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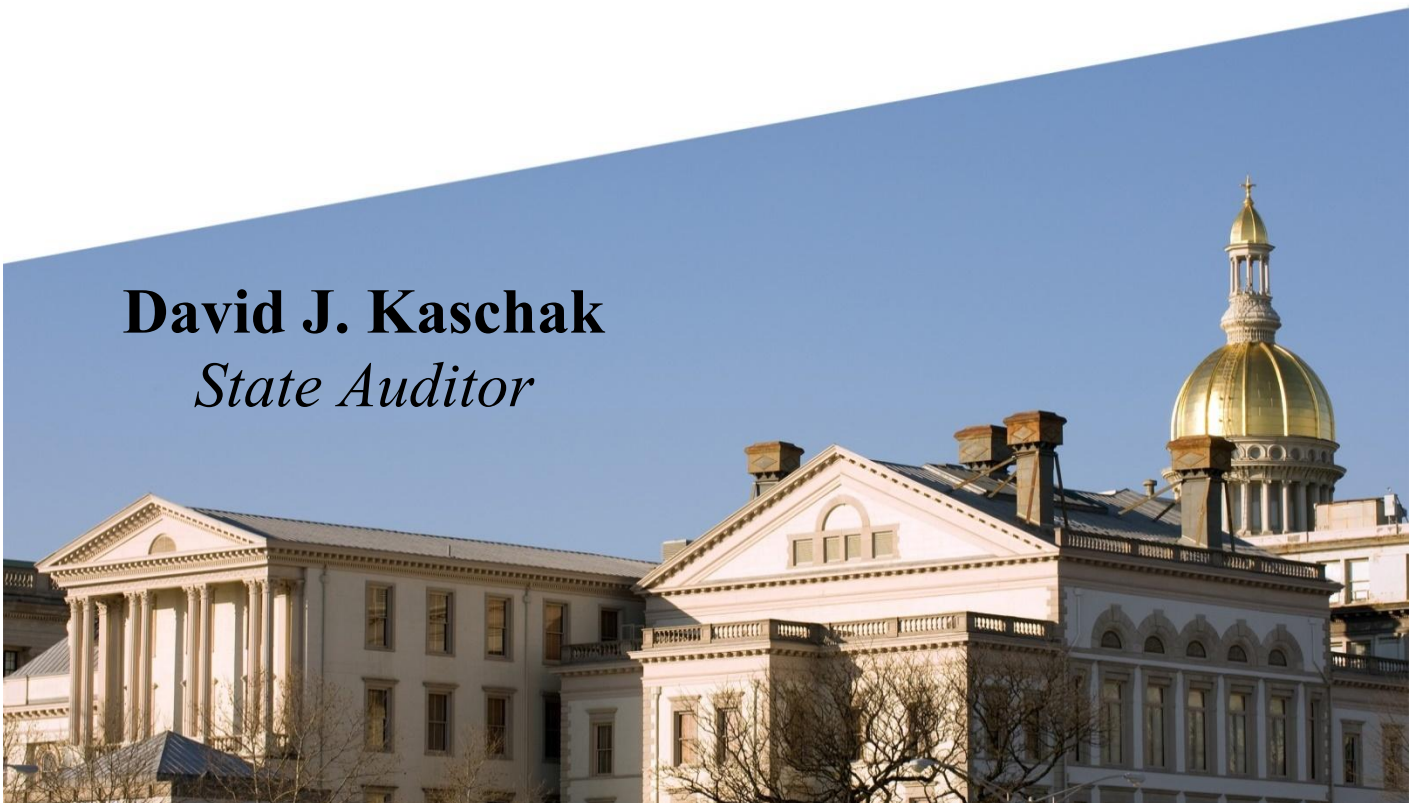
OFFICE OF LEGISLATIVE SERVICES

OFFICE OF THE STATE AUDITOR

Department of the Treasury
Division of Investment

July 1, 2022 to June 30, 2025

David J. Kaschak
State Auditor



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The Honorable Philip D. Murphy
Governor of New Jersey

The Honorable Nicholas P. Scutari
President of the Senate

The Honorable Craig J. Coughlin
Speaker of the General Assembly

Ms. Maureen McMahon
Executive Director
Office of Legislative Services

Enclosed is our report on the audit of the Department of the Treasury, Division of Investment for the period of July 1, 2022 to June 30, 2025. If you would like a personal briefing, please call me at (609) 847-3470.

A handwritten signature in cursive script that reads "David J. Kaschak".

David J. Kaschak
State Auditor
January 8, 2026

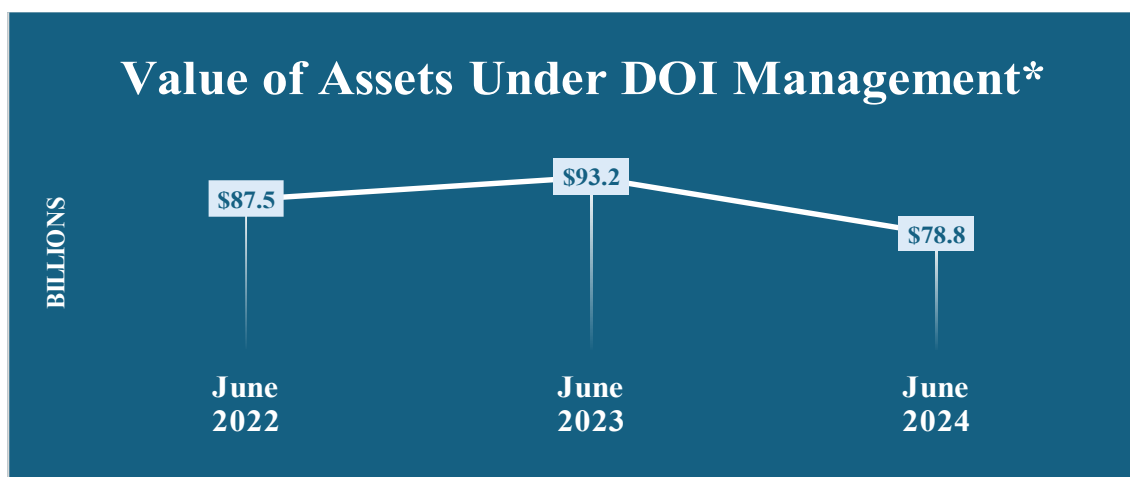
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Scope

We have completed an audit of the Department of the Treasury (department), Division of Investment (division) for the period July 1, 2022 through June 30, 2025. Our audit excluded the activity of the Cash Management Fund.

The division's primary responsibility is to centralize all functions relating to the purchase, sale, or exchange of securities for the state's diverse funds under experienced and professional management. The mission of the division is to achieve the best possible return at an acceptable level of risk using the highest fiduciary standards. The net asset value of the pension fund assets directly managed by the division was as follows:



*In April 2024, the division transferred \$20.8 billion of assets to be managed by the Police and Fireman's Retirement System of New Jersey (PFRSNJ), as part of its implementation of P.L.2018 c.55. However, as of June 30, 2025, the division still manages \$9.2 billion in alternative investment assets that were not able to be transferred.

While the division no longer directly manages the PFRSNJ assets, it still retains fiduciary review and oversight duties.

The pension fund investment return for fiscal year 2024 was 10.74 percent (net of all fees). The Division of Pensions & Benefits' 2024 audited financial statements show an increase in fiduciary net position of \$9.1 billion.

Objectives

The objectives of our audit were to determine if the division is in compliance with established laws and regulations and whether the division is meeting its fiduciary responsibilities.

This audit was conducted pursuant to the State Auditor's responsibilities as set forth in Article VII, Section I, Paragraph 6 of the State Constitution and Title 52 of the New Jersey Statutes.

Methodology

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

In preparation for our testing, we studied legislation, the administrative code, circulars promulgated by the Department of the Treasury, policies of the division, and comparable pension plans in other states. Provisions we considered significant were documented, and compliance with those requirements was verified by interview, observation, and through our testing of financial transactions. We also reviewed financial trends of the division and interviewed division personnel to obtain an understanding of the internal controls. To achieve our objectives, we performed various tests and analyses, as we determined necessary. Additional detail regarding our methodology and work performed can be found in the Appendix, as well as in the finding section when testing resulted in a reportable condition.

A nonstatistical sampling approach was used. Our samples were designed to provide conclusions on our audit objectives, as well as internal controls and compliance. Sample populations were sorted, and transactions were judgmentally and randomly selected for testing. Because we used a nonstatistical sampling approach for our tests, we cannot project the results to the respective populations.

Data Reliability

We assessed the reliability of the division's trade data by performing electronic testing, reviewing existing information about the data and the system that produced them, and interviewing agency officials knowledgeable about the data. We also reconciled the data to the division's custodial records and obtained explanations for any variances observed. We determined that the data were sufficiently reliable for the purposes of this report.

Certain other data in our report were used to provide background information. Data used for this purpose were obtained from the best available sources. *Government Auditing Standards* does not require us to complete a data reliability assessment for data used for this purpose.

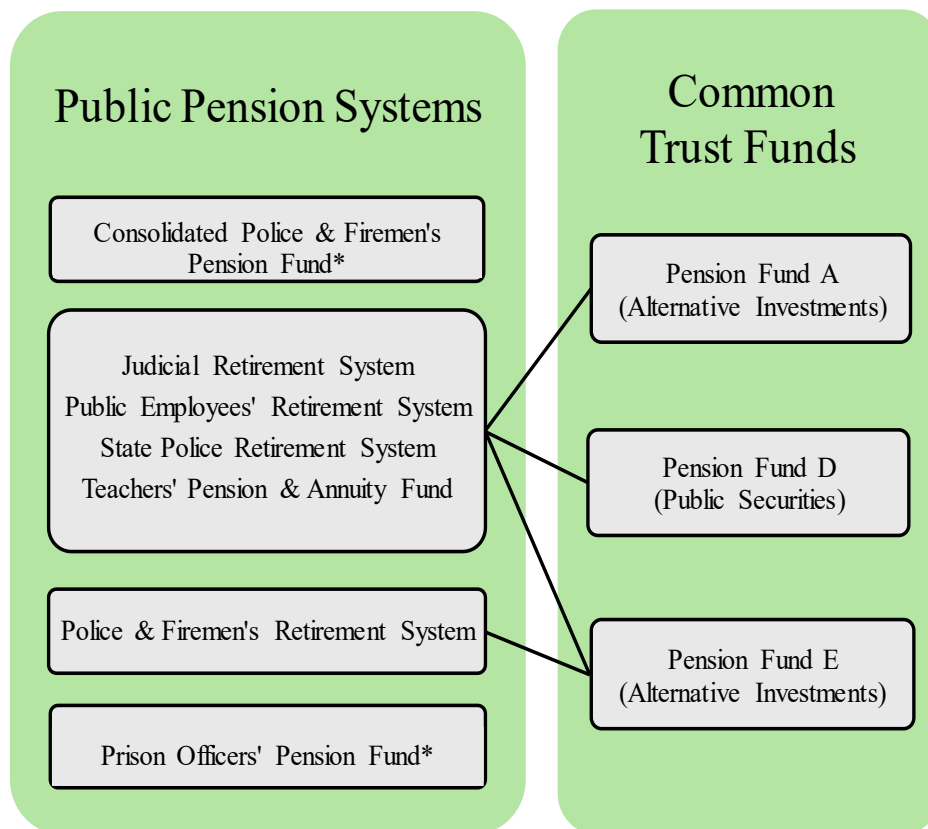
Conclusions

We found that the division is in compliance with established laws and regulations, and it is currently meeting its fiduciary responsibilities. In addition, we observed that the division's organizational structure presents risks that could affect its ability to effectively perform its fiduciary responsibilities. In making these determinations, we noted certain issues meriting management's attention regarding the division's delay in procuring critical systems and account reconciliations.

Background

The Division of Investment (division), which resides within the Department of the Treasury (department), was established in 1950 by P.L.1950, c.270 to centralize all functions relating to the purchase, sale, or exchange of securities for the state's diverse funds under experienced and professional management. The statute also established a State Investment Council (council) to formulate policies that govern the methods, practices, or procedures for investment, reinvestment sale, or exchange transactions to be followed by the division. The council, which consists of 16 members, operates under N.J.S.A 52:18A and N.J.A.C 17:16. The statute vests investment authority in the director of the division, who is appointed by the state treasurer.

The division, under the council's supervision, is one of the largest pension fund managers in the United States. The pension fund supports the retirement plans of approximately 837,110 members in seven public pension systems, and assets are primarily managed through three common trust funds. The relationship between the public pension systems and common trust funds is as follows:



*The Consolidated Police & Firemen's Pension Fund and the Prison Officers' Pension Fund operate within the Cash Management Fund, which was excluded from our audit.

The division's fiscal year 2024 returns vs. benchmarks and 3-year, 5-year, and 10-year annualized returns are as follows:

Investment Asset Type	Fiscal Year 2024		Three Years		Five Years		Ten Years	
	Return	Benchmark	Return	Benchmark	Return	Benchmark	Return	Benchmark
Total Pension Fund	10.74%	10.81%	3.61%	4.67%	7.69%	8.62%	6.94%	7.45%
US Equity	23.29	23.31	8.23	8.23	14.17	14.41	11.58	12.41
International Equity	11.32	11.56	0.57	0.57	6.00	5.74	4.10	4.08
Fixed Income	4.46	4.92	-2.07	-1.92	0.74	0.80	2.08	2.12
Private Equity	2.36	6.89	4.49	8.90	11.23	14.47	12.20	13.34
Private Credit	10.20	12.34	6.74	2.79	7.68	5.23	7.77	5.34
Real Estate (Index)	-0.12	-12.00	2.38	2.47	4.67	2.56	7.96	5.82
Real Assets	2.71	7.17	7.01	14.54	5.12	7.45	2.81	2.86
Risk Mitigation Strategies	10.82	8.59	6.48	6.15	6.81	5.26	4.88	4.60

Alternative Investments

While the pension fund returned +10.74 percent versus a benchmark of +10.81 percent, the fund exceeded the state treasurer's long-term assumed rate of return of 7 percent during fiscal year 2024.

Observation

Division of Investment Environment

Staff vacancies and outdated technologies pose certain risks.

Because the division resides within the Department of the Treasury (department), it is bound by the department's personnel and operational rules and regulations. However, the division is an investment organization that could potentially benefit from being semi-autonomous. Unlike other government agencies, the division needs flexibility and the ability to deploy fast-paced operations in order to keep up with a dynamic finance industry, especially when making personnel and procurement decisions.

The division's organizational structure leads to risks in the following areas that could impact its ability to effectively perform its fiduciary responsibilities.

Personnel

Key person risk refers to the financial and operational vulnerability an organization faces when it relies heavily on a limited number of individuals for success. We obtained the division's

organizational chart as of April 2025 and noted 23 of 85 full-time positions (27 percent) listed were vacant, which included 7 analyst trainee positions. The remaining vacancies represented senior staff as well as mid- and junior-level positions remaining unfilled at that time. This lack of experienced resources prevents the division from having adequate succession plans in place should employee departures or prolonged absences continue in the short term.

The division's organization within the Department of the Treasury hinders its ability to offer competitive salary compensation needed to retain some key personnel. For example, a section director recently left for a similar role with greater compensation within the Police and Fireman's Retirement System. With its current compensation structure, the division's top positions are at risk of leaving for higher paying positions within both public and private sectors. This is further evidenced by the resignations of three asset class heads in the division's alternative investments unit in July 2025.

The loss of these senior team members could hamper the division's ability to conduct appropriate due diligence on new investment opportunities, as well as the monitoring of billions of dollars in current investments. Furthermore, the division's challenges in attracting and retaining senior level staff members have resulted in the alternative investment team now being comprised predominantly of junior- and mid-level analysts and two part-time employees, thereby requiring additional oversight by executive management until the senior level positions are filled.

Information Technology

Technology risk is the chance that technological failures, such as cyberattacks, service outages, or outdated equipment, could disrupt business operations. If not managed properly, these risks can lead to financial losses, reputational damage, regulatory penalties, or strategic setbacks. Some of the division's automated systems are outdated, inefficient, or not able to be used as intended. While the division has tried to address these weaknesses, it has been unable to complete the procurement of systems it has identified as high priority because of a significant backlog of request for proposal (RFP) processing. The division contends that the state procurement policy is a barrier to developing its investment infrastructure capabilities in a timely manner. Department procurement constraints prohibit the division from fast-tracking the process to implement needed replacements. Additionally, the division could have taken a more proactive approach in the procurement of these systems.

In April 2024, the Police and Fireman's Retirement System of New Jersey (PFRSNJ) separated from the division as part of the implementation of P.L.2018, c.55. The PFRSNJ had to develop the infrastructure and procure the systems it needed to operate. With the PFRSNJ and the division having a shared purpose, it would be beneficial if the division could utilize the same contracts procured by the PFRSNJ and update its systems as well.

The division's current reliance on manual processes increases the risk of errors, and its lack of adequate investment systems and support services exacerbates those risks. Additional information regarding the division's RFP backlog and technological deficiencies will be discussed within the findings of this report.



Procurement of Critical Systems

The division has been unable to complete the procurement of critical systems it has identified as high priority.

As of May 2025, the division had 15 requests for proposal (RFP) with estimated costs of more than \$79 million that have been pending internally up to 4 ½ years since originally drafted. The division has been granted statutory authority to independently procure investment-related services without the involvement of the Division of Purchase and Property (DPP). We noted only one of the division's pending RFPs was submitted through DPP for processing. The division, however, opts to follow all Delegated Purchasing Authority (DPA) requirements when procuring independently.

The time to complete proposals adhering to DPA requirements is estimated by DPP to be 12 to 18 months. In addition, we noted that the division's legal team sustained vacancies that may have diverted priority to reviewing time-sensitive alternative investment opportunities instead of moving contract RFPs forward. These factors have caused the large backlog of RFPs, which include the acquisition of critical systems. The lack of sufficient investment systems and support services creates a significant risk for the division, potentially affecting operations and overall performance.

Trade Order Management System

A trade order management system is a key software application for any fund manager of a public pension plan, as it is necessary to facilitate, manage, and execute investment trades. The division cannot effectively operate without one. During fiscal year 2024, the division traded approximately 315 million shares of stock worth \$7.2 billion, \$17.5 billion in fixed income securities, and \$829 million in foreign currency transactions.

The division is aware that the current trade order management system is an approximately 25-year-old "off-the-shelf" system that is no longer efficient for the division's use. The need to replace the system was also acknowledged as part of the division's response to our office's audit of the division released December 22, 2009. Despite multiple shortcomings over a period of years noted by the division, examples of which we provide below, the division had not initiated the process with DPP of developing an RFP for its replacement until April 2024.

- In June 2021, the division discovered its order management system was still running on an operating system version that had reached the end of its support lifecycle in January 2020. Although subsequently updated by the vendor, when an operating system is no longer supported, enhancements and security patches are no longer developed, leaving the system potentially vulnerable to compromise.
- System outages were reported in July and August 2022 resulting in the temporary inability to conduct trades.

- In February 2023, multiple issues occurred within the system: trades were not showing on the daily trade blotters, trades were being duplicated, and trades were initiated by the system without being authorized by the division's traders. Although these system errors were resolved prior to settlement, the system should not be capable of initiating transactions without the division's knowledge.
- The system lacks the ability to reconcile its trading activity to the custodian's records, thereby increasing the risk of errors going undetected.

These errors and outages caused the division's resources to be diverted towards remedying system issues instead of focusing on its mission of achieving the best possible return at an acceptable level of risk.

In addition to the aforementioned issues, the current system does not have the ability to identify and document who is approving any given trade commitment, thereby weakening internal controls over trade approvals and failing to provide a verifiable audit trail.

Multi-Asset Analytical Tool

In 2021, the division entered into a three-year contract with two one-year extensions for a multi-asset analytical tool (MAAT). The purpose of the analytical software tool is to analyze and monitor portfolio risk and exposure, track trade lags, and assist with reporting and graphing portfolio performance accurately across all asset classes. As of June 30, 2025, the division had invested more than \$2.86 million for the software; however, it is currently unusable for its intended purpose:

- Private Assets – data for alternative investments cannot be transferred into the software because of contract language within the asset agreements prohibiting third-party users from obtaining the data.
- Public Assets – the division can enter data into the software; however, its functionality is lacking because it was not designed to analyze public assets.

This has prevented the division from fully implementing the analytical tool as intended for both public and private asset classes.

Additionally, the division's independent procurement authority extends only to investment advisors, investment consultants, and securities lending agents. The division did not utilize the DPP when procuring this contract.

Recommendation

The division should work towards minimizing its RFP backlog and completing the procurement of its critical systems. Additionally, the division should utilize the DPP when applicable.



Account Reconciliations

The division failed to reconcile its trade order management system to its custodial account on a consistent basis.

The reconciliation process is a necessary control to ensure the accuracy of investment holdings. The division should be reconciling investment records reported in its trade order management system to external statements in its custodial account in order to prevent trade errors and potential losses. Without a proper reconciliation process in place, discrepancies and irregularities could go undetected.

The division did not consistently perform daily reconciliations between its trade order management system and its custodial account from January 2018 until April 2024. Although the division now performs some account reconciliations, its procedures can be strengthened to ensure its internal trade order management system accurately reflects the custodial account balances.

During our audit period, the division experienced three erroneous stock sales because of discrepancies between the custodial records and the trade order management system, all resulting in unintended short sales. In all three instances, the system showed the shares as available when they were not.

- In December 2023, the division sold 45,320 shares that had already been tendered.
- In December 2024, the division sold 10,000 shares that had not yet been received into custody.
- In April 2025, the division sold 861,000 shares that were not available in custody.

The division's failure to consistently perform reconciliations is primarily due to the lack of reassignment of the reconciliation responsibility after the resignation of the previously assigned employee.

Although these transactions did not result in a financial loss to the division, the failure to reconcile accounts increases the risk of unintended losses. The implementation of a new trade order

management system with automated reconciliation functionality should help facilitate timely reconciliations and reduce the risk of unintended transactions, such as erroneous short sales.

Recommendation

The division should implement procedures requiring verification of share availability in custody prior to trade execution. In addition, the division should consistently perform reconciliations between its trade order management system and its custodial account.



Appendix

Methodologies to Achieve Audit Objectives

We randomly selected 10 of 42 private investment vehicles initiated during the audit period to determine if a comprehensive analysis occurred prior to capital being committed to alternative investments.

To determine whether alternative investment fees were accurate, we reviewed all management and performance allocation fees incurred by the division from fiscal year 2017 through fiscal year 2024. We also analyzed the investment fee structures negotiated by the division and compared them to industry standards.

To determine proper divestment based on statutory requirements and prohibited lists, we analyzed the division's security holdings to determine whether there was any direct investment in prohibited securities.

To determine if certain application-level general controls were adequate for the trade order management and custodial interface systems, we performed testing of security management, change management, contingency planning, logical access security, and physical security and environmental controls.

To ensure compliance with policies governing employee access to material non-public information, we tested all three instances cited by the division and identified no occurrences where assets were purchased by division personnel during restricted periods.





State of New Jersey

PHILIP D. MURPHY
Governor

TAHESHA L. WAY
Lt. Governor

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ELIZABETH MAHER MUOIO
State Treasurer

SHOAIB KHAN
Director

January 6, 2026

VIA EMAIL

Brian M. Klingele
Assistant State Auditor
125 South Warren Street
Trenton, NJ 08625-0067

Dear Assistant State Auditor Brian M. Klingele:

The Department of the Treasury, Division of Investment (Division) is in receipt of the audit report for the period from July 1, 2022 to June 30, 2025.

The Division would like to take this opportunity to thank the Office of the State Auditor, and each and every member of the audit team, for its diligence, thoroughness and professionalism in its conduct of the audit.

Below, please find the Division's response regarding each of the observations, findings and recommendations contained in the audit report.

Observation

Division of Investment Environment

Staff vacancies and outdated technologies pose certain risks.

Division Response:

A. Personnel:

The Division has been working with the Department of the Treasury and the State Investment Council to improve the Division's staffing and compensation structure based on its unique needs as an investment organization to ensure that the Division has staff that is able to conduct due diligence of new investment opportunities and monitor investments. The Division will continue these efforts going forward.

B. Information Technology:

Over the last few years, the Division has proactively reviewed and identified weaknesses and needed improvements with respect to information technology to reduce organizational risk and create greater efficiency. As part of this effort, the Division is working towards completing and

posting a number of Requests for Quotes (RFQs), including RFQs for Technical Investment Consulting Services and a Documentation Management and Workflow Solution.

The Division is proceeding cautiously with technological upgrades, particularly as Artificial Intelligence (AI) is expected to play an increasingly important role. The Division is monitoring and attempting to better understand the use of AI with respect to technology needs in order to incorporate it within the scope of RFQs. The Division's objective is to ensure that any technology deployed today has the capacity to incorporate appropriate AI functionalities as they become available in the future.

Findings and Recommendations

Procurement of Critical Systems

The division has been unable to complete procurement of critical systems it has identified as high priority.

Recommendation:

The division should work towards minimizing its Request for Proposals (RFP) backlog and completing the procurement of its critical systems. Additionally, the division should utilize the Department of the Treasury, Division of Purchase and Property (DPP) when applicable.

Division Response:

A. Procurement Backlog:

In calendar year 2026, the Division will work towards awarding contracts for several RFPs posted in 4Q2025. In addition, the Division plans to post and award contracts for several additional RFPs that are currently in development.

B. Trade Order Management System

As mentioned in the State Auditor's report, the Division is aware of the aging trade order management system that is currently in use. Recognizing that identifying, evaluating and implementing a new trade order management system will take time, the Division has undertaken a two-pronged approach to address this matter. The first prong focused on addressing and minimizing system errors, while reducing risks associated with the utilization of an outdated trading system. The Division's primary objective was to work with the system vendor to identify existing errors, potential vulnerabilities and methods to minimize these. This approach enables the Division to continue to use the system currently in place while a replacement is identified, procured and implemented. Note that notwithstanding one of the comments in the report, the current system provides a verifiable audit trail for internal compliance purposes.

Upon gaining cooperation from the system vendor and seeing signs of remedial action towards a reduction of potential errors, Division team members then embarked on the second prong of the effort by focusing their attention on the procurement process. The procurement process for this matter involves the DPP. Team members from both the Division and DPP are currently working on an RFP for a new trade order management system which is expected to be advertised in early 2026.

C. Multi-Asset Analytical Tool

With respect to the multi-asset analytical tool (“MAAT”), an RFP was issued by the Division in October 2020 for a software tool which could allow for better review, analysis and evaluation of investments and the Pension Fund investment portfolio. Selection of a MAAT tool was made in early 2021 and implementation began thereafter. The primary objective and benefit of the selected tool was to have public markets and private markets investment data flow into the system, thereby allowing for better insight into the overall Pension Fund portfolio and risk management.

The first phase of the implementation process was to set up and facilitate the Pension Fund portfolio’s public investment data flow into the new system. Given the scale of the portfolio, the breadth of the investment program and the number of securities and transactions involved, this required careful planning, testing and monitoring in addition to working closely with the system vendor. This first phase has been successfully completed, and the Division today has better transparency and insight with respect to the Pension Fund’s public investment portfolio. As a result of the implementation of this tool, the Division is now able to run periodic risk reports allowing it to monitor allocations and compare them to applicable limits and thresholds.

The second phase of the implementation process requires the Division to set up and facilitate the Pension Fund’s private investment data flow into the MAAT system. Unfortunately, progress towards this has been rather slow as noted by the State Auditor. The reason for the delay with respect to accomplishing this objective is due to the number of relationships and legal contracts the Division has with private market investment managers. Since 2005, the Division has invested in over two hundred private market investments, each with legal documents governing the use of fund data. The Division has undertaken a review of these documents and is in the process of obtaining consent from private market investment managers in order to allow for fund data from each of the funds to flow into the MAAT system. The Division is also addressing this issue by obtaining consent from private market investment managers at the outset of entering into investments going forward. The Division’s legal team is working on this effort and the Division strives to complete full implementation of MAAT as soon as feasible.

Account Reconciliations

The division failed to reconcile its trade order management system to its custodial account on a consistent basis.

Recommendation:

The division should implement procedures requiring verification of share availability in custody prior to trade execution. In addition, the division should consistently perform reconciliations between its trade order management system and its custodial account.

Division Response:

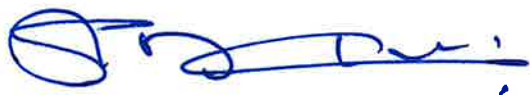
- The Division strives to prevent the types of errors mentioned in the audit report. The Division has implemented procedures requiring verification of share availability, and Portfolio Managers verify available shares in custody prior to entering trades.

Additionally, the Division has implemented procedures to reconcile shares in the trade order management system to the Division’s custodial records; however, due to personnel constraints,

this is not performed daily. The Division is working towards utilizing the trade order management system for automatic daily reconciliations.

As technological improvements are implemented, the Division will continue to seek ways to strengthen its existing processes.

Kind regards,



Shoaib Khan
Director

cc: Elizabeth Maher Muoio, State Treasurer
Allison Sheppard, Head of Internal Audit, Department of the Treasury, Division of
Administration