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Postretirement Health Plan Actuarial Valuation Report as of July 1, 2022

Produced by Cheiron
November 2022

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Letter of Transmittal

November 2, 2022

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

Dear Joanna:

As requested, we have performed an analysis of the Postretirement Health Plan provided by the State of Delaware as of July 1, 2022. The following report contains our findings and additional disclosures required by Government Finance Officers Association (GFOA) for excellence in financial reporting.

The purpose of this report is to present the annual Other Post-Employment Benefits (OPEB) actuarial valuation of the State of Delaware. This report is for the use of the State of Delaware and its auditors in preparing financial reports in accordance with applicable law and accounting requirements.

In preparing our report, we relied on information (some oral and some written) supplied by the State of Delaware. 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.

Appendix A describes the participant data, assumptions, and methods used in calculating the figures throughout the report. Appendix B contains a summary of the substantive plan provisions based on documentation provided by and discussions with your office.

The results of this report are based on future experience conforming to the actuarial assumptions used. The results will change to the extent that future experience differs from the assumptions. Actuarial computations are calculated based on our understanding of GASB 74 and 75 and are for purposes of fulfilling employer financial accounting requirements. Determinations for purposes other than meeting employer financial accounting requirements may be significantly different from the results in this report.

The potential impact of changes in Medicare from the Inflation Reduction Act has not been reflected in this valuation. This report does not contain any adjustments for the potential long-term impact of COVID-19.

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. 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 actuarial report was prepared for the State of Delaware for the purposes described herein and for the use by the Plan auditor in completing an audit related to the matters herein. Other users of this report are not intended users as defined in the Actuarial Standards of Practice, and Cheiron assumes no duty or liability to such other users.

Please do not hesitate to call should you have any questions.

Sincerely,
Cheiron

Margaret A. Tempkin, FSA, MAAA
Principal Consulting Actuary

Michael W. Schionning, FSA, MAAA
Principal Consulting Actuary

cc: Sean McNeeley
Jane Cole
Lisa Elder
Khairat Makanjuola

SECTION I – SUMMARY

The State of Delaware has engaged Cheiron to provide an analysis of the Postretirement Health Benefit Plan's liabilities as of July 1, 2022. The primary purposes of performing this actuarial valuation are to:

- Determine the net other postemployment benefit (OPEB) liability of the retiree health benefit under GASB Statements 74 and 75 and the current funding strategy,
- Provide additional disclosures for financial statements, and
- Provide projections for contributions, benefits, assets, and Net OPEB Liability (NOL).

We have determined costs, liabilities, and trends for the substantive plan using actuarial assumptions and methods that we consider reasonable.

GASB's OPEB Requirements

GASB's Statement 74 refers to the financial reporting for postemployment benefit plans other than pension plans, and Statement 75 refers to the employer accounting for these plans. Statement 74 is generally applicable where an entity has a separate trust or fund for OPEB benefits. The GASB No. 74 and 75 Statements were effective for the plan year ending June 30, 2017 and June 30, 2018, respectively. The GASB 74 and 75 valuation report was provided in a separate document.

Funding Policy

The State of Delaware currently pays for its post-employment health benefits on a pay-as-you-go (PAYGo) basis. We further understand that there are some assets set aside in a dedicated Trust to cover this liability.

SECTION I – SUMMARY

Valuation Results

The table below presents the key results of the 2021 and 2022 valuations.

Table I-1
Summary of Key Valuation Results
($ In Millions)

Discount Rate	2.16%	3.54%
	July 1, 2021	**July 1, 2022**
Actuarial Liability (AL)	$ 10,773.3	$ 8,938.0
Assets	650.3	582.7
Unfunded Actuarial Liability (UAL)	$ 10,123.0	$ 8,355.3
Fiscal Year Ending	**June 30, 2022**	**June 30, 2023**
Annual Required Contribution (ARC)	$ 784.3	$ 646.3
Actual / *Expected* Contribution	273.4	*305.3*
Actual / *Expected* Net Benefit Payments	254.5	*248.9*

The figures provided in this report are highly sensitive to the assumptions used.

The expected increase in liability during the year was $470 million. The Plan experienced an increase in liability due to population changes of $5 million as well as a decrease due to updated health claims and trend assumptions of $159 million and a decrease due to the discount rate increase from 2.16% to 3.54% of $2,150 million. The total decrease in the actuarial liability was approximately $1,835 million. More detail on the effects of these changes can be found in the valuation results section of this report.

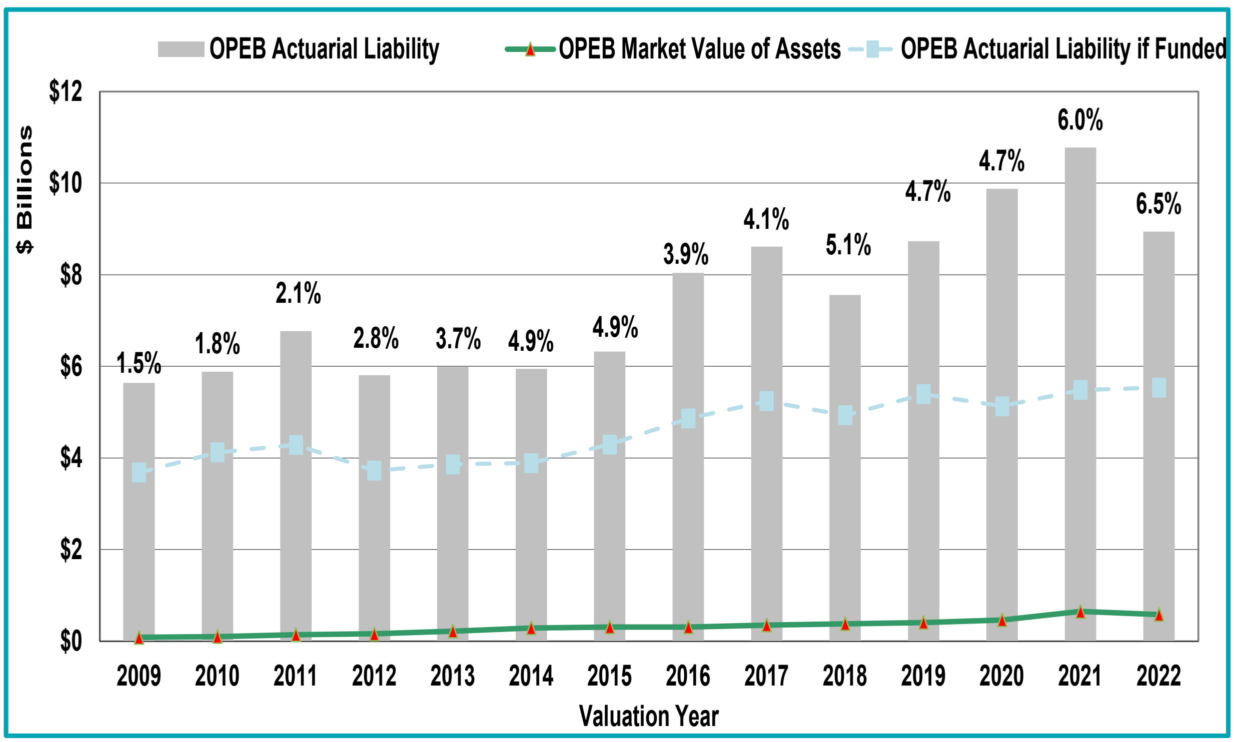
The expected contribution of $305.3 million for the period ending June 30, 2023 includes $47.7 million in one-time payments plus 0.36% of covered payroll plus $248.9 million of net benefit payments.

SECTION I – SUMMARY

Historical Trends

The chart below shows the historical trend of assets and the actuarial liability for the State of Delaware's Postretirement Health Plan. The first valuation complying with GASB 43 and 45 was performed in 2006. The reduction in actuarial liability in 2012 was primarily due to Plan changes. The increase in actuarial liability in 2016 was due to the demographic decrement changes from the 2015 experience study adopted in 2016 as well as the change in the discount rate from 4.25% to 3.75%. Starting in 2017, the discount rate follows the 20-year bond buyer rate. The increase in actuarial liability in 2021 was due to the demographic decrement changes from the 2021 experience study as well as reduction in discount rate from 2.21% to 2.16%. The decrease in actuarial liability in 2022 was due to the increase in the discount rate from 2.16% to 3.54%. The percentages above the grey bars represent the ratio of the market value of assets over the actuarial liability.

The light blue dotted line represents the OPEB liability if the Plan's discount rate was based on the funding rate.

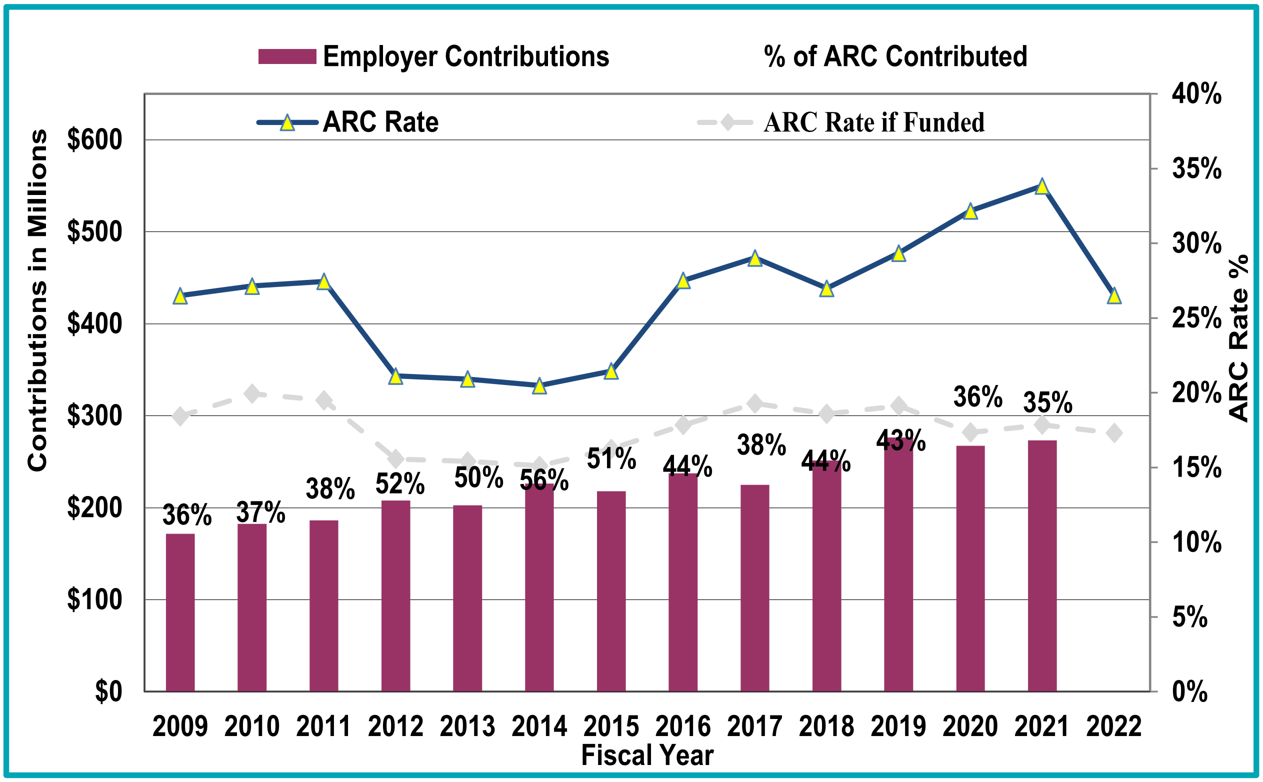


Discount Rate	5.00%	5.00%	4.25%	4.25%	4.25%	4.25%	4.25%	3.75%	3.58%	3.87%	3.50%	2.21%	2.16%	3.54%
Funding Rate	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.20%	7.20%	7.00%	7.00%	7.00%	7.00%	7.00%

SECTION I – SUMMARY

This chart shows the historical trend of employer contributions and the annual required contribution (ARC) for the State of Delaware's Postretirement Health Plan. The ARC represents the normal cost plus a 30-year level percentage of pay amortization of the unfunded liability. The burgundy bars represent the employer contributions made during the year. The blue line with yellow triangles represents the ARC as a percentage of pay. The percentages above the burgundy bars represent the ratio of the actual contributions to the annual required contribution.

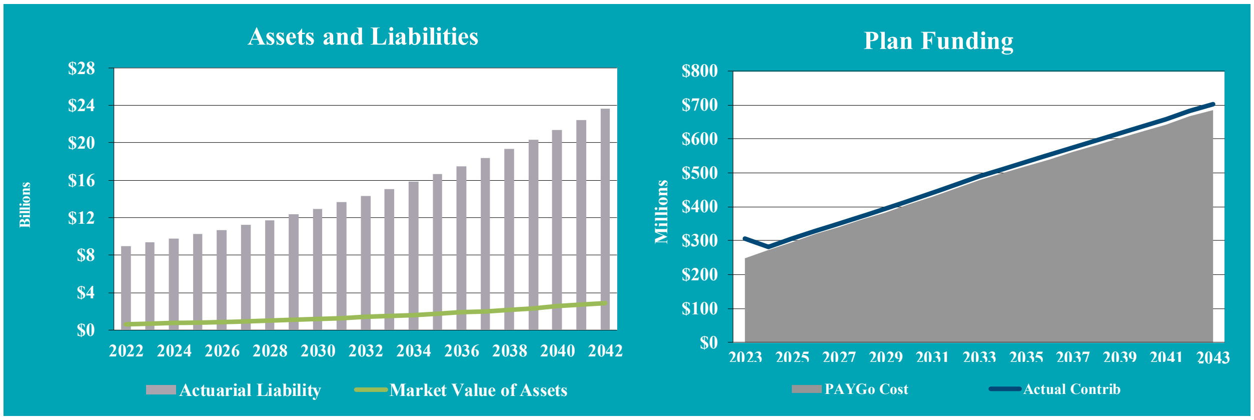
The light grey dotted line represents the ARC as a percentage of pay if the Plan's discount rate was based on the funding rate.



SECTION I – SUMMARY

Projected Trends

Looking beyond 2022, the expense and liability on the financial statements increase under the PAYGo funding method because the Plan is not funded. The charts below project the assets and liabilities and the funding costs for the next 20 years.



As the above chart on the left shows, the actuarial liability increases from $8.9 billion to $23.6 billion during the next 20 years. The green line shows the assets increasing from $583 million to $2.9 billion assuming a 7.0% return on assets.

The chart on the right shows the projected annual costs. Benefit payments, net of retiree contributions, are shown by the grey area and increase from $249 million to $685 million. The blue line represents the State's assumed contributions. Under PAYGo funding they will match the net benefit payments; however, the State has made a one-time payment in 2022 of $47.7 million. We also assume the State will continue to make the 0.36% of covered payroll funding contributions, thus the blue line is slightly higher than the PAYGo area.

SECTION II – ASSETS

The Plan's last valuation of liabilities was performed as of July 1, 2021. Table II-1 below shows the reconciliation of assets for the fiscal year. This section reconciles to the assets as of July 1, 2022 that were used to develop the FYE 2023 ARC.

Table II-1
Reconciliation of Assets
($ in millions)

Valuation Assets as of July 1, 2021	**$**	**650.3**
Contributions for Fiscal Year *		
State Contributions	$	273.3
Transfer from outside the system		0.1
Other Contributions		-
Total Contributions	$	273.4
Benefit Payments *		254.5
Expenses		0.1
Investment Earnings		(86.4)
Valuation Assets as of July 1, 2022	**$**	**582.7**

* Contributions for benefits and expenses were routed through the Trust

SECTION III – VALUATION RESULTS

This section of the report calculates the current and expected future contribution requirements under the State's funding policy of pay as you go. Even though GASB 45 has been replaced by GASB 75, we will continue to calculate an ARC using the rules previously in effect with GASB 45. This valuation calculates the annual required contribution (ARC) for FYE 2023. Information about the actuarial liabilities of the Plan as of July 1, 2022 is shown in Table III-1 below.

Table III-1
Actuarial Liability
Pay-As-You-Go Funding
(3.54% assumed discount)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Actives	$ 4,484.8	$ 3.0	$ -	$ 153.5	$ 4,641.3
Retirees	4,113.9	5.3	56.0	121.5	4,296.7
Total	**$ 8,598.7**	**$ 8.3**	**$ 56.0**	**$ 275.0**	**$ 8,938.0**
Assets*	559.7	1.0	4.0	18.0	582.7
UAL	**$ 8,039.0**	**$ 7.3**	**$ 52.0**	**$ 257.0**	**$ 8,355.3**

* *Assets allocated in proportion to liabilities*

The Annual Required Contribution (ARC), under GASB 45, consists of two parts: (1) the *normal cost*, which represents the annual cost attributable to service earned in a given year, and (2) the 30-year open amortization of the unfunded actuarial liability (UAL). The rolling amortization method will never pay off the unfunded liability. For that reason, we do not believe that the ARC, as defined in GASB Statement No. 45, would constitute an actuarially sound funding policy and would not satisfy the Actuarially Determined Contribution (ADC) definition under GASB 75. This report shows both the ARC and projections of the State's actual contributions using the State's funding policy of pay-as-you-go plus 0.36% of covered payroll. Under the current funding method of PAYGo, the State pays for the benefits currently provided to existing retirees.

In Table III-2 below, we show the computed FY 2022-23 annual required contribution (ARC) under the State's funding policy and a 3.54% assumed discount rate.

Table III-2
Annual Required Contributions – FY2023
Pay-As-You-Go Funding
(3.54% assumed discount)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Normal Cost	$ 341.7	$ 0.3	$ -	$ 13.5	$ 355.5
UAL Amortization	279.8	0.3	1.8	8.9	290.8
Total	**$ 621.5**	**$ 0.6**	**$ 1.8**	**$ 22.4**	**$ 646.3**

SECTION III – VALUATION RESULTS

Table III-3 shows the employer contributions, benefit payments, assets, and NOL that we anticipate for the next 15 years under PAYGo Funding. In calculating the liabilities, we project these figures for the life of each existing participant.

Table III-3

Expected Contributions, Expected Net Benefit Payments, Assets and NOL under PAYGo Funding ($ in millions)

Fiscal Year Ending June 30,	Expected Contributions	Expected Net Benefit Payments	Expected Assets	Expected NOL
2023	$ 305.3	$ 248.9	$ 681.9	$ 8,680.9
2024	281.5	272.5	739.1	9,053.9
2025	305.5	296.1	800.5	9,434.6
2026	328.5	318.8	866.5	9,835.9
2027	350.3	340.3	937.5	10,268.0
2028	372.1	361.8	1,013.7	10,736.1
2029	394.0	383.3	1,095.7	11,241.8
2030	417.2	406.3	1,183.7	11,782.6
2031	441.0	429.7	1,278.3	12,355.5
2032	464.9	453.2	1,379.9	12,958.1
2033	490.1	478.0	1,489.0	13,587.0
2034	511.1	498.6	1,606.1	14,245.6
2035	532.6	519.8	1,731.9	14,933.3
2036	553.4	540.1	1,866.9	15,651.8
2037	574.7	561.0	2,011.8	16,401.9

SECTION III – VALUATION RESULTS

Reconciliation

Table III-4 provides an estimate of the major factors contributing to the change in liability since the last actuarial valuation report (AVR).

Table III-4
Reconciliation of Actuarial Liability
($ in millions)

	Actuarial Accrued Liability July 1, 2022	Normal Cost June 30, 2023	Annual Required Contribution June 30, 2023
Expected Values for July 1, 2022 based on the 7/1/2021 AVR	**$ 11,243.0**	**$ 516.6**	**$ 813.6**
Changes due to:			
Asset (Gain) / Loss	N/A	N/A	3.9
Demographic (Gain) / Loss	4.5	0.1	0.2
Discount Rate (Gain) / Loss	(2,150.3)	(160.4)	(165.9)
Health Cost Assumptions (Gain) / Loss	(159.2)	(0.8)	(5.5)
Total Changes	**$ (2,305.0)**	**$ (161.1)**	**$ (167.3)**
July 1, 2022 valuation results based on the 7/1/2022 AVR	**$ 8,938.0**	**$ 355.5**	**$ 646.3**

Below is a brief description of each of the above components:

- *Expected Values* refer to the change that would have occurred had experience matched all the assumptions between July 1, 2021 and July 1, 2022.
- *Asset* changes refer the change in the expected market value to actual market value.
- *Demographic* changes refer to the change in actual current and potential future beneficiary data and elections from July 1, 2021 to July 1, 2022. There were more retirements than expected.
- *Health Cost Assumptions* refers to the change in actual claim curves compared to the expected claims based on the prior year claims. The claim curves and healthcare trends were updated based on the healthcare actuary's projections.
- *Discount Rate* refers to the increase in the liability due to the increase in the discount rate from 2.16% to 3.54%.

SECTION IV – SENSITIVITY

The liabilities and ARC produced in this report are sensitive to the assumptions used. The tables below show the impact of a 1% increase or decrease in the health care trend rates on the actuarial liability, the ARC, and the net expected benefit payments, using the 3.54% discount rate, to provide some measure of sensitivity.

Table IV-1
Actuarial Liability
As of July 1, 2022
Pay-As-You-Go Funding
(3.54% assumed discount)
($ in millions)

Health Care Trend Rate	-1%	Base	1%
Actuarial Liability			
Actives	$ 3,970.9	$ 4,641.3	$ 5,409.7
Retirees	3,828.5	4,296.7	4,864.2
Total	**$ 7,799.4**	**$ 8,938.0**	**$ 10,273.9**
Assets	582.7	582.7	582.7
UAL	**$ 7,216.7**	**$ 8,355.3**	**$ 9,691.2**

Table IV-2
Annual Required Contributions – FY2023
Pay-As-You-Go Funding
(3.54% assumed discount)
($ in millions)

Health Care Trend Rate	-1%	Base	1%
Normal Cost	$ 247.5	$ 355.5	$ 516.8
UAL Amortization	251.1	290.8	337.3
Total	**$ 498.6**	**$ 646.3**	**$ 854.1**

SECTION IV – SENSITIVITY

The liabilities and ARC produced in this report are sensitive to the assumptions used. The tables below show the impact of a 1% increase or decrease in the discount rate on the actuarial liability, the ARC, and the net expected benefit payments, using the base case healthcare trends, to provide some measure of sensitivity.

Table IV-3
Actuarial Liability
As of July 1, 2022
Pay-As-You-Go Funding
($ in millions)

Discount Rate	2.54%	3.54%	4.54%
Actuarial Liability			
Actives	$ 5,623.3	$ 4,641.3	$ 3,876.3
Retirees	4,902.8	4,296.7	3,808.0
Total	**$ 10,526.1**	**$ 8,938.0**	**$ 7,684.3**
Assets	582.7	582.7	582.7
UAL	**$ 9,943.4**	**$ 8,355.3**	**$ 7,101.6**

Table IV-4
Annual Required Contributions – FY2023
Pay-As-You-Go Funding
($ in millions)

Discount Rate	2.54%	3.54%	4.54%
Normal Cost	$ 470.0	$ 355.5	$ 272.1
UAL Amortization	297.3	290.8	285.3
Total	**$ 767.3**	**$ 646.3**	**$ 557.4**

SECTION V – ACTUARIAL FUNDING

To have a system where the assets will eventually accumulate to the actuarial liability, meaning that the entire liability is funded, the State of Delaware may wish to begin funding this program on an actuarial basis by contributing the ADC. For illustration purposes, the amortization period selected to pay off the unfunded liability was set to a 30-year closed amortization. If the State were to establish a funding policy of contributing the ADC, the discount rate could be increased. Using a discount rate of 7.0% (matching the pension assumption) produces an unfunded liability of $5.0 billion rather than $8.4 billion.

In addition to the change in overall liability, the ADC will also decrease. Thus, in order to fund on an actuarial basis, the State needs to contribute $478.2 million, or $168.1 million below the ARC under PAYGo. The $478.2 million is $229.3 million higher than the expected PAYGo cost of $248.9 million for FYE 2022.

If the State increases its contribution, but it is still less than the actuarially funded scenario, the discount rate will increase above the 3.54% discount rate, and the resulting liabilities and ADC payments will likely fall between the two discount rate scenarios presented in this report.

Table V-1
Actuarial Liability
Actuarial Funding
(7.0% assumed discount)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Actives	$ 2,504.1	$ 1.7	$ -	$ 87.3	$ 2,593.1
Retirees	2,819.0	3.8	41.0	80.6	2,944.4
Total	**$ 5,323.1**	**$ 5.5**	**$ 41.0**	**$ 167.9**	**$ 5,537.5**
Assets*	559.7	1.0	4.0	18.0	582.7
UAL	**$ 4,763.4**	**$ 4.5**	**$ 37.0**	**$ 149.9**	**$ 4,954.8**

* Assets allocated in proportion to liabilities

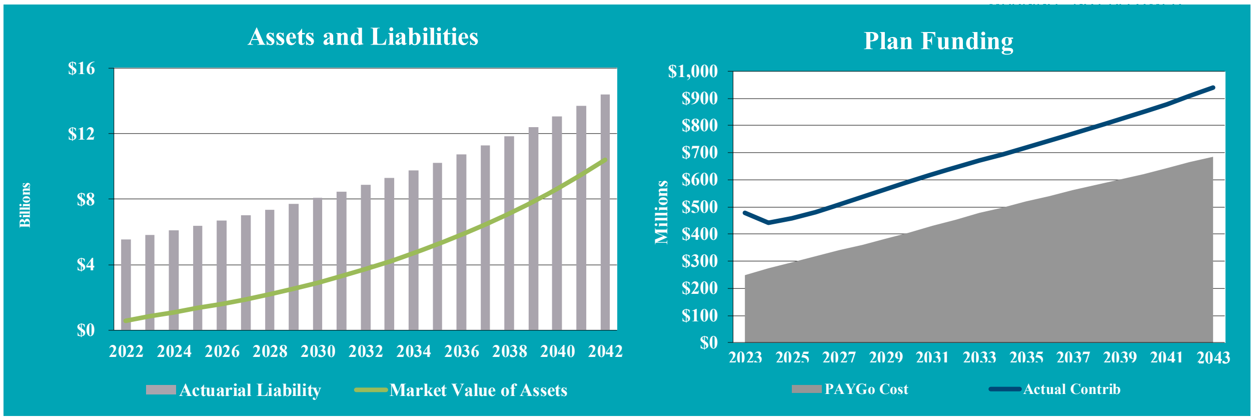
Table V-2
Actuarially Determined Contributions – FY2023
Actuarial Funding
(7.0% assumed discount)
($ in millions)

	State Employees	Judges	Closed State Police	Open State Police	Total
Normal Cost	$ 141.9	$ 0.2	$ -	$ 5.8	$ 147.9
UAL Amortization	263.3	0.3	2.0	8.3	273.9
Total	**$ 405.2**	**$ 0.5**	**$ 2.0**	**$ 14.1**	**$ 421.8**

SECTION V – ACTUARIAL FUNDING

Actuarial Funding

Looking beyond 2022, the charts below project the assets and liabilities and the funding costs for the next 20 years assuming the State amortizes the liability over a closed 30-year period.



As the above chart on the left shows, the actuarial liability increases from $5.5 billion to $14.4 billion during the next 20 years. The green line shows the assets increasing from $583 million to about $8.4 billion.

The chart on the right shows the annual costs. Benefit payments, net of retiree contributions, are shown by the grey area and increase from $249 million to $685 million, the same as in the pay-as-you-go scenario. The blue line represents the State's contribution.

SECTION V – ACTUARIAL FUNDING

Below are the employer contributions, benefit payments, assets, and NOL that we anticipate for the next 15 years under Actuarial Funding.

Table V-3
Expected Contributions,
Expected Net Benefit Payments,
Assets and NOL under Actuarial Funding
($ in millions)

Fiscal Year Ending June 30,	Expected Contributions	Expected Net Benefit Payments	Expected Assets	Expected NOL
2023	$ 478.2	$ 248.9	$ 860.7	$ 4,959.8
2024	442.1	272.5	1,096.4	5,008.6
2025	459.4	296.1	1,342.0	5,051.6
2026	481.8	318.8	1,604.6	5,088.3
2027	507.9	340.3	1,890.3	5,117.9
2028	536.0	361.8	2,202.8	5,139.7
2029	564.7	383.3	2,544.6	5,152.8
2030	592.7	406.3	2,915.5	5,156.3
2031	619.5	429.7	3,316.0	5,149.3
2032	645.3	453.2	3,746.8	5,130.8
2033	670.3	478.0	4,208.0	5,099.5
2034	694.9	498.6	4,705.6	5,054.4
2035	719.5	519.8	5,241.6	4,994.2
2036	744.4	540.1	5,819.9	4,917.4
2037	769.9	561.0	6,443.3	4,822.6

SECTION VI – ACCOUNTING DISCLOSURES

Government Finance Officers Association (GFOA) certificate of achievement for excellence in financial reporting establishes standards for disclosure of other postemployment benefit information by governmental employers and plans in notes to financial statements and supplementary information.

In accordance with those statements, we have prepared the following disclosures.

Schedule of Funding Progress

The schedule of funding progress, Table VI-1, compares the assets used for funding purposes to the comparable liabilities to determine how well the Plan is funded and how this status has changed over the past several years. The actuarial liability is compared to the actuarial value of assets to determine the funding ratio. The Actuarial Accrued Liability under GASB is determined assuming that the Plan is ongoing, and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions.

Table VI-1
Schedule of Funding Progress
($ millions)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liabilities (b)	Unfunded Actuarial Accrued Liabilities (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll [(b-a)/c]
7/1/2022	$ 583	$ 8,938	$ 8,355	6.52%	$ 2,517	332%
7/1/2021	650	10,773	10,123	6.04%	2,393	423%
7/1/2020	464	9,877	9,413	4.70%	2,358	399%
7/1/2019	410	8,730	8,320	4.70%	2,282	365%
7/1/2018	382	7,558	7,176	5.05%	2,162	332%
7/1/2017	355	8,611	8,256	4.13%	2,119	390%
7/1/2016	310	8,039	7,729	3.86%	2,035	380%
7/1/2015	312	6,321	6,009	4.94%	2,048	293%
7/1/2014	290	5,946	5,656	4.90%	2,038	277%
7/1/2013	222	5,988	5,766	3.72%	1,944	297%
7/1/2012	163	5,805	5,641	2.80%	1,885	299%

SECTION VI – ACCOUNTING DISCLOSURES

Schedule of Employer Contributions

The schedule of employer contributions, Table VI-2, shows whether the employer has made contributions that are consistent with an actuarially sound method of funding the benefits to be provided. The ARC is shown below instead of the Annually Determined Contribution (ADC) because the funding policy uses a 30-year rolling amortization for the unfunded liability. This funding method is not in conformity with the Actuarial Standards of Practice.

Table VI-2
Schedule of Employer Contributions
($ in millions)

Fiscal Year Ended June 30	Annual Required Contribution (ARC)	Percentage of ARC Contributed	Net OPEB Obligation
2023	$ 646.3	*To be determined*	N/A
2022	784.3	35%	N/A
2021	734.8	36%	N/A
2020	648.6	43%	N/A
2019	565.1	45%	N/A
2018	595.6	38%	3,072.6
2017	542.4	44%	2,699.7
2016	425.6	51%	2,390.8
2015	404.4	56%	2,174.4
2014	406.7	50%	1,988.5
2013	397.8	52%	1,777.5

SECTION VI – ACCOUNTING DISCLOSURES

We have also provided a *Note to Required Supplementary Information* for the financial statements in Table VI-3.

Table VI-3
Note to Required Supplementary Information

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation Date	July 1, 2022
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percent Open
Remaining Amortization Period	30 years
Asset Valuation Method	Market Value
Actuarial Assumptions:	
Investment Rate of Return	3.54%
Rate of Salary Increases	2.50% (plus merit scale)
Ultimate Rate of Medical Inflation	3.94%

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Participant Data as of July 1, 2022

Census as of July 1, 2022	State Employees	Judges	Closed State Police	Open State Police	Total
Eligible Active Employees	38,449	59	0	731	39,239
Actives with coverage	**31,171**	**52**	**0**	**665**	**31,888**
Eligible Terminated Vesteds	3,982	2	0	10	3,994
Eligible LTDs	529	0	0	0	529
Retirees and Disableds with coverage	20,959	26	294	269	21,548
Beneficiaries with coverage	2,272	13	103	7	2,395
Total Inactives with coverage	**23,231**	**39**	**397**	**276**	**23,943**
Spouses with coverage	9,201	16	209	192	9,618
Total Inactives and Spouses with coverage	**32,432**	**55**	**606**	**468**	**33,561**
Total with coverage	**63,603**	**107**	**606**	**1,133**	**65,449**

Eligible Active Employees					
Age	State Employees	Judges	Closed State Police	Open State Police	Total
Under 25	1,183	0	0	16	1,199
25 to 30	3,140	0	0	97	3,237
30 to 35	4,054	0	0	140	4,194
35 to 40	4,733	1	0	122	4,856
40 to 45	5,078	8	0	109	5,195
45 to 50	5,025	4	0	115	5,144
50 to 55	5,472	10	0	122	5,604
55 to 60	4,761	12	0	10	4,783
60 to 65	3,294	10	0	0	3,304
Over 65	1,709	14	0	0	1,723
Total	**38,449**	**59**	**0**	**731**	**39,239**

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Retirees, Disables and Beneficiaries with Coverage					
Age	State Employees	Judges	Closed State Police	Open State Police	Total
Under 50	67	0	0	17	84
50 to 55	355	2	0	28	385
55 to 60	1,156	1	1	89	1,247
60 to 65	2,610	1	4	91	2,706
65 to 70	4,352	1	46	47	4,446
70 to 75	4,888	11	99	4	5,002
75 to 80	4,357	9	122	0	4,488
80 to 85	2,743	7	77	0	2,827
85 to 90	1,622	4	27	0	1,653
Over 90	1,081	3	21	0	1,105
Total	**23,231**	**39**	**397**	**276**	**23,943**

New Entrant Population Statistics			
	State Employees	Judges	State Police
Average Age	38	49	28
Average Salary	$32,874	$182,211	$45,404
% Blue PPO	12%	0%	8%
% Aetna HMO/CDH	42%	67%	50%
% Nonelect	46%	33%	42%

Economic Assumptions

1. ***Discount Rate:*** 3.54% per year based on the 20-year obligation bond as described by GASB 74/75
2. ***Salary Growth (for Normal Cost):*** 3.25% per year
3. ***Aggregate Payroll Growth for Amortization:*** 3.25% per year

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

4. ***Per Person Cost Trends:***

Date To Year Beginning July 1	Annual Increase Pre-65 Medical	Post-65 Medical	Pharmacy
2022	8.00	6.00	8.00
2023	7.00	5.25	7.25
2024	6.00	5.00	6.50
2025	5.00	5.00	5.75
2026	5.00	5.00	5.62
2027	4.99	4.99	5.49
2028	4.99	4.99	5.36
2029	4.98	4.98	5.23
2030	4.98	4.98	5.10
2031	4.97	4.97	4.97
2032	4.45	4.45	4.45
2033	4.28	4.28	4.28
2034	4.19	4.19	4.19
2035	4.14	4.14	4.14
2036	4.11	4.11	4.11
2037	4.08	4.08	4.08
2038	4.06	4.06	4.06
2039	4.05	4.05	4.05
2040	4.04	4.04	4.04
2041	3.94	3.94	3.94

Deductibles, Co-payments, Out-of-Pocket Maximums, and Annual Maximum are assumed to increase at the above trend rates.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Demographic Assumptions

1. *Rates of Retirement:*

State Employees:

Retirement Rates*					
General Employees (including Elected Officials)			Correctional Officers/ Specified Peace Officers		
Service	Early**	Normal	Service	Early**	Normal
5	0.0%	18.0%	5	0.0%	18.0%
6	0.0%	12.0%	6	0.0%	12.0%
7	0.0%	12.0%	7	0.0%	12.0%
8	0.0%	16.0%	8	0.0%	16.0%
9	0.0%	16.0%	9	0.0%	16.0%
10	0.0%	22.0%	10	0.0%	22.0%
11	0.0%	15.0%	11	0.0%	15.0%
12	0.0%	15.0%	12	0.0%	15.0%
13	0.0%	15.0%	13	0.0%	15.0%
14	0.0%	15.0%	14	0.0%	15.0%
15	7.0%	22.0%	15	8.5%	22.0%
16	4.0%	18.0%	16	8.3%	19.9%
17	4.0%	12.5%	17	7.4%	17.8%
18	4.0%	12.5%	18	5.9%	12.5%
19	4.0%	12.5%	19	8.1%	13.2%
20	10.0%	31.2%	20	10.1%	31.2%
21	10.0%	23.8%	21	8.4%	32.5%
22	10.0%	21.6%	22	8.4%	35.0%
23	7.5%	21.2%	23	15.8%	35.0%
24	7.5%	18.6%	24	8.9%	35.0%
25	10.0%	28.4%	25	N/A	35.0%
26	7.5%	23.2%	26	N/A	23.2%
27	5.5%	24.1%	27	N/A	24.1%
28	10.0%	23.5%	28	N/A	23.5%
29	14.0%	25.1%	29	N/A	25.1%
30	N/A	25.5%	30	N/A	26.7%
31	N/A	21.7%	31	N/A	26.7%
32	N/A	22.2%	32	N/A	26.7%
33	N/A	20.2%	33	N/A	26.7%
34	N/A	20.2%	34	N/A	26.7%
35+	N/A	22.8%	35+	N/A	26.7%

* Rates only applicable if member meets eligibility.

** Early retirement is increased by 5% for Correctional Officers (HB207, SB50, HB363, HB41, HB43, HB179, and HA1 Employees) where their early retirement is unreduced.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Judges:

Normal Retirement: 25% for all years the member is retirement eligible upon attaining:

age 62 with 12 years of credited service

100% probability of retirement once reaching age 75. Rates only applicable if member meets eligibility.

Closed State Police:

None

Open State Police:

Normal Retirement	
Service	**Rate**
<20	0%
20-25	5
26	10
27-29	15
30	25
31	35
32-34	50
35+	100

Rates only applied once eligibility for retirement is reached.

2. ***Rate of Withdrawal:***

State Employees:

Rates of Termination*	
Service	**Rates**
0	17.2%
1	15.2
2	11.4
3	9.9
4	7.7
5	6.5
6	5.9
7	5.0
8	4.7
9	4.0
10	3.4
11	3.1
12	2.6
13	2.3
14	2.1
15-16	1.8
17	1.3
18-19	1.2
20-21	1.1
22	0.9
23	0.6
24	0.3
>25	0.0

* Termination rates zero once member has reached early or normal retirement eligibility regardless of service.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Judges:

None

Closed State Police:

None

Open State Police:

Service-based table applies until eligibility for retirement is reached.

Termination	
Service	**Rate**
0	5.00%
1	4.00
2-9	1.50
Ultimate	0.50

3. *Rate of Disability:*

State Employees:

Rates of Active Disability	
Age	**Rates**
20	0.030%
25	0.030
30	0.150
35	0.230
40	0.320
45	0.410
50	0.500
55	0.800
60	0.960

Rates of Active Disability for those who opted into the Disability Insurance Program*	
Age	**Rates**
65	1.000%
70	1.500
75	1.500
80	1.500

* For those who remained in the Pension Plan for disability purposes, the assumption stops at age 64.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Judges:

None

Closed State Police:

None

Open State Police:

Rates of Active Disability	
Age	**Current**
20	0.030%
25	0.030
30	0.150
35	0.230
40	0.320
45	0.410
50	0.500
55	0.800
60	0.960

No disabilities are assumed with 20 or more years of service.

1/3 of disabilities are assumed partial disability and 2/3s are assumed total disability.
1/3 of disabilities are assumed duty-related and 2/3s are assumed non-duty related.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

4. *Rate of Mortality:*

State Employees:

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 Active Healthy Lives at Selected Ages (number of deaths per 10,000 members):

(2022 Values Shown)		
Age	**Male**	**Female**
25	3	1
30	5	2
35	6	3
40	8	4
45	9	5
50	13	7
55	19	11
60	30	17
65	43	25
70	59	39
75	89	64
80	141	110

Rates are based on 90% and 89%, respectively, of the Pub-2010 General Employee Mortality Table, for males and females, using the Pub-2010 General Benefits Weighted Annuitant Mortality Table rates after the end of the Employee Mortality Table, both projected from the 2010 base rates using the RPEC-2020 model, with an ultimate rate of 1.0% 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 fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

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

(2022 Values Shown)		
Age	Male	Female
50	30	21
55	45	29
60	68	40
65	99	59
70	152	94
75	257	169
80	463	312
85	854	592
90	1,485	1,108
95	2,317	1,810
100	3,335	2,726

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 1.0%% 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 fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

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

(2022 Values Shown)		
Age	**Male**	**Female**
25	35	22
30	54	38
35	73	59
40	90	78
45	113	102
50	161	147
55	218	189
60	278	218
65	329	228
70	387	269
75	499	380
80	713	592
85	1,075	944
90	1,645	1,398
95	2,391	1,966
100	3,335	2,890

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 1.0%% 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 fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Judges:

b. 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 Active Healthy Lives at Selected Ages (number of deaths per 10,000 members):

(2022 Values Shown)		
Age	Male	Female
25	3	1
30	5	2
35	6	3
40	8	4
45	9	5
50	13	7
55	19	11
60	30	17
65	43	25
70	59	39
75	89	64
80	141	110

Rates are based on 90% and 89%, respectively, of the Pub-2010 General Employee Mortality Table, for males and females, using the Pub-2010 General Benefits Weighted Annuitant Mortality Table rates after the end of the Employee Mortality Table, both projected from the 2010 base rates using the RPEC-2020 model, with an ultimate rate of 1.0% 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 fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

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

(2022 Values Shown)		
Age	Male	Female
50	30	21
55	45	29
60	68	40
65	99	59
70	152	94
75	257	169
80	463	312
85	854	592
90	1,485	1,108
95	2,317	1,810
100	3,335	2,726

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 1.0%% 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 fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

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

(2022 Values Shown)		
Age	**Male**	**Female**
25	35	22
30	54	38
35	73	59
40	90	78
45	113	102
50	161	147
55	218	189
60	278	218
65	329	228
70	387	269
75	499	380
80	713	592
85	1,075	944
90	1,645	1,398
95	2,391	1,966
100	3,335	2,890

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 1.0%% 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 fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Closed State Police and Open State Police:

c. 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 Active Healthy Lives at Selected Ages (number of deaths per 10,000 members):

(2022 Values Shown)		
Age	Male	Female
25	3	1
30	5	2
35	6	3
40	8	4
45	9	5
50	13	7
55	19	11
60	30	17
65	43	25
70	59	39
75	89	64
80	141	110

Rates are based on 100% of the Pub-2010 General Employee Mortality Table, for males and females, using the Pub-2010 General Benefits Weighted Annuitant Mortality Table rates after the end of the Employee Mortality Table, both projected from the 2010 base rates using the RPEC-2020 model, with an ultimate rate of 1.0% 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 fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

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

(2022 Values Shown)		
Age	**Male**	**Female**
50	30	21
55	45	29
60	68	40
65	99	59
70	152	94
75	257	169
80	463	312
85	854	592
90	1,485	1,108
95	2,317	1,810
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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 1.0% 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 fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

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

(2022 Values Shown)		
Age	Male	Female
25	35	22
30	54	38
35	73	59
40	90	78
45	113	102
50	161	147
55	218	189
60	278	218
65	329	228
70	387	269
75	499	380
80	713	592
85	1,075	944
90	1,645	1,398
95	2,391	1,966
100	3,335	2,890

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 1.0% 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 fully generational projection of mortality improvements. Sample rates shown are those projected through the valuation date.

5. ***Percent of Retirees Electing Coverage:*** For employees who currently have medical coverage, 95% of employees are assumed to elect coverage at retirement if they have 20 or more years of service and 80% if they have less than 20 years of service. These employees are assumed to remain in their current plan.

   For employees who do not currently have medical coverage, 50% of employees are assumed to elect medical coverage in the comprehensive plan prior to retirement and then will follow the election percentages above.

   40% of current and future terminated vested employees are assumed to elect coverage.

   100% of LTD participants are assumed to elect coverage.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

6. ***Family Composition:*** 50% of employees will elect spouse coverage at retirement.

7. ***Dependent Age:*** For current active employees, males are assumed to be three years older than female spouses. For current retirees, the actual spouse date of birth was used.

8. ***Rationale for Assumptions****:* The demographic assumptions were adopted by the Board of Trustees upon the recommendations of the actuary, based on an experience study performed in 2021 and covering the period July 1, 2015 through June 30, 2020. Assumptions directly related to health care elections, spousal coverage, and health care trends are reviewed annually. Based on the assumptions of a pay-as-you-go plan, the discount rate was selected based on the 20-year obligation bond as described by GASB.

Claim and Expense Assumptions

1. ***Average Monthly Claims and Expense Assumptions*****:** The following claim and expense assumptions are applicable to the 12-month period beginning July 1, 2022. Subsequent years' costs are based on the trended first-year cost adjusted with trends listed above.

   Due to the small enrollment on the Aetna CDH Gold Plan, claims experience was blended with the Aetna HMO and the combined claims curve was used for both plans. The claim curves for this valuation, July 1, 2022 – June 30, 2023 are below.

Healthy Retirees & All Dependents

	Blue PPO		Aetna HMO/CDH		Pharmacy	
Age	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
40	$ 393	$ 713	$ 397	$ 721	$ 101	$ 126
45	519	738	525	746	132	150
50	680	850	687	859	167	178
55	876	1,040	886	1,052	209	208
60	1,108	1,225	1,120	1,238	255	241
64	1,318	1,244	1,332	1,257	296	270
65	138	126	138	126	237	231
70	166	143	166	143	266	241
75	203	171	203	171	260	237
80	240	201	240	201	235	224
85	275	227	275	227	207	207

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Disabled Retirees

	Blue PPO		Aetna HMO/CDH		Pharmacy	
Age	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
40	$ 353	$ 517	$ 355	$ 521	$ 289	$ 293
45	482	584	486	589	408	404
50	624	693	628	698	518	506
55	756	820	762	826	582	562
60	869	908	876	916	581	555
64	945	882	953	890	534	504
65	207	189	207	189	355	346
70	249	215	249	215	399	362
75	304	256	304	256	389	356
80	361	301	361	301	353	336
85	412	341	412	341	311	310

2. ***Medicare Part D Subsidy*****:** Effective January 1, 2013, the subsidy is no longer applicable as the State is enrolled in an EGWP.

3. ***Medicare Part B Premiums*****:** Assumed that Medicare-eligible retirees pay the Medicare Part B premiums.

4. ***Medicare Eligibility*****:**
   Future retirees: Age 65+ = 100.00%.
   Current retires: Under 65 = those known to be eligible for Medicare will remain eligible, Age 65+ = 100.00%.

5. ***Annual Limits*****:** Assumed to increase at the same rate as trend.

6. ***Lifetime Maximums*****:** Are assumed to have no financial impact.

7. ***Geography*****:** Implicitly assumed to remain the same as current retirees.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Methodology

The Entry Age Actuarial Cost Method was used to value the Plan's actuarial liabilities and to set the normal cost. Under this method, the normal cost rate is the percentage of pay contribution which would be sufficient to fund the Plan benefits if it were paid from each member's entry into the System until termination or retirement. A rolling 30-year amortization period was used under the pay-as-you-go funding scenario. This amortization method will never pay off the unfunded liability.

A normal cost rate is determined for a typical new entrant. This rate is determined by taking the value, as of age at entry into a plan in the Program, of the member's projected future benefits, reducing it by the value of future member contributions, and dividing it by the value, also as of the member's entry age, of the member's expected future salary.

The claims costs were developed using projected claims for FY 2020-2021 and FY 2021-2022 retiree experience paid through March 31, 2022. Claims were trended from FYE 2021 to FYE 2022 at 5.75% for non-Medicare medical, 4.0% for Medicare medical, and 9.0% for pharmacy and from FYE 2022 to FYE 2023 at 5.0%, 5.0%, and 8.0%, respectively. From this data, we developed per person per month (PPPM) costs and then adjusted those using age curves. Claims costs include a 4.5% load for expenses, based on the State health care actuary's projected expenses. These final claim curves were then further trended by 5.5% for non-Medicare medical, 4.0% for Medicare medical and 7.0% pharmacy to bring them to July 1, 2022.

Changes Since Last Valuation

The discount rate was increased from 2.16% to 3.54% based on the 20-yr GO Bond rates.

Disclosure of Models Used

<u>ProVal</u>

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate the liabilities, normal costs, and projected benefit payments. We have relied on WinTech as the developer of ProVal. We have reviewed ProVal and have a basic understanding of it and have used ProVal in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of ProVal that would affect this actuarial valuation.

APPENDIX A – PARTICIPANT DATA, ASSUMPTIONS AND METHODS

Health Care Trends

Medical trends were developed using the 2022 v4 Society of Actuaries Long-Run Medical Cost Trend Model with the following parameters:

Initial trend rate:	
Non-Medicare Eligible:	8.00%
Medicare Eligible:	6.00%
Pharmacy:	8.00%
Inflation:	2.50%
Real GDP per Capita:	1.40%
Excess Medical Cost Growth:	1.00%
Expected GDP Share in 2031:	19.0%
Resistance Point:	20.0%
Year limited to GDP growth:	2041

The SOA Long-Run Medical Cost Trend Model and its baseline projection are based on an econometric analysis of historical U.S. medical expenditures and the judgments of experts in the field. The long-run baseline projection and input variables have been developed under the guidance of the SOA Project Oversight Group.

The trends selected from 2022 to 2025 were based on recent updated general industry information and our view of the marketplace. For the remaining assumptions, we have reviewed the baseline assumptions for the model and found them to be reasonable and consistent with the other economic assumptions used in the valuation.

We have relied on the Society of Actuaries as the developer of the Model. We have reviewed the Model and have a basic understanding of the Model and have used the Model in accordance with its original intended purpose. We have not identified any material inconsistencies in assumptions or output of the Model that would affect this valuation.

Projections

This report includes projections of future contributions, assets, and funded status for the purpose of assisting the Board of Trustees with the management of the Fund. We have used Cheiron's *H-Scan* model to develop these projections. The model is also used to stress test the impact of volatile asset returns over the projection period.

APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

Eligibility:

State Employees:

Normal Retirement:

Eligibility: Non-GA Pre - 2012 hires: (i) age 62 with five years of credited service, or (ii) age 60 with 15 years of credited service, or (iii) any age with 30 years of credited service.

Non-GA Post - 2011 hires: (i) age 65 with 10 years of credited service, or (ii) age 60 with 20 years of credited service, or (iii) any age with 30 years of credited service.

GA Pre - 2012 hires: (i) age 60 with five years of credited service or (ii) age 55 with 10 years of credited service.

GA Post - 2011 hires: (i) age 65 with 10 years of credited service, or (ii) age 60 with 20 years of credited service, or (iii) any age with 30 years of credited service.

Early Retirement:

Eligibility: (i) age 55 with 15 years of credited service; or (ii) any age with 25 years of credited service.

Judges:

Normal Retirement:

Judges appointed before July 1, 1980:

Eligibility: (i) age 65 with 12 years of service as a judge; or (ii) any age with 24 years of service; or (iii) involuntarily retired after 22 years of service as a judge.

Judges appointed after June 30, 1980:

Eligibility: (i) age 62 with 12 years of service as a judge; or (ii) any age with 24 years of service; or (iii) involuntarily retired after 22 years of service as a judge.

Closed State Police:

Normal Retirement:

Age 55 or 20 years of credited service.

APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

Open State Police:

Normal Retirement:

Eligibility: (i) Must be employed at 55 with ten years of credited service; or (ii) any age with 20 years of credited service; or (iii) 10 years of credited service when age plus service equals 75.

All vested participants in the groups above are eligible to pick up coverage at commencement of their vested pension benefit.

Spouse coverage is available under any of the Plan options with the State paying the same percentage as the retiree. Surviving spouses are eligible for coverage after the retiree's death.

APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

Benefits:

	Delaware NME Plans	
Provider Network:	**First State Basic**	**BlueCross BlueShield PPO**
In-Network (INN)Benefits		
Copays (Do not apply to DC[1] or OOP max)		
Office Visit (OV)-Primary Care(PCP)	Deductible + Coinsurance	$20
OV - Specialist Care Provider (SCP)	Deductible + Coinsurance	$30
Urgent Care (UC)	$25	$20
Hospital Emergency Room (ER)	Deductible + Coinsurance	$150
Outpatient Surgery	Deductible + Coinsurance	$100 / visit; $50 / visit at ambulatory surgical centers
Hospital Inpatient	Deductible + Coinsurance	$100 per day; max $200 per visit
Deductible (Individual / Family)	$500 / $1,000	$0
Coinsurance	10%	0%
Coinsurance Limit - Excl. Deductible (Individual / Family)	$2,000 / $4,000	$4,500 / $9,000
Benefits Out-of-Network (OON)		
Deductible (Individual / Family)	$1,000 / $2,000	$300 / $600
Coinsurance	30%	20%
Out-of-Pocket (OOP) Max (Individual / Family)	$4,000 / $8,000	$7,500 / $15,000
Lifetime Max (INN/OON)	None	None
Prescription Drug		
30 Day Supply - Tier 1/Tier II/Tier III Copay	$8 / $28 / $50	$8 / $28 / $50
90 Day Supply - Tier 1/Tier II/Tier III Copay	$16 / $56 / $100	$16 / $56 / $100
Detail Benefits		
Mental Health (MH) / Substance Abuse (SA):		
-Per Visit	Deductible + Coinsurance	$20
-Inpatient	Deductible + Coinsurance	$100 copay / day; max $200
-Per Year Outpatient $ Maximum	None	None
-Per Lifetime Maximum	None	None
Rehabilitation (i.e., speech, occup. physical):	Deductible + Coinsurance; visit limit determined by medical necessity	15% coinsurance; visit limit determined by medical necessity
Chiropractors:	Deductible + Coinsurance; 30 visit max per year	15% coinsurance; 30 visit mac per year
Transplants:	Covered at OON cost share when member does not use Blue Distinction Center	Covered at OON cost share when member does not use Blue Distinction Center
Laboratory:	Deductible + Coinsurance	$10 for labs; $50 / $75 for imaging services
Durable Medical Equipment	Deductible + Coinsurance	0% member cost share
Preventive Care:	Covered at 100%	No Charge

<u>Blue Cross Blue Shield First State Basic</u> – This plan provides the freedom of choice you experience with a Preferred Provider Organization (PPO) that allows you to receive both in- and out-of-network benefits.

In-network services are subject to plan year deductibles of $500 per employee and $1,000 per family. The Plan will then pay at 90% of Highmark Delaware's allowable charge. The in-network plan year total maximum out-of-pocket (TMOOP) is $2,000 per employee and $4,000 per family. Deductibles, coinsurance, and copays accrue toward the TMOOP. Preventive services are covered in-network at 100% of the allowable charge and are not subject to any deductibles, coinsurance, or copays.

APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

Out-of-network services are subject to plan year deductibles of $1,000 per employee and $2,000 per family, and then the Plan will pay at 70% of the allowable charge. The out-of-network plan year total maximum out-of-pocket (TMOOP) is $4,000 per employee and $8,000 per family. Deductibles, coinsurance, and copays accrue toward the TMOOP.

The First State Basic PPO Plan includes coverage for services such as inpatient care, prenatal and postnatal care, emergency services, mental health, and substance abuse treatment, and many outpatient services, including, but not limited to: labs, x-rays and other imaging services, vision care, chiropractic, and other therapeutic benefits.

Highmark Blue Cross Blue Shield Blue Delaware – Highmark Delaware's managed care IPA/HMO Plan requires each member to select a primary care physician (PCP) to coordinate his/her health care needs. Members can also seek care, and some services without a referral from a PCP, from any specialist in the Highmark Delaware Participating Provider Network.

In addition to all inpatient care, certain outpatient services require Highmark Delaware's prior authorization. A list of these services is available to all providers (primary and specialist) in the Highmark Delaware network.

The IPA/HMO Plan includes Highmark Delaware network coverage for services such as inpatient care, prenatal and postnatal care, emergency services, mental health and substance abuse treatment, and many outpatient services, including, but not limited to labs, x-rays and other imaging services, vision care, chiropractic, and other therapeutic benefits. You will also have access to the Blue Cross Blue Shield nationwide network for urgent and emergency care while away from home.

The plan year total maximum out-of-pocket (TMOOP) is $4,500 per employee and $9,000 per family. TMOOP includes coinsurance and copays. Once met, the Plan pays 100% of covered services for the rest of the benefit period. Preventive services are covered at 100% of the allowable charge and are not subject to copays or coinsurance.

APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

Delaware NME Plans Cont.		
Provider Network:	**Aetna HMO**	**Aetna CDH**
In-Network (INN)Benefits		
Copays (Do not apply to DC[1] or OOP max)		
Office Visit (OV)-Primary Care(PCP)	$15	Deductible + Coinsurance
OV - Specialist Care Provider (SCP)	$25	Deductible + Coinsurance
Urgent Care (UC)	$15	Deductible + Coinsurance
Hospital Emergency Room (ER)	$150	Deductible + Coinsurance
Outpatient Surgery	$100 / visit; $50 / visit at ambulatory surgical centers	Deductible + Coinsurance
Hospital Inpatient	$100 per day; max $200 per visit	Deductible + Coinsurance
Deductible (Individual / Family)	$0	$1,500 / $3,000
Coinsurance	0%	10%
Coinsurance Limit - Excl. Deductible (Individual / Family)	$4,500 / $9,000	$4,500 / $9,000
Benefits Out-of-Network (OON)		
Deductible (Individual / Family)	Emergency Services Only	$1,500 / $3,000
Coinsurance	N/A	30%
Out-of-Pocket (OOP) Max (Individual / Family)	N/A	$7,500 / $15,000
Lifetime Max (INN/OON)	None	None
Prescription Drug		
30 Day Supply - Tier 1/Tier II/Tier III Copay	$8 / $28 / $50	$8 / $28 / $50
90 Day Supply - Tier 1/Tier II/Tier III Copay	$16 / $56 / $100	$16 / $56 / $100
Detail Benefits		
Mental Health (MH) / Substance Abuse (SA):		
-Per Visit	$25	Deductible + Coinsurance
-Inpatient	$100 copay / day; max $200	Deductible + Coinsurance
-Per Year Outpatient $ Maximum	None	None
-Per Lifetime Maximum	None	None
Rehabilitation (i.e., speech, occup. physical):	20% coinsurance; PT & OT limit of 45 visits per condition; ST 45 days per incidence	Deductible + Coinsurance; visit limit determined by medical necessity
Chiropractors:	$15 / visit (benefit limited to 80% of allowable charge)	Deductible + Coinsurance; 30 visit max per year
Transplants:	Higher member cost share when member does not use Blue Distinction Center	Covered at OON cost share when member does not use Blue Distinction Center
Laboratory:	$10 for labs; $50 / $75 for imaging services: $50 / diagnostic services	Deductible + Coinsurance
Durable Medical Equipment	20% coinsurance	Deductible + Coinsurance
Preventive Care:	No Charge	Covered at 100%

<u>Aetna</u> – Access and Choice. Aetna's HMO offers all the advantages of a national health plan and local customer service. Members choose any primary care physician (PCP) from a broad network. Aetna's HMO plan offers direct access to emergency and urgent care, routine OB/GYN care, and a host of health, wellness, and educational programs. This plan covers only emergency services out-of-network.

<u>Aetna</u> – Aetna's CDH Gold Plan offers many of the features of a Preferred Provider Organization (PPO) plan with the added advantage of a State-funded Health Reimbursement Account (HRA).

The Plan includes a $1,500 deductible for employee only (Individual) coverage and $3,000 for Family coverage. The HRA pays the first $1,250 in deductible expenses for Individuals and $2,500 for Families. The member is financially responsible for the remaining in-network deductible ($250 for Individuals and $500 for Families). When the deductible is satisfied, in-network healthcare services are paid at 90%, with an in-network coinsurance maximum of $3,000 for Individuals and $6,000 for Families. There is a separate out-of-network deductible of $1,500 for Employee only (Individual) coverage and $3,000 for Family coverage. When the deductible is satisfied, out-of-network healthcare services are paid at 70%, with an out-of-network coinsurance maximum of $6,000 for Individuals and $12,000 for Families.

In addition, preventive care services are covered at 100% and are not subject to a deductible or coinsurance. Prescriptions are provided through the prescription benefits manager, Express Scripts, and prescription copays are not applicable to the medical deductible or out-of-pocket maximum.

Special Medicfill Medicare Supplement (Administered by Blue Cross Blue Shield of Delaware) - This plan supplements Medicare. Unless otherwise indicated on the Benefits Highlights pages in the Open Enrollment booklet, benefits will be paid as noted only after Medicare pays its full amount. **Note:** Delaware Law mandates that the member, spouse, and eligible dependents, elect Medicare Parts A & B when eligible.

Express Scripts Prescription Coverage – When you enroll in a healthcare plan you will automatically be enrolled in the prescription drug plan managed by Express Scripts. The only exception is the Special Medicfill plan without prescription coverage for those pensioners who have chosen to enroll in Medicare Part D for their prescription coverage. The Coordination of Benefits (COB) policy also applies to prescription coverage. If your spouse or dependents have other primary health coverage (pays first), the prescription coverage provided through the State's plan for the spouse or dependents will become secondary.

2022 Prescription Copay Rates			
State of Delaware Prescription Coverage	Tier 1 Generic	Tier 2 Preferred*	Tier 3 Non-Preferred
30-DAY Supply	$ 8.00	$ 28.00	$ 50.00
90-DAY Supply	16.00	56.00	100.00

*"Preferred" = Formulary

State Share of Premium:

House Bill number 81 established a fixed cost share effective July 1, 2012 for the different health insurance plans offered by the State for regular officers or employees of the State and their dependents and a fixed cost-share for pensioners and their dependents who are not eligible for federal Medicare. The State share is listed below.

Medical Plan Type	State Share Percent of Premium Paid by State	Medical Plan Type	State Share Percent of Premium Paid by State
Basic	96.00%	HMO	93.50%
Consumer-Directed	95.00%	Comprehensive PPO	86.75%

APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

Current Retiree Contributions:

If hired prior to 07/01/1991 or are on disability retirement, no contributions are required. If hired on or after 07/01/1991 (and not retired on disability), contributions depend on years of service, as shown in the table below.

Years of Service	Percent of State Share Paid by State
Less than 10	0%
10-14	50%
15-19	75%
20 or more	100%

Future Retiree Contributions:

If hired prior to 07/01/1991 or are on disability retirement, no contributions are required. If hired on or after 07/01/1991 (and not retired on disability) and before January 1, 2007, contributions depend on years of service, as shown in the table below.

Years of Service	Percent of State Share Paid by State
Less than 10	0%
10-14	50%
15-19	75%
20 or more	100%

If hired on or after January 1, 2007 (and not retired on disability), contributions depend on years of service, as shown in the table below.

Years of Service	Percent of State Share Paid by State
Less than 15	0%
15-17.5	50%
17.5-19	75%
20 or more	100%

Pensioners who retire after July 1, 2012, and who become eligible for Medicare, will pay, in addition to their percentage above, an additional 5% of the Medicare supplement offered by the State.

APPENDIX B – SUBSTANTIVE PLAN PROVISIONS

State Monthly Premiums:

State of Delaware Group Health Insurance Program Rates Effective July 1, 2022			
	Total Monthly Rate	**State Pays**	**Pensioner Contributions**
Highmark Delaware First State Basic PPO Plan			
Employee	$755.64	$725.42	$30.22
Employee & Spouse	$1,563.42	$1,500.88	$62.54
Employee & Child(ren)	$1,148.66	$1,102.72	$45.94
Family	$1,954.34	$1,876.16	$78.18
Aetna CDH Gold Plan			
Employee	$782.08	$742.98	$39.10
Employee & Spouse	$1,621.60	$1,540.52	$81.08
Employee & Child(ren)	$1,194.90	$1,135.16	$59.74
Family	$2,060.10	$1,957.10	$103.00
Aetna HMO Plan			
Employee	$788.88	$737.60	$51.28
Employee & Spouse	$1,663.28	$1,555.16	$108.12
Employee & Child(ren)	$1,206.80	$1,128.36	$78.44
Family	$2,075.40	$1,940.50	$134.90
Highmark Delaware Comprehensive PPO Plan			
Employee	$862.68	$748.38	$114.30
Employee & Spouse	$1,790.16	$1,552.96	$237.20
Employee & Child(ren)	$1,329.54	$1,153.38	$176.16
Family	$2,237.94	$1,941.42	$296.52
Highmark Delaware Medicare Supplement for Pensioners Retired On or Prior to July 1, 2012			
Special Medicfill with Prescription	$459.38	$459.38	$0
Special Medicfill **without** Prescription*	$260.44	$260.44	$0
Highmark Delaware Medicare Supplement for Pensioners Retired After July 1, 2012			
Special Medicfill with Prescription	$459.38	$436.42	$22.96
Special Medicfill **without** Prescription*	$260.44	$247.44	$13.00

APPENDIX C – GLOSSARY OF TERMS

1. **Actuarial Assumptions**
   Assumptions as to the occurrence of future events affecting pension costs, such as mortality, withdrawal, and retirement; changes in compensation; rates of investment earnings and asset appreciation or depreciation; procedures used to determine the actuarial value of assets; and other relevant items.

2. **Actuarial Cost Method**
   A procedure for determining the actuarial present value of pension plan benefits and expenses and for developing an allocation of such value to each year of service, usually in the form of a normal cost and an actuarial liability.

3. **Actuarial Gain (Loss)**
   A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

4. **Actuarial Liability**
   The portion of the actuarial present value of projected benefits which will not be paid by future normal costs, it represents the value of the past normal costs with interest to the valuation date.

5. **Actuarial Present Value (Present Value)**
   The value as of a given date of a future amount or series of payments, the actuarial present value discounts the payments to the given date at the assumed investment return and includes the probability of the payment being made. As a simple example: assume you owe $100 to a friend one year from now. Also, assume there is a 1% probability of your friend dying over the next year, in which case you will not be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is:

Amount		Probability of Payment		1/ (1+Discount Rate)		Present Value
$100	x	(1 - .01)	x	1/(1+.1)	=	$90

6. **Actuarial Valuation**
   The determination, as of a specified date, of the normal cost, actuarial liability, the actuarial value of assets, and related actuarial present values for a pension plan.

7. **Actuarial Value of Assets**
   The value of cash, investments, and other property belonging to a pension plan as used by the actuary for the purpose of an actuarial valuation. The purpose of an actuarial value of assets is to smooth out fluctuations in market values. This way long-term costs are not distorted by short-term fluctuations in the market.

APPENDIX C – GLOSSARY OF TERMS

8. **Amortization Payment**
   The portion of the pension plan contribution which is designed to pay interest and principal on the unfunded actuarial liability in order to pay for that liability in a given number of years.

9. **Entry Age Normal Actuarial Cost Method**
   A method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings of the individual between entry age and assumed exit ages.

10. **Normal Cost**
    That portion of the actuarial present value of pension plan benefits and expenses which is allocated to a valuation year by the actuarial cost method.

11. **Unfunded Actuarial Liability**
    The excess of the actuarial liability over the actuarial value of assets.

12. **Funded Percentage**
    The ratio of the actuarial value of assets to the actuarial liabilities.

13. **Mortality Table**
    A set of percentages which estimate the probability of death at a particular point in time. Typically, the rates are annual and based on age and sex.

14. **Discount Rate**
    The assumed interest rate used for converting projecting dollar related values to a present value as of the valuation date.

15. **Medical Trend**
    The assumed increase in dollar related values in the future due to the increase in the cost of health care.

APPENDIX D – ABBREVIATION LIST

Actuarial Liability (AL)
Actuarial Valuation Report (AVR)
Annual Required Contribution (ARC)
Coordination of Benefits (COB)
Deductible and Coinsurance (DC)
Durable Medical Equipment (DME)
Employee Assistance Program (EAP)
Employee Benefits Division (EBD)
Fiscal Year Ending (FYE)
Governmental Accounting Standards Board (GASB)
Hospital Emergency Room (ER)
In-Network (INN)
Inpatient (IP)
Medicare Eligible (ME)
Net Other Postemployment Benefit (NOO)
Non-Medicare Eligible (NME)
Not Applicable (NA)
Office Visit (OV)
Other Postemployment Benefit (OPEB)
Out-of-Network (OON)
Out-of-Pocket (OOP)
Outpatient (OP)
Pay-as-you-go (PAYGo)
Per Person Per Month (PPPM)
Pharmacy (Rx)
Preferred Provider Organization (PPO)
Primary Care Physician (PCP)
Specialist Care Provider (SCP)
Summary Plan Description (SPD)
Unfunded Actuarial Accrued Liability (UAAL)
Unfunded Actuarial Liability (UAL)
Urgent Care (UC)