Via Electronic Mail

December 27, 2024

Ms. Joanna M. Adams
Pension Administrator
Delaware Public Employees' Retirement System
McArdle Building
860 Silver Lake Boulevard, Suite 1
Dover, Delaware 19904

Re: Closed State Police June 30, 2024 Actuarial Valuation

Dear Joanna:

We have completed our Actuarial Valuation of the 432 members remaining in the Closed State Police Plan as of June 30, 2024. Our results are as follows.

Valuation Results		
Actuarial Liability (AL)	$	247,897,400
Actuarial Value of Assets (AVA, equal to MVA)		6,312,000
AVA Unfunded AL (UAL)	$	241,585,400
Funded Ratio on AVA (AVA/AL)		2.5%
Present Value Accumulated Plan Benefits (PVAB)	$	247,897,400
MVA		6,312,000
Unfunded PVAB	$	241,585,400
Accrued Benefit Funded Ratio (MVA/PVAB)		2.5%

Effective with the June 30, 2020 valuation, the Actuarial Value of Assets is set equal to the market value of assets.

The Closed State Police Plan is funded on a pay-as-you-go basis, and as such we do not believe this to be a funding valuation. We have calculated an actuarially determined contribution amount for disclosure purposes, using an open amortization period with 15 years as of the June 30, 2024 valuation date. The amortization uses a level dollar method and a discount rate of 7.0% for a resulting contribution amount of $25,689,200 (including a margin for expenses) for fiscal year 2025.

Data and Assumptions

In completing the valuation and preparing our report, we relied on information, some oral and some written, supplied by the staff of the Office of Pensions. This information includes, but is not limited to, the Plan provisions, employee data, and financial information. We performed an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23.

We found the data to be reasonably consistent and comparable with data used in the prior valuation. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete.

Appendix A outlines the actuarial assumptions used, and Appendix B provides a summary of the Plan provisions. Appendix C contains a summary of the data, and Appendix D contains risk and accounting disclosure information.

The Actuarial Liability was based on a 7.00% net investment return and mortality tables as outlined in Appendix A for valuation purposes. For GASB 67, the disclosure used 3.65% at the beginning of the current measurement period and 3.93% at the end, based on the Bond Buyer GO 20-Year Municipal Bond Index, an index satisfying the GASB requirement for 20-year, tax-exempt general obligation bonds with an average rating of AA/Aa or higher.

We believe these assumptions reflect our best estimate of anticipated future experience of the Plan. Our results are dependent upon future experience conforming to these assumptions. It is certain that actual experience will not conform exactly to these assumptions. Actual amounts will differ from projected amounts to the extent actual experience differs from expected experience.

This report and its contents have been prepared in accordance with generally recognized and accepted actuarial principles and practices that are consistent with our understanding of the Code of Professional Conduct and applicable Actuarial Standards of Practice set out by the Actuarial Standards Board as well as applicable laws and regulations, including the use of assumptions and methods for funding purposes that comply with the Actuarial Standards of Practice. Furthermore, as credentialed actuaries, we meet the Qualification Standards of the American Academy of Actuaries to render the opinions contained in this report. This report does not address any contractual or legal issues. We are not attorneys, and our firm does not provide any legal services or advice.

This report was prepared for the Delaware Closed State Police Pension Plan for the purposes described herein and for the use by the Plan's auditor in completing an audit related to the matters herein. Other users of this valuation report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to any other user.

Sincerely,
Cheiron

Fiona E. Liston

Fiona E. Liston, FSA, EA, MAAA
Principal Consulting Actuary

Elizabeth Wiley, FSA, EA, MAAA, FCA
Consulting Actuary

Attachments

APPENDIX A – ACTUARIAL ASSUMPTIONS

A. Long-Term Assumptions Used to Determine Plan Costs and Liabilities

1. Demographic Assumptions

a. Rates of Mortality

Mortality rates are based on the sex-distinct employee, healthy annuitant, and disabled annuitant mortality tables described below, including adjustment factors applied to the published tables for each group. Future mortality improvements are reflected by applying a custom projection scale on a generational basis to adjusted base tables from the base year shown below.

i. Sample Rates of Mortality for Healthy Annuitant Lives at Selected Ages (number of deaths per 10,000 members):

(2024 Values Shown)		
Age	Male	Female
50	30	21
55	44	29
60	68	40
65	98	58
70	150	93
75	253	166
80	458	308
85	846	588
90	1,478	1,104
95	2,311	1,807
100	3,328	2,722

Rates are based on 107% and 100% of the Pub-2010 General Benefits Weighted Healthy Annuitant Mortality Table, respectively, for males and females, using the Pub-2010 General Employee Mortality Table for ages prior to start of the Healthy Annuitant Mortality Table, both projected from the 2010 base rates using the RPEC-2020 model, with an ultimate rate of 0.85% for ages 20-80, grading down to an ultimate rate of 0% for ages 114-120, and convergence to the ultimate rate in the year 2027. The valuation uses a fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

APPENDIX A – ACTUARIAL ASSUMPTIONS

ii. Sample Rates of Mortality for Disabled Annuitant Lives at Selected Ages (number of deaths per 10,000 members):

(2024 Values Shown)		
Age	Male	Female
25	36	22
30	54	38
35	74	59
40	91	79
45	113	101
50	160	146
55	216	187
60	275	217
65	326	227
70	384	266
75	493	374
80	704	584
85	1,065	937
90	1,637	1,392
95	2,385	1,963
100	3,328	2,886

Rates are based on 107% and 106% of the Pub-2010 General Benefits Weighted Disabled Annuitant Mortality Table, respectively, for males and females, projected from the 2010 base rates using the RPEC-2020 model, with an ultimate rate of 0.85% for ages 20-80, grading down to an ultimate rate of 0% for ages 114-120, and convergence to the ultimate rate in the year 2027. The valuation uses a fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

2. Economic Assumptions

a. Investment Rate of Return for valuation purposes: 7.00%
b. Discount Rate as of June 30, 2023 for GASB No. 67: 3.65%
c. Discount Rate as of June 30, 2024 for GASB No. 67: 3.93%
d. Annual Assumed Cost-of-Living Increase Rate for Retirees: 2.50%
e. Administrative Expenses Assumption: Assumed equal to prior year's actual value

3. Rationale for Assumptions

The assumptions were adopted by the Board of Trustees upon the recommendation of the actuary, based on an experience study review performed in 2021 and covering the period July 1, 2015 to June 30, 2020. The Board continually reviews the investment rate of return assumption and adopted a reduced rate of 7.0% at the advice of its investment consultants, first effective for funding with the 2017 valuation.

APPENDIX A – ACTUARIAL ASSUMPTIONS

4. Disclosures Regarding Models Used

In accordance with Actuarial Standard of Practice (ASOP) No. 56 *Modeling*, the following disclosures are made:

a. Valuation Software

Cheiron utilizes ProVal, an actuarial valuation software program leased from Winklevoss Technologies (WinTech), to calculate liabilities and projected benefit payments. We have reviewed the underlying workings of this model to the degree feasible and consistent with ASOP No. 56 and believe them to be appropriate for the purposes of the valuation.

5. Changes Since Last Valuation and Rationale for Changes

The discount rates for GASB purposes were updated to reflect the current Bond Buyer GO 20-Year Municipal Bond Index.

APPENDIX A – ACTUARIAL ASSUMPTIONS

B. Actuarial Methods

1. Funding Method

This plan is funded on a pay-as-you-go basis, with contributions added to the Trust annually, approximately equal to the amount of benefits being paid out that year.

2. Actuarial Value of Assets

The Actuarial Value of Assets is set equal to the Market Value of Assets as of the valuation date.

3. Changes Since Last Valuation

None

APPENDIX B – SUMMARY OF PLAN PROVISIONS

1. Membership

The Plan covers all State police officers in employment after June 11, 1970 and appointed before July 1, 1980.

2. Benefit Amounts

As the Plan has no remaining actives, benefit amounts are paid as have been determined under the Plan's provisions through the end of the month in which the last of the member and eligible survivors (if any) dies.

3. Form of Payment

For members receiving a service pension or service-related disability pension, eligible survivors receive 75% of the member's pension at time of death. For members receiving a non-service related disability pension, eligible survivors receive 50% of the member's pension at time of death.

4. Cost-of-Living Adjustment

A cost-of-living adjustment is made annually.

5. Burial Benefit

$7,000 lump sum, paid at death after disability or service retirement of a member

6. Changes Since Last Valuation

None

APPENDIX C – DATA SUMMARY

Data Summary			
	Count	Average Age	Average Monthly Benefit
Healthy Retirees	247	77	$5,241.75
Disabled Retirees	47	76	$5,401.20
Beneficiaries	138	80	$3,550,73

APPENDIX D – RISK AND ACCOUNTING DISCLOSURE INFORMATION

Risk Disclosure

The Plan's actuarial valuation results are dependent upon assumptions about future economic and demographic experience. Based on the actuarial standards of practice, the assumptions represent a reasonable estimate for future experience. However, actual future experience will never conform exactly to the assumptions and may differ significantly from the assumptions. This deviation is the risk that pension plan sponsors undertake in relying on a pension plan's actuarial valuation results.

This section of this report is intended to identify the primary drivers of these risks, provide background information and assessments about these identified risks, and communicate the significance of these risks to this plan.

Historical Experience

Given that this is a closed plan with no actives, the historical experience of this plan is of limited applicability, but the three most significant sources of deviations of actual results from expected for this plan in recent years have been assumption and method changes, investment gain/(loss), and liability gain/(loss). For historical information, we refer you to the accounting disclosures which follow.

Risk Identification

Considering the specific characteristics of the Plan, the assumptions and methods used in the actuarial valuations for the Plan, and the frozen nature of this plan, we have identified the risks that we think are the most significant in terms of possibly leading to actual values of the measurements deviating from those expected by the valuation process as follows:

- Investment risk,
- Longevity and other demographic risk, and
- Assumption change risk.

Investment Risk is the potential for investment returns to be different than anticipated. In the case of this plan, that is the risk that the returns on assets will be materially different from the 7.0% that is currently assumed. If actual investment returns are lower than anticipated by the assumptions used in the actuarial valuation, this will increase the unfunded liability measurements and require higher contributions in the future than if the actual returns equaled the assumed returns. However, given the very low level of assets for this plan relative to liabilities, this risk is negligible.

Longevity and Other Demographic Risk is the potential for mortality or other demographic experience to be different than expected. Generally, longevity and other demographic risks emerge slowly over time as the actual experience deviates from expected and is typically

APPENDIX D – RISK AND ACCOUNTING DISCLOSURE INFORMATION

periodically reduced through the Plan's regular actuarial experience process. As this plan is now frozen, the only source of demographic risk is longevity experience.

Assumption Change Risk is the potential for the environment to change such that future valuation assumptions are adjusted to be different than the current assumptions. For example, a reduction in the assumed rate of return would result in a higher measurement of the Plan's liability.

More Detailed Assessment

A more detailed assessment is always valuable to enhance the understanding of the risks identified above; however, the value of this must be compared alongside the costs of such an exercise. The costs in this case are both measurable costs as expressed by the actuarial fees for the additional assessment and the cost of staff time required to support the effort and more intangible costs such as the additional information potentially drowning out the principal findings from the valuation and overwhelming decision makers.

Whether or not to have a more detailed risk assessment performed at this time is the Board's decision, but we do not believe that this additional risk assessment is required at this time based on our understanding of the Board's priorities.

APPENDIX D – RISK AND ACCOUNTING DISCLOSURE INFORMATION

Accounting Statement Information

Statement No. 67 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

This letter contains information reported in the June 30, 2024 Annual Comprehensive Financial Report (ACFR) of Delaware PERS under GASB Statement No. 67. Disclosures are based on the use of updated procedures to roll forward the 2023 funding valuation results. The calculation of Net Pension Liability in the GASB No. 67 Disclosures table on the following page shows the amounts to be disclosed for FY 2024 based on the liabilities of the roll forward of the 2023 funding valuation.

The remaining tables in this section are exhibits to be used for the System's ACFR. These tables include the Note to Required Supplementary Information, the Analysis of Financial Experience, which is a history of gains and losses in accrued liability, and the Schedule of Funded Liabilities by Type, which shows the portion of accrued liability covered by the Actuarial Value of Assets. The Government Finance Officers Association (GFOA) has named this exhibit the Schedule of Funded Liabilities by Type. None of the liabilities or assets shown are appropriate for settlement purposes. Furthermore, the Schedule of Funded Liabilities by Type does not accurately depict a plan's future financial condition but rather is a test developed by the GFOA to assess the level of funding that relies on the contributions for future hires to pay for the benefits that have already been accrued by the current population. This valuation does not contain the additional disclosures required by GASB Statement No. 68 only for the employer's ACFR.

APPENDIX D – RISK AND ACCOUNTING DISCLOSURE INFORMATION

GASB No. 67 Disclosures		
		June 30, 2024
Total Pension Liability (TPL)		
Service cost	$	0
Interest		11,266,000
Changes in benefit terms		0
Differences between expected and actual experience		9,550,000
Changes in assumptions		(7,698,000)
Benefit payments, including refunds of member contributions		(24,647,000)
Net change in TPL	**$**	**(11,529,000)**
TPL – beginning	**$**	**311,304,000**
TPL - ending (a)	**$**	**299,775,000**
Fiduciary Net Position (FNP)		
Contributions – State	$	25,365,000
Contributions - Non-employer		0
Contributions – Member		
Net investment income		1,110,000
Benefit payments, including refunds of member contributions		(24,647,000)
Administrative expenses		(47,000)
Net change in FNP	**$**	**1,781,000**
FNP – beginning	**$**	**4,531,000**
FNP - ending (b)	**$**	**6,312,000**
Net Pension Liability/(Asset) - ending [(a)-(b)]	**$**	**293,463,000**

We do not include an estimate of the FY 2025 disclosure because the year-end discount rate cannot be known at this time.

APPENDIX D – RISK AND ACCOUNTING DISCLOSURE INFORMATION

Note to Required Supplementary Information

The June 30, 2024 total pension liability presented in GASB No. 67 Disclosures was determined as part of the measurement at the date indicated. Additional information as of the latest measurement date follows.

Measurement date:	July 1, 2024
Valuation date:	July 1, 2023
Actuarial cost method:	Entry age normal
Actuarial assumptions:	
Investment rate of return*	7.0%
Municipal bond rate	3.93%
Projected salary increases*	N/A
Cost-of-living adjustments	ad hoc
* Includes inflation at	2.50%

The actuarially determined contribution for fiscal year 2025 will use the contribution amount developed on the first page of this valuation. It was determined using the measurement date and key assumptions that follow.

Measurement date:	July 1, 2024
Valuation date:	July 1, 2024
Actuarial cost method:	Entry age normal
Amortization method:	Level dollar open
Amortization period:	15 years
Asset valuation method:	Equal to market value of assets
Actuarial assumptions:	
Investment rate of return*	7.0%
Projected salary increases*	N/A
Cost-of-living adjustments	ad hoc
* Includes inflation at	2.50%

The actuarial assumptions used have been recommended by the actuary and adopted by the Plan's Board of Trustees based on the most recent review of the Plan's experience completed in 2021. The economic assumptions were updated first effective with the 2017 valuation based on the Board's annual review of these assumptions.

The total amount of employer contributions to the Plan is composed of the unfunded actuarial liability amortization payment and the administrative expenses. Because there are no future accruals in this plan, the actuarial liability is equal to the present value of benefits. The difference between this liability and the funds accumulated as of the same date is the unfunded actuarial liability. The allowance for administrative expenses is based upon the Plan's actual administrative expenses.

APPENDIX D – RISK AND ACCOUNTING DISCLOSURE INFORMATION

Analysis of Financial Experience

Gain and Loss in Accrued Liability During Years Ended June 30 Resulting from Differences between Assumed Experience and Actual Experience

Gain (or Loss) for Year Ending June 30, (expressed in thousands)

Type of Activity	2019	2020	2021	2022	2023	2024
Investment Income on Actuarial Assets	$ 243	$ 283	$ 3,184	$(199)	$ (64)	$ 770
Combined Liability Experience	147	(909)	3,856	1,999	$(7,437)	(14,628)
(Loss)/Gain during Year from Financial Experience	$ 390	$ (626)	$ 7,040	$1,800	$(7,501)	$ (14,474)
Non-Recurring Items	0	0	(4,231)	0	0	0
Composite Gain (or Loss) during Year	$ 390	$ (626)	$ 2,809	$1,800	$(7,501)	$ (14,474)

Schedule of Funded Liabilities by Type Aggregate Accrued Liabilities for

(expressed in thousands)

Valuation Date June 30,	Active Member Contributions (1)	Retirees & Beneficiaries (2)	Active Member State-Financed Contributions (3)	Actuarial Value of Reported Assets	Portion of Accrued Liabilities Covered by Reported Assets		
					(1)	(2)	(3)
2024	$0	$ 247,897	$0	$ 6,312	N/A	3%	N/A
2023	0	241,836	0	4,531	N/A	2	N/A
2022	0	241,468	0	4,421	N/A	2	N/A
2021	0	249,153	0	4,259	N/A	2	N/A
2020	0	254,402	0	534	N/A	0	N/A
2019	0	259,046	0	1,696	N/A	1	N/A