Via Electronic Mail

March 16, 2020

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

Re: Special Pensioners June 30, 2019 Actuarial Valuation - Revised

Dear Joanna:

We have completed our Actuarial Valuation of the six members remaining in the Special Pension Plan as of June 30, 2019. Our results are as follows.

Valuation Results	
Actuarial Liability (AL)	$ 116,500
Actuarial Value of Assets (AVA)	182,500
AVA Unfunded AL (UAL)	$ (66,000)
Funded Ratio on AVA [AVA/AL]	156.7%
Market Value of Assets (MVA)	170,700
Funded Ratio on MVA [MVA/AL]	146.5%
Present Value Accumulated Plan Benefits (PVAB)	$ 116,500
MVA	170,700
Unfunded PVAB	$ (54,200)
Accrued Benefit Funded Ratio [MVA/PVAB]	146.5%

The actuarial value of assets is a smoothed asset value that recognizes 20% of the difference between the expected actuarial value and the market value of assets. The expected actuarial value equals the prior year's actuarial value adjusted with contributions, payments, and investment earnings of 7.0%, the assumption as of last year's valuation date. This method tempers the volatile fluctuations in market value.

We found that there continues to be no contributions required as of this valuation. Therefore, the actuarially determined contribution for fiscal year 2020 for this Plan is $0.

Data and Assumptions

In completing the valuation and preparing our report, we relied on information, some oral and some written, supplied by 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. Appendix B contains a summary of the data, and Appendix C 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.

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 and 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 opinion 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 State Special 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, FSA, MAAA, EA
Principal Consulting Actuary

Elizabeth Wiley, FSA, FCA, MAAA, EA
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):

(2019 Values Shown)		
Age	Male	Female
50	43	26
55	60	35
60	82	51
65	116	79
70	180	126
75	293	207
80	494	350
85	862	623
90	1,530	1,121
95	2,432	1,857
100	3,484	2,783

Rates are based on 110% and 100% of the RP-2014 Total Dataset Healthy Annuitant Mortality Table, respectively, for males and females, using the RP-2014 Total Dataset Employee Mortality Table for ages prior to start of the Healthy Annuitant Mortality Table, both projected from the 2006 base rates using the RPEC-2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0% for ages 115-120, and convergence to the ultimate rate in the year 2020. The valuation uses 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):

(2019 Values Shown)		
Age	**Male**	**Female**
25	90	27
30	86	34
35	102	48
40	122	65
45	190	102
50	233	135
55	268	170
60	306	202
65	365	245
70	473	333
75	647	488
80	923	737
85	1,375	1,116
90	2,125	1,666
95	3,000	2,438
100	3,955	3,430

Rates are based on 120% of the RP-2014 Total Dataset Disabled Annuitant Mortality Table, projected from the 2006 base rates using the RPEC-2015 model, with an ultimate rate of 0.85% for ages 20-85, grading down to an ultimate rate of 0% for ages 115-120, and convergence to the ultimate rate in the year 2020. The valuation uses fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

2. Economic Assumptions

a. Investment Rate of Return: 7.00%
b. Annual Assumed Cost-of-Living Increase Rate for Retirees: 2.50%

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 2016 and covering the period July 1, 2010 through June 30, 2015. 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.

4. Changes and Rationale since Last Valuation

None.

APPENDIX B – DATA SUMMARY

Data Summary			
	Count	Average Age	Average Monthly Benefit
Beneficiaries	6	85	317.00

APPENDIX C - RISK AND ACCOUNTING DISCLOSURE INFORMATION

Risk Disclosure

Actuarial Standard of Practice (ASOP) No. 51 provides guidance to actuaries regarding assessment and disclosure of risks related to the possibility that actual future measurements of pension plans will deviate from the expected future measurements developed in valuations of them. This standard does not introduce new concepts to actuarial work, it simply attempts to provide some codification of the practice. This ASOP is first effective for this current June 30, 2019 actuarial valuation report. The following discloses the key risks faced by this, closed, plan.

Historical Experience

Given that this is a closed plan, with few remaining pensioners, 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 recent freezing 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.

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 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 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.

APPENDIX C - RISK AND ACCOUNTING DISCLOSURE INFORMATION

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 measureable 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 principle 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 understandings of the Board’s priorities.

APPENDIX C - 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, 2019 Comprehensive Annual Financial Report (CAFR) of Delaware PERS under GASB Statement No. 67. Disclosures are based on the use of updated procedures to roll forward the 2018 funding valuation results. The calculation of Net Pension Liability on the following page shows the amounts to be disclosed for FY 2019, based on the liabilities of the roll forward of the 2018 funding valuation, as well as a projection of the anticipated FY 2020 disclosures, based on liabilities from the 2019 funding valuation, assuming all actuarial assumptions are met over the coming year. The actual disclosures for FY 2020 will be developed once the asset measure for GASB as of June 30, 2020 is known.

The remaining tables in this section are exhibits to be used for the System's CAFR. 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 is 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 CAFR.

APPENDIX C - RISK AND ACCOUNTING DISCLOSURE INFORMATION

GASB No. 67 Disclosures	June 30, 2019	Estimated June 30, 2020
Total Pension Liability (TPL)		
Service cost	$ **0**	$ **0**
Interest	8,000	7,000
Changes in benefit terms	0	0
Differences between expected and actual experience	9,000	13,000
Changes in assumptions	0	0
Benefit payments, including refunds of member contributions	(34,000)	(22,000)
Net change in TPL	**$ (17,000)**	**$ (2,000)**
TPL - beginning	**$ 121,000**	**$ 104,000**
TPL - ending (a)	**$ 104,000**	**$ 102,000**
Fiduciary Net Position (FNP)		
Contributions - State	$ 3,000	$ 0
Contributions - Non-employer	0	0
Contributions - Member	0	0
Net investment income	9,000	11,000
Benefit payments, including refunds of member contributions	(35,000)	(22,000)
Administrative expenses	(1,000)	(1,000)
Net change in FNP	**$ (24,000)**	**$ (12,000)**
FNP - beginning	**$ 195,000**	**$ 171,000**
FNP - ending (b)	**$ 171,000**	**$ 159,000**
Net Pension Liability/(Asset) - ending [(a)-(b)]	**$ (67,000)**	**$ (57,000)**

Items printed in red will be replaced with actual amounts once known at the end of FY 2020.

APPENDIX C - RISK AND ACCOUNTING DISCLOSURE INFORMATION

Note to Required Supplementary Information

The June 30, 2019 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, 2019
Valuation date:	July 1, 2018
Actuarial cost method:	Entry age normal
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 actuarially determined contribution for fiscal year 2020 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, 2019
Valuation date:	July 1, 2019
Actuarial cost method:	Entry age normal
Amortization method:	N/A
Amortization period:	N/A
Asset valuation method:	Smoothed market, 20% annual market weight
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 2016. 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 C - 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	2014	2015	2016	2017	2018	2019
Investment Income on Actuarial Assets	$ (1)	$ (3)	$ (7)	$ (4)	$ (3)	$ (3)
Combined Liability Experience	(18)	(25)	31	(11)	(9)	(13)
(Loss)/Gain during Year from Financial Experience	$ (19)	$ (28)	$ 24	$ (15)	$ (12)	$ (16)
Non-Recurring Items	(3)	0	(4)	0	0	0
Composite Gain (or Loss) during Year	$ (22)	$ (28)	$ 20	$ (15)	$ (12)	$ (16)

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)
2019	$0	$117	$0	$183	N/A	157%	N/A
2018	0	131	0	205	N/A	157	N/A
2017	0	145	0	226	N/A	156	N/A
2016	0	151	0	242	N/A	160	N/A
2015	0	210	0	279	N/A	133	N/A
2014	0	217	0	308	N/A	142	N/A