and cash flow percentage remain relatively stable while the ADC/FCR ratio increases over the next five years.

Valuation Year	UAAL (\$ in Thousands)	Funded Ratio	Cash Flow %	ADC/FCR Ratio
2023	\$7,065	75.2%	(4.6)%	102.0%
2024	7,191	75.3	(4.5)	107.8
2025	7,122	76.0	(4.5)	107.8
2026	7,929	73.8	(4.6)	115.4
2027	7,992	74.1	(5.1)	118.0
2028	8,026	74.3	(5.1)	122.3

Section I: Executive Summary

Metrics	2023 Projection with 8.40% FCR (7.00%)	Status
Funding Ratio in 2047	78.4%	Yellow
Cash Flow as a Percentage of Assets	(5.6)%	Yellow
ADC/FCR Ratio from 2023 Valuation	102.0%	Yellow
ADC/FCR Ratio from 2024 Valuation	107.8%	Yellow

As shown above, none of the metrics are in the “Red Status” for the valuation and projections. **Therefore, we recommend to the PERS Board that the Fixed Contribution Rate (FCR) continue at a rate of 8.40% of annual compensation for SLRP at this time. However, if there is any negative experience in the near future, the Fixed Contribution Rate may need to be increased.** The Board should continue to review the Sensitivity Analysis section of this report during the fiscal year to understand the volatility that may occur in the projections if investment experience is more or less than expected going forward.

13. The table on the following page provides a ten-year history of some pertinent figures.



Section I: Executive Summary

Comparative Schedule

Valuation Date June 30	Active Members				Retired Lives				Valuation Results (\$ thousands)		
	Number	Payroll (\$ in thousands)	Average Salary	% increase from previous year	Number	Active/Retired Ratio	Annual Benefits (\$ thousands)	Benefits as % of Payroll	Actuarial Accrued Liability	Valuation Assets	UAAL
2014	175	\$6,918	\$39,531	3.3%	187	0.9	\$1,139.5	16.5%	\$20,240	\$14,899	\$5,341
2015	174	6,861	39,432	(0.3)	185	0.9	1,133.6	16.5	21,213	16,098	5,115
2016	171	6,862	40,130	1.8	207	0.8	1,277.8	18.6	21,259	16,447	4,812
2017	174	6,928	39,817	(0.8)	205	0.8	1,279.5	18.5	21,849	17,208	4,641
2018	174	6,833	39,270	(1.4)	207	0.8	1,304.5	19.1	22,319	17,945	4,374
2019	170	6,937	40,806	3.9	215	0.8	1,372.9	19.8	22,865	18,428	4,437
2020	171	6,891	40,297	(1.2)	235	0.7	1,565.7	22.7	23,485	18,472	5,013
2021	173	8,030	46,414	15.2	233	0.7	1,596.8	19.9	25,038	19,980	5,058
2022	174	8,180	47,010	1.3	230	0.8	1,614.2	19.7	26,133	20,808	5,325
2023	172	8,425	48,983	4.2	228	0.8	1,633.1	19.4	28,530	21,465	7,065



Section II: Membership Data

Data regarding the membership of the Plan for use as a basis for the valuation were furnished by the Plan's office. The following tables summarize the membership of the Plan as of June 30, 2023 upon which the valuation was based. Detailed tabulations of the data are given in Schedule D.

Active Members

Employers	Number of Employers	Number	Payroll	Group Averages		
				Salary	Age	Benefit Service*
State Agencies	4	172	\$ 8,425,049	\$48,983	57.3	11.3

* Eligibility service is 16.5 years.

Of the 172 active members, 122 are vested and 50 are non-vested.

Retired Lives

Type of Benefit Payment	No.	Annual Benefits	Group Averages	
			Benefit	Age
Retirement	176	\$1,267,323	\$7,201	74.5
Disability	1	9,121	9,121	68.5
Survivor	51	356,672	6,994	72.6
Total in SLRP	228	\$1,633,116	\$7,163	74.0

Deferred Vested/Inactive Lives

Type of Member	No.	Annual Deferred Benefits	Outstanding Balance
Deferred Vested – Benefit Included	33	\$105,981	N/A
Inactive	27	N/A	\$152,236
Total in SLRP	60	\$105,981	\$152,236

For the liability in this valuation, deferred vested participants with benefits provided are valued assuming a retirement age of 60 and for inactive members, account balances are multiplied by two to estimate liabilities and interest in the future.



Section III: Valuation Balance Sheet

The following valuation balance sheet shows the assets and liabilities of the retirement plan as of the current valuation date of June 30, 2023 and, for comparison purposes, as of the immediately preceding valuation date of June 30, 2022. The items shown in the balance sheet are present values actuarially determined as of the relevant valuation date. The development of the actuarial value of assets is presented in Schedule A.



Section III: Valuation Balance Sheet

VALUATION BALANCE SHEET SHOWING THE ASSETS AND LIABILITIES OF THE SUPPLEMENTAL LEGISLATIVE RETIREMENT PLAN OF MISSISSIPPI

	JUNE 30, 2023	JUNE 30, 2022
ASSETS		
Current actuarial value of assets:		
Annuity Savings Account	\$ 2,779,013	\$ 2,610,953
Annuity Reserve	4,043,564	3,905,738
Employers' Accumulation Account	<u>14,642,423</u>	<u>14,291,309</u>
Total current assets	\$ 21,465,000	\$ 20,808,000
Future member contributions to Annuity Savings Account	\$ 1,552,383	\$ 1,592,509
Prospective contributions to Employer's Accumulation Account		
Normal contributions	\$ 1,627,961	\$ 1,305,894
Unfunded actuarial accrued liability contributions	<u>7,065,466</u>	<u>5,325,030</u>
Total prospective contributions	<u>\$ 8,693,427</u>	<u>\$ 6,630,924</u>
Total assets	<u><u>\$ 31,710,810</u></u>	<u><u>\$ 29,031,433</u></u>
LIABILITIES		
Present value of benefits payable on account of present retired members and beneficiaries	\$ 16,856,675	\$ 16,053,445
Present value of benefits payable on account of inactive members for service rendered before the valuation date	1,289,096	1,332,908
Present value of benefits payable on account of active members	<u>\$ 13,565,039</u>	<u>\$ 11,645,080</u>
Total liabilities	<u><u>\$ 31,710,810</u></u>	<u><u>\$ 29,031,433</u></u>



Section III: Valuation Balance Sheet

BREAKDOWN OF TOTAL AND ACTUARIAL ACCRUED LIABILITIES AS OF JUNE 30, 2023

	Total Liability	Actuarial Accrued Liability
Active Members		
Retirement	\$ 11,306,854	\$ 9,228,898
Death	545,006	396,346
Disability	137,316	53,205
Termination	<u>1,575,863</u>	<u>706,246</u>
Total	\$ 13,565,039	\$ 10,384,695
Retirees		
Retirement	\$ 13,685,423	\$ 13,685,423
Survivor	3,094,878	3,094,878
Disability	<u>76,374</u>	<u>76,374</u>
Total	\$ 16,856,675	\$ 16,856,675
Deferred Vested Members	984,625	984,625
Inactive Members	<u>304,471</u>	<u>304,471</u>
Total Actuarial Values	\$ 31,710,810	\$ 28,530,466
Actuarial Value of Assets		<u>21,465,000</u>
Unfunded Actuarial Accrued Liability		\$ 7,065,466

The total liability is the present value of future benefits for all current members as of the valuation date. The accrued liability is the present value of benefits that have been accrued as of the valuation date. Since all inactive members and retirees have accrued their full benefits, the total liability and accrued liability are the same. For actives, the difference between the total liability and the accrued liability is the present value of all future accruals.



Section IV: Comments on Valuation

The valuation balance sheet gives the following information with respect to the funds of the Plan as of June 30, 2023.

Total Assets

The Annuity Savings Account is the fund to which are credited contributions made by members together with interest thereon. When a member retires, the amount of his or her accumulated contributions is transferred from the Annuity Savings Account to the Annuity Reserve. The Employer's Accumulation Account is the fund to which are credited employer contributions and investment income, and from which are paid all employer-provided benefits under the plan. The assets credited to the Annuity Savings Account as of the valuation date, which represent the accumulated contributions of members to that date, amounted to \$2,779,013. The assets credited to the Annuity Reserve were \$4,043,564 and the assets credited to the Employer's Accumulation Account totaled \$14,642,423. Current actuarial assets as of the valuation date equaled the sum of these three funds, \$21,465,000. Future member contributions to the Annuity Savings Account were valued to be \$1,552,383. Prospective contributions to the Employer's Accumulation Account were calculated to be \$8,693,427 of which \$1,627,961 is attributable to service rendered after the valuation date (normal contributions) and \$7,065,466 is attributable to service rendered before the valuation date (unfunded actuarial accrued liability contributions).

Therefore, the balance sheet shows the present value of current and future assets of the Plan to be \$31,710,810 as of June 30, 2023.

Total Liabilities

The present value of benefits payable on account of presently retired members and beneficiaries totaled \$16,856,675 as of the valuation date. The present value of future benefit payments on behalf of active members amounted to \$13,565,039. In addition, the present value of benefits for inactive members, due to service rendered before the valuation date, was calculated to be \$1,289,096.

Therefore, the balance sheet shows the present value for all prospective benefit payments under the Plan to be \$31,710,810 as of June 30, 2023.

Section 25-11-307(1) of State law requires that active members contribute 3.00% of annual compensation to the Plan.



Section IV: Comments on Valuation

Section 25-11-307(2) requires that the State contribute a certain percentage of the annual compensation of members to cover the normal contributions and a certain percentage to cover the accrued liability contributions of the Plan. These individual contribution percentages are established in accordance with an actuarial valuation. Based on the funding policy adopted by the Board in 2023, the employer rate is set at 8.40% of annual compensation beginning July 1, 2024 and the amortization period is calculated on an open basis. Therefore, the amortization period for the June 30, 2023 valuation is 26.5 years, compared to 21.9 years for the previous valuation. The primary reason for the increase in the amortization period is due to the decrease in the investment return assumption from 7.55% to 7.00%, offset by the increase in the Fixed Contribution Rate.

The assumption changes increased the actuarial accrued liability by approximately \$1,573.3 thousand (shown on next page). The majority of this increase was due to the change in the long-term investment return assumption from 7.55% to 7.00%.

There was a loss on the unfunded actuarial accrued liability for the fiscal year ending June 30, 2023 of approximately \$227.4 thousand (shown on the next page) which was primarily due to the greater than expected salary increases and negative investment experience (actuarial value of assets basis less than expected).

See page 16 for a reconciliation of the amortization period. See Schedule E for a complete analysis of the Financial Experience.



Section V: Derivation of Experience Gains & Losses

Actual experience will never (except by coincidence) match exactly with assumed experience. It is assumed that gains and losses will be in balance over a period of years, but sizable year to year fluctuations are common. Details on the derivation of the experience gain/(loss) for the years ended June 30, 2023 and June 30, 2022 are shown below.

	<u>2023 Valuation</u> <u>\$ Thousands</u>	<u>2022 Valuation</u> <u>\$ Thousands</u>
(1) UAAL* as of beginning of year	\$ 5,325.0	\$ 5,422.3
(2) Total normal cost from last valuation	423.2	482.2
(3) Total contributions	884.0	852.0
(4) Interest Rate (Beginning of Year)	7.55%	7.55%
(5) Interest accrual: $[(1) + (2)] \times (4) - [(3) \times ((4) / 2)]$	<u>400.6</u>	<u>413.6</u>
(6) Expected UAAL before changes: $(1) + (2) - (3) + (5)$	\$ 5,264.8	\$ 5,466.1
(7) Change due to plan amendments	0.0	0.0
(8) Change due to actuarial assumptions or methods	<u>1,573.3</u>	<u>0.0</u>
(9) Expected UAAL after changes: $(6) + (7) + (8)$	\$ 6,838.1	\$ 5,466.1
(10) Actual UAAL as of end of year	\$ 7,065.5	\$ 5,325.0
(11) Gain/(loss): $(9) - (10)$	\$ (227.4)	\$ 141.1
(12) Gain/(loss) as percent of actuarial accrued liabilities at start of year.	(0.9)%	0.6%

*Unfunded actuarial accrued liability.

Valuation Date June 30	Actuarial Gain/(Loss) as a % of Beginning Accrued Liabilities
2018	1.4%
2019	(0.2)
2020	(2.0)
2021	(0.4)
2022	0.6
2023	(0.9)



Section VI: Fixed Contribution Rate (FCR)

- The valuation balance sheet gives the basis for determining the percentage rates for contributions to be made by employers to the Retirement Plan. The following table shows the rates of contribution payable by employers as determined from the present valuation for the fiscal year and a comparison to the previous valuation results.

Contribution for	2023 Valuation	2022 Valuation
Investment Return Assumption	7.00%	7.55%
Total Normal Cost:		
Service retirement benefits	5.60%	4.82%
Disability benefits	0.15%	0.28%
Survivor benefits	<u>0.31%</u>	<u>0.29%</u>
Total	6.06%	5.39%
Less Member Contributions:	3.00%	3.00%
Employer Normal Cost	3.06%	2.39%
Administrative Expense Load	<u>0.15%</u>	<u>0.28%</u>
Total Employer Normal Cost Rate	3.21%	2.67%
Unfunded Actuarial Accrued Liabilities (26.5 year level % of payroll amortization*)	5.19%	4.73%
Total Employer Fixed Contribution Rate (FCR)	8.40%	7.40%

*Amortization period a year ago was 21.9 years.

- The current funding policy has set the employer contribution rate to 8.40% of payroll and kept the amortization period open-ended. Thirty-year projections are completed to determine if an increase or decrease in the employer contribution rate is warranted according to the metrics set forth in the funding policy. Please see Schedule F for the current funding policy.



Section VI: Fixed Contribution Rate (FCR)

3. The components of the change in the computed unfunded actuarial accrued liability amortization period from 21.9 years to 26.5 years are as follows:

Previously Reported Period	21.9 years
Change due to:	
Normal amortization	(1.0)
Actuarial experience	(0.7)
Net Assumption changes/FCR Change	7.7
Plan amendments	0.0
Contribution Shortfall/(Excess)	(1.4)
Computed Period	26.5 years



Section VII: Actuarially Determined Contribution (ADC) Rate

- One of the metrics in the Funding Policy, as shown in Schedule F, is to calculate the Actuarially Determined Contribution (ADC) based on the principal elements of the Amortization Method disclosed in the Funding Policy. The ratio of the ADC to the Fixed Contribution Rate (ADC/FCR) as set by this Funding Policy will be tested with each valuation. The Funding Policy provides that the unfunded actuarial accrued liability as of June 30, 2023 (Transitional UAAL) will be amortized as a level percentage of payroll over a closed 25-year period. In each subsequent valuation, all benefit changes, assumption and method changes, and experience gains and/or losses that have occurred since the previous valuation will combine to determine a New Incremental UAAL. Each New Incremental UAAL will be amortized as a level percentage of payroll over a closed 25-year period from the date it is established.
- The following table shows the components of the total Unfunded Actuarial Accrued Liability (UAAL) and the derivation of the UAAL Contribution Rate in accordance with the funding policy as of the valuation date:

TOTAL UAAL AND UAAL CONTRIBUTION RATE

Date Established	Original UAAL Balance	Remaining UAAL Balance	Remaining Amortization Period	Amortization Payment
June 30, 2023	\$7,065,466	\$7,065,466	25 years	\$463,691
Total		\$7,065,466		\$463,691
Estimated Payroll				\$8,648,313
UAAL Amortization Contribution Rate				5.36%



Section VII: Actuarially Determined Contribution (ADC) Rate

3. The calculation of Actuarial Determined Contribution (ADC) for the past two valuations is shown below:

Funding Policy ADC Metric Test		
Valuation Date June 30	2023	2022
Actuarially Determined Contribution (ADC) rate		
Normal Cost*	3.21%	2.67%
Accrued liability	<u>5.36</u>	<u>4.02</u>
Total	8.57%	6.69%
Fixed Contribution Rate (FCR)	8.40%	7.40%
Ratio of ADC to FCR	102.02%	90.41%
Funding Policy Metric Status	Yellow	Green
Anticipated accrued liability payment period	25.0 years	30.0 years

* Estimated budgeted administrative expenses are included in the normal cost rate

Since the Ratio of ADC to FCR is between 100% and 110% and the Metric Status is in the “Yellow Status” for the 2023 valuation, per the Funding Policy, we recommend no change in the Fixed Contribution Rate of 8.40% of annual compensation at this time. However, if there is any negative experience in the near future, the Fixed Contribution Rate may need to be increased. The Board should continue to review the Sensitivity Analysis section of this report during the fiscal year to understand the volatility that may occur in the projections if investment experience is less than expected going forward.



Section VIII: Supplemental Disclosure Information

1. The following supplemental disclosure information is provided for informational purposes only. One such item is a distribution of the number of employees by type of membership, as follows:

**NUMBER OF ACTIVE AND RETIRED PARTICIPANTS
AS OF JUNE 30, 2023**

GROUP	NUMBER
Retired participants and beneficiaries currently receiving benefits	228
Terminated participants and beneficiaries entitled to benefits but not yet receiving benefits	60
Active Participants	<u>172</u>
Total	460



Section VIII: Supplemental Disclosure Information

2. Another such item is the schedule of funding progress as shown below. As can be seen in column 3 of the table below, the funded has remained in a narrow range since 2017 with a decrease this year due to the assumption changes, including the change in the investment return assumption from 7.55% to 7.00%. In addition, the UAAL as a percentage of payroll, shown in column 6, has increased this valuation.

SCHEDULE OF FUNDING PROGRESS

Plan Year Ended	(1) Actuarial Value of Assets	(2) Actuarial Accrued Liability (AAL) Entry Age	(3) Funded Ratio (1)/(2)	(4) Unfunded AAL (2) – (1)	(5) Annual Covered Payroll	(6) Unfunded AAL as a Percentage of Covered Payroll (4)/(5)
06/30/2014	\$14,899,000	\$20,239,757	73.6%	\$5,340,757	\$6,917,939	77.2%
06/30/2015#	16,098,000	21,213,446	75.9	5,115,446	6,861,166	74.6
06/30/2016	16,447,000	21,258,800	77.4	4,811,800	6,862,262	70.1
06/30/2017#	17,208,000	21,848,868	78.8	4,640,868	6,928,085	67.0
06/30/2018	17,945,000	22,318,685	80.4	4,373,685	6,832,961	64.0
06/30/2019#	18,428,000	22,865,135	80.6	4,437,135	6,937,075	64.0
06/30/2020	18,472,000	23,484,818	78.7	5,012,818	6,890,817	72.7
06/30/2021#	19,980,000	25,037,562	79.8	5,057,562	8,029,670	63.0
06/30/2022	20,808,000	26,133,030	79.6	5,325,030	8,179,673	65.1
06/30/2023#	21,465,000	28,530,466	75.2	7,065,466	8,425,049	83.9

After change in actuarial assumptions.



Section VIII: Supplemental Disclosure Information

3. Additional information as of the latest valuation that went into the calculation of the Actuarially Determined Contribution (ADC) are as follows:

Valuation date	6/30/2023
Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, closed
Remaining amortization period on ADC basis	25.0 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return (discount rate)*	7.00%
Projected salary increases*	2.65%
Cost-of-living adjustments	3.00% per annum

* Includes price inflation at 2.40%



Section VIII: Supplemental Disclosure Information

Solvency Tests (\$ in Thousands)

Valuation Date	Actuarial Accrued Liabilities for				Portions of Accrued Liabilities Covered by Assets		
	(1) Accumulated Employee Contributions Including Allocated Investment Earnings	(2) Retirees and Beneficiaries Currently Receiving Benefits	(3) Active and Inactive Members Employer Financed Portion	Net Assets Available for Benefits	(1)	(2)	(3)
6/30/2014	\$2,638	\$11,920	\$5,682	\$14,899	100.0%	100.0%	6.0%
6/30/2015	2,862	12,329	6,023	16,098	100.0	100.0	15.1
6/30/2016	2,485	13,758	5,016	16,447	100.0	100.0	4.1
6/30/2017	2,636	13,799	5,414	17,208	100.0	100.0	14.3
6/30/2018	2,693	13,840	5,786	17,945	100.0	100.0	24.4
6/30/2019	2,701	14,300	5,864	18,428	100.0	100.0	24.3
6/30/2020	2,145	16,356	4,983	18,472	100.0	99.8	0.0
6/30/2021	2,331	16,292	6,415	19,980	100.0	100.0	21.1
6/30/2022	2,611	16,053	7,469	20,808	100.0	100.0	28.7
6/30/2023	2,779	16,857	8,895	21,465	100.0	100.0	20.6

As can be seen from the table above, the SLRP plan assets currently cover 100% of the active member contribution account balances and 100% of the retiree liability as of the valuation date. However, the remaining assets only cover a small percentage of the employer financed active liabilities.



Section VIII: Supplemental Disclosure Information

Schedule of Active Member Valuation Data

Valuation Date	Number of Employers	Number	Active Members		
			Annual Payroll	Annual Average Pay	% Increase in Average Pay
2014	5	175	\$6,917,939	\$39,531	3.3%
2015	5	174	6,861,166	39,432	(0.3)
2016	5	171	6,862,262	40,130	1.8
2017	5	174	6,928,085	39,817	(0.8)
2018	5	174	6,832,961	39,270	(1.4)
2019	5	170	6,937,075	40,806	3.9
2020	5	171	6,890,817	40,297	(1.2)
2021	5	173	8,029,670	46,414	15.2
2022	4	174	8,179,673	47,010	1.3
2023	4	172	8,425,049	48,983	4.2

Schedule of Number of Retirants Added To and Removed From Rolls* Last Ten Fiscal Years

Item	Fiscal Year Ended June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Beginning of Year	188	187	185	207	205	207	215	235	233	230
Added	6	8	28	6	6	11	24	3	1	9
Removed	(7)	(10)	(6)	(8)	(4)	(3)	(4)	(5)	(4)	(11)
End of Year	187	185	207	205	207	215	235	233	230	228

*See Schedule D for a breakdown by type of retirement.



Section VIII: Supplemental Disclosure Information

**Schedule of Annual Benefit Payments Added To and Removed From Rolls
Last Seven Fiscal Years**

Year Ending	2017	2018	2019	2020	2021	2022	2023
Beginning of Year	\$1,277,763	\$1,279,471	\$1,304,548	\$1,372,878	\$1,565,656	\$1,596,810	\$1,614,217
Added	31,300	34,983	72,406	216,379	14,393	2,970	66,878
Removed	(64,321)	(42,480)	(43,651)	(64,124)	(26,951)	(34,377)	(84,837)
Benefit increase due to annual COLA	34,729	32,574	39,575	40,523	43,712	48,814	36,858
Benefit increase due to plan amendments	0	0	0	0	0	0	0
End of Year	\$1,279,471	\$1,304,548	\$1,372,878	\$1,565,656	\$1,596,810	\$1,614,217	\$1,633,116



Section VIII: Supplemental Disclosure Information

Schedule of Average Benefit Payments

	Years of Credited Service							TOTAL
	0-9	10-14	15-19	20-24	25	26-29	30	
July 1, 2022 to June 30, 2023								
Average Monthly Benefit	\$435.87	\$232.89	\$639.34	\$1,103.21			\$926.91	\$619.24
Average Final Salary	\$39,251.46	\$35,025.72	\$46,070.28	\$58,191.24			\$45,845.00	\$43,397.35
Number of Active Retirants	2	2	2	1			2	9
July 1, 2021 to June 30, 2022								
Average Monthly Benefit	\$123.42							\$123.42
Average Final Salary	\$31,733.04							\$31,733.04
Number of Active Retirants	1							1
July 1, 2020 to June 30, 2021								
Average Monthly Benefit	\$192.21					\$815.03		\$399.82
Average Final Salary	\$32,588.76					\$44,865.25		\$36,680.92
Number of Active Retirants	2					1		3
July 1, 2019 to June 30, 2020								
Average Monthly Benefit	\$244.53	\$334.26	\$551.15	\$799.36		\$969.20	\$713.07	\$657.06
Average Final Salary	\$36,523.16	\$40,009.26	\$32,107.39	\$39,043.63		\$34,675.32	\$42,094.84	\$37,017.34
Number of Active Retirants	3	2	5	7		4	3	24
July 1, 2018 to June 30, 2019								
Average Monthly Benefit	\$169.43	\$372.79	\$636.97	\$742.14		\$738.58	\$960.08	\$548.53
Average Final Salary	\$24,872.76	\$42,782.28	\$42,042.72	\$42,479.52		\$40,654.56	\$44,126.04	\$38,076.62
Number of Active Retirants	3	2	1	2		1	2	11



Section VIII: Supplemental Disclosure Information

Schedule of Average Benefit Payments

	Years of Credited Service								TOTAL
	0-9	10-15	16-20	21-24	25	26-29	30	31+	
July 1, 2017 to June 30, 2018									
Average Monthly Benefit	\$33.20		\$538.18	\$512.85				\$1,284.96	\$485.87
Average Final Salary	\$20,839.50		\$40,100.76	\$41,549.28				\$41,618.04	\$27,732.60
Number of Active Retirants	2		1	2				1	6
July 1, 2016 to June 30, 2017									
Average Monthly Benefit	\$180.95		\$609.42	\$452.29	\$732.45				\$434.72
Average Final Salary	\$29,821.02		\$37,791.24	\$28,377.72	\$40,932.00				\$32,520.12
Number of Active Retirants	2		1	2	1				6
July 1, 2015 to June 30, 2016									
Average Monthly Benefit	\$249.59	\$349.70	\$486.61	\$654.27	\$522.12			\$1,200.33	\$527.40
Average Final Salary	\$36,599.58	\$39,877.51	\$35,210.67	\$39,774.39	\$41,482.12			\$42,237.92	\$38,850.14
Number of Active Retirants	6	6	4	7	2			3	28
July 1, 2014 to June 30, 2015									
Average Monthly Benefit	\$163.64	\$739.53	\$720.77		\$578.67			\$1,032.05	\$607.33
Average Final Salary	\$18,636.25	\$68,228.41	\$37,911.50		\$34,790.50			\$42,949.00	\$40,911.48
Number of Active Retirants	2	2	2		1			1	8
July 1, 2013 to June 30, 2014									
Average Monthly Benefit		\$345.04	\$490.81	\$472.60		\$579.73			\$454.01
Average Final Salary		\$34,404.37	\$34,871.00	\$39,300.75		\$43,164.50			\$36,836.00
Number of Active Retirants		2	2	1		1			6



Section IX: Projection Results

Annual actuarial valuations are performed for SLRP which re-measure the assets and liabilities and the adequacy of the contribution rate. Actuarial projections are also performed every year with sensitivity testing of several factors. SLRP also has experience studies performed every two years to analyze the discrepancies between actuarial assumptions and actual experience and determine if the actuarial assumptions need to be changed. Annual actuarial valuations and projections and periodic experience studies are practical ways to monitor and reassess risk.

As mentioned earlier in the report, the intended purpose of the projection results is to help assess the Plan's funding progress and to provide information to decision makers to help ensure that the applicable pension liabilities and funding mechanisms are managed in a manner that promotes sustainability.

The projection process should be viewed as an enhancement to the actuarial valuation control cycle by providing additional evaluation metrics to assess the need for further, in-depth analysis of the risks to the Plan's sustainability. The actuarial valuation control cycle is a key component of managing a long-term liability whose ultimate value is based upon uncertain future events. As the ultimate value of future cash flows cannot be predicted with certainty, pension liabilities are managed in the short-term through the continuous monitoring of economic and demographic assumptions, with a keen eye on the identification, measurement, and management of risks.

The projection process, like other actuarial modeling, is not intended to provide absolute results. The intended purpose of the projection process is to identify anticipated trends and to compare various outcomes, under a given methodology, rather than predicting certain future events. The results produced by the projection process do not predict the financial condition of the Plan or the Plan's ability to pay benefits in the future and do not provide any guarantee of future financial soundness of the Plan. Because actual experience will not unfold exactly as expected, actual results can be expected to differ from the results presented herein. To the extent actual experience deviates significantly from the assumptions, results could be significantly better or significantly worse than the expected outcome indicated in this report.



Section IX: Projection Results

SPECIAL ASSUMPTIONS

In addition to the regular valuation assumptions used in performing the annual actuarial valuations of SLRP, additional assumptions must be made that are unique to projections. The first of these is what, if any, change in the overall active membership will be anticipated. For this projection study, it was assumed that the number of active members would remain static over the 30-year projection period.

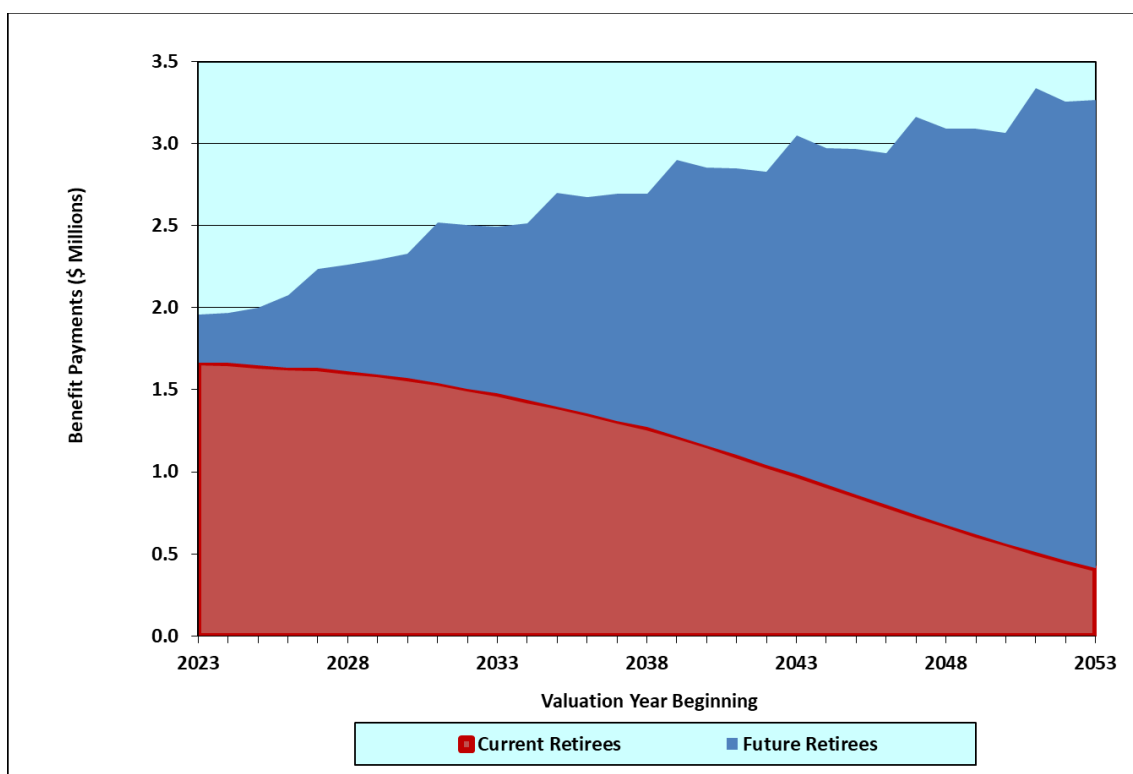
Since we assume active members will leave the system through termination, death, disability, or retirement, we need to make some assumptions as to the composition of new hires that will replace departing members in order to maintain the membership at a constant number. The new entrant profile we developed was based on the new hires over the 4-year period prior to the projection start date of June 30, 2023.

It is important to note that an eligibility service load of 2.50 years was included in the new entrant profile as the census data shows more and more active members in SLRP are entering the Plan with service from the PERS plan. The new entrant profile is summarized in the table below.

Age	Average Pay	Percent Male	Weight
30	\$42,000	80%	15%
39	\$43,500	80%	15%
45	\$43,750	80%	26%
53	\$44,500	80%	18%
57	\$43,000	80%	15%
67	\$47,000	80%	11%

Section IX: Projection Results

For the projection results presented in this section of the report, it was further assumed that the benefit structure as it exists on June 30, 2023 would remain in place for the following 30 years. The following graph shows the projection of benefit payments of SLRP members. The red area of the graph represents the benefit payments for current retirees and the blue area represents the benefit payments for any future retirees. The jagged outline of this blue area is a result of our assumption that most retirements occur every 4 years (after an election year). SLRP currently pays approximately \$1.7 million in benefit payments to its retirees but over the 30-year period, that amount is expected to nearly double.





Section IX: Projection Results

FUTURE MEMBERSHIP

The following chart and graph show the headcounts of active participants and retired members over the projection period. The actives are broken down into those existing as of June 30, 2023 and those who are hired after June 30, 2023. We have assumed the active membership will continue at the current maximum population of 174 active members over the projected period. As can be seen from the chart below, the retiree and deferred vested headcount begins to drop as retiree deaths outnumber new retirees.

Member	2023	2028	2033	2042	2047	2053
Active – Existing Employees	172	87	54	19	9	3
Active – New Entrants	0	87	120	155	165	171
Retired/Deferred Vesteds	261	293	276	238	214	203
Total	433	467	450	412	388	377



Section IX: Projection Results

PROJECTION RESULTS

The baseline projection results shown below use the same actuarial assumptions as used in the June 30, 2023 actuarial valuation report. In addition, the projection results using a different long-term investment return assumptions for future valuations (6.50%) is included below.

Baseline Projection Results (7.00%) (\$ in Thousands)

	2023	2028	2033	2042	2047	2053
Total Payroll	\$8,425	\$9,255	\$10,049	\$12,358	\$13,968	\$16,263
UAAL	\$7,065	\$8,026	\$8,407	\$8,927	\$8,890	\$8,058
Normal Cost Rate	3.21%	3.82%	4.06%	4.31%	4.32%	4.21%
UAAL Rate	5.19%	4.58%	4.34%	4.09%	4.08%	4.19%
FCR Rate	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%
Funded Ratio	75.2%	74.3%	74.9%	76.4%	78.4%	82.5%
Amortization Period	27 years	39 years	39 years	32 years	25 years	17 years
ADC	8.57%	10.27%	11.27%	13.77%	14.92%	9.09%
ADC Ratio	102.02%	122.28%	134.19%	163.87%	177.66%	108.21%
Cash Flow %	(4.58)%	(5.12)%	(5.18)%	(4.69)%	(4.66)%	(3.50)%

Projection Results Assuming 6.50% Long-Term Investment Return (\$ in Thousands)

	2023	2028	2033	2042	2047	2053
Total Payroll	\$8,425	\$9,255	\$10,049	\$12,358	\$13,968	\$16,263
UAAL	\$7,065	\$10,151	\$11,502	\$14,897	\$17,416	\$21,044
Normal Cost Rate	3.21%	4.52%	4.78%	5.04%	5.06%	4.94%
UAAL Rate	5.19%	3.88%	3.62%	3.36%	3.34%	3.46%
FCR Rate	8.40%	8.40%	8.40%	8.40%	8.40%	8.40%
Funded Ratio	75.2%	69.0%	67.3%	62.5%	59.6%	56.5%
Amortization Period	27 years	100 years	100 years	100 years	100 years	100 years
ADC	8.57%	12.30%	14.07%	18.60%	21.45%	14.96%
ADC Ratio	102.02%	146.44%	167.45%	221.45%	255.39%	178.11%
Cash Flow %	(4.58)%	(5.25)%	(5.51)%	(5.47)%	(5.85)%	(4.88)%



Section IX: Projection Results

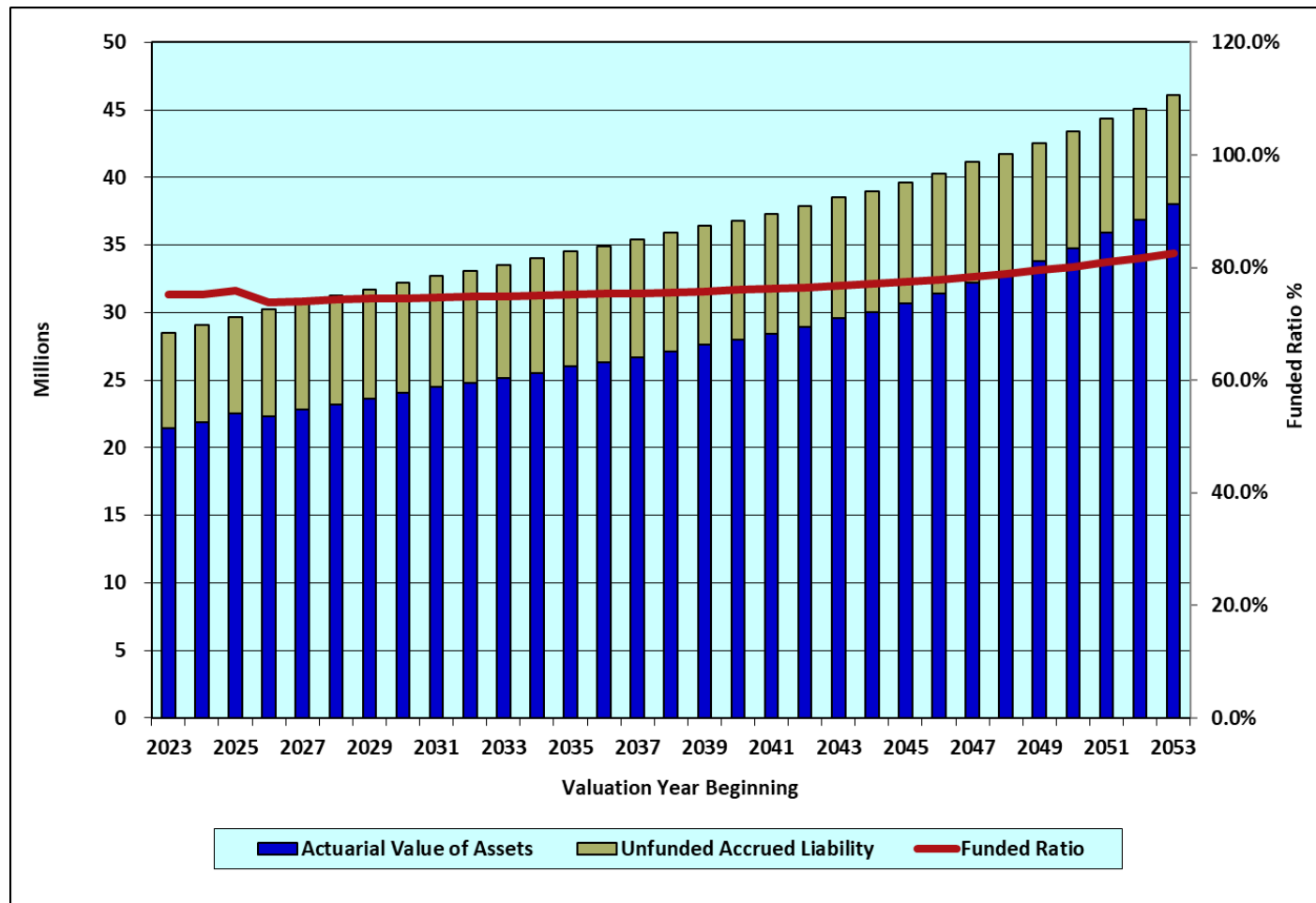
The first graph that follows shows the projection of the Unfunded Accrued Liability (UAL), Actuarial Value of Assets and the Funded Ratio under the baseline valuation (assuming 7.00%) from the amounts shown in the baseline table on the previous page. As you can see from the graph, under the current assumptions, the funded ratio is expected to be stable at or around 80% funded for the entire projection period.

The second graph shows the projection of the calculated Actuarially Determined Contribution (ADC) based on the Board's Funding Policy and the current Fixed Contribution Rate (FCR) of 8.40% under the baseline valuation. As you can see from the graph, the ADC is expected to increase over the next five years as the investment losses from the past valuations are fully recognized. After this initial period, the ADC is then expected to increase even further for the remaining projection period, as the valuation results continue to include contribution deficiency shortfalls due to the difference between the ADC and FCR. The drop in the ADC near the end of the projection period is a result of the initial 2023 UAL base of \$7.1 Million being paid off, based on the closed amortization period per the Board's Funding Policy.



Section IX: Projection Results

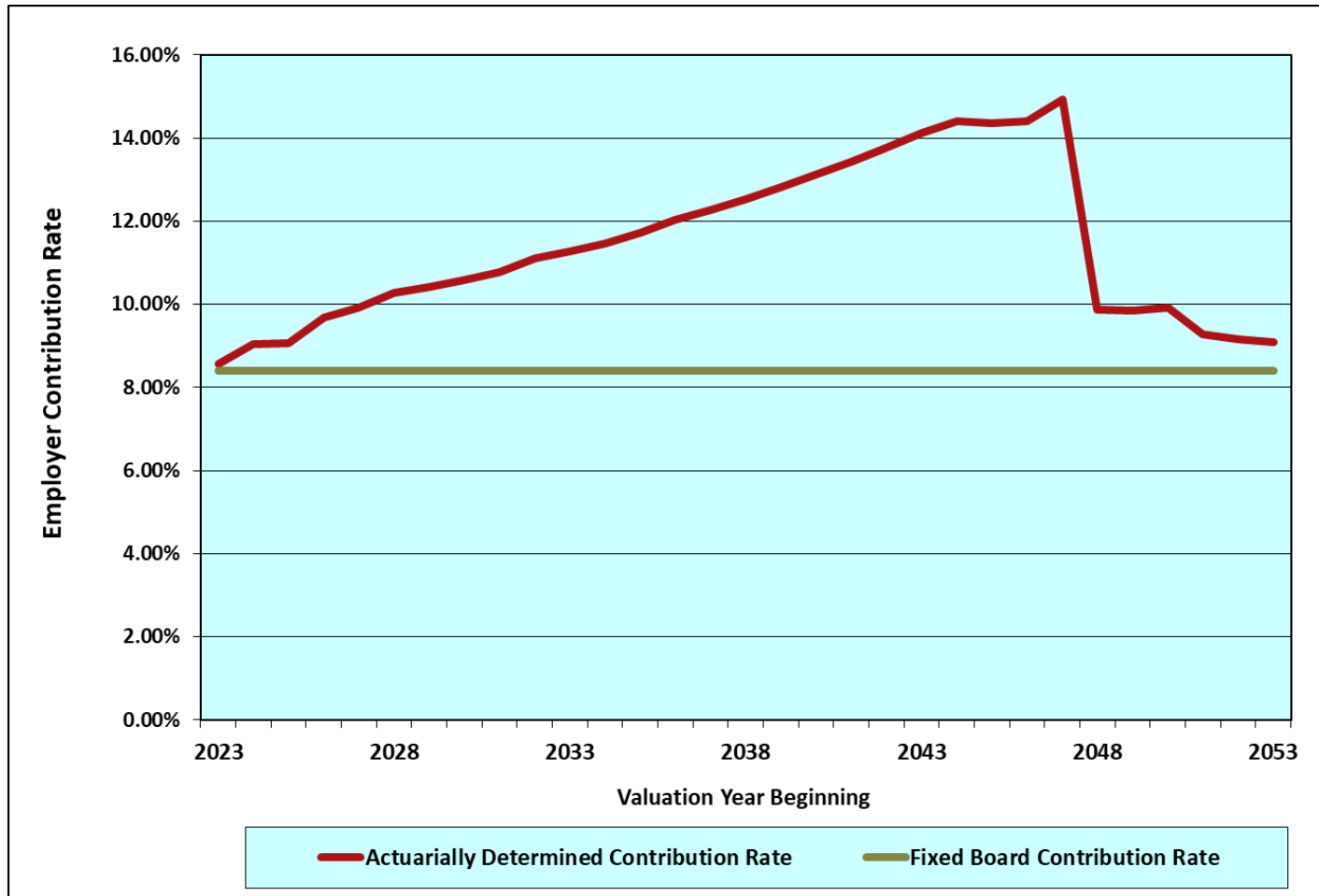
Mississippi PERS – SLRP Plan
30 Year Projection of Funded Ratio on Actuarial Asset Value
Based on June 30, 2023 Valuation Results





Section IX: Projection Results

Mississippi PERS – SLRP Plan
30 Year Projection of the Employer Contribution Rates
Based on June 30, 2023 Valuation Results





Section X: Cash Flow Projections

CASH FLOW PROJECTIONS

The funded ratio is the primary measure of funded status of a pension plan and, thereby, the most common measurement used for drawing conclusions on funding progress. The funded ratio is the ratio of the actuarial value of assets to the actuarial or accrued liability of the system as calculated by the funding method used in developing system contribution levels. When using the funded ratio in assessing trends over several valuations, we recommend that the basis for determining both the assets and liabilities in the ratio are taken into consideration and reasonable efforts are made to adjust the ratio to reflect these differences when they are known. On a consistent basis, an increasing funded ratio would typically indicate progress in meeting the obligations of the system. In most cases, other measures should also be considered in a trend assessment. These may include the trend in the length of the amortization period, the required contribution rate, percentage of required contributions funded, and the unfunded actuarial liability as a percentage of payroll. Focusing solely on any one measure as the indication of funding progress is an over-simplification of a complex and dynamic system.

Another of those additional metrics is an outlook on the cash flow as a percentage of assets for the System. Most retirement systems are funded with an advance-funding mechanism, meaning contributions and investment earnings are earned during a member's active lifetime in order to pay for the benefit payments during his retirement years. Many mature retirement systems, like SLRP, have negative cash flow, where benefit payments paid out of the trust are more than the contributions being collected by employers and employees.



Section X: Cash Flow Projections

For the fiscal year ending June 30, 2024, we are projecting SLRP to have a negative cash flow of approximately \$1.0 Million (benefit payments of \$1.9 Million and contributions of \$0.9 Million). With a market value of assets of \$20.8 Million as of June 30, 2023, the cash flow as a percentage of assets is estimated to be negative 4.58% for the 2024 fiscal year. While the market value of assets is assumed to earn 7.00% each year, the difference between the investment return assumption and the negative cash flow percentage is positive, meaning assets are projected to grow for the 2024 fiscal year. When assets do not earn a positive return enough to cover this negative cash flow percentage, assets are expected to decline for the year. If the negative cash flow percentage does not grow more than the assumed investment return assumption, the System's assets will continue to increase, and sustainability of the plan may be achieved.

The tables on the following pages demonstrate the open group projection of cash flow on the baseline assumption and then a sensitivity analysis, using a one-year return of negative 5.00% for the fiscal year ending June 30, 2024. These results demonstrate the projection of this metric if SLRP experiences one significant bad investment year in one of the next five years without a correction in the market. As can be seen from the table on page 37, the cash flow as a percentage of market value of assets does not at any point get less than negative 5.59% on the baseline assumptions, meaning that SLRP assets should continue to increase as long as all baseline actuarial assumptions are met.

However, if there is a significant negative investment experience in one of the next five years (as seen on the table on page 38), the negative cash flow will be almost as much as the investment experience of the Plan and SLRP assets will remain level for most of the projection period.

This metric will continue to be monitored as part of the funding policy under the baseline assumptions to ensure the continued growth of SLRP assets during the projection period.



Section X: Cash Flow Projections

Mississippi PERS 30-year Open Group Projection of Cash Flow SLRP Plan Based on June 30, 2023 Valuation Results

Projection of Cash Flow

Contribution Methodology:
Investment Return Methodology:

Employee and Employer Contributions
As Programmed

Valuation Year Beginning July 1	Expected Short-term Investment Return	Valuation Annual Payroll	Market Value of Assets July 1	Total Contributions	Projected Benefit Payments	Ratio of Cash Flow to MVA	Expected Investment Return	Net Cash Flow	Market Value of Assets June 30	Valuation Year Ending June 30
2023	7.00%	8,648,313	20,830,000	1,003,031	(1,956,507)	-4.58%	1,425,293	471,817	21,301,817	2024
2024	7.00%	8,678,909	21,301,817	1,006,580	(1,968,964)	-4.52%	1,458,013	495,629	21,797,447	2025
2025	7.00%	8,867,850	21,797,447	1,028,493	(1,997,546)	-4.45%	1,492,478	523,425	22,320,872	2026
2026	7.00%	9,071,682	22,320,872	1,052,134	(2,077,779)	-4.60%	1,527,171	501,525	22,822,397	2027
2027	7.00%	9,255,160	22,822,397	1,073,413	(2,235,062)	-5.09%	1,557,598	395,949	23,218,346	2028
2028	7.00%	9,273,444	23,218,346	1,075,534	(2,263,660)	-5.12%	1,584,403	396,277	23,614,624	2029
2029	7.00%	9,488,171	23,614,624	1,100,438	(2,292,725)	-5.05%	1,611,999	419,712	24,034,336	2030
2030	7.00%	9,707,772	24,034,336	1,125,907	(2,326,740)	-5.00%	1,641,085	440,252	24,474,588	2031
2031	7.00%	9,935,534	24,474,588	1,152,323	(2,521,078)	-5.59%	1,666,125	297,370	24,771,958	2032
2032	7.00%	10,048,677	24,771,958	1,165,446	(2,502,430)	-5.40%	1,688,034	351,049	25,123,007	2033
2033	7.00%	10,294,014	25,123,007	1,193,900	(2,494,780)	-5.18%	1,713,850	412,970	25,535,977	2034
2034	7.00%	10,549,432	25,535,977	1,223,523	(2,514,866)	-5.06%	1,743,086	451,744	25,987,721	2035
2035	7.00%	10,807,079	25,987,721	1,253,405	(2,698,303)	-5.56%	1,769,424	324,526	26,312,246	2036
2036	7.00%	10,979,336	26,312,246	1,273,383	(2,673,859)	-5.32%	1,793,670	393,194	26,705,441	2037
2037	7.00%	11,257,000	26,705,441	1,305,587	(2,697,492)	-5.21%	1,821,488	429,583	27,135,024	2038
2038	7.00%	11,527,581	27,135,024	1,336,969	(2,694,801)	-5.00%	1,852,731	494,899	27,629,923	2039
2039	7.00%	11,817,149	27,629,923	1,370,553	(2,902,220)	-5.54%	1,881,393	349,726	27,979,649	2040
2040	7.00%	12,052,166	27,979,649	1,397,810	(2,856,256)	-5.21%	1,908,393	449,948	28,429,596	2041
2041	7.00%	12,358,593	28,429,596	1,433,350	(2,847,017)	-4.97%	1,941,430	527,763	28,957,359	2042
2042	7.00%	12,667,442	28,957,359	1,469,170	(2,825,850)	-4.69%	1,980,334	623,654	29,581,013	2043
2043	7.00%	12,990,046	29,581,013	1,506,586	(3,047,645)	-5.21%	2,017,646	476,587	30,057,600	2044
2044	7.00%	13,277,551	30,057,600	1,539,930	(2,972,680)	-4.77%	2,054,734	621,985	30,679,585	2045
2045	7.00%	13,621,627	30,679,585	1,579,836	(2,967,844)	-4.52%	2,099,812	711,804	31,391,389	2046
2046	7.00%	13,968,469	31,391,389	1,620,063	(2,941,652)	-4.21%	2,151,924	830,335	32,221,724	2047
2047	7.00%	14,328,076	32,221,724	1,661,770	(3,163,721)	-4.66%	2,203,841	701,890	32,923,614	2048
2048	7.00%	14,683,253	32,923,614	1,702,964	(3,090,187)	-4.21%	2,256,921	869,698	33,793,312	2049
2049	7.00%	15,066,120	33,793,312	1,747,369	(3,093,098)	-3.98%	2,319,228	973,499	34,766,811	2050
2050	7.00%	15,451,235	34,766,811	1,792,034	(3,064,003)	-3.66%	2,389,911	1,117,942	35,884,753	2051
2051	7.00%	15,854,839	35,884,753	1,838,844	(3,338,753)	-4.18%	2,460,324	960,415	36,845,168	2052
2052	7.00%	16,263,405	36,845,168	1,886,230	(3,255,814)	-3.72%	2,532,037	1,162,453	38,007,621	2053
2053	7.00%	16,689,055	38,007,621	1,935,597	(3,266,322)	-3.50%	2,614,746	1,284,021	39,291,642	2054



Section X: Cash Flow Projections

Mississippi PERS 30-year Open Group Projection of Cash Flow SLRP Plan Based on June 30, 2023 Valuation Results

Projection of Cash Flow

Contribution Methodology:
Investment Return Methodology:

Employee and Employer Contributions
As Programmed

Valuation Year Beginning July 1	Expected Short-term Investment Return	Valuation Annual Payroll	Market Value of Assets July 1	Total Contributions	Projected Benefit Payments	Ratio of Cash Flow to MVA	Expected Investment Return	Net Cash Flow	Market Value of Assets June 30	Valuation Year Ending June 30
2023	-5.00%	8,648,313	20,830,000	1,003,031	(1,956,507)	-4.58%	(1,017,357)	(1,970,833)	18,859,167	2024
2024	7.00%	8,678,909	18,859,167	1,006,580	(1,968,964)	-5.10%	1,287,028	324,644	19,183,812	2025
2025	7.00%	8,867,850	19,183,812	1,028,493	(1,997,546)	-5.05%	1,309,524	340,471	19,524,283	2026
2026	7.00%	9,071,682	19,524,283	1,052,134	(2,077,779)	-5.25%	1,331,409	305,763	19,830,046	2027
2027	7.00%	9,255,160	19,830,046	1,073,413	(2,235,062)	-5.86%	1,348,133	186,484	20,016,530	2028
2028	7.00%	9,273,444	20,016,530	1,075,534	(2,263,660)	-5.94%	1,360,276	172,150	20,188,681	2029
2029	7.00%	9,488,171	20,188,681	1,100,438	(2,292,725)	-5.91%	1,372,183	179,896	20,368,577	2030
2030	7.00%	9,707,772	20,368,577	1,125,907	(2,326,740)	-5.90%	1,384,482	183,649	20,552,226	2031
2031	7.00%	9,935,534	20,552,226	1,152,323	(2,521,078)	-6.66%	1,391,560	22,805	20,575,031	2032
2032	7.00%	10,048,677	20,575,031	1,165,446	(2,502,430)	-6.50%	1,394,249	57,264	20,632,295	2033
2033	7.00%	10,294,014	20,632,295	1,193,900	(2,494,780)	-6.31%	1,399,500	98,620	20,730,915	2034
2034	7.00%	10,549,432	20,730,915	1,223,523	(2,514,866)	-6.23%	1,406,731	115,389	20,846,304	2035
2035	7.00%	10,807,079	20,846,304	1,253,405	(2,698,303)	-6.93%	1,409,525	(35,373)	20,810,930	2036
2036	7.00%	10,979,336	20,810,930	1,273,383	(2,673,859)	-6.73%	1,408,577	8,101	20,819,032	2037
2037	7.00%	11,257,000	20,819,032	1,305,587	(2,697,492)	-6.69%	1,409,439	17,534	20,836,566	2038
2038	7.00%	11,527,581	20,836,566	1,336,969	(2,694,801)	-6.52%	1,411,839	54,007	20,890,573	2039
2039	7.00%	11,817,149	20,890,573	1,370,553	(2,902,220)	-7.33%	1,409,638	(122,029)	20,768,544	2040
2040	7.00%	12,052,166	20,768,544	1,397,810	(2,856,256)	-7.02%	1,403,616	(54,829)	20,713,714	2041
2041	7.00%	12,358,593	20,713,714	1,433,350	(2,847,017)	-6.82%	1,401,318	(12,349)	20,701,365	2042
2042	7.00%	12,667,442	20,701,365	1,469,170	(2,825,850)	-6.55%	1,402,415	45,735	20,747,100	2043
2043	7.00%	12,990,046	20,747,100	1,506,586	(3,047,645)	-7.43%	1,399,272	(141,787)	20,605,313	2044
2044	7.00%	13,277,551	20,605,313	1,539,930	(2,972,680)	-6.95%	1,393,074	(39,675)	20,565,638	2045
2045	7.00%	13,621,627	20,565,638	1,579,836	(2,967,844)	-6.75%	1,391,836	3,828	20,569,466	2046
2046	7.00%	13,968,469	20,569,466	1,620,063	(2,941,652)	-6.43%	1,394,389	72,800	20,642,266	2047
2047	7.00%	14,328,076	20,642,266	1,661,770	(3,163,721)	-7.28%	1,393,279	(108,672)	20,533,594	2048
2048	7.00%	14,683,253	20,533,594	1,702,964	(3,090,187)	-6.76%	1,389,620	2,397	20,535,991	2049
2049	7.00%	15,066,120	20,535,991	1,747,369	(3,093,098)	-6.55%	1,391,215	45,486	20,581,477	2050
2050	7.00%	15,451,235	20,581,477	1,792,034	(3,064,003)	-6.18%	1,396,937	124,968	20,706,445	2051
2051	7.00%	15,854,839	20,706,445	1,838,844	(3,338,753)	-7.24%	1,397,842	(102,067)	20,604,378	2052
2052	7.00%	16,263,405	20,604,378	1,886,230	(3,255,814)	-6.65%	1,395,182	25,598	20,629,976	2053
2053	7.00%	16,689,055	20,629,976	1,935,597	(3,266,322)	-6.45%	1,398,311	67,586	20,697,562	2054



Section XI: Sensitivity Analysis

SENSITIVITY ANALYSIS

Measuring pension obligations and actuarially determined contributions requires the use of assumptions regarding future economic and demographic experience. Whenever assumptions are made about future events, there is risk that actual experience will differ from expected. Actuarial valuations include the risk that actual future measurements will deviate from expected future measurements due to actual experience that is different than the actuarial assumptions. The primary areas of risk in this actuarial valuation are.

- Investment Risk – the potential that actual investment returns will be different than expected.
- Longevity and Other Demographic Risks – the potential that mortality or other demographic experience will be different than expected.
- Interest Rate Risk – to the extent market rates of interest affect the expected return on assets, there is a risk of change to the discount rate which determines the present value of liabilities and actuarial valuation results.
- Contribution Risk – the potential that actual contributions are different than the fixed contribution rates.
- Liquidation Risk - the potential that the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds.



Section XI: Sensitivity Analysis

Investment Risk

In this section of the report, we will demonstrate the variability in achieving funding goals based on sensitivity around the three key variables listed above. Earlier in this section, we reviewed the projections if the long-term investment return assumption was lowered to rates below 7.00% (6.50%). In this section, we keep the long-term investment return assumption at 7.00% but review the sensitivity of short-term investment returns as a single year event (and then 7.00% for all years thereafter) and simulate the next 10-year periods of return (and then 7.00% for all years thereafter).

Projected Funded Ratio in 2047

Single Year Event	2023 Valuation	2022 Valuation*
• 1.00% for the next fiscal year	64.3%	65.8%
• 3.00% for the next fiscal year	69.0%	70.3%
• 5.00% for the next fiscal year	73.7%	74.8%
• 7.00% for the next fiscal year (Baseline)	78.4%	79.2%
• 9.00% for the next fiscal year	83.1%	83.7%
• 11.00% for the next fiscal year	87.8%	88.2%
• 13.00% for the next fiscal year	92.5%	92.7%
• Simulate 2008 loss using -15% for the next fiscal year	26.8%	28.8%
Average Returns over next 10-Year Period (Simulated returns using mean and standard deviations from PERS' Investment Consultant's Capital Market Assumptions)**	2023 Valuation	2022 Valuation
• 6.00%	59.7%	53.1%
• 7.00%	78.6%	70.0%
• 8.00%	103.96%	93.0%

* 2022 valuation numbers were the Projected Funded Ratios in 2042 based on 7.55% expected return and sensitivity around that assumption.

** 6.00% Average Returns over the next 10-Year Period: 7.04%, 10.32%, 2.25%, 5.45%, 8.52%, 0.00%, 5.44%, 11.49%, -7.04%, 18.53%
 7.00% Average Returns over the next 10-Year Period: 3.61%, 20.67%, -0.02%, 11.58%, -4.84%, 8.13%, 18.10%, 2.04%, 0.83%, 12.67%
 8.00% Average Returns over the next 10 Year Period: 9.00%, 9.01%, 16.24%, 4.84%, 16.62%, 6.78%, -3.74%, 6.19%, 18.57%, -1.19%



Section XI: Sensitivity Analysis

As can be seen from the projected funded ratios on the table above, the sensitivity of short-term investment returns does have a significant impact to the funding of SLRP in the long-term, especially another repeat of the Great Recession of 2008. We believe it demonstrates the importance of these continued projection reports and the continued monitoring of this sensitivity analysis because short-term differences in investment returns can have a major impact on the projection of funded ratios.



Section XI: Sensitivity Analysis

Demographic Risk

While actual investment returns compared to that assumed is the most critical driver of funding, many other assumptions are used in the actuarial projections to review sensitivity, such as population growth and wage inflation. Variances in these other assumptions over the long-term may also have an impact on the funding of the Plan.

Since SLRP has a set number of active legislative members and should remain static over the projection period, we have not reviewed the sensitivity around this assumption.



Section XI: Sensitivity Analysis

Assumption Risk

We also performed a sensitivity analysis for the wage inflation assumption. As a result of the experience study presented in April 2023, the Board kept the wage inflation assumption at 2.65%, which is 0.25% above the price inflation of 2.40%. Wage inflation is a major component of the underlying salary increase assumptions, as well as the amortization of the Unfunded Accrued Liability which is based on the level percent of payroll amortization methodology.

In the table below, the second scenario lowers the discount rate to 6.75% but does not change the price inflation or wage inflation. The third scenario lowers the price and wage inflation by 0.30% and lowers the discount rate to 6.75%.

Projected Funded Ratio in 2047

Scenario	Price Inflation	Discount Rate	Wage Inflation	2023 Valuation	2022 Valuation*
1 - Baseline	2.40%	7.00%	2.65%	78.4%	79.2%
2	2.40%	6.75%	2.65%	68.5%	71.1%
3	2.10%	6.75%	2.35%	64.4%	69.1%

* 2022 valuation numbers were the Projected Funded Ratios in 2042 based on 7.55% expected return and sensitivity around that assumption.



Section XI: Sensitivity Analysis

Contribution Risk

To demonstrate the contribution risk of making the Fixed Contribution Rates (FCR) for SLRP, we have calculated the projected funded ratio if the FCRs were 1% higher or 1% lower than the current rates for all future years.

Projected Funded Ratio in 2047

Change in Fixed Contribution Rate (FCR)	2023 Valuation	2022 Valuation*
• Baseline	78.4%	79.2%
• 1.00% increase in FCR	92.5%	90.8%
• 1.00% decrease in FCR	64.2%	67.7%

* 2022 valuation numbers were the Projected Funded Ratios in 2042 based on 7.55% expected return and sensitivity around that assumption.

Over a long projection period, gains and losses due to population growth and wage inflation assumptions will be relatively concentrated around the expected value of these assumptions. So, the impact of the sensitivity around these baseline assumptions is small when compared to the investment return assumption.



Section XI: Sensitivity Analysis

Liquidation Risk

Under the revised Actuarial Standards of Practice (ASOP) No. 4 effective for valuations after February 15, 2023, we must now include a low-default-risk obligation measure of the Fund's liability in our funding valuation report. This is an informational disclosure as described below and would not be appropriate for assessing the funding progress or health of this plan.

This measure uses the unit credit cost method and reflects all the assumptions and provisions of the funding valuation except that the discount rate is derived from considering low-default-risk fixed income securities. We considered the FTSE Pension Discount Curve based on market bond rates published by the Society of Actuaries as of June 30, 2023 and with the 30-year spot rate used for all durations beyond 30. Using these assumptions, we calculate a low-default-risk obligation measure liability of approximately \$32,586,000.

This amount approximates the termination liability if the plan (or all covered employment) ended on the valuation date and all of the accrued benefits had to be paid with cash-flow matched bonds. This assurance of funded status and benefit security is typically more relevant for corporate plans than for governmental plans since governments rarely have the need or option to completely terminate a plan.



Section XII: Projection Summary

Utilizing the metrics based on the funding policy for SLRP and with a fixed contribution rate as a percentage of annual compensation of 8.40% of payroll, the projection results for 2023 for SLRP show that all three funding policy metrics are in the Yellow Status, therefore, we do not recommend an increase in the Fixed Contribution Rate (FCR) of 8.40% of annual compensation at this time. However, if there is any negative experience in the near future, the Fixed Contribution Rate may need to be increased.

Metrics	2023 Projection with 8.40% FCR (7.00%)	2023 Status
Funding Ratio in 2047	78.4%	Yellow
Cash Flow as a Percentage of Assets	(5.59)%	Yellow
ADC/FCR Ratio from 2023 Valuation	102.0%	Yellow
ADC/FCR Ratio from 2024 Valuation	107.7%	Yellow



Schedule A: Development of Assets

(\$ thousands)

Valuation Date June 30:	2022	2023	2024	2025	2026	2027
A. Actuarial Value Beginning of Year	\$19,980	\$20,808				
B. Market Value End of Year	20,139	20,830				
C. Market Value Beginning of Year	22,950	20,139				
D. Cash Flow						
D1. Contributions	852	884				
D2. Other Revenue	0	0				
D3. Benefit Payments	(1,687)	(1,658)				
D4. Refunds	0	0				
D5. Administrative Expenses	(12)	(13)				
D6. Net	(847)	(787)				
E. Investment Income						
E1. Market Total: B.-C.-D6.	(1,964)	1,478				
E2. Assumed Rate	7.55%	7.55%				
E3. Amount for Immediate Recognition	1,701	1,491				
E4. Amount for Phased-In Recognition	(3,665)	(13)				
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.20*E4.	(733)	(3)				
F2. First Prior Year	873	(733)	(3)			
F3. Second Prior Year	(169)	873	(733)	(3)		
F4. Third Prior Year	(16)	(169)	873	(733)	(3)	
F5. Fourth Prior Year	<u>20</u>	<u>(15)</u>	<u>(169)</u>	<u>873</u>	<u>(733)</u>	<u>(3)</u>
F6. Total Recognized Investment Gain	(25)	(47)	(32)	137	(736)	(3)
G. Actuarial Value End of Year: A. + D6. + E3. + F6.	\$20,808	\$21,465				
H. Difference Between Market & Actuarial Values	\$(669)	\$(635)	\$(603)	\$(740)	\$(4)	\$(1)

The Actuarial Valuation of Assets recognizes assumed investment income (line E3) fully each year. Differences between actual and assumed investment income (line E4) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, Actuarial Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Actuarial Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 4 consecutive years, actuarial value will become equal to market value.



Schedule A: Development of Assets

Asset Summary June 30, 2023 (\$ in Thousands)		
	Market Value	Actuarial Value
(1) Assets as of June 30, 2022	\$20,139	\$20,808
(2) Contributions and Misc. Revenue	884	884
(3) Investment Increment	1,478	1,444
(4) Benefit Payments	(1,658)	(1,658)
(5) Refunds	0	0
(6) Administrative Expenses	(13)	(13)
(7) Assets as of June 30, 2023 (1)+(2)+(3)+(4)+(5)+(6)	\$20,830	\$21,465
(8) Net Investment Return* [2 x (3)] / [(7) + (1) - (3)]	7.49%	7.07%

* Calculated assuming middle of year cash flow experience.



Schedule B: Statement of Actuarial Assumptions & Methods

The assumptions and methods used in the valuation are based on the results of the experience investigation for the four-year period ending June 30, 2022, dated April 21, 2023, and adopted by the Board on August 22, 2023.

INTEREST RATE: 7.00% per annum, compounded annually (net of investment expenses only). The expected return on assets consists of 2.40% price inflation and 4.60% real rate of return.

SEPARATIONS FROM ACTIVE SERVICE: Representative values of the assumed rates of separation from active service are as follows:

Age	Annual Rate of		
	Male	Female	Disability**
20	0.0483%	0.0126%	0.020%
25	0.0567	0.0189	0.025
30	0.0630	0.0259	0.035
35	0.0714	0.0350	0.055
40	0.0893	0.0483	0.085
45	0.1218	0.0665	0.115
50	0.1764	0.0917	0.150
55	0.2594	0.1274	0.175
60	0.3980	0.1757	0.200
65	0.6353	0.2429	0.000
70	1.1655	0.4739	0.000
75	2.1389	0.9247	0.000

* Adjusted Base rates.

** 93% are presumed to be non-duty related, and 7% are assumed to be duty related.

WITHDRAWAL AND VESTING: 15% in an election year, 2% in a non-election year.

SERVICE RETIREMENT: 30% in an election year, 3.5% in a non-election year. All members are assumed to retire no later than age 80.

It is assumed that a member will be granted 2.5 years of service credit for unused leave at termination of employment.

SALARY INCREASES: 2.65% per annum, for all ages.



Schedule B: Statement of Actuarial Assumptions & Methods

DEATH AFTER RETIREMENT:

Service Retirees*

<u>Membership Table</u>	<u>Adjustment to Rates</u>	<u>Projection Scale</u>
PubS.H-2010(B) Retiree	Male: 95% up to age 60, 110% for ages 61 to 75, and 101% for ages above 77 Female: 84% up to age 72, 100% for ages above 76	MP-2020

Contingent Annuitants*

<u>Membership Table</u>	<u>Adjustment to Rates</u>	<u>Projection Scale</u>
PubS.H-2010(B) Contingent Annuitant	Male: 97% for all ages Female: 110% for all ages	MP-2020

Disabled Retirees*

<u>Membership Table</u>	<u>Adjustment to Rates</u>	<u>Projection Scale</u>
PubG.H-2010 Disabled	Male: 134% for all ages Female: 121% for all ages	MP-2020

* Please note that none of the recommended tables have any setbacks or setforwards.

Representative values of the assumed rates of death after retirement are as follows:

AGE	Rates of Death After Retirement*					
	Service Retirees		Contingent Annuitants		Disabled Retirees	
	Male	Female	Male	Female	Male	Female
45	0.2983%	0.0983%	0.7692%	0.5104%	1.4660%	1.1919%
50	0.4190%	0.1638%	0.8837%	0.6556%	2.2780%	1.7956%
55	0.5197%	0.2738%	1.0156%	0.7843%	2.9855%	2.1078%
60	0.7771%	0.4578%	1.2397%	1.0131%	3.6475%	2.4684%
65	1.3211%	0.7652%	1.6286%	1.4157%	4.5426%	2.9730%
70	2.1758%	1.2785%	2.4153%	1.9998%	5.8129%	3.8127%
75	3.8566%	2.3659%	3.7209%	3.0052%	7.6661%	5.2683%
80	6.2640%	4.2530%	5.7734%	4.7289%	10.8125%	7.7779%
85	11.0605%	7.3240%	9.2228%	7.8562%	15.7785%	11.9947%
90	17.6902%	12.6470%	14.6577%	13.4530%	22.7224%	17.5353%

* Adjusted Base Rates



Schedule B: Statement of Actuarial Assumptions & Methods

PAYROLL GROWTH: 2.65% per annum, compounded annually.

ADMINISTRATIVE EXPENSES: 0.15% of payroll.

TIMING OF DECREMENTS AND PAY INCREASES: Middle of Year.

ASSUMED INTEREST RATE ON EMPLOYEE CONTRIBUTIONS: 2.00%

MARRIAGE ASSUMPTION: 85% married with the husband three years older than his wife.

MAXIMUM COVERED EARNINGS ASSUMPTION GROWTH: 2.65%

MODIFIED CASH REFUND: Benefits were valued with a six-year certain period for retirees and a five year certain period for active members to estimate the value of the modified cash refund feature.

ASSET VALUATION METHOD: Actuarial value, as developed in Schedule A. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate of return. The amount recognized each year is 20% of the difference between market value and expected market value.

AMORTIZATION METHOD FOR ACTUARIALLY DETERMINED CONTRIBUTION (ADC): Level Percentage of Payroll Method using closed amortization periods as follows:

- a. Existing UAAL on June 30, 2023 – 25 years.
- b. Annual future actuarial experience gains and losses, assumption changes or benefit enhancements or reductions – 25 years from the date of the valuation.

VALUATION METHOD: The valuation is prepared on the projected benefit basis, which is used to determine the present value of each member's expected benefit payable at retirement, disability, or death. The calculations are based on the member's age, years of service, sex, compensation, expected future salary increases, and an assumed future interest earnings rate (currently 7.00%). The calculations consider the probability of a member's death or termination of employment prior to becoming eligible for a benefit and the probability of the member terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable to active members is added to the present value of the expected future payments to current benefit recipients to obtain the present value of all expected benefits payable to the present group of members and survivors.

The employer contributions required to support the benefits of SLRP are determined following a level funding approach and consist of a normal contribution and an accrued liability contribution.



Schedule B: Statement of Actuarial Assumptions & Methods

Under the entry age normal cost method, the actuarial present value of each member's projected benefits is allocated on a level basis over the member's compensation between the entry age of the member and the assumed exit ages. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The actuarial present value of benefits allocated to prior years of service is called the actuarial accrued liability. The unfunded actuarial accrued liability represents the difference between the actuarial accrued liability and the actuarial value of assets as of the valuation date. The unfunded actuarial accrued liability is calculated each year and reflects experience gains/losses. The accrued liability contribution amortizes the balance of the unfunded actuarial accrued liability over a period of years from the valuation date.



Schedule C: Summary of Main Benefit & Contribution Provisions

The following summary presents the main benefit and contribution provisions of the Plan in effect June 30, 2023 as interpreted in preparing the actuarial valuation.

DEFINITIONS

Average Compensation

Average annual covered earnings of an employee during the four highest years of service. To determine your four highest years, PERS considers these scenarios:

- Four highest fiscal years of earned compensation;
- Four highest calendar years of earned compensation;
- Combination of four highest fiscal and calendar years of earned compensation that do not overlap; or
- Final 48 months of earned compensation prior to termination of employment.

Covered Earnings

Gross salary not in excess of the maximum amount on which contributions were required.

Fiscal Year

Year commencing on July 1 and ending June 30.

Eligibility Service

Service while a contributing member of PERS plus additional service as described below. (OLD: Eligibility service" is all service in PERS, including that credited for SLRP service.)

Credited Service

Service while a contributing member of SLRP plus additional service as described below. (OLD: "Creditable service" includes only SLRP service.)

Unused Sick and Vacation Leave

Service credit is provided at no charge to members for unused sick and vacation time that has accrued at the time of retirement. A payment of up to 240 hours of leave may be used the Average Compensation definition.

Additional Service

Additional service credit may be granted for service prior to July 1, 1989, including active duty military service.

Attribution

Attribution period for the normal cost is based on entry into PERS even for members who first participated in SLRP at a later age than PERS.



Schedule C: Summary of Main Benefit & Contribution Provisions

The maximum covered earnings for employers and employees over the last ten years are as follows:

EMPLOYER AND EMPLOYEE RATES OF CONTRIBUTION AND MAXIMUM COVERED EARNINGS

Fiscal Date From	Fiscal Date To	Employer Rate	Employee Rate	Maximum Covered Earnings
7/1/2013	6/30/2014	7.40%	3.00%	\$255,000
7/1/2014	6/30/2015	7.40	3.00	\$260,000
7/1/2015	6/30/2017	7.40	3.00	\$265,000
7/1/2017	6/30/2018	7.40	3.00	\$270,000
7/1/2018	6/30/2019	7.40	3.00	\$275,000
7/1/2019	6/30/2020	7.40	3.00	\$280,000
7/1/2020	6/30/2021	7.40	3.00	\$285,000
7/1/2021	6/30/2022	7.40	3.00	\$290,000
7/1/2022	6/30/2023	7.40	3.00	\$305,000
7/1/2023	6/30/2024	7.40	3.00	\$330,000



Schedule C: Summary of Main Benefit & Contribution Provisions

BENEFITS

Superannuation Retirement

Condition for Retirement

- (a) A retirement allowance is paid upon the request of any member who retires and has attained age 60 and completed at least eight years* of membership service under PERS. A retirement allowance may also be paid upon the completion of at least 25 years of creditable service under PERS for members hired prior to July 1, 2011, or upon the completion of 30 years of creditable service for members hired on or after July 1, 2011.
- (b) Any member who withdraws from service prior to his or her attainment of age 60 and who has completed at least eight years* of membership service under PERS is entitled to receive, in lieu of a refund of his or her accumulated contributions, a retirement allowance commencing at age 60.

Amount of Allowance

The annual retirement allowance payable to a member who retires under condition (a) above is equal to:

1. A member's annuity which is the actuarial equivalent of the member's accumulated contributions at the time of his or her retirement, plus
2. An employer's annuity which, together with the member's annuity, is equal to 1% of his or her average compensation for each of the first 25 years of creditable service plus 1.25% for each year of creditable service over 25 years.

The minimum allowance is \$60 per year of creditable service.

Disability Retirement

Condition for Retirement

A retirement allowance is paid to a member who is totally and permanently disabled, as determined by the Board of Trustees, and has accumulated eight or more years* of membership service under PERS.

* four years for those who entered PERS before July 1, 2007.



Schedule C: Summary of Main Benefit & Contribution Provisions

Amount of Allowance

For those who were active members prior to July 1, 1992, and did not elect the benefit structure outlined below, the annual disability retirement allowance payable is equal to a superannuation retirement allowance if the member has attained age 60, otherwise it is equal to a superannuation retirement allowance calculated as follows:

1. A member's annuity equal to the actuarial equivalent of his or her accumulated contributions at the time of retirement, plus
2. An employer's annuity equal to the amount that would have been payable had the member continued in service to age 60.

For those who become active members after June 30, 1992, and for those who were active members prior to July 1, 1992, who so elected, the following benefits are payable:

1. A temporary allowance equal to the greater of (a) 40% of average compensation plus 10% for each dependent child up to a maximum of 2, or (b) the member's accrued allowance. This temporary allowance is paid for a period of time based on the member's age at disability, as follows:

<u>Age at Disability</u>	<u>Duration</u>
60 and earlier	to age 65
61	to age 66
62	to age 66
63	to age 67
64	to age 67
65	to age 68
66	to age 68
67	to age 69
68	to age 70
69 and later	one year

For those hired prior to July 1, 2011, the minimum allowance is \$60 per year of service credit.

2. A deferred allowance commencing when the temporary allowance ceases equal to the greater of (a) the allowance the member would have received based on service to the termination age of the temporary allowance, but not more than 20% of average compensation, or (b) the member's accrued allowance.

For those hired prior to July 1, 2011, the minimum allowance is \$60 per year of service credit.



Schedule C: Summary of Main Benefit & Contribution Provisions

Effective July 1, 2004, a temporary benefit can be paid out of a member's accumulated contribution balance while the member is awaiting a determination for eligibility for disability benefits. Future disability payments, if any, would be offset by advanced payments made from the member's accumulated contributions.

Accidental Disability Retirement

Condition for Retirement

A retirement allowance is paid to a member who is totally and permanently disabled in the line of performance of duty.

Amount of Allowance

The annual accidental disability retirement allowance is equal to the allowance payable on disability retirement but not less than 25% of average compensation. There is no minimum benefit.

Accidental Death Benefit

Condition for Benefit

A retirement allowance is paid to a spouse and/or dependent children upon the death of an active member in the line of performance of duty.

Amount of Allowance

The annual retirement allowance is equal to 25% of average compensation payable to the spouse and 12-1/2% of average compensation payable to one dependent child or 25% to two or more children until age 19 (23 if a full time student). There is no minimum benefit.

Ordinary Death Benefit

Condition for Benefit

Upon the death of a member who has completed at least eight years* of membership service, a benefit is payable, in lieu of a refund of the member's accumulated contributions, to his or her spouse, if said spouse has been married to the member for not less than one year.

* four years for those who entered the system before July 1, 2007.

Amount of Allowance

The annual retirement allowance payable to the lawful spouse of a vested member who dies is equal to the greater of (i) the allowance that would have been payable had the member retired and elected Option 2, reduced by an actuarially determined factor based on the number of years the member lacked in qualifying for unreduced benefits, or (ii) a lifetime benefit equal to 20% of the deceased member's average compensation, but not less than \$25 per month.



Schedule C: Summary of Main Benefit & Contribution Provisions

In addition, a benefit is payable to dependent children until age 19 (23 if a full time student). The benefit is equal to the greater of 5% of average compensation or \$25 per month for each dependent child up to 3.

Return of Contributions

Upon the withdrawal of a member without a retirement benefit, his or her contributions are returned to him or her, together with accumulated regular interest thereon.

Upon the death of a member before retirement, his or her contributions, together with the full accumulated regular interest thereon, are paid to his or her designated beneficiary, if any, otherwise, to his or her estate provided no other survivor benefits are payable.

Effective July 1, 2016, the interest rate on employee contributions shall be calculated based on the money market rate as published by the Wall Street Journal on December 31 of each preceding year with a minimum rate of one percent and a maximum rate of five percent.

Normal Form of Benefit

The normal form of benefit is an allowance payable during the life of the member with the provision that upon his or her death the excess of his or her total contributions at the time of retirement over the total retirement annuity paid to him or her will be paid to his or her designated beneficiary.

Optional Benefits

A member upon retirement may elect to receive his or her allowance in one of the following forms which are computed to be actuarially equivalent to the applicable retirement allowance.

Option 1. Reduced allowance with the provision that if the pensioner dies before he receives the value of the member's annuity as it was at the time of retirement, the balance shall be paid to his or her beneficiary.

Option 2. Upon his or her death, his or her reduced retirement allowance shall be continued throughout the life of, and paid to, his or her beneficiary.

Option 3. Upon his or her death, 50% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary and the other 50% of his or her reduced retirement allowance to some other designated beneficiary.

Option 4. Upon his or her death, 75% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.



Schedule C: Summary of Main Benefit & Contribution Provisions

Option 4A. Upon his or her death, 50% of his or her reduced retirement allowance shall be continued throughout the life of, and paid to, a designated beneficiary.

Option 4B. A reduced retirement allowance shall be continued throughout the life of the pensioner, but with the further guarantee of payment to the pensioner or his or her beneficiary for a specified number of years certain.

Option 4C. A member may elect any option with the added provision that the member shall receive, so far as possible, the same total amount annually (considering both SLRP and Social Security benefits) before and after the earliest age at which the member becomes eligible for a Social Security benefit. This option was only available to those who retired prior to July 1, 2004.

A member who elects Option 2, Option 4 or Option 4A at retirement may revert to the normal form of benefit if the designated beneficiary predeceases the retired member or if the member divorces the designated beneficiary.

A member who elects the normal form of benefit or Option 1 at retirement may select Option 2, Option 4 or Option 4A to provide beneficiary protection to a new spouse if married at retirement.

A member who has at least 28 years of creditable service* under PERS can select a partial lump-sum option at retirement. Under this option, the retiree has the option of taking a partial lump-sum distribution equal to either 12, 24, or 36 times the base maximum monthly benefit. With each lump-sum amount, the base maximum monthly benefit will be actuarially reduced. A member selecting the partial lump-sum option may also select any of the regular options except Option 1, the prorated single-life annuity, and Option 4-C, the Social Security leveling provision. The benefit is then calculated using the new reduced maximum benefit as a starting point in applying the appropriate option factors for the reduction.

*or at least age 63 with four years of membership service for those who entered PERS before July 1, 2007.



Schedule C: Summary of Main Benefit & Contribution Provisions

Post-Retirement Adjustments In Allowances

The allowances of retired members are adjusted annually by an amount equal to (a) 3% of the annual retirement allowance for each full fiscal year of retirement prior to the year in which the member reaches age 55, plus (b) 3% compounded for each year thereafter beginning with the fiscal year in which the member turns age 55*.

*Age 60 for members hired on or after July 1, 2011.

A prorated portion of the annual adjustment will be paid to the member, beneficiary, or estate of any member or beneficiary who is receiving the annual adjustment in a lump sum, but whose benefits are terminated between July 1 and December 1.



Schedule D: Detailed Tabulations of the Data

RECONCILIATION OF DATA RECEIVED FROM PERS

Reconciliation of Data received from PERS	Active File			Pensioner File			Total
	Active	Inactive	Deferred Vested	Retirees	Disableds	Survivors	
From PERS	179	26	33	187	1	59	485
Return to Active							
Refunded	(1)						(1)
Deceased				(4)		(5)	(9)
Deceased with Beneficiary				(8)			(8)
Certain Period End						(3)	(3)
Inactive	(1)	1					
Deferred Vested							
Duplicate*	(4)						(4)
Retired	(1)			1			
For Valuation	172	27	33	176	1	51	460

*Also included in Pensioner File

STATUS RECONCILIATION FROM 2022 TO 2023

	Actives	Retirees	Disableds	Survivors	Deferred Vested	Inactive	Total
As of June 30, 2022	174	183	1	46	37	24	465
Retirement	(2)	5			(2)	(1)	
Disabled							
Death with Survivor		(6)		6			
Terminated Vested							
Terminated Non-Vested	(3)				(2)	5	
Rehired							
Refunded						(1)	(1)
Death No Survivor		(5)		(5)			(10)
Benefit Ended		(1)					(1)
Removed/Cleanup							
New	3			4			7
As of June 30, 2023	172	176	1	51	33	27	460



Schedule D: Detailed Tabulations of the Data

Retirants & Beneficiaries as of June 30, 2023 Tabulated by Year of Retirement

Valuation Year of Retirement Ending June 30	No.	Total Annual Benefits, excluding COLA	COLA	Total Annual Benefits	Average Monthly Total Benefit
2023	9	\$66,641	\$237	\$66,878	\$619
2022	3	17,341	5,863	23,204	645
2021	4	18,153	963	19,116	398
2020	26	210,543	17,453	227,996	731
2019	7	41,467	4,083	45,550	542
2018	6	30,647	4,376	35,023	486
2017	6	32,976	5,689	38,665	537
2016	23	152,794	29,543	182,337	661
2015	4	28,953	5,335	34,288	714
2014	5	21,980	6,344	28,324	472
2013	15	59,095	17,933	77,028	428
2012	27	169,352	56,048	225,400	696
2011	3	5,193	2,105	7,298	203
2010	4	18,656	7,880	26,536	553
2009	5	25,467	11,931	37,398	623
2008	13	57,861	27,883	85,744	550
2007	1	4,417	2,465	6,882	574
2006	6	21,944	13,541	35,485	493
2005	5	15,970	10,282	26,252	438
2004	14	67,043	47,888	114,931	684
2003	0	0	0	0	0
2002	3	9,092	6,662	15,754	438
2001	7	22,011	19,554	41,565	495
2000	8	30,034	26,793	56,827	592
1999	3	13,512	12,746	26,258	729
1998	1	1,097	1,133	2,230	186
1997	3	9,560	9,794	19,354	538
1996	3	7,702	8,908	16,610	461
1995	1	1,058	1,293	2,351	196
1994	0	0	0	0	0
1993	5	16,265	20,787	37,052	618
1992	7	27,202	37,905	65,107	775
1991	0	0	0	0	0
1990	1	2,203	3,470	5,673	473
TOTAL	228	\$1,206,229	\$426,887	\$1,633,116	\$597



Schedule D: Detailed Tabulations of the Data

Schedule of Retired Members by Type of Retirement

Benefits Payable June 30, 2023

Amount of Original Monthly Benefit	Number of Rets.	Ret Type 1*	Ret Type 2*	Ret Type 3*
\$1 – \$100	13	11		2
101 – 200	39	29		10
201 – 300	34	29		5
301 – 400	40	29		11
401 – 500	24	16	1	7
501 – 600	19	10		9
601 – 700	17	15		2
701 – 800	14	11		3
801 – 900	8	7		1
901 – 1,000	8	8		
Over 1,000	12	11		1
Totals	228	176	1	51

*Type of Retirement

- 1 – Retirement for Age & Service
- 2 – Disability Retirement
- 3 – Survivor Payment



Schedule D: Detailed Tabulations of the Data

Schedule of Retired Members by Type of Option Benefits Payable June 30, 2023

Amount of Original Monthly Benefit	Number of Rets.	Life	Option 1	Option 2	Option 3	Option 4	Option 4A	Option 4B	Option 4C*	PLSO* 1 Year	PLSO* 2 Years	PLSO* 3 Years
\$1 – \$100	14	6		5				2	1			
101 – 200	39	19	1	17		1		1				6
201 – 300	34	16	1	11	2	1	1	2		1		2
301 – 400	40	23		10			1	6		2		6
401 – 500	24	10	1	8	2			3		1	2	5
501 – 600	19	5		6	3		1	4			1	8
601 – 700	17	9		7			1				2	2
701 – 800	14	7		6		1				1	1	2
801 – 900	8	4		2		1	1					3
901 – 1,000	8	2	1	3				2			1	2
Over 1,000	11	7		2		1	1			2	1	3
Totals	228	108	4	77	7	5	6	20	1	7	8	39

Option Selected

Life	-	Return of Contributions
Opt. 1	-	Return of Value of Member's Annuity
Opt. 2	-	100% Survivorship
Opt. 3	-	50%/50% Dual Survivorship
Opt. 4	-	75% Survivorship
Opt. 4A	-	50% Survivorship
Opt. 4B	-	Years Certain & Life
Opt. 4C	-	Social Security Leveling*
Opt. 5	-	Pop-Up
PLSO	-	Partial Lump Sum* (Reflects reduced monthly benefit)

*Included in other options



Schedule D: Detailed Tabulations of the Data

Retirant and Beneficiary Information June 30, 2023 Tabulated by Attained Ages

Attained Age	Service Retirement		Disability Retirement		Survivors and Beneficiaries		Total	
	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits	No.	Annual Benefits
Under 20								
20 – 24					1	\$1,751	1	\$1,751
25 – 29								
30 – 34								
35 – 39					1	\$6,430	1	\$6,430
40 – 44					1	\$6,430	1	\$6,430
45 – 49								
50 – 54					3	\$11,518	3	\$11,518
55 – 59	6	\$43,294			5	\$40,239	11	\$83,533
60 – 64	16	\$105,723					16	\$105,723
65 – 69	29	\$187,009	1	\$9,121	3	\$28,866	33	\$224,996
70 – 74	44	\$307,734			13	\$84,248	57	\$391,982
75 – 79	42	\$313,598			3	\$27,591	45	\$341,189
80 – 84	20	\$147,932			14	\$100,865	34	\$248,797
85 – 89	12	\$105,171			5	\$32,697	17	\$137,868
90 – 94	6	\$48,061			2	\$16,037	8	\$64,098
95								
96								
97								
98								
99								
100 & Over	1	\$8,801					1	\$8,801
Totals	176	\$1,267,323	1	\$9,121	51	\$356,672	228	\$1,633,116

Average Age: 74.0 years

Average Age at Retirement: 61.3 years



Schedule D: Detailed Tabulations of the Data

Total Active Member Data as of June 30, 2023 Tabulated by Attained Ages and Years of Service

Attained Age	Completed Years of Service									Total	
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 & Over	No.	Payroll
Under 25											\$ -
25 to 29		1								1	47,064
30 to 34		3	2							5	237,696
35 to 39		1	3	1						5	238,042
40 to 44		7	5	3						15	689,630
45 to 49	1	12	3	5	2					23	1,099,875
50 to 54		2	8	13	3	1				27	1,331,388
55 to 59	1	8	10	5	2	2				28	1,339,610
60 to 64		6	5	7	3	1	1			23	1,191,637
65 to 69	1	3	2	3	5	1		3	1	19	924,498
70 & Over		3	1	4	8		2	4	4	26	1,325,609
Total Count	3	46	39	41	23	5	3	7	5	172	\$ 8,425,049

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 57.3 years
 Benefit Service: 11.3 years
 Eligibility Service: 16.5 years
 Annual Pay: \$48,983



Schedule E: Analysis of Financial Experience

**Gains & Losses in Accrued Liabilities
Resulting from Difference Between
Assumed Experience & Actual Experience
(\$ Thousands)**

Type of Activity	\$ Gain (or Loss) For Year Ending 6/30/2023	\$ Gain (or Loss) For Year Ending 6/30/2022
Age & Service Retirements. If members retire at older ages, there is a gain. If younger ages, a loss.	\$ 19.8	\$ 38.7
Disability Retirements. If disability claims are less than assumed, there is a gain. If more claims, a loss.	11.1	11.7
Death-in Service Benefits. If survivor claims are less than assumed, there is a gain. If more claims, there is a loss.	3.7	5.3
Withdrawal From Employment. If more liabilities are released by withdrawals than assumed, there is a gain. If smaller releases, a loss.	29.2	(97.2)
Pay Increases. If there are smaller pay increases than assumed, there is a gain. If greater increases, a loss.	(169.5)	94.1
New Members. Additional unfunded actuarial accrued liability will produce a loss.	0.0	(60.6)
Investment Income. If there is a greater investment income than assumed, there is a gain. If less income, a loss.	(97.0)	198.0
Death After Retirement. If retirants live longer than assumed, there is a loss. If not as long, a gain.	21.5	(63.3)
Other. Miscellaneous gains and losses resulting from data adjustments, timing of financial transactions, etc.	<u>(46.2)</u>	<u>14.4</u>
Gain (or Loss) During Year From Financial Experience	\$ (227.4)	\$ 141.1
Non-Recurring Items. Adjustments for plan amendments, software changes, assumption changes, or method changes.	<u>(1,573.3)</u>	<u>0.0</u>
Composite Gain (or Loss) During Year	<u>\$ (1,800.7)</u>	<u>\$ 141.1</u>



Schedule F: Funding Policy of SLRP

The purpose of the funding policy is to state the overall funding goals and objectives for the Supplemental Legislative Retirement Plan of Mississippi (SLRP), and to document both the metrics that will be used to measure progress toward achieving those goals, and the methods and assumptions employed to develop the metrics. The employer contribution rate for SLRP will be set based on the metrics, assumptions and methods outlined in Section II and III of this policy.

I. Funding Goals and Objectives

The objective in requiring employer and member contributions to SLRP is to accumulate sufficient assets during a member's employment to fully finance the benefits the member will receive in retirement. In meeting this objective, SLRP will strive to meet the following goals:

- Preservation of the defined benefit structure for providing lifetime benefits to the SLRP membership,
- Contribution rate stability as a percentage of payroll (Fixed Contribution Rate – FCR),
- Maintain an increasing trend in the funded ratio over the projection period with an ultimate goal of being 100% funded,
- Require clear reporting and risk analysis of the metrics by the actuary as outlined in Section II of this policy using a “Signal Light” approach to assist the Board in determining whether increases or decreases are needed in the employer contribution rate, and
- Ensure benefit improvements are funded through increases in contribution requirements in accordance with Article 14, S 272A, of the Mississippi Constitution.

II. Metrics

To track progress in achieving the outlined funding goals and objectives and to assist the Board in making a determination whether an increase or decrease in the employer contribution rate for SLRP should be considered, certain metrics will be measured annually in conjunction with information provided in the actuarial valuation and projection report. As part of the annual valuation and projection reports, each metric will be calculated and assigned a “Signal Light” with the following definitions:

Status	Definition
Green	Plan passes metric and SLRP funding goals, and objectives are achieved
Yellow	Plan passes metric but a warning is issued that negative experience may lead to failing status
Red	Plan fails metric and SLRP must consider contribution increases

If any one of the metrics are in the Red Signal Light status in conjunction with the annual valuation report and the projection report, the actuary will determine and recommend to the Board an employer contribution rate increase to consider that is sufficient enough to get all three metrics back into the Green Signal Light status. The employer contribution rate increase would be effective beginning July 1st, 18 months following the completion of the projection report (e.g., if the projection report in 2024 deems an increase to be considered, then it would be effective for July 1, 2026).

Schedule F: Funding Policy of SLRP

The following metrics will be measured:

- **Funded Ratio** – Funded Ratio is defined as the actuarial value of assets divided by the actuarial accrued liability. One of the funding goals is to have an increasing funded ratio over the projection period with an ultimate goal of having a 100 percent funded ratio. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Funded Ratio above 90% in 2047
Yellow	Funded Ratio between 70% and 90% in 2047
Red	Funded Ratio below 70% in 2047

- **Cash flow as a percentage of assets** – Cash flow as a percentage of assets is defined as the difference between total contributions coming into the trust and the benefit payments made to retirees and beneficiaries going out of the trust as a percentage of beginning year market value of assets. Over the projection period, this percentage will fluctuate from year to year so for Signal Light testing, the net cash flow percentage over the entire projection period will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	Net Cash Flow Percentage above negative 5.25% (-5.25%) during the projection period
Yellow	Net Cash Flow Percentage between negative 5.25% (-5.25%) and negative 7.00% (-7.00%) during the projection period
Red	Net Cash Flow Percentage below negative 7.00% (-7.00%) during the projection period

- **Actuarially Determined Contribution (ADC)** – ADC is defined as the contribution requirement determined by the actuary using a contribution allocation procedure based on the principal elements disclosed in Section III of this funding policy:
 1. Actuarial Cost Method
 2. Asset Smoothing Method
 3. Amortization Method



Schedule F: Funding Policy of SLRP

The calculation of the ADC will be determined during the actuarial valuation and not during the projection report. The ratio of the ADC to the fixed contribution rate (ADC/FCR) as set by this Funding Policy will be tested. The Board sets the Signal Light definition as follows:

Status	Definition
Green	ADC ratio at or below 100% of fixed contribution rate at valuation date
Yellow	ADC ratio between 100% and 110% of fixed contribution rate at valuation date
Red	ADC ratio above 110% of fixed contribution rate at valuation date

If all of the metrics are in the Green Signal Light status in conjunction with the annual valuation report and the projection report and the following additional criteria is met for two consecutive valuation and projection cycles, the actuary may recommend to the Board an employer contribution rate decrease to consider. The additional criteria is based on the actuary's long-term investment return assumption recommended by the actuary in the most recent experience study and is as follows:

- Funded Ratio in 2047 is above 110%,
- Cash Flow as a percentage of assets is above negative 3.5% during the projection period, and
- ADC Ratio is below 90% for all years of the projection period.

III. Assumptions and Methods

Each year, the actuary will perform an actuarial valuation and projection report for funding purposes. During the process, the actuary shall calculate all the metrics listed in Section II of this funding policy and SLRP's Signal Light status for each metric. The following three major components of a funding valuation will be used:

- **Actuarial Cost Method** – This component determines the attribution method upon which the cost/liability of the retirement benefits are allocated to a given period, defining the normal cost or annual accrual rate associated with projected benefits. The Entry Age Normal Cost Method (EAN) is to be used for determination of the normal cost rate and the actuarial accrued liability for purposes of calculating the Actuarial Determined Contribution (ADC).
- **Asset Valuation Method** – This component dictates the method by which the asset value, used in the determination of the Unfunded Actuarial Accrued Liability (UAAL) and Funded Ratio, is determined. The asset valuation method to be used shall be a five-year smoothed market value of assets. The difference between the actual market value investment returns and the expected market investment returns is recognized equally over a five-year period.

Schedule F: Funding Policy of SLRP

- **Amortization Method** – This component prescribes, in terms of duration and pattern, the systematic manner in which the difference between the accrued liability and the actuarial value of assets is reduced. For purposes of calculating the ADC metric, the following amortization method assumptions are used:
 - I. Once established for any component of the UAAL, the amortization period for that component will be closed and will decrease by one year annually.
 - II. The amortization payment will be determined on a level percentage of pay basis.
 - III. The length of the amortization periods will be as follows:
 - a. Existing UAAL on June 30, 2023 – 25 years.
 - b. Annual future actuarial experience gains and losses, assumption changes or benefit enhancements or reductions – 25 years from the date of the valuation.
 - IV. If any future annual actuarial valuation indicates that SLRP has a negative UAAL, the ADC shall be set equal to the Normal Cost.

- **Actuarial Assumptions** – The actuarial assumptions are used to develop the annual and projected actuarial metrics, as well as the ADC rates. The actuarial assumptions are derived and proposed by the actuary and adopted by the PERS' Board in conformity with the *Actuarial Standards of Practice*. The actuarial assumptions for this funding policy were developed using the experience for the four-year period ending June 30, 2022 (State of Mississippi Retirement Systems Experience Investigation for the Four-Year Period Ending June 30, 2022). The long-term investment return assumption adopted by the PERS' Board in conjunction with the experience investigation is 7.00 percent.

IV. Governance Policy/Process

Below is a list of specific actuarial and funding related studies, the frequency at which they should be commissioned by the Board and additional responsibilities related to each:

- **Actuarial Valuation (performed annually)** – The Board is responsible for the review of SLRP's annual actuarial valuation report, which provides the annual funded ratio and the calculation of the ADC.
- **Projection Report (performed annually)** – The Board is responsible for the review of SLRP's 30-year projection report, which will include the actuarial metrics and Signal Light status for each metric over a 30-year period.
- **Experience Analysis (performed every two years on a rolling four-year)** – The Board is responsible for ensuring that an experience analysis is performed as prescribed, review of the results of the study, and approving the actuarial assumptions and methodologies to be used for all actuarial purposes relating to the defined benefit pension plan.
- **Actuarial Audit (performed at least every five years)** – The Board is responsible for the review of an audit report performed by a new actuarial firm to provide a critique of the reasonableness of the actuarial methods and assumptions in use and the resulting actuarially computed liabilities and contribution rates.
- **Funding Policy Review (performed at least annually)** – The Board is responsible for the periodic review of this policy, but at least annually following the Projection Report and biennially following the Experience Analysis.



Schedule F: Funding Policy of SLRP

V. Glossary of Funding Policy Terms

- **Actuarial Accrued Liability (AAL):** The AAL is the value at a particular point in time of all past normal costs. This is the amount of assets the plan would have today if the current plan provisions, actuarial assumptions, and participant data had always been in effect, contributions equal to the normal cost had been made, and all actuarial assumptions had been met.
- **Actuarial Cost Method:** The actuarial cost method allocates a portion of the total cost (present value of benefits) to each year of service, both past service and future service.
- **Actuarial Determined Contribution (ADC):** The potential payment to the plan as determined by the actuary using a contribution allocation procedure that, if contributed consistently and combined with investment earnings, would be sufficient to pay promised benefits in full over the long term. The ADC may or may not be the amount actually paid by the plan sponsor or other contributing entity.
- **Asset Values:**
 - **Actuarial Value of Assets (AVA):** The AVA is the market value of assets less the deferred investment gains or losses not yet recognized by the asset smoothing method.
 - **Market Value of Assets (MVA):** The MVA is the fair value of assets of the plan as reported in the plan's audited financial statements.
- **Entry Age Normal Actuarial Cost Method (EAN):** The EAN actuarial cost method is a funding method that calculates the normal cost as a level percentage of pay or level dollar amount over the working lifetime of the plan's members.
- **Funded Ratio:** The funded ratio is the ratio of the plan assets to the plan's actuarial accrued liabilities.
 - **Actuarial Value Funded Ratio:** is the ratio of the AVA to the AAL.
- **Normal Cost:** The normal cost is the cost allocated under the actuarial cost method to each year of active member service.
- **Present Value of Benefits (PVB) or total cost:** The PVB is the value at a particular point in time of all projected future benefit payments for current plan members. The future benefit payments and the value of those payments are determined using actuarial assumptions regarding future events. Examples of these assumptions are estimates of retirement and termination patterns, salary increases, investment returns, etc.
- **Surplus:** A surplus refers to the positive difference, if any, between the AVA and the AAL.
- **Unfunded Actuarial Accrued Liability (UAAL):** The UAAL is the portion of the AAL that is not currently covered by the AVA. It is the positive difference between the AAL and the AVA.
- **Valuation Date:** The valuation date is the annual date upon which an actuarial valuation is performed; meaning that the trust assets and liabilities of the plan are valued as of that date. SLRP's annual valuation date is June 30.