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Prison Officers' Pension Fund of New Jersey

Actuarial Valuation Report as of July 1, 2022

Produced by Cheiron

February 2023

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LETTER OF TRANSMITTAL

February 3, 2023

Board of Trustees
Prison Officers' Pension Fund of New Jersey
State of New Jersey
Department of the Treasury
Division of Pension and Benefits, CN 295
Trenton, NJ 08625-0295

Dear Board Members:

At your request, we have performed the July 1, 2022 Actuarial Valuation of the Prison Officers' Pension Fund of New Jersey (POPF or Fund).

In preparing our report, we relied on information (some oral and some written) supplied by the Division of Pensions and Benefits. This information includes, but is not limited to, 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, Data Quality.

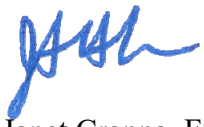
The results of this report are only applicable to the Fund's contribution for Fiscal Year Ending 2024. Future results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the assumptions; changes in assumptions; and changes in plan provisions or applicable law.

The actuarial assumptions are based on the 2022 Experience Study dated November 9, 2022 and approved by the Division of Pensions and Benefits (DPB). The assumptions reflect our understanding of the likely future experience of the Fund and each of the assumptions represents a best estimate of future experience.

This report has 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, as defined by 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 valuation report was prepared exclusively for the Prison Officers' Pension Fund of New Jersey for the purposes described herein and for 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.

Sincerely,
Cheiron



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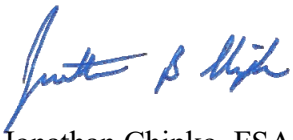


Jonathan Chipko, FSA, MAAA, EA
Consulting Actuary

SECTION I – BOARD SUMMARY

The primary purpose of the actuarial valuation and this report is to disclose the following as of the valuation date:

- The financial condition of the Prison Officers' Pension Fund of New Jersey,
- Past trends and risks to the Fund's financial condition,
- The State's Pension Contribution for Fiscal Year Ending (FYE) 2024.

In this Section we present a summary of the principal valuation results. This includes the basis upon which the July 1, 2022 valuation was completed and an examination of the current financial condition of the Fund. In addition, we present a review of the key historical trends.

This report does not include information required under GASB Statement No. 67 which was provided in a separate report.

Results shown in this report for years prior to July 1, 2018 are based on the prior actuary's valuation reports.

Valuation Basis

The July 1, 2022 valuation results are based on the same actuarial methods as used in the July 1, 2021 valuation. The July 1, 2022 valuation results are also based on the recommended assumptions shown in the 2022 Experience Study dated November 9, 2022 and approved by the Division of Pensions and Benefits. The assumptions reflect our understanding of the likely future experience of the Fund and each of the assumptions represents a best estimate of future experience.

Beginning with the July 1, 2021 valuation, the results include assets and liabilities associated with cost-of-living adjustments. The cost-of-living adjustments were previously separately funded on a pay-as-you-go basis through the Pension Adjustment Fund, which was established pursuant to Chapter 143, P.L. 1958. In FYE 2021, a portion of the Pension Adjustment Fund assets related to POPF was transferred into the POPF and cost-of-living adjustments were paid directly from the POPF, instead of through annual contributions from the Pension Adjustment Fund. Effective with FYE 2023, any ongoing contributions required to fund the cost-of-living adjustments are included with the Statutory Contribution.

This report was prepared using census data and financial information as of the valuation date, July 1, 2022. Events following that date are not, and should not be, reflected in this report.

The valuation reflects a plan closed to new entrants since 1960 and at this time only covers retirees. All risks and assumptions are a reflection of the nature of a wasting trust to meet the obligation to these remaining retired participants.

SECTION I – BOARD SUMMARY

Key Results

Table I-1 below summarizes the key results of the valuation with respect to the Fund's membership, assets and liabilities, and contributions. The results are presented and compared for both the current and prior year.

Table I-1
Prison Officers' Pension Fund
Summary of Key Valuation Results

Valuation Date Fiscal Year Ending (FYE)	July 1, 2022 2024	July 1, 2021 2023	% Change
Member Data			
Actives	0	0	N/A
Deferred Vesteds	0	0	N/A
Retirees and Beneficiaries	42	47	-10.6%
Total Members	42	47	-10.6%
Annual Retirement Allowances in Pay	$ 533,857	$ 586,963	-9.0%
Assets and Liabilities			
Actuarial Liability[1]	$ 3,024,998	$ 3,540,725	-14.6%
Actuarial Value of Assets (AVA)[1]	4,950,414	5,136,044	-3.6%
Unfunded Actuarial Liability/(Surplus)	$ (1,925,416)	$ (1,595,319)	20.7%
Funded Ratio	163.7%	145.1%	18.6%
Contribution Amounts			
Total Statutory Contribution for FYE	$ 0	$ 0	N/A

[1] Actuarial Value of Assets is equal to Market Value of Assets

The key results of the July 1, 2022 actuarial valuation are as follows:

- There is no contribution due for the Fiscal Year Ending 2024.
- The Plan's funded ratio, the ratio of the actuarial value of assets over liabilities, increased from 145.1% as of July 1, 2021 to 163.7% as of July 1, 2022.
- The surplus increased from $1.6 million as of July 1, 2021 to $1.9 million as of July 1, 2022.
- There was a total actuarial experience loss during the year of $80 thousand, consisting of a liability gain of $9 thousand and an asset loss of $89 thousand.
- The updated mortality assumption decreased the actuarial liability by $62 thousand.

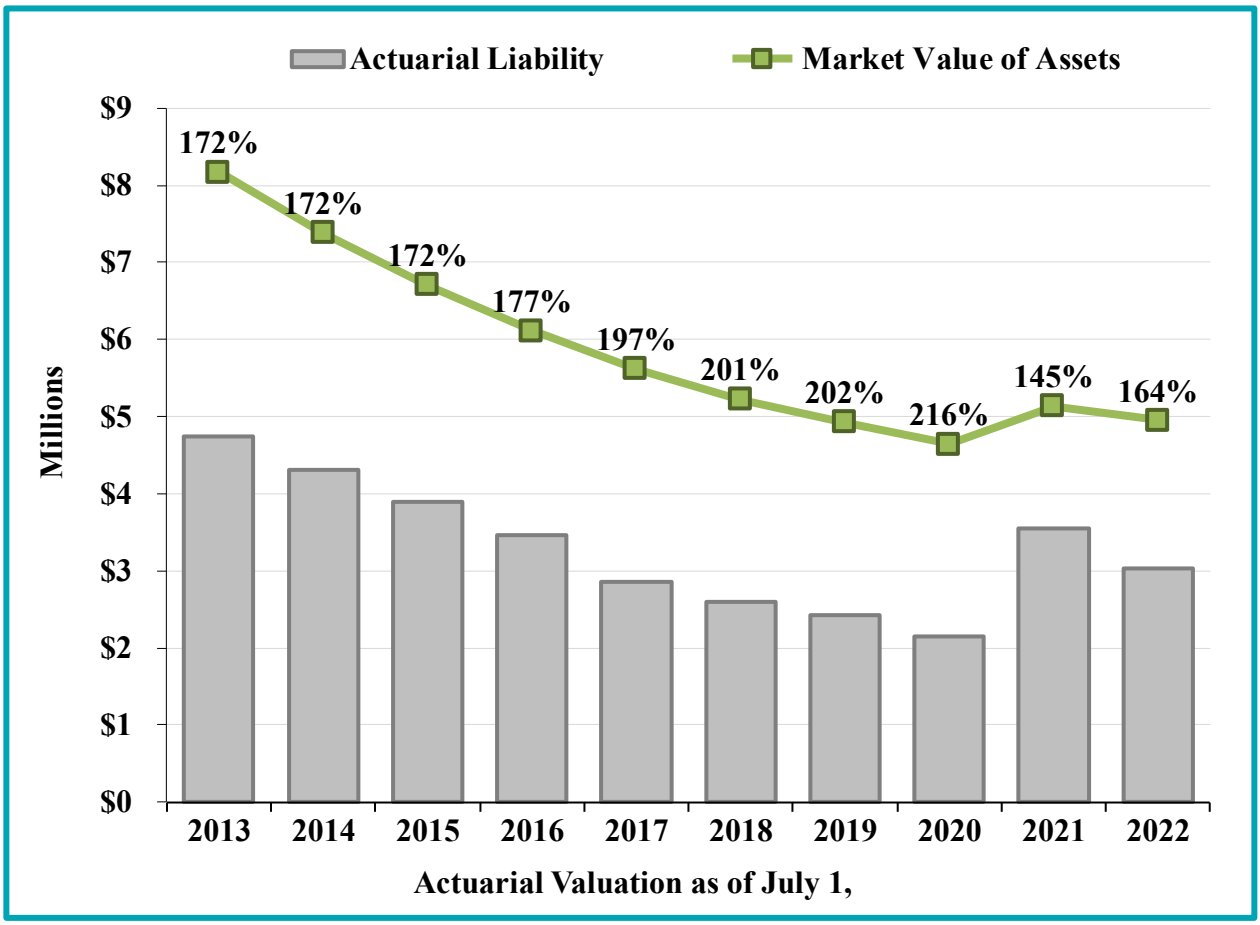
SECTION I – BOARD SUMMARY

Recent Trends

It is important to take a step back from these latest results and view them in the context of the Fund's recent history. Below, we present a series of graphs which display key factors in the valuations of the last 10 years. Additionally, in Appendix D we provide the numerical values of the historical unfunded actuarial liability, funded ratio, and contribution amounts.

Assets and Liabilities

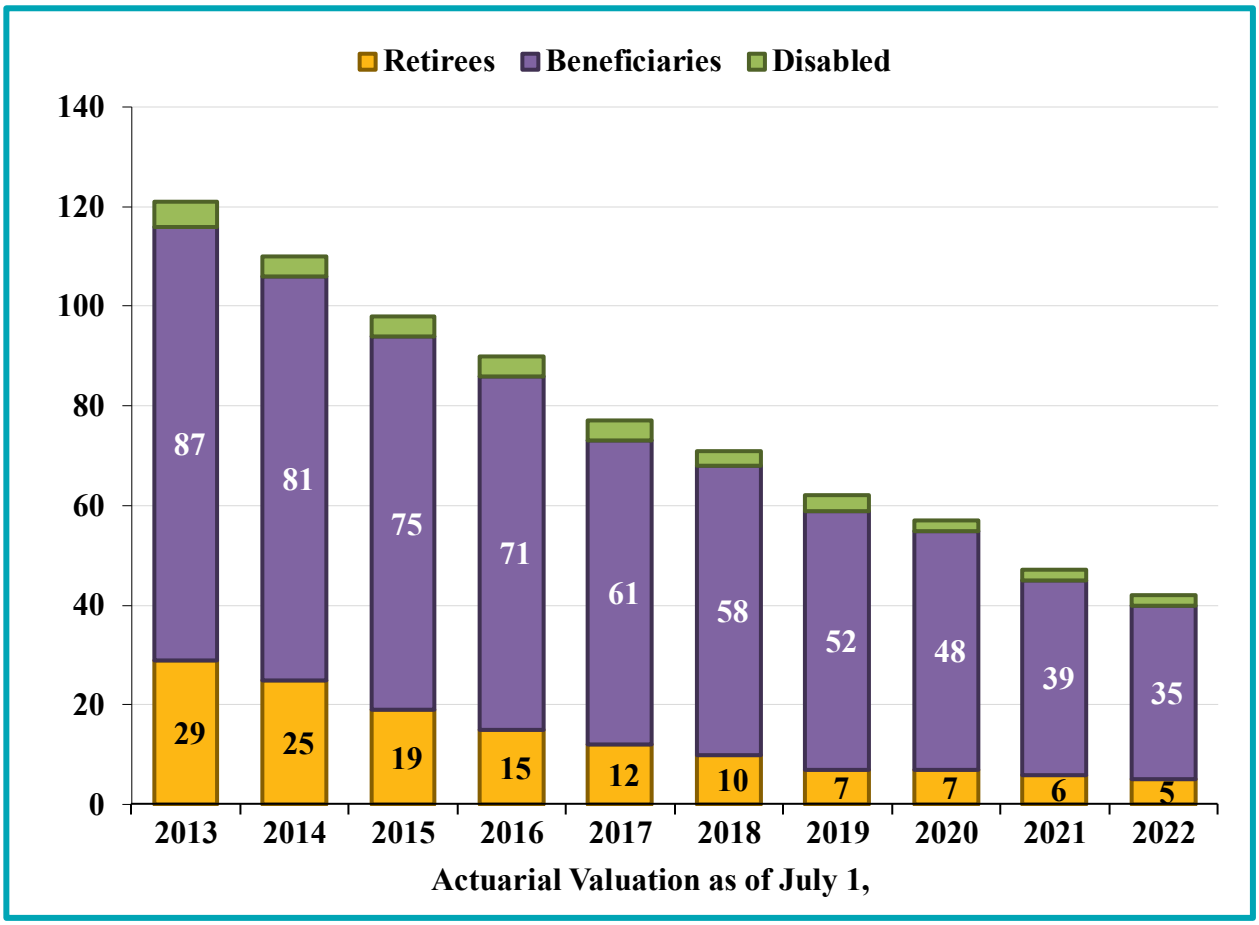
The gray bars represent the Actuarial Liability (AL). The green line is the Market Value of Assets (MVA). The Fund's funded ratio (ratio of MVA to AL) is shown above the green line. In 2019, there was a change in both the mortality table and discount rate. Assets and liabilities have decreased every year except for 2021. This is to be expected because the Fund only has retirees and beneficiaries. The increase in both assets and liabilities in 2021 is due to the method change of reflecting the assets and liabilities associated with the cost-of-living adjustments in the valuation.



SECTION I – BOARD SUMMARY

Membership Trends

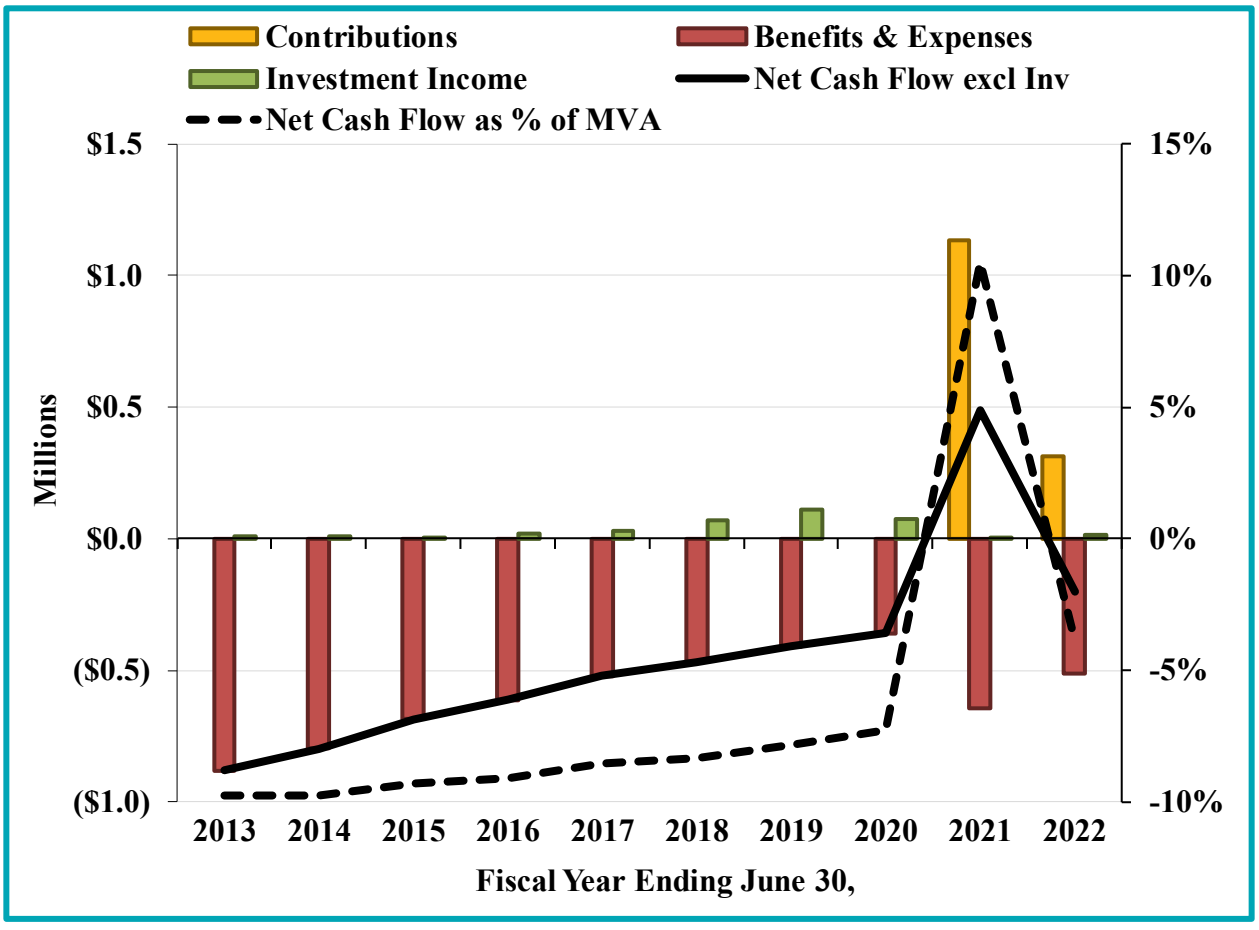
The graph below shows the membership counts of the Fund for the last ten valuations. The numbers that are shown in the middle of the bars represent the number of members.



SECTION I – BOARD SUMMARY

Cash Flows

The following graph shows the Fund net cash flow (contributions less benefit payments and expenses) at the end of each valuation year. The net cash flow excluding investments has been negative every year except for 2021. This is an expected result of a fund in a surplus position that typically does not have any contributions coming in and is dedicated to paying out benefits to the remaining retirees. In FYE 2021, the Pension Adjustment Fund was transferred into POPF and cost-of-living adjustments were paid directly out of the POPF, instead of through annual contributions from the Pension Adjustment Fund. This resulted in a positive net cash flow for that one year. The black dotted line shows the net cash flow as a percent of the market assets and goes with the axis on the right. A major implication of a negative cash flow is that the difference each year must be paid out of the principal assets, meaning there will be less to invest during periods of favorable investment experience. Given the significant surplus of assets over liabilities, this is not the typical risk.



SECTION II – IDENTIFICATION AND ASSESSMENT OF RISK

Actuarial valuations are based on a set of assumptions about future economic and demographic experience. These assumptions represent a reasonable estimate of future experience, but actual future experience will undoubtedly be different and may be significantly different. This section of the report is intended to identify the primary risks (if any) to the plan, provide some background information about those risks, and provide an assessment of those risks.

Identification of Risks

The fundamental risk to a pension fund is that the contributions needed to pay the benefits become unaffordable. Due to the size of the Fund relative to the State and the current surplus position, we do not believe there is a material risk that the benefits may become unaffordable.

SECTION III – ASSETS

The Fund uses the market value of assets for funding. The market value represents the value of the assets if they were liquidated on the valuation date.

On the following pages, we present detailed information on the Fund's assets:

- Disclosure of assets at June 30, 2021 and June 30, 2022,
- Statement of cash flows during the year, and
- Disclosure of investment performance for the year.

Disclosure

The market value of assets represents a "snap-shot" value as of the last day of the fiscal year that provides the principal basis for measuring financial performance from one year to the next. Table III-1 on the following page presents the market value as of June 30, 2021 and June 30, 2022. Table III-2 presents the Fund's net cash flows from June 30, 2021 to June 30, 2022. Table III-3 presents the historical returns for the Fund for the past ten years.

For this Fund, the actuarial value of assets is equal to the market value of assets.

SECTION III – ASSETS

Table III-1
Statement of Assets at Market Value

	June 30, 2022	June 30, 2021
Assets		
Cash and Cash Equivalents	$ 54,630	$ 77,237
Investment Holdings	4,950,491	5,117,493
Accrued Interest on Investments	4	3
Accounts Receivable	2,676	4,331
Total Assets	$ 5,007,801	$ 5,199,064
Liabilities		
Pension Payroll Payable	$ (15,470)	$ (17,937)
Pension Adjustment Payroll Payable	(33,460)	(36,200)
Withholdings Payable	(4,711)	(4,976)
Administrative Expenses Payable	(3,746)	(3,907)
Accounts Payable - Other	0	0
Total Liabilities	$ (57,387)	$ (63,020)
Preliminary Market Value of Assets	**$ 4,950,414**	**$ 5,136,044**
Discounted State Appropriations Receivable	0	0
Market Value of Assets	**$ 4,950,414**	**$ 5,136,044**

SECTION III – ASSETS

Fund Cash Flows from June 30, 2021 to June 30, 2022

Table III-2
Changes in Market Values for FYE June 30, 2022

Additions		
Contributions		
State Appropriations	$	313,575
Pension Adjustment		0
Net Investment Income		13,892
Total Additions	$	327,467
Deductions		
Retirement Allowances	$	257,537
Benefit Expense - Pension Adjustment		252,334
Miscelleanous Expense - State		0
Administrative Expense		3,226
Total Deductions	$	513,097
Net Increase/(Decrease)	**$**	**(185,630)**
Market Value of Assets Beginning of Year	$	5,136,044
Preliminary Market Value of Assets End of Year	**$**	**4,950,414**
Discounted State Appropriations Receivable		0
Market Value of Assets	**$**	**4,950,414**
Approximate Return		**0.28%**

Actuarial Value of Assets

For this Fund, the actuarial value of assets equals the market value of assets.

SECTION III – ASSETS

Investment Performance

The market value of assets rate of return was 0.28% for the year ending June 30, 2022. This is compared to an assumed return of 2.00% for the same period. Table III-3 shows the historical market value rates of return.

Table III-3
Annual Rates of Return

Year Ended June 30	Investment Return Assumption	Market Value
2013	5.00%	0.11%
2014	5.00%	0.09%
2015	5.00%	0.09%
2016	5.00%	0.28%
2017	5.00%	0.53%
2018	5.00%	1.30%
2019	5.00%	2.22%
2020	2.00%	1.58%
2021	2.00%	0.12%
2022	2.00%	0.28%
10-Year Compound Average		**0.66%**
5-Year Compound Average		**1.10%**

SECTION IV – LIABILITIES

In this section, we present detailed information on the liabilities of the Fund including:

- Disclosure of the liabilities at July 1, 2022 and July 1, 2021,
- The development of the actuarial gain and loss.

Disclosure

The actuarial liability is used for determining employer contributions. For POPF, the funding method employed is the Projected Unit Credit (PUC) Actuarial Cost Method. Under this funding method, the actuarial liability is calculated as the actuarial present value of the projected benefits allocated to periods prior to the valuation year.

This liability is determined for funding purposes and is not appropriate for measuring the cost of settling plan liabilities by purchasing annuities or paying lump sums.

Cost-of-living adjustments are granted to retired members and their eligible survivors in accordance with the Pension Adjustment Act. The additional liability due to the pension adjustment was previously paid by the Pension Adjustment Fund, which was established pursuant to Chapter 143, P.L. 1958. Chapter 78, P.L. 2011 suspended further cost-of-living adjustments for current and future retirees and beneficiaries until reactivated as permitted by law. In FYE 2021, the Pension Adjustment Fund was transferred into the POPF and cost-of-living adjustments were paid directly from the POPF, instead of through annual contributions from the Pension Adjustment Fund. As a result, beginning with the July 1, 2021 valuation, the actuarial liability reflects the present value of the cost-of-living adjustments based on the census data provided by the DPB.

SECTION IV – LIABILITIES

Table IV-1 shows the actuarial liability, unfunded actuarial liability, and funded ratio as of July 1, 2022 and July 1, 2021 for the Fund.

Table IV-1
Actuarial Liability

	July 1, 2022	July 1, 2021
Actuarial Liability		
Actives	$ 0	$ 0
Deferred Vested	0	0
Retirees	589,478	741,118
Disabled	292,354	317,416
Beneficiaries	2,143,166	2,482,191
Total	**$ 3,024,998**	**$ 3,540,725**
Actuarial Value of Assets	$ 4,950,414	$ 5,136,044
Unfunded Actuarial Liability/(Surplus)	$ (1,925,416)	$ (1,595,319)
Funded Ratio	163.7%	145.1%

SECTION IV – LIABILITIES

Table IV-2 presents the change in the actuarial liability, actuarial assets, and unfunded actuarial liability during the plan year. In general, the unfunded actuarial liability (UAL) of any retirement system is expected to change at each subsequent valuation for a variety of reasons. In each valuation, we report on those elements of change in the UAL which are of particular significance, potentially affecting the long-term financial outlook of the Fund.

Table IV-2
Development of 2022 Experience (Gain)/Loss

	Actuarial Liability	Actuarial Value of Assets	Unfunded Actuarial Liability
1. Value as of July 1, 2021	$ 3,540,725	$ (5,136,044)	$ (1,595,319)
2. Additions			
a.) Normal Cost	$ 0	$ 0	$ 0
b.) Employer Contributions	0	0	0
c.) Exp. Member Contributions	0	0	0
3. Decreases			
a.) Benefit Payments	$ (509,871)	$ 509,871	$ 0
b.) Exp. Admin. Expenses	0	0	0
4. Expected Interest	$ 65,741	$ (97,647)	$ (31,906)
5. Expected Value as of July 1, 2022: (1+2+3+4)	$ 3,096,595	$ (4,723,820)	$ (1,627,225)
6. Impact of:			
a.) Appropriation Adjustment	$ 0	$ (315,917)	$ (315,917)
b.) Contribution Timing	0	0	0
c.) Actual Member Contributions	0	0	0
d.) Change in Methods/Assumptions	(62,218)	0	(62,218)
e.) Change in Benefits	0	0	0
7. Expected Value after Changes: (5+6)	$ 3,034,377	$ (5,039,737)	$ (2,005,360)
8. Actual Value as of July 1, 2022	$ 3,024,998	$ (4,950,414)	$ (1,925,416)
9. Actuarial (Gain)/Loss: (8-7)	$ (9,379)	$ 89,323	$ 79,944

SECTION IV – LIABILITIES

Table IV-3 shows the components of the actuarial (gain)/loss for the Fund as of July 1, 2022 and July 1, 2021.

Table IV-3
Actuarial (Gain)/Loss Analysis

Components	July 1, 2022	July 1, 2021
Actuarial Value of Assets		
Investment Return	$ 86,065	$ 99,877
Administrative Expenses	3,258	3,463
Total	$ 89,323	$ 103,340
Actuarial Liability		
Inactive Demographic Experience	$ (9,379)	$ (83,063)
Actuarial (Gain)/Loss	**$ 79,944**	**$ 20,277**

SECTION V – CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funded status of the plan. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that is both stable and predictable.

Under the current funding policy, the State funding requirement contains two components: the employer normal cost and an amortization of the unfunded actuarial liability (UAL). Since POPF does not have any active members, there is no normal cost component. Also, because POPF has a significant surplus (assets in excess of actuarial liability) there is no UAL funding component. The funding methodology prescribed by NJ State Statute does not include a cost component for administrative expenses, and therefore administrative expenses are implicitly covered by the investment rate of return assumption.

For POPF, the funding method employed is the Projected Unit Credit (PUC) Actuarial Cost Method. Under this funding method, the actuarial liability is calculated as the actuarial present value of the projected benefits allocated to periods prior to the valuation year.

Table V-1 shows the development of the Statutory Pension Contribution for the current and prior year.

Table V-1
Development of Statutory Pension Contribution

Valuation Date Fiscal Year Ending	July 1, 2022 2024	July 1, 2021 2023
1. Actuarial Liability	$ 3,024,998	$ 3,540,725
2. Actuarial Value of Assets	4,950,414	5,136,044
3. Unfunded Actuarial Liability: (1-2)	$ (1,925,416)	$ (1,595,319)
4. Amortization Period (years)	1	1
5. Total Statutory Pension Contribution as of Beginning of Fiscal Year	$ 0	$ 0

APPENDIX A – MEMBERSHIP INFORMATION

The data for this valuation was provided by the New Jersey Division of Pensions and Benefits as of July 1, 2022. Cheiron did not audit any of the data. However, we did perform an informal examination of the obvious characteristics of the data for reasonableness and consistency in accordance with Actuarial Standard of Practice No. 23, Data Quality. The following is a list of data charts contained in this section:

- A-1 and A-2: Inactive Member Data by Age and Status
- A-3: Reconciliation of Plan Membership

APPENDIX A – MEMBERSHIP INFORMATION

Table A-1
Counts by Age and Status of Inactive Members

Attained Age	Status			
	Retiree	Beneficiary	Ordinary Disability	Total
Under 45	0	0	0	0
45 to 49	0	0	0	0
50 to 54	0	0	0	0
55 to 59	0	0	0	0
60 to 64	0	0	0	0
65 to 69	0	1	0	1
70 to 74	0	1	0	1
75 to 79	0	0	0	0
80 to 84	0	4	0	4
85 & up	5	29	2	36
Total	5	35	2	42

Table A-2
Annual Retirement Allowances by Age and Status of Inactive Members

Attained Age	Status			
	Retiree	Beneficiary	Ordinary Disability	Total
Under 45	$ 0	$ 0	$ 0	$ 0
45 to 49	0	0	0	0
50 to 54	0	0	0	0
55 to 59	0	0	0	0
60 to 64	0	0	0	0
65 to 69	0	8,469	0	8,469
70 to 74	0	22,179	0	22,179
75 to 79	0	0	0	0
80 to 84	0	50,595	0	50,595
85 & up	114,226	293,135	45,253	452,614
Total	$ 114,226	$ 374,378	$ 45,253	$ 533,857

APPENDIX A – MEMBERSHIP INFORMATION

Table A-3
Reconciliation of Plan Membership from July 1, 2021 to July 1, 2022

	Retired	Disabled	Beneficiaries	Total
1. July 1, 2021	**6**	**2**	**39**	**47**
2. Reductions				
a. Died without beneficiary	(1)		(4)	(5)
3. Changes in Status				
a. Died with beneficiary				0
4. July 1, 2022	**5**	**2**	**35**	**42**

APPENDIX B – SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

A. Actuarial Assumptions

1. Investment Rate of Return	2.00% compounded annually.
2. Administrative Expenses	No explicit assumption is made for administrative expenses for funding purposes per the funding methodology prescribed by NJ State Statute.
3. Mortality	*Healthy retirees:* The Pub-2010 Public Safety Healthy Retiree mortality table [*PubS-2010 Healthy Retiree*] as published by the Society of Actuaries (SOA), unadjusted, and with future improvement from the base year of 2010 on a generational basis using the SOA's Scale MP-2021. *Beneficiaries:* The Pub-2010 General Healthy Retiree mortality table [*PubG-2010 Healthy Retiree*] as published by the SOA, unadjusted, and with future improvement from the base year of 2010 on a generational basis using the SOA's Scale MP-2021. *Disabled retirees:* The Pub-2010 Public Safety Disabled Retiree mortality table [*PubS-2010 Disabled Retiree*] as published by the SOA, unadjusted, and with future improvement from the base year of 2010 on a generational basis using the SOA's Scale MP-2021.
4. Family Composition Assumptions	Males are assumed to be 3 years older than females. No assumption was made for children.
5. Rationale for Assumptions	The assumptions are based on the 2022 Experience Study dated November 9, 2022 and approved by the Division of Pensions and Benefits.
6. Changes in Actuarial Assumptions since Last Valuation	The mortality assumptions were updated to use Projection Scale MP-2021 instead of MP-2018. For a detailed description of the assumptions before and after the changes reflected in the valuation, please reference the Experience Study.

APPENDIX B – SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS

B. Actuarial Methods

The actuarial methods used for determining State contributions are described as follows.

1. Actuarial Cost Method

The actuarial cost method for funding calculations is the Projected Unit Credit Cost Method.

The actuarial liability is calculated as the actuarial present value of the projected benefits allocated to periods prior to the valuation year. The unfunded actuarial liability is the actuarial liability on the valuation date less the actuarial value of assets.

The unfunded actuarial liability as of July 1, 1988 was amortized over a closed period of 14 years. Without additional guidance, we assumed that if there is an unfunded actuarial liability in the future it will be amortized over one year.

Beginning with the July 1, 2021 valuation, liabilities associated with cost-of-living adjustments are included in the valuation based on the amounts provided in the census data by the DPB. Previously, cost-of-living adjustments were separately funded on a pay-as-you-go basis through the Pension Adjustment Fund and the associated liabilities were excluded from the valuation.

2. Asset Valuation Method

The actuarial value of assets is equal to the market value of assets.

In FYE 2021, the Pension Adjustment Fund was transferred into the POPF and cost-of-living adjustments are now paid directly from the POPF.

3. Valuation Software

Cheiron utilizes ProVal, an actuarial valuation software leased from Winklevoss Technologies (WinTech) to calculate liabilities and project 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.

4. Changes in Actuarial Methods since Last Valuation

None.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

This summary of Plan provisions provides an overview of the major provisions of the POPF used in the actuarial valuation. It is not intended to replace the more precise language of the NJ State Statutes, Title 43, Chapter 7, and if there is any difference between the description of the plan herein and the actual language in the NJ State Statutes, the NJ State Statutes will govern. This valuation is prepared based on the plan provisions in effect as of July 1, 2022 and does not reflect the impact of any changes in the benefits that may have been approved after the valuation date.

1. Eligibility of Membership

Employees of State penal institutions, employed prior to January 1, 1960 who did not transfer to the Police & Firemen's Retirement System in accordance with Chapter 205 of Public Law 1989. The System no longer accepts new members.

2. Plan Year

The 12-month period beginning on July 1 and ending on June 30.

3. Service Credit

A year is credited for each year an employee is a member of the retirement system.

4. Average Final Compensation (AFC)

Average annual compensation for the three years immediately preceding retirement, (Effective June 30, 1996, Chapter 113, P.L. 1997 provided that the amount of compensation used for employer and member contributions and benefits under the program cannot exceed the compensation limitation of Section 401(a) (17) of the Internal Revenue Code.)

5. Accumulated Deductions

The sum (without interest) of all required amounts deducted from the compensation of a member or contributed by him or on his behalf.

6. Benefits

a) Service Retirements

25 years of service, or age 55 and 20 years of service. The benefit is a life annuity equal to the greater of (1), (2), and (3) below:

(1) 2% of AFC up to 30 years of service plus 1% for each year in excess of 30 and prior to age 65;

(2) 50% of final pay; and

(3) For a member with 25 years of service, 2% of AFC up to 30 years of service plus 1% for each year in excess of 30.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

b) Vested Retirements

Eligible upon termination of employment. Benefits are summarized as follows:

(1) Termination with 10 or more years of service: Benefit is a deferred life annuity payable at age 55 equal to 2% of AFC for service up to 30 years plus 1% for service over 30 years.

(2) Termination with less than 10 years of service: Refund of accumulated deductions.

c) Ordinary Disability Retirement

Permanent and total disability for causes other than as a direct result of a traumatic event occurring during the performance of regular or assigned duties. Benefit is an immediate life annuity equal to ½ of AFC.

d) Accidental Disability Retirement

Permanent and total disability as a direct result of a traumatic events occurring while performing regular or assigned duties. Benefit is an immediate life annuity of ⅔ of AFC.

e) Death Benefits

Spouse must be either married to the member prior to retirement, or at least five years before the member's death. Benefit is an annuity equal to 25% of member's AFC, plus an additional 15% for one surviving dependent child or 25% for at least two surviving dependent children.

If there is no surviving spouse or spouse remarries, an annuity equal to 20% of member's AFC will be given to one surviving dependent child, or 35% of the member's AFC to two surviving dependent children, or 50% of the member's AFC to three or more surviving dependent children.

If there is no surviving spouse or child, an annuity equal to 25% of member's AFC will be given to one dependent parent or 40% to two dependent parents, provided the member has not retired.

Minimum spousal annuity is $1,600 per annum. If no other benefit is payable prior to retirement, the member's beneficiary will receive the accumulated deductions.

f) Cost-of-Living Adjustments

Cost-of-living increases are granted to retired members and their eligible survivors in accordance with the Pension Adjustment Act. The additional liability due to the pension adjustment was previously paid by the Pension Adjustment Fund, which was established pursuant to Chapter 143, P.L. 1958. Chapter 78, P.L. 2011 suspended the cost-of-living adjustments for current and future retirees and beneficiaries until reactivated as permitted by law. In FYE 2021, the Pension Adjustment Fund was transferred into the POPF and cost-of-living adjustments were paid directly from the POPF, instead of through annual contributions from the Pension Adjustment Fund.

APPENDIX C – SUMMARY OF PLAN PROVISIONS

7. Employee Contributions

Each member contributes 6% of compensation.

8. Changes in Plan Provisions Since Last Valuation

None.

APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

Table D-1
Historical Summary of Assets and Liabilities[1]

Valuation Date July 1,	Market Value of Assets	Actuarial Value of Assets	Actuarial Liability	Funded Ratio Market Value	Funded Ratio Actuarial Value
2022	$ 4,950,414	$ 4,950,414	$ 3,024,998	163.7%	163.7%
2021	5,136,044	5,136,044	3,540,725	145.1%	145.1%
2020	4,643,012	4,643,012	2,148,107	216.1%	216.1%
2019	4,925,932	4,925,932	2,433,686	202.4%	202.4%
2018	5,223,456	5,223,456	2,595,221	201.3%	201.3%
2017	5,620,868	5,620,868	2,849,732	197.2%	197.2%
2016	6,111,233	6,111,233	3,461,099	176.6%	176.6%
2015	6,704,568	6,704,568	3,889,524	172.4%	172.4%
2014	7,383,201	7,383,201	4,301,307	171.7%	171.7%
2013	8,171,920	8,171,920	4,748,938	172.1%	172.1%

[1] Values prior to July 1, 2021 valuation do not include assets and liabilities associated with cost-of-living adjustments

APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

In accordance with the Government Finance Officers Association (GFOA) and their recommended checklist for Annual Comprehensive Financial Reports, we prepared the following schedules for the Fund. The GFOA checklist uses the term Actuarial Accrued Liability, which is the same as the Actuarial Liability used elsewhere in this report.

Table D-2
Schedule Retirees and Beneficiaries Added to and Removed from Rolls[1]

Valuation Date July 1,	Added to Rolls		Removed from Rolls		Rolls at End of Year		Average Annual Allowance	% Increase/ (Decrease) in Average Annual Allowance
	Number	Annual Allowance	Number	Annual Allowance	Number	Annual Allowance		
2022	0	$ 0	5	$ 53,106	42	$ 533,857	$ 12,711	1.78%
2021	0	0	10	57,533	47	586,963	12,489	105.28%
2020	1	2,722	6	26,933	57	346,813	6,084	1.67%
2019	1	13,904	10	91,530	62	371,024	5,984	(5.30%)
2018	3	14,633	9	54,505	71	448,650	6,319	(0.39%)
2017	1	5,776	14	96,732	77	488,522	6,344	(1.48%)
2016	1	10,055	9	82,458	90	579,478	6,439	(3.20%)
2015	2	11,794	14	152,980	98	651,881	6,652	(7.74%)
2014	1	7,671	12	71,652	110	793,067	7,210	1.79%
2013	1	2,856	15	82,854	121	857,048	7,083	2.05%

[1]Annual allowances prior to July 1, 2021 valuation do not include cost-of-living adjustments

Table D-3
Schedule of Funding Progress

Valuation Date July 1,	Actuarial Value of Assets[1,2] (a)	Actuarial Accrued Liability[2] (b)	(Surplus)/Unfunded Actuarial Accrued Liability (c) = (b) - (a)	Funded Ratio (a) / (b)	Covered Payroll (d)	(Surplus)/Unfunded Actuarial Accrued Liability as % of Covered Payroll (c) / (d)
2022	$ 4,950,414	$ 3,024,998	$ (1,925,416)	163.65%	$ 0	N/A
2021	5,136,044	3,540,725	(1,595,319)	145.06%	0	N/A
2020	4,643,012	2,148,107	(2,494,905)	216.14%	0	N/A
2019	4,925,932	2,433,686	(2,492,246)	202.41%	0	N/A
2018	5,223,456	2,595,221	(2,628,235)	201.27%	0	N/A
2017	5,620,868	2,849,732	(2,771,136)	197.24%	0	N/A
2016	6,111,233	3,461,099	(2,650,134)	176.57%	0	N/A
2015	6,704,568	3,889,524	(2,815,044)	172.38%	0	N/A
2014	7,383,201	4,301,307	(3,081,894)	171.65%	0	N/A
2013	8,171,920	4,748,938	(3,422,982)	172.08%	0	N/A

[1]Includes receivable amounts
[2]Values prior to July 1, 2021 valuation do not include assets and liabilities associated with cost-of-living adjustments

APPENDIX D – HISTORICAL DATA AND REQUIRED EXHIBITS

Table D-4
Schedule of Funded Liabilities by Type (Solvency Test)

Valuation Date July 1,	Actuarial Accrued Liability for: Contributing & Non-Contributing Active Member Contributions (1)	Retirees, Beneficiaries & Deferred Vesteds[1] (2)	Contributing & Non-Contributing Active Member Benefits Financed by Employer (3)	Actuarial Value of Assets[1,2]	Portion of Actuarial Accrued Liabilities Covered by Actuarial Value of Assets (1)	(2)	(3)
2022	$ 0	$ 3,024,998	$ 0	$ 4,950,414	N/A	100.00%	N/A
2021	0	3,540,725	0	5,136,044	N/A	100.00%	N/A
2020	0	2,148,107	0	4,643,012	N/A	100.00%	N/A
2019	0	2,433,686	0	4,925,932	N/A	100.00%	N/A
2018	0	2,595,221	0	5,223,456	N/A	100.00%	N/A
2017	0	2,849,732	0	5,620,868	N/A	100.00%	N/A
2016	0	3,461,099	0	6,111,233	N/A	100.00%	N/A
2015	0	3,889,524	0	6,704,568	N/A	100.00%	N/A
2014	0	4,301,307	0	7,383,201	N/A	100.00%	N/A
2013	0	4,748,938	0	8,171,920	N/A	100.00%	N/A

[1]Values prior to July 1, 2021 valuation do not include assets and liabilities associated with cost-of-living adjustments
[2]Includes receivable amounts

Table D-5
Analysis of Financial Experience
Change in Unfunded Actuarial Accrued Liability

Valuation Date July 1,	Actuarial Value Of Assets Investment (Gain)/Loss	Actuarial Accrued Liability (Gain)/Loss	Assumption & Method Changes	Plan Changes	Contributions[1]	Change in Unfunded Actuarial Accrued Liability
2022	$ 86,065	$ (9,379)	$ (62,218)	$ 0	$ (344,565)	$ (330,097)
2021	99,877	(83,063)	929,207	0	(46,435)	899,586
2020	20,038	22,474	0	0	(45,171)	(2,659)
2019	139,661	(191,104)	314,525	0	(127,093)	135,989
2018	199,280	78,644	(888)	0	(134,135)	142,901
2017	261,844	(254,575)	0	0	(128,271)	(121,002)
2016	302,063	(1,843)	0	0	(135,310)	164,910
2015	345,889	(281,392)	350,461	0	(148,108)	266,850
2014	381,569	124,670	0	0	(165,151)	341,088
2013	421,375	(20,326)	0	0	(175,300)	225,749

[1]Change due to contributions (greater)/less than normal cost plus interest on the Unfunded Actuarial Accrued Liability.

APPENDIX E – GLOSSARY OF TERMS

1. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disability, and retirement; changes in compensation; inflation; rates of investment earnings, and asset appreciation or depreciation; 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 won't be obligated to pay him. If the assumed investment return is 10%, the actuarial present value is:

Amount		Probability of Payment		1/(1+Investment Return)		
$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, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

APPENDIX E – GLOSSARY OF TERMS

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.

8. Actuarially Equivalent

Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

9. 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.

10. Funded Ratio

The ratio of the Actuarial Value of Assets to the Actuarial Liabilities.

11. Investment Return Assumption

The assumed interest rate used for projecting dollar related values in the future.

12. 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.

13. 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.

14. Projected Benefits

Those pension plan benefit amounts which are expected to be paid in the future under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age and increases in future compensation and service credits.

APPENDIX E – GLOSSARY OF TERMS

15. Projected Unit Credit Cost Method

A method under which the Actuarial Liability is calculated as the Actuarial Present Value of the Projected Benefits allocated to periods prior to the valuation year.

16. Unfunded Actuarial Liability

The excess of the Actuarial Liability over the Actuarial Value of Assets.