

Fiduciary and Conflict of Interest Review  
of the  
New York State  
Common Retirement Fund  
February 7, 2022



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facilitate duplex printing.



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## Executive Summary

Kroll, LLC (“Kroll” or “we”) was selected by the New York State Common Retirement Fund (the “CRF”, or the “Fund”) to conduct the triennial Fiduciary and Conflict of Interest Review (the “Review”) of the CRF as required by regulations of the New York State Department of Financial Services (“DFS”).

DFS regulations require the Fund to undergo a Fiduciary and Conflict of Interest review every three years by a qualified unaffiliated person; this is the fourth such review, the first being conducted in 2013, the second in 2016 and the most recent one in 2019. Each Review has focused on an examination of key aspects of the investment-related operations of the Fund; however, the Reviews are not meant to analyze individual investments, nor are they meant to review the administrative operations of the New York State and Local Retirement System (“NYSLRS” or the “System”). We were charged with completing the following tasks (“Tasks”):

### **Task 1: Review of Investments; Compliance with CRF Investment Policies and Procedures and Department of Financial Services Regulations.**

We reviewed documents for all investment transactions requiring Thomas P. DiNapoli’s (“Comptroller”) approval that closed during the Review Period (April 1, 2018 through March 31, 2021). In all, there were 163 such transactions during the period.

Based on our review of the transaction files, all such transactions were executed in accordance with the statutes, regulations, and CRF policies and procedures in place at the time of closings. A detailed checklist showing all closings during the Review Period, along with relevant requirements, is found later in this report.

### **Task 2: Review the Fund’s Response to the Covid-19 Pandemic and Determine Whether the Fund Maintained All Operational Functions, Provided a High Level of Communication with Staff, and Utilized Appropriate Technology Support.**

This task included assessing the Fund’s transition to, and management of, work-from-home (“WFH”) status; a review of the Division of Pension Investment and Cash Management’s (“PICM”) business continuity, investing and investment operations; the Fund’s investment risk management; personnel management; and compliance.

Documentation related to the implementation of WFH status and the Fund’s Business Continuity Plan (“BCP”) were made available to Kroll by CRF Staff. In addition to the Fund’s BCP, we reviewed various electronic communications from the Director and Deputy Director of Operations, documents related to the telecommuting policy, and updates regarding the Fund’s technology infrastructure.

We found the Fund to be well-prepared for the challenges that the pandemic posed to its operations. Nearly all PICM staff were equipped with laptops prior to the pandemic and thus were able to work from home. Technology upgrades in previous years, including the introduction of meeting software applications, facilitated system access and online meeting capabilities during the WFH status. Essential functions such as cash management, trading, and investment



management were performed efficiently and effectively by CRF staff. Communication from the PICM Executive Team was frequent and comprehensive and was cited by multiple CRF staff as a key factor in maintaining the operational efficiency of the Fund during this challenging time.

### **Task 3: Assess Compliance with Fiduciary Principles.**

In reference to the matters examined in Task 1 and Task 2, we evaluated whether the CRF remains in compliance with the fiduciary principles set out in the DFS regulations to which the Fund is subject.

Based on the extensive documentation we reviewed and the interviews we conducted, we believe the CRF remains in compliance with the stated fiduciary principles. We found that the Comptroller and CRF staff hold themselves to the highest ethical, professional and conflict of interest standards and work for the sole benefit of the members and beneficiaries of the System. From the Comptroller down through the organization, CRF staff were knowledgeable, professional, and dedicated to their roles and we did not discover any unethical behavior or misconduct. The CRF was able to sustain operational integrity and meet their fiduciary duties despite the challenges presented by the pandemic. The CRF, under the leadership of the Comptroller, continues to be a leader amongst its peers for management and operational transparency.

The Fund has a strong governance framework with sound internal controls and is managed efficiently and effectively.

### **Task 4: Identify Recommendations for Improvement.**

Based upon our interviews with CRF staff and review of documentation in reference to Tasks 1 and 2, we identified areas where there was room for improvement in the investment related policies, procedures and practices to more closely align with industry best practices.

The Fund made great strides in implementing past recommendations. As the third largest public pension plan in the United States, the Fund has considerable influence in areas such as sustainability and climate change, environmental, social and governance issues, and the advancement of Minority- and Women-Owned Business Enterprise (“MWBE”) Asset Managers, financial institutions, and professional services firms. It also remains one of the best funded public pension plans in the country.

In consideration of the above, we present recommendations that we believe will help the CRF remain best-in-class among other large state pension plans. We have tried to be cognizant of the challenges in obtaining new resources and as such, have attempted to focus our recommendations on improving efficiency where possible.

All investment organizations are inherently operating in high-risk environments. Those that have appropriate staffing levels and fully utilize technology to increase efficiency and minimize risk will be more able to navigate through unforeseen challenges such as a global pandemic. They will also be able to think strategically about what issues they may face in different market environments or what the enterprise could do to operate more efficiently.



Below we provide a summary of our recommendations. A detailed discussion of these recommendations can be found further on in this report, in the section entitled Task 4: Identify Recommendations for Improvement. While we recognize that significant progress was made by the Fund in staffing during the Review Period, we note that several of our recommendations would require additional staff resources. We recommend the following:

### Recommendation 1: Information Technology

**Enhanced PICM Information Technology (“IT”) Staff and Authority.** The services provided enterprise-wide by the Office of the State Comptroller’s (“OSC”) Division of the Chief Information Officer (“CIO”) are a positive for PICM in the core functional IT and support areas; however, PICM has unique business needs and highly time-sensitive and market-sensitive processes. Therefore, we recommend:

- Differentiated PICM IT solutions to address investment needs;
- Additional IT staff resources within PICM to implement technology solutions that address PICM-specific needs; and
- A broader scope of authority to PICM IT staff from the CIO to implement investment technology solutions.

Additional PICM IT staff with the functionality recommended above may also require additional resources within the CIO to coordinate with, and provide support to, PICM IT staff.

**Automation.** We recommend that the Fund more fully automate day-to-day mechanical tasks, using solutions such as Straight-Through-Processing (“STP”), where the manual aspects of trading and processing securities are minimized or completely removed. Implementing STP processes would reduce the risk of errors and allow Investment staff to focus on their core duties. In conjunction with augmented STP solutions, the CRF should implement an Investment Book of Record (“IBOR”) to provide consolidated reporting across asset classes.

**IT Project Management.** As is the standard for peers of the CRF, we recommend that PICM IT staff remain in the Operations group and that they be responsible for the procurement, deployment, maintenance and optimization of PICM-specific systems. Due to their greater understanding of the investment business, efficiencies can be gained by leaving management of technology and technology vendors to PICM IT staff, with appropriate support from OSC’s CIO.

**Cyber Training.** In the last Review Kroll recommended that Staff be regularly trained so that they are reminded and cognizant of the increasing threat from cyber criminals. This training has been completed semi-annually in the past two years and is expected to be implemented quarterly going forward. In addition, we recommended a greater frequency of phishing tests by the CIO (i.e., from annually to quarterly) as well as risk-based and remedial training when necessary.

### Recommendation 2: Business Continuity

**Table-Top Exercises.** The Covid-19 pandemic has dramatically altered the way people and organizations work. OSC, and specifically PICM, were as well prepared as an institution could be under the circumstances to maintain operational integrity and conduct the important business of the CRF on behalf of the System’s beneficiaries.



Essential staff were able to work onsite in Albany or New York City if their job function required, provided they followed proper protocols in terms of social distancing and the wearing of masks. Despite some early connectivity issues with a surge in traffic on OSC's virtual private network ("VPN"), the CRF was able to conduct all investment and cash management tasks.

At the Agency level, a Covid-19 Task Force was assembled, with ultimate representation by all 26 units of OSC. PICM had three members on this Task Force. Within OSC, in June of 2020 the Emergency Preparedness and Internal Communications ("EPIC") committee was formed within the Division of Finance and Administration. One function of the EPIC team is to conduct "table-top exercises" where they envision business disruption events and run through scenarios to remedy these events. Kroll recommends that PICM establish a similar committee or working group to contemplate high-impact, unlikely events and develop policies and procedures to mitigate the risk of significant capital loss within the CRF portfolio.

The goal of this entity would be to engrain the notion of business continuity and disaster recovery for every member of the PICM Division. Loss of location, loss of staff and loss of technology should be the three areas of focus. Scenarios contemplated could include natural or man-made disasters that shut down network connectivity, cyberattacks, and a full shut down of the power grid in the northeastern United States for an extended period.

### **Recommendation 3: Fund Management**

#### **Transaction Files**

To enhance recordkeeping, increase consistency across files, allow for better user access, and to bolster institutional memory, a more standardized and automated file keeping system should be utilized. There are file storage software options in the marketplace similar to manager data rooms that can serve as a repository which is both secure and easily searchable.

#### **Culture and Onboarding of Staff**

We commend the Comptroller and senior staff for engendering a collegial, hard-working culture at the CRF. Kroll believes this was a key element driving the success of the organization during the pandemic. Staff in Human Resources and throughout OSC noted that the CRF invests heavily in its people. While there are programs offered at the Agency level, PICM has developed employee training opportunities which include vendor training and conferences that apply specifically to the tasks and responsibilities of PICM Staff. There is also an employee development week where employees can take up to four classes to maintain or enhance their technical or leadership skills. While this is not currently mandatory, it is encouraged by the Comptroller and Kroll would recommend that PICM provide similar programs targeted to the CRF for its personnel.

#### **Staffing**

While compliance at the CRF is the responsibility of all CRF staff, PICM's Director of Compliance is currently assisted by two other staff members.

We highly recommend the addition of at least one other compliance staff member for the near term. While we found the Compliance team to be knowledgeable and dedicated, the sheer volume





of daily tasks that they must complete, including by the Director of Compliance, does not allow appropriate time and resources for strategic thinking and a thorough analysis of potential risks. With the addition of the broker search and evaluation responsibility, the team has been stretched even further.

Specifically, we would recommend the addition of an experienced compliance professional that could serve as a Deputy Director of Compliance. This will allow enhanced oversight of CRF Investment staff and outside partners, as the areas Compliance is responsible for testing and monitoring are high-risk areas for the Fund. For the avoidance of doubt, we do not believe there are current lapses in the Compliance function, however certain resources are or will be constrained, allowing for potential risks to emerge. This position should ideally be filled by an external hire with meaningful compliance experience.

### **Operating Manuals for CRF Teams**

The Compliance team is nearing the completion of a guidebook or “Compliance Manual” to assist in organizing its varied roles and responsibilities and documenting its policies and procedures. We applaud the drafting of this document and recommend that other units follow suit. We understand that the Operations team is currently working on a similar document. Areas like Risk could benefit immensely from the codification of their internal processes and key internal deliverables. These manuals serve to memorialize institutional knowledge, which can be a benefit should key employees leave the CRF.

### **Leveraging Existing Managers and Other Business Partners**

The Fund utilizes several well-regarded firms as investment managers to execute specific mandates for which the Fund does not have the appropriate resources in-house. This is in addition to the various investment consulting firms to assist each asset class. The Fund also engages a general consultant to assist with overall portfolio strategy. Kroll believes these firms provide tremendous value to the CRF in both their specific mandate and their general expertise. The managers are well placed to provide advice and counsel on initiatives such as risk and portfolio reporting and cyber security, given their institutional expertise in these areas.

### **Expand Internal Expertise**

CRF policies and procedures require independent external consultant evaluation of transactions before submission to the Comptroller for approval. However, there are some investment-related services performed by consultants or managers that should also be reviewed periodically to determine whether staff can replicate some or all of the consulting services in-house. For example, CRF relies on an external manager to source and conduct due diligence on co-investment opportunities in the private equity space. This illustrates a situation where PICM could hire an investment professional with co-investment experience and the knowledge to conduct that sort of diligence, and therefore with modest additional resources, could bring that functionality in-house at a substantial cost savings to the Fund.

### **Risk Management**

The CRF has a Pension Risk Management (“PRM”) investment team that provides an investment risk framework for the Fund. PRM is headed by the Chief Investment Risk Officer (“CIRO”) and is



assisted by several staff members and supported by the Risk Committee (“RC”). While this position is currently open as the previous CIRO left the CRF in February of 2021, this function is currently being led by the Interim Director of Risk.

The roles of the PRM team, the CIRO, and the RC are both wide ranging and detailed. All enterprise risks that may impact investment activities of the CRF are within the RC’s purview. After the CIRO position is filled, Kroll recommends adding a Deputy Director of Risk, consistent with the recommendation for the Compliance team above, to assist in this critically important area for the CRF.

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## Overview of the Common Retirement Fund

NYSLRS administers service retirement, disability retirement and death benefits for members employed by the State and local governments and other participating employers. The System comprises the New York State and Local Employees' Retirement System ("ERS") and The New York State and Local Police and Fire Retirement System ("PFRS"). The assets of the System are held and invested by the CRF, for the exclusive benefit of the members, retirees, and beneficiaries of the System. The Comptroller is the Administrative Head of the System and the Trustee of the CRF.

As the Trustee, the Comptroller determines policy and manages the investment operations of the CRF with support from the Deputy Comptroller for the Division of Pension Investment and Cash Management (a role also known as the Chief Investment Officer ("CIO")), Counsel to the Comptroller, and the First Deputy Comptroller and their professional staffs, as well as outside counsel, consultants, managers, and the external investment advisory committees to the CRF. The assets of the CRF are managed on a day-to-day basis by PICM, which is a Division within OSC.

The CRF was established in 1967 by Article 9 of the New York Retirement and Social Security Law ("RSSL") and is subject to the RSSL and to the regulations of and oversight by the DFS. The New York State Constitution (Art V, §7) provides that membership in a state pension or retirement system is a contractual relationship and protects the benefits of membership from being diminished or impaired.

The CRF consistently remains among the best funded of United States public pension plans: as of the close of the fiscal year 2021, 99.95% for Employees Retirement System ("ERS") and 95.79% for Police and Fire Retirement Systems ("PFRS").<sup>1</sup> In their most recent report on pension funding gaps among US states, Pew Charitable Trusts ranked the Fund second out of the 50 states.<sup>2</sup>

As of the close of the 2021 fiscal year, PICM managed CRF assets of \$258.1 billion on behalf of over 1.1 million members, retirees, and beneficiaries, making the CRF the third largest state plan in the United States. The entire OSC has a staff of over 2,800 people, of which approximately 105 are dedicated to PICM, inclusive of dedicated support functions, as of the preparation of this report.

Although the CRF, as a public pension plan, is not subject to regulations of the Federal Employee Retirement Income Security Act of 1974 ("ERISA"), the "CRF voluntarily looks for guidance to ERISA and the United States Department of Labor interpretations"... "where relevant and appropriate" and the Comptroller has put in place policies and procedures so that "Fund investments are made with the care that a prudent person serving in a like capacity and familiar

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<sup>1</sup> <https://www.osc.state.ny.us/files/retirement/resources/pdf/financial-statements-2021.pdf>

<sup>2</sup> June 2020, Pew Charitable Trust Survey: <https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2020/06/the-state-pension-funding-gap-2018>



with such matters would use in the conduct of an enterprise of like character and like aims – the “prudence” and “exclusive benefit” fiduciary standards of investment”.<sup>3</sup>

### General Investment Objectives

- Provide the means, together with employee and employer contributions, to pay benefits, when due, to the System’s members, retirees and beneficiaries;
- Seek to optimize long-term risk-adjusted returns, consistent with liquidity and diversification parameters that are prudent under existing circumstances;
- Invest according to an asset allocation that provides for the diversification of assets;
- Invest assets efficiently, bearing in mind the impact of management and transaction costs on the returns of the assets; and
- Exercise all investor responsibilities on behalf of the CRF, including the voting of proxies, in the best long-term interest of the CRF and in accordance with the applicable statutes and voting guidelines of the CRF.

### Asset Allocation Plan

The CRF has developed an Asset Allocation Plan (the “AAP”) which establishes the investment objectives of the Fund and seeks to generate the “best risk-adjusted returns needed to achieve and maintain fully funded status.”<sup>4</sup> It is not economical, feasible, nor desirable for a fund the size of the CRF to routinely adjust its investment strategy. Accordingly, this plan emphasizes asset allocation and is updated every five years with annual tactical adjustments as necessary. There are seven primary asset classes in which the Fund is invested:

- Public Equities (Domestic and International) – Designed to provide the largest source of returns in the Fund’s portfolio over the long-term, through diversified, global exposure;
- Fixed Income – Designed to provide a consistent source of funds to help address the cash flow needs of the Fund. Additionally, provides downside protection against the volatility of the overall portfolio’s equity-oriented strategies while achieving efficiency in the risk/return profile for fixed income;
- Private Equity – Designed to generate long-term returns that exceed those of public equities;
- Real Estate – Designed to provide a steady stream of income through less risky core investments, and capture excess returns through riskier, core-plus/value-add and opportunistic investments;

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<sup>3</sup> NYSLRS 2021 Annual Comprehensive Financial Report, page 57  
<https://www.osc.state.ny.us/files/retirement/resources/pdf/comprehensive-annual-financial-report-2021.pdf>

<sup>4</sup> <https://www.osc.state.ny.us/pension/investment-philosophy.pdf>



- Credit – Designed to significantly outperform CRF’s actuarial return target while maintaining relatively low correlation to other asset classes outside of the fixed income market.
- Opportunistic/Absolute Return Strategies (“OARS”) – Designed to add alpha (excess return) to the Fund’s overall return with relatively low correlation to other asset classes. Additionally, the portfolio seeks to invest in unique opportunities by identifying skilled external managers who can generate excess returns in all market environments; and
- Real Assets – Designed to add alpha to the Fund’s overall portfolio return and offer inflation participation opportunities while maintaining a low correlation to traditional asset classes over time.

Subsequent to the completion of the previous review, the Fund published an updated Long Term Policy Asset Allocation which was effective as of April 1, 2020. The allocation is as follows:

Asset Class	Target
Domestic equity	32%
International equity	15%
Fixed Income	23%
Private Equity	10%
Real Estate	9%
Credit	4%
ARS/Opportunistic	3%
Real Assets	3%
Cash	1%
<b>Total</b>	<b>100%</b>



## Scope of the Review

DFS regulations require the Fund to undergo a fiduciary and conflict of interest review every three years by a qualified unaffiliated person. As noted earlier, this is the fourth such review. In summary, Kroll, as an independent, unaffiliated entity was selected and charged with completing the following Tasks:

### Task 1: Review of Investments

Evaluate compliance with CRF investment policies and procedures, and compliance with DFS regulations, for every transaction requiring Comptroller approval that closed during the Review Period: the three-year period ending March 31, 2021.

### Task 2: Review of the Fund's Responses to the Covid-19 Pandemic

Review the Fund's response to the Covid-19 Pandemic and determine whether the Fund maintained all operational functions, provided a high level of communication with Staff, and utilized appropriate technology support.

### Task 3: Fiduciary Principles

Based on the above matters examined in the course of this fiduciary and conflict of interest review, evaluate whether the CRF continues to be in compliance with the fiduciary principles set out in the DFS Regulations:

- The Fund operates under a strong governance framework with a rigorous system of internal controls;
- The Fund maintains a high level of operational transparency;
- The Comptroller adheres to and manages the Fund with the highest ethical, professional and conflict of interest standards;
- The Comptroller acts for the sole benefit of the retirement system's members and beneficiaries; and
- The Fund is managed in the most efficient and effective manner possible.

### Task 4: Recommendations

Recommend improvement opportunities, if any, identified in the course of this review, to the CRF's investment-related policies, procedures and practices to bring them in line with prevailing and/or best practices.



## The Kroll Process

Kroll is a New York City headquartered global advisor that provides a broad range of services to a diverse clientele spanning public and private entities. We have collectively reviewed hundreds of investment managers and interviewed thousands of employees at all types of securities investment firms. The project team chosen for the engagement with CRF was drawn from our Financial Services Compliance and Regulation (“FSCR”) practice and encompasses professionals with operational, investment, legal, regulatory, compliance, and accounting expertise. We also employed the services of a partner from a law firm to provide expertise on fiduciary related matters. Full team biographies can be found in Appendix 2.

In approaching our mandate for the CRF, we viewed each of the Tasks not as distinct, stand-alone projects, but as integral parts of a whole, each contributing to successful investments for the beneficiaries of the System. As such, the individual Tasks will build on each other. We leveraged our extensive experience performing annual compliance reviews, annual trainings, operational due diligence, and mock regulatory exams in conducting this Review. While the Fund is not subject to oversight by the United States Securities and Exchange Commission (the “SEC”), best practices and fiduciary duties are near universal across investment organizations of all types.

We began our process as we would with all engagements, gathering documentation to gain an understanding of the details of the CRF and PICM, beginning with publicly available information such as the Annual Comprehensive Financial Report (“ACFR”) and prior Conflict of Interest and Fiduciary Review reports. Due to the ongoing Covid-19 pandemic, an Opening Conference was held via video conference where members of the Kroll team met relevant CRF staff and we discussed the process, submitted an initial document request, and scheduled interviews.

Interviews were conducted with 34 individuals, including among others:

- Thomas P. DiNapoli, New York State Comptroller
- Chief Investment Officer
- Chief of Staff to the Comptroller
- Deputy CIO
- Counsel to the State Comptroller
- General Counsel to the CRF
- Chief Information Officer of OSC
- Director of Operations
- Deputy Director of Operations
- Executive Director of Corporate Governance
- Director of Compliance
- Real Estate Advisory Committee Chair
- Interim Chief Risk Officer
- Risk Officer
- Executive Deputy Comptroller – Audit and Policy
- Asset Class and Program Directors
- Investment Officers
- Compliance Officer
- Human Resources leadership





The purpose of the interviews varied but they were generally used to gain insights into the policies, processes, and procedures of the Fund; what risks the Fund is facing; and what is done well and where there is room for improvement. Interviews were conducted via video conference due to the pandemic.

After speaking with all interviewees, we determined that they understood the importance of their fiduciary duties to the beneficiaries of the System. Interviewees were both candid and forthcoming with information and were interested in how they could improve the organization.

A Project Plan Review Session was held virtually to review the status of the project to date and discuss preliminary findings. Present at the meeting were senior members of the OSC, PICM, and Kroll teams.

Weekly conference calls were conducted between key members of the teams. Kroll shared progress on the Review, posed questions regarding matters that needed clarification, and submitted supplemental document requests.

An Interim Briefing was conducted virtually with senior members of the PICM, OSC, and Kroll teams discussing the recommendations that are presented in this report.



## Task 1: Review of Investments; Compliance with CRF Investment Policies and Procedures and DFS Regulations.

We reviewed documentation for all investment transactions requiring the Comptroller’s approval<sup>5</sup> that closed during the Review Period to determine whether the transaction documents:

- Demonstrate the CRF’s compliance with its investment policies and procedures; and
- Include representations from investment managers on the use of placement agents, disclosure of conflicts of interest, access to records as required by the DFS Regulations, acknowledgement of the restrictions on gifts and entertainment, the inclusion of an ESG assessment and other key terms as identified by the CRF.

We were not expected nor required to test any of the underlying investments nor the evaluation process of prospective investments and thus we did not test or opine on any investments.

During the Review Period, there were 163 transactions that required the Comptroller’s approval and were closed. These were broken down as follows:

Asset Class	New Mandates
Global Equity	12
Fixed Income	6
Private Equity	62
Real Estate	33
ARS/Opportunistic	8
Credit	18
Real Asset	24
<b>Total:</b>	<b>163</b>

### The Review Process

For each mandate, we tested for completeness and accuracy of the transaction files versus the required documentation as indicated below:

- Investment Consultant Recommendation;
- Investment Analysis and Recommendation to the Comptroller;
- Comptroller Approval;
- Placement Agent Disclosure Letter;
- Internal Investment Committee or Real Estate Advisory Committee Review as appropriate;
- Fully executed transaction agreements;

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<sup>5</sup> For the avoidance of doubt, when referring to “investment transactions” in this report, we are speaking in a larger sense of investment mandates and manager allocations; the Comptroller does not approve investments in individual companies or individual trades.



- Background Checks Completed or Waived;
- Internal ESG Assessment Checklist;
- Acknowledgement of the restrictions on Gifts and Entertainment;
- Legal review, internal and external, as appropriate;
- Acknowledgement of Political Contribution Limitations;
- Acknowledgement of requirement to disclose Conflicts of Interest;
- FEAA Boycotts Disclosures;
- MacBride Fair Employment Acknowledgement; and
- DFS Access to Records.

The folders for the 163 transactions contained over 2,000 individual files that were reviewed by the Kroll team for completeness and accuracy versus the required documentation.

## Findings

The full transaction log and checklist are presented in Appendix 1, however we found in all instances that the appropriate, required documentation was present in each transaction folder and the transactions were closed consistent with the CRF's policies and procedures, DFS Regulations and the Comptroller's fiduciary duties as the Trustee.

We found that the CRF was able to conduct the manager approval process in accordance with the policies, procedures, and regulations noted above despite the onset of the Covid-19 pandemic and the shift to a 100% remote working environment. Of the 163 new investments covered by the Review, approximately 60 investments were closed after the start of the pandemic in March of 2020 through the end of the Review Period. All of the appropriate documentation, investment presentations, and sign offs were received and executed throughout the review period.

While the CRF has standardized the format and naming conventions for the transaction files in response to recommendations from both the 2016 and 2019 Reviews, we would note that the file organization process is still very much a manual one. To enhance recordkeeping and bolster institutional memory, a more standardized and automated file keeping system should be utilized.

The Comptroller is fulfilling his mandate to transparency by disclosing publicly extensive information on assets, managers, and consultants annually in the Retirement System's Annual Comprehensive Financial Report:

<https://www.osc.state.ny.us/retirement/resources/2021-comprehensive-annual-financial-report>.

The CRF publishes monthly reports disclosing transactions that closed during the relevant month. This list can be found on the OSC website:

<https://www.osc.state.ny.us/pension/disclosure.htm>.



## **Task 2: Review the Fund’s Response to the Covid-19 Pandemic and Determine Whether the Fund Maintained All Operational Functions, Provided a High Level of Communication with Staff and Utilized Appropriate Technology Support.**

This task included assessing the Fund’s transition to and management of WFH status; a review of PICM’s business continuity, investing and investment operations; the Fund’s investment risk management; personnel management; and compliance.

Documentation related to the implementation of WFH status and the Fund’s business continuity plan were made available to Kroll by CRF Staff. In addition to the Fund’s actual Business Continuity Plan (“Business Continuity Plan” or “BCP”), we reviewed 30 to 40 documents that included various electronic communications from the Director and Deputy Director of Operations, documents related to the telecommuting policy, and updates regarding the Fund’s technology infrastructure. There were multiple emails from Operations in the first few months of the WFH mandate that provided health and wellness information to Staff and resources available to employees to learn about the virus.

We found the Fund to be extremely well-prepared for the challenges that the pandemic posed to its operations. Nearly all PICM staff were equipped with laptops prior to the pandemic and thus were able to work from home immediately. Technology upgrades facilitated network access and online meeting capabilities during the lockdown. Communication from the PICM Executive Team was frequent and comprehensive and was cited by multiple CRF staff as a key factor in maintaining the operational efficiency of the Fund during this difficult time.

### **Item 1: Review Transition to and Management of Work-From-Home Status**

As part of the evaluation of the CRF’s transition to a WFH environment, Kroll was asked to examine and confirm several aspects of the transition, including:

- The activation of PICM’s Business Continuity Plan;
- The proper and timely dissemination of the requisite information in the BCP to all staff;
- Enhanced communication and protocols implemented during the pandemic;
- The existence and dissemination of requisite hardware to staff, in addition to remote access coverage and capabilities;
- The adequacy of technology support available to all Fund staff; and
- Responses to any technology troubleshooting needs.



## Evaluation

PICM's mission is to provide beneficiaries with a secure pension through prudent asset management. To accomplish this mission, the Fund must ensure the continued performance of its operations with minimal disruption, especially during an emergency. PICM's Business Continuity Plan provides the planning and program guidance to ensure that the organization can conduct its essential mission and functions despite the threat of disruption.

The BCP organizes and assigns responsibilities to key staff members during an emergency. These positions include the following: essential staff members, continuity team members, those persons identified in the order of succession and delegation of authority, the Recovery Team Leader, and others who possess additional continuity responsibilities. The BCP also defines and identifies specific individuals in each of the above categories, including full contact information and communication protocols.

In addition to the identification of essential staff members and their respective duties, the BCP outlines processes and procedures around the maintenance and testing of the plan, instructions on secure remote connectivity, a list of all Division-critical functions including the duration and tasks associated with those functions, a security and privacy statement, and links to governing policy and laws from OSC, which are also available on a cloud-based recovery website.

As the seriousness and depth of the pandemic began to deepen in early March of 2020, the Operations team, at the direction of the Agency, initiated the Business Continuity Plan. Essential staff were told to bring their laptops home with them each night, and by Friday, March 13, staff were told they would be working from home for the next two weeks. As part of this instruction, all staff had to apply for telecommuting approval through the internal service database. All staff who were able to work remotely were approved to do so. At this point, the BCP was disseminated to all employees either physically or by soft copy by Operations. On Monday, March 16<sup>th</sup>, all PICM staff were instructed to work from home indefinitely.

Information regarding WFH policies, health and wellness issues and other mission critical functions was communicated from the Executive Team to Operations and then to the Asset Class Directors and their respective teams. In early March, OSC established the OSC Covid-19 Task Force in response to the pandemic. The Task Force initially had 14 members representing critical OSC responsibilities and functions and was eventually expanded to include representation from all OSC divisions. PICM's representation on the Task Force included the CIO, the Director of Operations, and the Deputy Director of Operations. The Task Force met every day for approximately 3 months and still meets on a periodic basis to discuss any pandemic-related issues, including return to work protocols.

PICM staff, with the exception of a small handful of administrative personnel, are provisioned with laptop computers during their onboarding to the CRF. As such, they were able to work effectively in a remote setting. Investment and trading personnel had Bloomberg B-units to allow for access to Bloomberg. PICM staff were able to access the network via a VPN, and collaborative software was previously installed for internal team videoconference meetings.



The Deputy Director of Operations, Investment Technology Systems Officer, and the OSC Division of the Chief Information Officer were all available to staff for questions related to technology and any troubleshooting needs. All PICM staff interviewed by Kroll noted that the responsiveness and expertise exhibited by the Operations team was exemplary.

## Findings

Kroll found that the CRF was extremely well prepared to operate effectively during the Covid-19 pandemic which required staff to work 100% remotely. The vast majority of PICM Staff had been issued laptop computers prior to the initiation of the BCP and were able to conduct their duties with minimal disruption. Staff were able to communicate with each other via collaborative software, and access to the network was available through the VPN.

While some CRF staff understandably could not recall the exact dates of the initiation of the BCP and WFH status, all employees received frequent and comprehensive communications from Operations and the Executive Team from the onset of the pandemic in March of 2020. Kroll reviewed several email messages from the Deputy Director of Operations to staff regarding technology issues and personal health protocols, including guidance from the Centers for Disease Control.

Due to privacy concerns, the use of Zoom video conferencing was restricted in the first few months of the pandemic. Some external parties utilize this software to conduct meetings, and Operations and Legal communicated policies intended to mitigate such privacy concerns.

The Albany office suffered a network outage in early 2019 due to an external event at one of their providers. The CRF did an immediate assessment and took the necessary steps to resolve the issue. As a result of this outage, they made a variety of upgrades to internal and external systems to mitigate future adverse events. PICM also decided to actively start testing WFH as options for disaster recovery events for all trading and front office operations staff.

With over 2,800 users across OSC attempting to gain access to the network, some upgrades were required to the VPN in the early months of the WFH period to properly support all staff. The principal challenge that the Division of Chief Information Officer faced in completely supporting the entire PICM team with remote network access was the capacity (bandwidth) of the VPN in terms of the number of concurrent connections available from remote workstations. During the first month of the WFH period, IT was forced to ration space on the VPN for certain key users and tasks, particularly during peak periods of work activity during the workday, where staff were asked to stay off the VPN if they could. Working "offline" (not connected to the VPN), staff were not able to complete every task that they would normally be enabled to perform had they been working from the office. However, as discussed below, cash management, settlement of trades, capital calls, and vendor payments were not impaired.

Within a few weeks, IT staff identified the bandwidth issue, and took additional steps to resolve the issue. Once implemented, the additional bandwidth capacity put an end to the need to ration



space on the VPN. It is worth noting that while VPN limitations early on did have an impact on the ability of staff to access key resources internal to PICM for periods of time, none of the interviewees reported a significant disruption to their workday.

All Staff interviewed by Kroll praised the efforts of the IT and Operations teams to keep the CRF functioning smoothly and for responding quickly to any questions regarding hardware or software issues that arose during the pandemic. While having multiple monitors and access to printers were cited by a few respondents as “nice to have”, there were no material telecommuting needs that went unmet by the CRF.

## **Item 2: Review PICM Business Continuity, Investing and Investment Operations**

To review the effectiveness of PICM’s business continuity, investing capabilities and investment operations, we examined a variety of processes, including:

- The execution of internal investment committee meetings and the evaluation of new managers;
- Financial and regulatory reporting;
- Advisory committee activities;
- The production of the Emerging Manager Conference in a virtual environment;
- Cash management;
- Vendor/consultant and software procurement, as well as payments to vendors and managers;
- The settlement of trades; and
- The processing of capital calls.

### **Internal Investment Committee Meetings and New Manager Evaluation, Advisory Committee Activities, and Reporting.**

As noted in Task 1, the CRF has a highly structured external manager evaluation process that comprises multiple steps in terms of documentation, consultant recommendations, and presentation of the investment opportunity to the Internal Investment Committee (“IIC”), or the Real Estate Advisory Committee (“REAC”) in the case of real estate investments. That process concludes with the submission to and approval of the investment by the Comptroller.

During the three-year period comprising this Review, the CRF approved and closed 163 new investment opportunities, of which approximately 60 were closed on after the start of the pandemic in March of 2020.



IIC, REAC, and Investment Advisory Committee (“IAC”) meetings were conducted on their usual schedules via video conference. New manager approvals were focused primarily on firms with which the CRF has invested with previously, mitigating the restrictions of being on site and meeting manager personnel in person.

Examinations of the committee meeting minutes conducted during the pandemic show robust discussions and input from a wide range of participants, consistent with meetings conducted prior to the onset of the pandemic. Investment staff noted that, with the exception of onsite visits, they were able to conduct full diligence on all managers, including document review, interviews with manager personnel, reference and background checks, and coordination with asset class external consultants.

Advisory committee meetings were not interrupted by the transition to a remote work environment, as noted above for the IAC and REAC meetings. In fact, CRF management increased the number of IAC meetings to keep the Committee updated more frequently during the pandemic. Although it is difficult to replace the dynamics of meeting in person, the CRF Investment staff and its various committees were able to conduct business continuously throughout the pandemic.

As part of the Comptroller’s commitment to transparency, monthly investment transaction reports are published on the OSC website, as are quarterly Fund estimated values and performance. In addition, on an annual basis the Fund is required to publish its ACFR on the website. Throughout the review period this information was produced and disclosed on their regular schedules.

## **Findings**

Kroll reviewed the transaction files for all 163 new investments covered by the Review, including those approved and closed since the onset of the pandemic. We found all files to be complete in terms of the documentation and processes defined in General Investment Policies. Minutes from the IIC, IAC, and REAC Committees show robust discussions around the merits of the investments as well as any questions raised by committee participants. Kroll found the manager approval process to be complete and appropriately executed by CRF staff.

The CRF was able to conduct all Investment and Advisory Committee meetings during the pandemic via video conference in an effective and efficient manner. Investment manager review and approval was properly executed to the standards outlined in the General Investment Policies despite the challenges presented by a remote working environment. While there is no way to replicate in-person meetings in a virtual construct, we believe the CRF performed its investing and reporting duties quite effectively.

Investment staff noted that in many instances the due diligence process was more efficient in a remote work environment, as meetings were more easily scheduled with investment personnel confined to home offices and therefore having more availability. The elimination of travel to and from manager locations also created more time for Investment staff to conduct their due diligence in a timely manner. PICM Investment staff also related that they were often able to speak with a larger number of manager personnel, including junior staff, in this environment.





Due to restrictions on travel and onsite visits, the CRF focused primarily on “re-ups” with existing managers during the pandemic. While the CRF often invests in managers with which they have an existing relationship, particularly in asset classes like Private Equity and Real Estate, they also consider managers with whom they have not previously invested for inclusion in the Fund. As travel restrictions are loosened in the coming months it is likely that Investment staff will spend more time on site with both existing managers and new relationships.

The CRF published all of its monthly investment transaction disclosure reports on the OSC website in the ordinary course, as well as the 2021 ACFR. Quarterly estimated fund values and performance information were also published throughout the last 20 months, in accordance with Fund’s customary practice implemented by the Comptroller in 2009.

### **The Emerging Managers Conference**

The CRF’s Emerging Manager Program invests with emerging managers directly or with the assistance of managers of managers or program partners, either in separately managed accounts or commingled structures. The Program offers opportunities to newer, smaller, and diverse investment management firms to help grow the CRF. Each year, the Fund seeks to graduate emerging managers to be mature direct investments by the Fund. More than 20 such managers have graduated from this program since inception.

The CRF had over \$9 billion managed by emerging managers as of March 31, 2021, while over \$27 billion was managed by MWBEs as of that date.<sup>6</sup> For the past 14 years, the CRF has organized and run an Emerging Manager and MWBE Conference. At this conference, up and coming managers are invited to meet with Fund staff and program partners to learn about the Fund’s investment decision making and monitoring process.

The 2021 conference took place virtually on February 10, 2021, and its theme was “Succeeding in a Challenging Environment.” There were keynote speeches by the CIO and one of the program partners, as well as a fireside chat with the Comptroller and conversations with some of the nation’s top women Chief Investment Officers. There were also “breakout sessions” where managers could “meet” with CRF staff.

The CRF received input from one of their external managers in regard to putting on the conference. This external manager has a lot of experience running virtual conferences and the CRF was able to leverage this relationship to gain insights on potential trouble spots in such an ambitious endeavor.

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<sup>6</sup> <https://www.osc.state.ny.us/common-retirement-fund/emerging-manager>



## Findings

Approximately 1,000 people registered for the 2021 Emerging Managers and MWBE Conference, resulting in the highest attendance since the conference began. The conference is required by statute and the CRF quickly pivoted to planning for a virtual conference.

There were no technical issues with conducting the meeting virtually, and several of the speeches were recorded in advance to mitigate any concerns regarding technology. As with the investment manager due diligence process outlined above, nothing can replace the dynamic of meeting face-to-face, but we believe the CRF did an excellent job in organizing and executing this important event.

Both in 2020 and 2021, the CRF completed and submitted to the Governor and the NYS Legislature its annual report detailing its utilization of MWBE asset managers, financial institutions and professional service providers.<sup>7</sup>

### **Cash Management, Settlement of Trades and Capital Calls and Vendor Payments**

The cash management function is a critically important one at the CRF. With over \$1 billion in monthly pension payments, it is vitally important that cash be readily available daily. Cash for disbursement primarily comes from the Fixed Income portion of the CRF portfolio.

As documented in the Business Continuity Plan, each area within the Division has core functions that are critical to the Fund's effective and efficient processing of operations. This includes cash management, trade settlement and capital call processing.

The Fixed Income team must ensure that daily cash investing is fully operational, with regular communication with external brokers. They must also coordinate fixed income trade settlements with NYSLRS Accounting and with the Custodian Bank, which requires a secure token to access the Bank's portal. The Fixed Income team is also tasked with ensuring that all of its portfolio trading activity is possible, communications with all its external managers have been established and that they have the ability to coordinate certain Fund-level activities with other Asset Class managers for potential risk assessments.

For Public Equities, they must ensure the ability to approve all public equity fundings via secure token with the Custodian Bank, internal portfolio management capability, and rebalancing and trading operations functionality. They must also communicate with all public equity external managers and partners regarding their status and continuity planning. Finally, under the BCP, they must be able to continue their performance reporting and management fee processing.

For the private asset classes, the teams must ensure that capital calls are able to be approved and executed. Communications are done over email and the phone if necessary. The team must communicate with their external managers, NYSLRS Accounting, the Custodial Bank and their

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<sup>7</sup> <https://www.osc.state.ny.us/files/reports/special-topics/pdf/mwbe-fiscal-2020-21.pdf>  
<https://www.osc.state.ny.us/files/reports/special-topics/pdf/mwbe-fiscal-2019-20.pdf>



respective Asset Class Consultants via phone and email. Performance reporting and processing of management fee payments must also be continued.

Trade settlement is completed by the Investment Transaction Unit in NYSLRS Accounting (“ITU”). If there are any discrepancies between what the CRF receives and what is in the order management system, the ITU will take corrective action to reconcile the difference. Either the Director of Global Equity or Fixed Income reviews and authorizes corrected transactions.

## Findings

Given the importance of the cash management function at the CRF, policies and procedures had been put in place prior to the pandemic to ensure continued functionality in a business disruption event. Those procedures are codified in the BCP, as noted above, and were reinforced by testing the ability for the front office team to execute while working remotely prior to March of 2020.

There is no evidence to suggest that any capital calls, payments to and from external vendors, or internal portfolio trading were not made in a timely fashion since the onset of the pandemic. Authorized signatories including the Director of Operations and Asset Class Directors were able to utilize electronic signature software to sign off on payments and capital calls as they were received.

We reviewed over 100 files in relation to the review and approval of CRF trades that had been executed via the internal mandate and interviewed Investment Officers, the Director of Fixed Income, Director of Global Equity, Deputy CIO and CIO. Overall, we found that the process is following the spirit and letter of the policies and procedures put in place. Particular findings were:

- Samples of trade blotters on a daily, weekly, and monthly basis were provided and reviewed for evidence of supervisory signoff. Of the sampled blotters, all were in compliance;
- Monthly volume and commission reports were reviewed and interviews with key CRF Staff confirmed that the reports were being reviewed. We would further highlight that the annual ACFR also contains all broker volume data for the preceding year; and
- As noted, all volume data is published in the ACFR and the CIO is responsible for signing off on the veracity of this data before publication.

## Item 3: Investment Risk Management

The CRF takes prudent investment risks to achieve enhanced, long-term performance. Even under this prudent investment standard, unexpectedly large market downturns or other significant events such as a global pandemic can reduce the value of the Fund investments. These market and global events could require a substantial increase in Fund contributions by NYSLRS participating employers and perhaps lead to a reduction in benefits for new entrants into the System by State policy makers through legislation.

Risk management at the CRF focuses on efforts to identify, understand, and mitigate a variety of risks that are presented to the value, safety, and liquidity of Fund assets and to the reputation of



the Fund in the investment decision making process and investment operations of the Fund. The CRF diligently seeks to identify and avoid such risks and has a RC headed by the CIRO. The Committee's role is advisory in nature and does not have authority to intervene in management of the portfolio.

The Pension Risk Management team at the CRF is composed of three individuals and is currently led by the Interim Director of Risk. They generate a variety of risk reports for the Fund, including a daily risk dashboard which is shared with the entire PICM team, along with liquidity reports and risk appetite reports that are furnished for the IAC meetings. They also conduct some modeling around risk and pricing of securities in the portfolio.

The Pension Risk Management team also publishes a comprehensive risk report which was formerly produced quarterly and is now generated monthly.

CRF staff monitor the overall asset allocation on a continuous basis. Capital markets activities and cash flow needs may result in the CRF deviating from its maximum allocation percentages at certain times. Staff may recommend rebalancing at any time, and the CIO may initiate that rebalancing at any time. If rebalancing is initiated, a plan is developed whereby specific dollar amounts will be considered for movement based on the degree of over or underweight in a particular asset class, liquidity characteristics, and current market conditions.

The CRF's procedures regarding rebalancing take into account the following considerations:

- Trading costs and their impact on the performance of the portfolio. CRF controls the frequency of rebalancing to keep costs to a minimum; and
- Rebalancing on a periodic basis, with volatility-based trigger points, is the best option for limiting tracking error caused by the variance between the CRF's actual and target allocations while minimizing trading costs and any disruption to the management of the portfolio.

## Findings

The Risk team has made great strides in the last two years and are continuing to make improvements to both the risk monitoring and reporting process. The Pension Risk Management team is in the process of transitioning report generation from traditional excel spreadsheets to a new software application. As a result, approximately 60% of the risk reporting has now been automated, reducing report production times and getting information to the investment teams and the CIO in a timelier fashion.

The Risk team is also developing a Management Information System ("MIS") that will assist in automating the aggregation and analysis of massive amounts of data related to the CRF's portfolio. The new software application should help in this endeavor, despite the occasional challenges in creating charts and graphs that the software presents for the team.

One development we would highlight is the increased collaboration between the Risk team and the Investment teams in the last several years. Risk participates in various committees such as the IIC and IAC. The Interim Director of Risk attends asset class team meetings monthly and



meets in a one-on-one setting with the CIO every other week to discuss various risks and scenarios facing the Fund.

Kroll found that the Risk team within PICM has in fact increased the frequency and level of reporting during the pandemic. The comprehensive risk report, which can be 30 or more pages in length, is now produced monthly and shared with PICM investment teams during quarterly RC meetings.

As with other units within the Division, the Risk team experienced minimal disruption to their day-to-day activities as a result of the transition to WFH. Spreadsheets with complex, extensive data sets can be difficult to view and share over Microsoft Teams. In addition, a junior person was added to the Risk team during the pandemic, which is a positive development. The Interim Risk Director and Risk Officer are continuing to train this person and build a rapport despite the remote working dynamics.

There are currently three members of the Risk team. The Chief Investment Risk Officer is currently vacant as the incumbent left the CRF in February of 2021. Given the importance of this position and the multiple touchpoints that this person will have across PICM, senior leadership of the Fund decided to delay the hiring process until they can meet with candidates in person. Kroll believes this to be a prudent decision, though it is important to have this position filled as soon as possible.

The rebalancing activities of the Fund were not impacted in any material way by the pandemic. Essential personnel in this function were able to conduct their business activities with no disruption to the process. Personnel with existing access to Bloomberg were able to use “B-Units” to access the OMS system remotely if they were not able to access CRF offices.

#### **Item 4: Personnel Management**

The Covid-19 pandemic forced employees across the globe to work from home with little to no preparation. CRF Staff at first were told, after the State of New York declared a state of emergency on March 6, 2020, to take their laptops home each night as a precaution. Less than two weeks later, on March 16, 2020, all staff were told to work remotely for the foreseeable future.

For this part of the Review, we focused on three areas related to personnel management impacted by the WFH transition:

- Hiring and Onboarding of PICM staff during the pandemic;
- Hardware delivery to existing and newly hired employees; and
- Training of new and existing CRF staff.

The personnel application process at the CRF is detailed and in-depth. Application screening for completeness and vetting of eligible candidates is overseen by the Director of Operations, with multiple CRF staff involved as well. Candidates are required to be interviewed by the relevant Asset Class Director and Investment Officers from the group at a minimum. In addition, other staff members including the Director of Operations, Legal, and other Asset Class Directors may be asked to participate. Finally, the CIO interviews all candidates before extending an offer.



Once an offer is extended by CRF and accepted by a candidate, the process of employment, reference and background checks is initiated. The checks are extensive and documented to include multi-level reviews of the candidate's vital information.

Additionally, the CRF has engaged with a recruitment consultant that has extensive experience in the public pension space. The recruitment consultant, in coordination with the CRF, is the initial point of contact and provides initial screening of potential investment officers. As noted above, the final vetting is the responsibility of the CRF.

During the entire Review period, PICM hired 47 professionals, while 17 staff members left the Division. From the onset of the pandemic, 14 people were hired while 4 left. Kroll interviewed two PICM staff members brought on during the pandemic.

As noted above, the vast majority of PICM staff had access to laptop computers prior to the onset of the pandemic and thus were able to transition effectively to working from their homes. One of the priorities of the Operations team was to procure laptops for those largely administrative staff members that did not have them as quickly as possible. This was accomplished within two to three weeks.

Kroll was able to review the onboarding and training file directory at the CRF. This directory contains a multitude of documents that are provided to new hires as well as existing employees to help assimilate the employee to the CRF and serves as a resource for staff regarding internal policies and procedures. The training file contains folders that cover topic areas such as professional development, travel policies, the internal investment committee charter, and information about IAC and REAC, the CRF Philosophy and Mandate, organizational charts, and employee lists. Other specific documents include, still among others, the ACFR, an overview of the Comptroller's fiduciary duty and legal standards for the Fund, an ethics memo for new employees, and an outline of tips for success at the CRF.

## **Findings**

Kroll determined that the CRF continues to strengthen and centralize the overall hiring process and continuously implements measures to enhance procedures. Effective policies are in place to implement and document the procedures required to obtain completed applications, reference checks, and relevant employment verifications. We interviewed relevant staff such as the Director of Operations, HR Staff and two recent new hires. During the interviews it was apparent that CRF staff are aware of the hiring policies and there was a high degree of satisfaction with the overall hiring process despite the challenges presented by the Covid-19 pandemic.

Although the added layer of vetting and larger pool of candidates provided by the recruitment consultant has continued to enhance the hiring process, the CRF maintains control over the process, checking references and performing background and prior employment checks in-house.



To further review the hiring process, Kroll interviewed a recent Investment Officer hire to the CRF and a new member of the Compliance team. The Investment Officer hire found the overall process to be in-depth and efficient. It included an extensive questionnaire and interviews with the recruitment consultant prior to any contact with CRF staff. The recent hire confirmed that the required procedures were followed during the hiring process and noted that their references were contacted. Each of the meetings were conducted via video conference; the new hire noted that while in-person interactions are preferable, they simply were not possible.

The new Investment Officer hire received a laptop in the mail and experienced no issues with the hardware and technology support offered by the Operations team. He received several electronic notifications regarding PICM policies and procedures, specifically around technology and cyber security protocols. He also received the employee onboarding and training package and directory access from Operations upon his arrival at the CRF.

The Compliance team hire, based in Albany, was able to have two in-person meetings with the team prior to the Covid-19 WFH status, and met virtually with the CIO. She was able to pick up her laptop from the Albany office and noted little to no challenges in being able to assimilate effectively into the Compliance team.

### **Item 5: Compliance**

The Director of Compliance and his two Compliance Officers are responsible for a wide range of activities of the CRF, including conducting background checks on new investment managers and consultants, monitoring personal trading and other CRF employee activities, facilitating the annual broker search and evaluations, and distributing and reviewing the manager and consultant questionnaires annually.

During the internal audit of Compliance conducted last year one recommendation was for the unit to create a Compliance Manual that would codify and memorialize the many roles and responsibilities for which Compliance is accountable. Kroll agrees with this recommendation and believes this type of operating manual should be developed across other units to the extent they do not already have one. The document helps organize and expedite decision making and provides a template for team members to consult on an ongoing basis.

The CRF has implemented a recommendation from the previous Fiduciary and Conflicts of Interest Review by managing the broker search and evaluation process internally. The Compliance team is responsible for managing this function, with substantial assistance from members of the Global Equity and Fixed Income teams. This activity was previously managed by an external broker consultant.

Through their daily investment activities, Investment Officers with trading responsibilities are in continuous, direct communication with their executing brokers and are also speaking with peers in the industry. The Director of Fixed Income receives detailed weekly and monthly reports that assist him in monitoring the distribution of transactions across approved counterparties; while the Public Equity team prepares and distributes, within PICM, monthly commission reports to enable the Fund to monitor aggregate commissions paid.



Among the duties of the former broker consultant were the continuous monitoring of brokers through industry contacts, FINRA BrokerCheck,<sup>8</sup> SEC Focus Reports,<sup>9</sup> and other public filings and the notification of the CRF of any significant events or changes that would be material in relation to the broker's ability to provide services. FINRA BrokerCheck is a database maintained by all FINRA registered brokers (all client facing personnel at broker dealers are subject to a licensing requirement) and notes any regulatory issues on individual brokers or firms. SEC Focus Reports are annual financial reporting produced by all SEC registered broker dealers. Focus Reports contain general operating and financial conditions, identifying information and the firm's annual audit results. These tasks have been assumed by CRF Compliance.

The Director of Compliance typically meets with each approved broker's Compliance Officer prior to the broker's addition to the CRF's Approved Broker List. In addition, the Director of Compliance and his Staff issue annual questionnaires to brokers that require them to attest to the ongoing adequacy of their business to provide services that comply with CRF's standards.

Brokers are required to provide periodic reports as requested by CRF and are required to advise the CRF of any material changes to their business that would reasonably be expected to impact the broker's ability to provide execution services for the CRF. Per the Policy, any material changes to a broker's business are required to be provided to the Broker Selection Committee for review. In turn, the Broker Selection Committee can subsequently recommend appropriate action to the CIO for a final decision. The Broker Selection Committee is comprised of the Director of Operations, the Directors of Global Equities and Fixed Income, and the General Counsel for the CRF.

Approved brokers are required to fully reapply for approval at least once every five years, a process involving full questionnaires, on-site reviews, and background checks of key personnel. The questionnaire is linked to OSC's website. A separate questionnaire was developed for brokers seeking to serve the global equity portfolio and for brokers seeking to serve the fixed income portfolio. Responses are evaluated by the respective teams and separate lists of approved brokers are ultimately approved by the CIO.

The Broker Selection Committee separately reviews proposed broker counterparties for global equity and fixed income, before approval by the CIO, all pending final due diligence by the Director of Compliance. Kroll found that the Broker Selection Committee was comprised of representatives from the appropriate internal stakeholders and followed all required evaluation processes, due diligence, and implementation requirements.

Per CRF policy, transactions are only allowed to be executed with brokers on the approved list. However, exceptions may be made on a transaction basis with the prior approval of the CIO and with notice sent to the Director of Compliance. The Director of Compliance emails the Approved List of Brokers to CRF staff and issues updates as necessary if brokers are placed on a "watch list", suspended, removed from the list or there is a coverage change. Periodically, the Director of

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<sup>8</sup> <https://brokercheck.finra.org/>; FINRA is an independent non-governmental regulator for all securities firms doing business with the public in the United States. BrokerCheck is an online tool that reports individual brokers employment history, regulatory actions, investment-related licensing information, arbitration and complaints.

<sup>9</sup> Focus Report: SEC Form X-17A-5, Financial and Operational Combined Uniform Single Report (FOCUS).





Compliance requires all authorized investment officers to certify that they have received the Approved Coverage List, have only traded with executing brokers on the list, and have only placed trades through persons identified as approved on the list.

## Findings

Kroll understands that the Compliance Manual is nearing completion by the team. We find this type of document to be an invaluable resource across many of the investment entities that we work with. First, as an exercise, the development of a manual can identify potential pressure points or areas of improvement for a firm or division. Second, it provides a resource for team members to consult regarding the appropriate procedures to follow for both routine tasks and unforeseen issues. Finally, should the team experience any turnover or the need for succession planning arise, the manual can serve as the roadmap to ensure a smooth transition.

Kroll believes that taking complete control of the broker search and evaluation process aligns with industry best practices and institutionalizes a function that was largely already in place. The Compliance and Investment teams were already deeply involved in the process, and while this may be a “heavy lift” in the first couple of years for the Compliance team, in the long run it will benefit the CRF by strengthening their relationship with the broker community and ensuring even closer scrutiny of the execution process across the Fund.

In interviews, all CRF staff were aware of the on-going process of monitoring brokers and the channels of communication for reporting on relationships. CRF’s Investment staff are proactive in managing each brokerage relationship and raising concerns as appropriate. Review of internal communications showed detailed ongoing evaluations of brokers and subsequent measures to provide feedback or other consequences to the given brokerage counterparty.

The Director of Compliance and his team continue to play a key role in the monitoring of brokerage counterparties through background checks and communications with brokers to ensure relationships are current. The Director of Compliance oversees the annual questionnaires that are issued to each approved broker and will also run background checks on any changes in coverage.

Although approved brokers are required to reapply for approval once every five years, the CRF has an annual application process to allow those brokers not on the approved list to apply for consideration. This is intended to keep the process fluid so that the changing needs of the CRF can be met and is also a best practice in the industry. The broker approval process has been codified into the Compliance Manual and PICM Policies and Procedures Manual.

Currently the broker approval process is still in the onboarding stage for the Compliance team. In 2022 there will be approximately 40 brokers that need to be re-diligenced as part of the five-year re-underwriting requirement. This will place a heavy burden on the Compliance team. They have held discussions with the CIO about potentially adding resources to assist with this task, in conjunction with input from the Equity and Fixed Income Asset Class teams.



There have also been internal discussions about bringing on a Deputy Director of Compliance, specifically for the New York City office. Kroll believes this is consistent with the other divisions within PICM that have Deputy Directors and would recommend this addition to a key functional area.

### **Task 3: Assess Compliance with Fiduciary Principles**

As we undertook Tasks 1 and 2, we were charged with determining whether the policies, procedures, and processes are in place to ensure that the conduct of the investment-related operations of the Fund continue to be consistent with the Fiduciary principles set forth in the DFS Regulations, specifically:

- The Fund operates under a strong governance framework with a rigorous system of internal controls;
- The Fund maintains a high level of operational transparency;
- The Comptroller adheres to and manages the Fund with the highest ethical, professional and conflict of interest standards;
- The Comptroller acts for the sole benefit of the System’s members and beneficiaries; and
- The Fund is managed in the most efficient and effective manner possible.

### **Governance Framework**

The Comptroller, as the Trustee of the CRF and in his role as the Administrative Head of the System, is responsible for the investment of all the Fund’s assets and is bound by prudent investing standards. Additionally, he must abide by the exclusive benefit provisions of the RSSL and regulations of the DFS. As a government plan, the System is not subject to ERISA; however, as a matter of policy the CRF looks for guidance to ERISA and the U.S. Department of Labor interpretations where relevant.

The Comptroller is permitted to invest the CRF’s assets in specific types of investments laid out in several sections of the RSSL, most notably §177, and §235 of the State Banking Law. These statutes also contain limitations on the amount and quality of investments the CRF may hold in certain asset categories. These investments fall under the so-called “legal list”. In addition, up to 25% of the CRF’s assets may be invested in investments not covered by the legal list. These are the so-called “basket bill” investments. International equities over the legal list maximum percentage, private equity, credit, real assets, and opportunistic/ARS investments are included in this category. In making basket bill investments the Comptroller is subject to the specific prudent investor and exclusive benefit provisions of the RSSL and such investments are to benefit the overall economic health of the State to the extent possible. Monitoring of basket bill investments is handled by the Director of Compliance with assistance and reporting provided by the CRF’s custodian.

The Comptroller has established a well-defined governance process to effectively execute the duties outlined above. He adopts investment policies, including the Asset Allocation Plan for the



Fund, with the advice of the CIO, investment staff, investment consultants, internal and external legal counsel, and the external IAC. The consolidation of the investment related policies governing the CRF into a comprehensive manual was completed in 2019 and will be updated as necessary and recirculated annually. CRF staff are required to confirm the receipt and review of these policies on an annual basis.

Members of the external advisory committees serve at the discretion of the Comptroller. In addition to the IAC and REAC, the Comptroller has appointed the following committees: The Actuarial Advisory Committee, the Advisory Council for the Retirement Systems, and the Advisory Audit Committee. The Advisory Audit Committee reviews the annual internal and external audit processes related to the Retirement System and the CRF and reviews the ACFR.

Day-to-day operations of PICM and the management of Investment staff and Operations staff are delegated by the Comptroller to the Chief Investment Officer. Under the direction of the CIO and the Deputy CIO, the various Asset Class Directors exercise fiduciary responsibilities in managing investments either directly, or indirectly through external investment managers. Given the size and complexity of the CRF portfolio, the Comptroller engages the services of the external advisors and investment consultants to assist in various investment related functions of the Fund, including asset allocation studies, investment strategy development, manager selection and performance reviews. In addition, in certain instances a manager may be hired to execute an investment strategy or sub-strategy which may be more efficient or cost-effective than the CRF pursuing it internally.

The primary role of the investment consultants is the review of potential investments by the CRF. Additionally, they assist CRF staff with ongoing monitoring of existing investments, including the measurement of manager performance and other metrics related to external investment mandates. A recommendation by the appropriate asset class consultant is one of the requirements for approval of any new investment by the Comptroller. Each consultant functions under a written contract that defines its duties and responsibilities. Additionally, they must agree to act as a fiduciary for the Fund. In the procurement process, staff selects consultants based on a variety of factors including experience and specific knowledge of pertinent investments and strategies. The contract between the CRF and the external consultants generally lasts for five years.

Upon taking office, by way of an Executive Order (“EO”), the Comptroller created the OSC Office of Inspector General (“IG”) and as a commitment to continued rigorous governance, reaffirmed the EO in December 2017. The IG serves several functions within OSC: to receive and investigate complaints, corruption, fraud, or conflicts of interest within OSC; conduct internal investigations; supervise internal audit; operate a whistleblower hotline; and perform any other duties necessary or appropriate. As part of the Executive Order, every OSC officer or employee has the duty to report promptly to the IG any information brought to his or her attention or based on personal observation concerning corruption, fraud, criminal activity, conflicts of interest, or abuse in OSC by an officer or employee relating to his or her office or employment, by a person having business dealings with OSC relating to such dealings, by a person appointed by the Comptroller to serve as a member of a committee of NYSLRS or of the CRF, or by a person or entity having business dealings with the CRF relating to such dealings.



## Findings

The Comptroller has issued a clear mandate to the CIO and her staff to conduct rigorous, extensive due diligence around every investment the CRF makes. This mandate is reflected in detailed policies and procedures and various levels of oversight, which level of oversight includes his own active engagement in the process. Aside from reviewing and approving investments, the Comptroller attends the annual Advisory Council meeting and nearly every IAC, REAC, Advisory Audit Committee and Actuarial Advisory Committee meeting, generally in person and occasionally by phone. During the pandemic all meetings were held virtually and with the same, or higher, frequency and staff participation levels as before March of 2020. Staff and outside consultants perform the work of identifying and evaluating potential investment managers in order better to ensure the integrity of the process is maintained. We found the segregation of duties to be clearly defined and supervisory functions performed as prescribed in the Policies and Procedures Manual. Each member of the staff had a strong sense of what their roles and responsibilities were, who they reported to, and how the investment approval process functions. They also understood the roles of other professional at all levels of the organization.

The System and the CRF are thoroughly audited at various times over a multiple-year period by internal and external entities, including an annual audit of the System by a CPA firm in connection with the preparation of the ACFR, an examination at least once every five years by the New York State DFS, a triennial fiduciary and conflict of interest review by a qualified unaffiliated entity, a triennial audit of internal controls by an independent third-party, and ongoing risk-based audits by the OSC Office of Internal Audit. An Advisory Audit Committee meets three times each year to review and discuss upcoming audits and any issues identified in completed audits. This near-constant review of the policies and procedures of the CRF and the books and records of the System gives us comfort that any issues or concerns can be identified and resolved quickly and effectively. The audits also result in enhancements to existing policies, such as the generation of a manual for the Compliance team referenced earlier in the Report.

The Comptroller and CRF staff are firmly dedicated to the strong long-term performance of the Fund. Maintaining its viability for the System's beneficiaries is a clearly communicated priority from the top of the organization.

## Transparency of Operations

NYSLRS publishes the ACFR which provides a full review of the System's administrative, financial, actuarial, and statistical information for the preceding fiscal year. The System has received the Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association ("GFOA") for its ACFR for the last 16 years. The ACFR presents a detailed view of the Administrative Organization of the System, including an employee organizational chart, a list of the Advisory committees and an Overview of the System. The audited basic financial statements are presented along with required supplementary and other information. The Investment Section includes an overview of the CRF, Fund performance, and management fee and performance fee information. Finally, the actuarial and statistical analyses are shown at the end of the report. The System also publishes a detailed annual Asset Listing that accompanies the ACFR.



The Comptroller's commitment to CRF transparency is exemplified by the OSC's website: <https://www.osc.state.ny.us/common-retirement-fund>. On the website, the Fund provides a detailed accounting of policies and procedures as well as the monthly disclosure of every new investment transaction and also discloses quarterly Fund performance. The In-State Private Equity Investment Program and Corporate Governance policies are defined and explained on the website. The CRF's commitment to hiring MWBEs and its Emerging Manager Program is also outlined on the website. Moreover, the reports of all the Fund's prior conflict of interest and fiduciary reviews are also maintained on its website.

During our review, Kroll met with 34 members<sup>10</sup> of PICM and OSC, for a minimum of 30 minutes each. During these interviews, we discussed the person's background and experience, their day-to-day responsibilities, the recruitment and vetting process for more recent hires, their interaction with internal and external constituents, and any suggestions they might have for how operations could be executed more effectively.

As part of our document review process, we went through several categories of material, from broker data, the ACFR, compliance, ethics, PICM's policies and procedures, strategic plans, staffing updates, templates, and guidelines, and transaction files for 163 investments covered by the Review. We spent a significant amount of time reviewing the PICM Business Continuity Plan as part of Task 2. Any supplemental document requests by Kroll were provided expeditiously by the CRF.

## Findings

We found every member of the CRF Staff to be forthcoming and truthful during our conversations. No topics were considered "off limits" and employees spoke freely about all aspects of their daily roles. When speaking with newer hires, we were able to determine that the hiring procedures of the CRF are being followed even through the remote working environment brought about by the Covid-19 pandemic.

The published documents, including the ACFR, are comprehensive and exacting in detail. Fund expenses are laid out in detail, including fees paid to external consultants, advisors, and managers. Broker commissions and volume are also disclosed. Finally, the ACFR includes a Fund-level private equity fee, expense and carried interest analysis, all of which are exceptional relative to industry standards of transparency.

The CRF was an early adopter of the Institutional Limited Partners Association ("ILPA") fee reporting template for general partners<sup>11</sup> and has required its use for all new private equity commitments since its introduction in January 2016. The template provides the Fund with internal information that facilitates this Fund-level private equity fee, expense, and carried interest analysis.

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<sup>10</sup> For a full listing of interviews, please refer to section "The Kroll Process" of this Report.

<sup>11</sup> <https://ilpa.org/>



The monthly investment transaction disclosures provide high-level summaries of what the asset classes invest in, details the strategy of the investments, and discloses the amount of the investment or manager allocations.

The Fund is demonstrating a high level of operational transparency and in many cases appears to be in the vanguard of industry standards in this area.

## **Ethical Standards**

The Comptroller's *Executive Order on Certain Ethics Principles* governs all OSC officers and employees. The CRF staff is also covered by the Code of Ethics for State Officers and Employees (the "Code") which is laid out in the Public Officers Law. Mandatory ethics training is provided to all OSC employees, while CRF staff also receive additional ethics training customized specifically for the Division. There are also policies and procedures in place intended to prevent insider trading and the misuse of material non-public information. Compliance monitors personal account trading by PICM staff, supported by an external software application. Compliance was able to monitor employee trading activity throughout the pandemic via this compliance software platform and employee reporting.

A Code of Ethics also applies to members of the Advisory Council and Advisory Committees to the CRF, and each year IAC and REAC members file a statement of financial disclosure with the PICM Compliance Office. They also receive annual fiduciary training.

The standard of ethics for the CRF extends to its relationship with all business partners. All investment managers are legally banned from using the services of placement agents in connection with CRF investments and are required to certify in writing that they have not used the services of a placement agent, registered lobbyist, or other intermediary to assist in obtaining an investment by the CRF prior to the investment being approved by the CRF. Managers, consultants, and advisors must also certify in writing that none of their employees have made a political contribution that would violate Investment Advisers Act Rule 206(4)-5 with respect to the CRF. In addition, all managers, consultants and advisors must certify their obligation to disclose to the Fund, in writing, any conflict of interest they may have which could reasonably be expected to impair the ability of said firm to render unbiased and objective advice. These certifications are part of CRF's contracts and its Annual Compliance Questionnaire which is required to be filled out by managers, consultants, and investment managers.

## **Findings**

Kroll conducted a full audit of the transaction files for every investment approved and closed by the Comptroller during the Review Period. One set of key parameters we examined was the inclusion of particular manager certifications to the above discussed ethical standards. In all cases we found the agreements to show the inclusion of and adherence to the stringent ethical standards set forth by the Comptroller. This information can be found in Appendix 1 at the end of the Report.

The Ethics Office within OSC is composed of the Special Counsel for Ethics, staff lawyers and administrative personnel. The Ethics Office was cognizant of the heightened potential for ethical concerns posed by the CRF operations and while the office handles ethics for the whole OSC



which has over 2,800 employees, PICM with just over 100 of such employees consumes approximately one half of the unit's time. We feel this is an appropriate approach considering the significant potential ethics risks posed by managing the CRF.

The Compliance team for the CRF is currently comprised of just three people. They are responsible for, among other things:

- Assisting with ensuring adherence to the CRF's investment-related policies and procedures;
- Monitoring adherence to the statutory and policy mandates for trading by both internal staff and external managers;
- Facilitating annual broker searches and evaluations;
- Monitoring personal trading activities of employees pursuant to the "Insider Trading Policies";
- Administering an Annual Compliance Questionnaire to be completed by all external managers and consultants who are fiduciaries of the CRF;
- Reviewing the results of broker questionnaires to be completed at least annually by firms that are on the list of approved broker-dealers;
- Facilitating the PICM risk assessment process to create an inventory of potential risks to the Division, and in conjunction with other PICM constituents, recommending new policies and/or systems to address any internal control weaknesses;
- Reviewing background checks conducted by vendors on managers, consultants, brokers and members of certain advisory committees pursuant to the "Background Investigations Policy";
- Periodically providing compliance training for staff and distributing appropriate compliance materials to staff;
- Obtaining and reviewing Annual Financial Disclosures from members of IAC and REAC; and
- Completing filings required under section 13 of the Securities and Exchange Act of 1934.

In addition to these responsibilities, the Director of Compliance is also charged with at least annually facilitating a review of the written policies and procedures of the CRF.

While we believe all of the above responsibilities are appropriate and necessary, we believe the Compliance Staff needs additional resources to cover these current responsibilities more comprehensively and also allow for advance planning and strategic thinking. This is particularly true given the addition of the broker search process as part of their responsibilities. Specifically, we would recommend the addition of an experienced compliance professional that could serve



as a Deputy Director of Compliance to allow enhanced oversight of CRF Investment Staff and review of outside partners, as the areas Compliance is responsible for testing and monitoring are high-risk areas for the Fund. For the avoidance of doubt, we do not believe there are current lapses in the Compliance function, however certain resources are or will be constrained, allowing for potential risks to emerge.

Through our review process, we found that the Comptroller and the CRF staff manage the Fund to the highest level of ethical standards.

## **Comptroller Acts for the Sole Benefit of the System's Participants and Beneficiaries**

The Comptroller, as the Trustee of the CRF, is responsible for the investment of all of CRF's assets, is a fiduciary to the Fund, and is bound by prudent investment standards as set forth in the RSSL and DFS Regulations.

To assist with this responsibility, the Comptroller seeks the input of multiple internal and external advisors to determine the allocation of assets and the appropriate investment choices for the Fund. In addition to the employees of PICM, led by the CIO, the Fund relies on advice from outside advisors, consultants, and legal counsel, as well as independent external advisory committees to recommend all investment decisions that the Comptroller approves for the portfolio.

In accordance with DFS regulation 136-2.3, the Comptroller shall act solely in the interests of the members and beneficiaries of NYSLRS. The Fund shall at all times be under the control of the Comptroller, who shall adopt an investment policy statement and any amendments as needed. Key elements of the policy statement shall include, without limitation:

- Investment purpose;
- Investment objectives;
- Roles and responsibilities of the Comptroller, and the Comptroller's staff and committees, with respect to investments of the assets of the Fund;
- Investment guidelines and limits encompassing all types of investments;
- Asset allocation targets, including procedures for rebalancing;
- Standards for measuring investment performance and evaluating investment risk; and
- Any other guidelines adopted by the Comptroller with respect to specific investment-related issues, including but not limited to, securities lending, proxy voting, brokerage, and securities litigation.

In respect to the delegation of investment powers, the Comptroller shall regularly review:

- The present holdings in the investment account;





- Any material changes in the account during the preceding period;
- The reason for such changes and the results achieved thereby;
- The investment activity in the account including the rate of turnover; and
- Any other factors that the Comptroller considers pertinent to an analysis of financial reporting and planning, consistent with his or her obligation as a fiduciary.

The Comptroller (and all of his delegees) may not:

- Deal in the assets of the retirement system or the fund for his own account;
- Act in any capacity in any transaction involving the System or the Fund on behalf of a party whose interests are averse to the retirement system or the Fund;
- Receive any consideration from any party other than OSC, the System or the Fund in connection with a transaction involving the System or the Fund; nor
- Own or maintain any portion of ownership or personal interest in any assets of the System or the Fund other than an interest in the System as a member or beneficiary.

## Findings

The Comptroller, through the implementation of several meaningful reforms over the last several years, has strengthened the process to ensure that the Fund's assets are managed for the exclusive benefit of the System's beneficiaries. As discussed in greater detail above under "Ethical Standards," the Comptroller has implemented a number of ethics reforms to ensure this in relation to managers, advisors and consultants. In addition, any investment opportunity that comes up for approval must be thoroughly vetted by both internal staff and the appropriate asset class investment consultant. The Comptroller delegates to Staff the sourcing, analyzing and monitoring, in conjunction with consultants, of investments and relies on them to present a comprehensive evaluation of the manager for his approval. He also relies on input from independent advisory committees with deep experience in their respective asset classes in various aspects of the decision-making process.

Kroll spent a significant amount of time examining the external manager approval process as part of Task 1. We went through transaction files for 163 new investment transactions covered by the Review and interviewed many members of the Investment, Operations and Legal Staff regarding this process. There are multiple steps involved in selecting a manager or investment for the portfolio, along with a requisite number of documents that are included in the final Comptroller approval package. We believe this comprehensive framework provides for a robust manager review and selection process by the CRF and serves as a blueprint for public pensions of a similar size and complexity.



These measures, along with our observations of high ethical standards among Staff and no findings of inappropriate behavior lead us to conclude that the Comptroller is fulfilling his duty to act for the sole benefit of System's members and beneficiaries. These standards were maintained throughout the Covid-19 pandemic despite the many challenges the CRF faced operating such a large corpus in a volatile and uncertain market and societal environment.

### **Efficient and Effective Management of the Fund**

The CRF is the third largest public pension fund in the United States, managing approximately \$260 billion as of March 31, 2021. The Fund's asset composition is governed by the Asset Allocation Plan ("AAP") that is formulated every five years in conjunction with an asset/liability study. This plan is developed by the CIO, Investment Staff and outside consultants, and discussed with the IAC and ultimately approved by the Comptroller. The plan is discussed annually by the IAC.

The CRF's general investment objectives include the following:

- Provide the means, together with employee and employer contributions, to pay benefits, when due, to the System's members, retirees and beneficiaries;
- Optimize the long-term, risk-adjusted returns, consistent with liquidity and diversification parameters that are prudent under existing circumstances;
- Invest according to the AAP;
- Invest assets efficiently, bearing in mind the impact of management and transaction costs on the overall return; and
- Exercise all investor responsibilities, including the voting of proxies, in the best long-term interests of the CRF.

The AAP is intended to serve as a general guideline, allowing for the flexibility needed to respond to changes in various markets and economies globally. The CRF publishes the Asset Allocation in the annual ACFR.

Within asset classes that tend to be more efficient, such as domestic equities, the Fund will utilize passive investing tools such as internally managed index funds to capture market returns with lower fees relative to active strategies. In domestic equities, the active/passive mix is approximately 15%/85%, while in non-US equities the split is approximately 50%/50%. Domestic managers are benchmarked to the Russell Top 200, Russell Midcap 800 and Russell Small Cap 2000. The Fund utilizes multiple benchmarks within the Public Equity portfolio based on market capitalization and geography. Non-US managers are benchmarked to the MSCI EAFE, MSCI ACWI ex US IMI and Emerging Market Indices, while global managers are tracked against the MSCI ACWI Index. Core Fixed Income is actively managed on a total-return basis against a broad market index, the Bloomberg Barclays Aggregate Bond Index. However, while Core Fixed Income is an actively managed strategy, the Fund tends not to engage in short-term directional trading, focusing instead on tactically adjusting sector allocation relative to the benchmark. Core Fixed Income acts as a source of stable income and is a provider of liquidity for the Fund as a whole.



The CRF takes great care to exercise all of its investor responsibilities, including the voting of proxies, in the best interests of the CRF and the System's beneficiaries. The Fund pursues several different ways to engage with companies in its portfolio – filing shareholder resolutions, communicating with company management teams, and in select cases, aligning with other shareholders to impact corporate governance outcomes.

As a long term owner that invests across all sectors of the economy, the Fund works to promote sound ESG and related practices at the companies in its public portfolio through active ownership. The CRF believes it can use its voice and votes to mitigate risks and support the long-term success of its portfolio investments. The Fund's public company engagement activities take many forms, including proxy voting, shareholder proposals, written correspondence, investor statements, press strategies, and direct dialogue. These efforts have resulted in many important company actions, commitments, and disclosures, which can enhance and protect the value of the Fund's investments. According to the CRF's 2020 Corporate Governance Stewardship Report, in 2020, the Fund conducted 1,774 engagements with portfolio companies. Current issues being focused on by the CRF as outlined in the 2020 Stewardship Report, among many others, include:

- Climate Change and Sustainable Investing
- Cyber Security and Technology Infrastructure Protections
- Pandemics and other Human Capital Management Issues
- Lobbying and Political Influence of Portfolio Companies
- Diversity, Equality, and Inclusion

The CRF updates its proxy voting guidelines every two years and uses an external shareholder services consultant to code these guidelines into their system. The CRF will select a sample of votes after each proxy season to ensure the coding is correct and check for other discrepancies. The Fund makes all proxy voting decisions independently, consistent with its proxy voting guidelines.<sup>12</sup>

## Findings

### Staffing and IT

The Fund continues to make enhancements to optimize the management of the portfolio, in terms of both staffing and technology support. Each asset class has a dedicated Operations staff person to handle back office functions and a Deputy Director to handle some of the day-to-day managerial functions delegated by the Asset Class Directors, allowing the Directors additional time to dedicate to investment-related issues. This also provides continuity should there be staff turnover at these senior levels.

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<sup>12</sup> <https://www.osc.state.ny.us/common-retirement-fund/corporate-governance>



We view the addition of Deputy Directors in each asset class, as well as Operations, as a significant improvement in both business continuity and personnel development and we commend the Fund for taking this forward-thinking step. We would suggest the Fund consider implementing Deputy Directors in important operational areas such as Compliance and Risk as well, for the reasons outlined above.

The CRF, however, has lagged behind some of its peers in the utilization of IT to streamline investment functions. In some cases, it is simply a matter of having separate software systems interact more seamlessly to reduce inefficiencies and time spent on non-investment related matters. We detail our recommendations in this regard further in Task 4.

### **Environmental, Social and Governance**

The Comptroller and the Fund have long emphasized ESG issues. The CRF has been a leader in the institutional investor community with respect to sustainability efforts since the beginning of the Comptroller's tenure with the creation of the Green Strategic Investment Program in 2008-2009. The Fund continued to make significant strides during the reporting period by incorporating ESG analysis more formally into all aspects of its investment process and expanding its ESG reporting.

To protect the value of the Fund's holdings, they utilize some of the most robust corporate engagement initiatives of any pension fund in the United States. Among many other issues, the Fund has collaborated with fellow shareholders to engage energy companies on fossil fuels and greenhouse gas emission reductions. They have also urged their portfolio companies to be mindful of the salaries they pay their executives vs. their average worker.

Beginning in July 2015, the Fund's management and asset class heads undertook a six-month process to evaluate their core investment philosophy. An articulated ESG investment philosophy emerged from that work, resulting in:

- The establishment of an ESG investment philosophy, which was updated in 2020, to guide the integration of ESG factors into the investment process;<sup>13</sup>
- The development of a method to assess the materiality of ESG factors for each investment; and
- The creation of an ESG Risk Assessment to evaluate the ESG policies and performance of the Fund's external managers.

CRF policies were amended to reflect this and provide, in part, that the "CRF considers environmental, social and governance factors in its investment process because they can influence both risk and return. ESG issues impact the sustainability, value and performance of CRF's investments." However, the policies also recognize that the "relevance of particular ESG issues may differ and vary in degree across companies, sectors, regions, asset classes and over time." Therefore, investment recommendations in all asset classes are required to include

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<sup>13</sup> <https://www.osc.state.ny.us/files/common-retirement-fund/2020/pdf/ESG-strategy-report-2020.pdf>



information on and consideration of the manager's ESG policies and practices, focusing on the risks and standards relevant to the investment under consideration. ESG considerations are also integrated in the Fund's proxy voting guidelines and in public advocacy efforts with entities such as the SEC and the United Nations.

The Fund has strengthened its sustainable investment strategy to address the investment risks presented by climate change, believing it could significantly disrupt the global economy. The CRF was the first public pension fund to create an index that excludes or reduces holdings in the worst carbon emitters and shifts investments to lower-emitting corporations. This index, called the Risk-Aware Low Emission Equity Index, was funded with an initial investment of \$2 billion, and an additional \$2 billion investment in 2018.

The Fund published its first ESG Report in March of 2017. Additionally, the Fund publishes annually a comprehensive report outlining the Fund's major Corporate Governance initiatives and achievements for the prior fiscal year, the Corporate Governance Stewardship Report.<sup>14</sup>

In 2018, the Comptroller, on behalf of the Fund, joined over 315 organizations in expressing support for the Task Force on Climate-related Financial Disclosures ("TCFD"), which has developed recommendations for voluntary climate-related financial disclosures. In 2018, for the first time, the Fund implemented TCFD's recommendations to report on its climate change initiatives in the System's ACFR.

In March 2018, the Comptroller announced his work with the New York State Governor to appoint and convene the Decarbonization Advisory Panel,<sup>15</sup> a distinguished group of six experts, to develop recommendations for the CRF's climate-related work over the next decade. This group of investment, financial, environmental, energy and legal experts worked for nearly a year to deliver recommendations to the Comptroller that focused on climate-change-related investment opportunities and risk mitigation. In April of 2019, the Panel released a report recommending that the Fund transition its investments to 100% sustainable assets by the year 2030. The panel also suggested the Fund establish minimum standards to evaluate the readiness of its investments for climate change, establish a new climate solutions investment program and increase its funding of investments that take a proactive approach to climate risk and opportunity.

In response, the Comptroller directed staff to build on the Fund's existing work by formulating and releasing a Climate Action Plan<sup>16</sup> to put the CRF on the path to achieving a sustainable portfolio. The Climate Action Plan delineates the CRF's next level of climate related assessment, investment, engagement, and advocacy work and incorporates the Decarbonization Advisory Panel's recommendation on establishing minimum transition readiness standards. The Fund began developing transition assessments and minimum standards for portfolio companies in the high-impact sectors identified by the TCFD. The Fund has completed minimum transition readiness standards for thermal coal mining companies and oil sands companies and has announced investment restrictions on several thermal coal and oil sands companies that could not demonstrate transition readiness. The Fund is currently evaluating shale oil and gas companies. The companies currently under review are those that derive over 10% of their revenue from crude oil and gas production from shale. In December 2020, building on the Climate Action Plan, the Comptroller announced that the Fund had adopted a goal to transition its portfolio to net

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<sup>14</sup> <https://www.osc.state.ny.us/files/reports/special-topics/pdf/2020-corporate-governance-stewardship-report.pdf>

<sup>15</sup> <https://www.osc.state.ny.us/press/releases/mar18/030618.htm>

<sup>16</sup> <https://www.osc.state.ny.us/pension/climate-action-plan-2019.pdf>



zero greenhouse gas emissions by 2040, and the CRF released a progress report on the Climate Action Plan in April of 2021.<sup>17</sup>

The Climate Action Plan led to the creation of a dedicated program at the CRF called Sustainable Investments and Climate Solutions. The Plan has committed more than \$11 billion to sustainable investment opportunities thus far, with plans to nearly double that amount to \$20 billion in the next 10 years. The Fund created the position of Director of Sustainable Investments and Climate Solutions to support the implementation of the Plan and hired its first Director just before the start of the pandemic.<sup>18</sup> This Director is a senior investment professional who reports directly to the CIO and oversees the outstanding commitment to the SIP. As of December 2021, the Fund has allocated \$15.3 billion of that overall commitment.

Despite the projected reduction in greenhouse gas emissions due to stay-at-home orders that led to a decline in the use of fossil fuels globally, as a long-term investor and in accordance with its Climate Action Plan and Net Zero target, the CRF is committed to the effort to encourage portfolio companies to address environmental risks such as climate change, anticipating that a return to a more normalized economy will lead to a rebound in emissions.

### **Emerging Manager Program**

The CRF has a longstanding commitment to recognizing the principles of diversity and inclusion in all aspects of its business operations. Its Emerging Manager and MBWE programs offer opportunities to newer, smaller, and diverse investment management firms to help grow the CRF. The program has steadily grown over the years, not just in size but also scope and the CRF has Emerging Manager and MWBE allocations across all asset classes. It has one of the largest Emerging Manager and MWBE allocations across all asset classes. It has one of the largest programs among public plans. The Fund hosts a widely attended Emerging Manager and MWBE Conference annually; its last conference had over 1,000 registrations with 900 virtual attendees, a record level of participation, despite being held in the midst of a global pandemic. During the fiscal year ended 3/31/21, its total MWBE investments and commitments grew substantially, from over \$21 billion to approximately \$27 billion while CRF assets managed by Emerging Managers totaled over \$9 billion.<sup>19</sup>

Previously the Fund conducted a survey in the emerging manager community and as a result, adopted a universal emerging manager definition and provided clarity on business life-cycle stage definitions to assist in consistent screening, monitoring, and progression of potential candidates for inclusion in the program. Each year, the Fund seeks to graduate emerging managers to be mature direct investments by the Fund, and while more than 20 emerging managers have already graduated from the program, this increased transparency should streamline the process for both the CRF and the Emerging Manager universe. The Fund also identified common attributes of successful emerging managers. Guidance is on the Fund's website<sup>20</sup> and this transparency is expected to facilitate the Fund's ability to educate diverse market participants about its needs and expectations. This would further the Fund's goal of increasing its pool of fresh talent and investment opportunities to help the Fund continue to earn strong returns.

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<sup>17</sup> <https://www.osc.state.ny.us/files/reports/special-topics/pdf/progress-report-climate-action.pdf>

<sup>18</sup> <https://www.osc.state.ny.us/press/releases/ian20/010920.htm>

<sup>19</sup> <https://www.osc.state.ny.us/common-retirement-fund/emerging-manager>

<sup>20</sup> <https://www.osc.state.ny.us/pension/emerging/index.htm>



Based on our review, we conclude that the Fund has policies, procedures, and practices in place to ensure that the investment-related operations of the Fund continue to be consistent with managing the Fund efficiently, effectively, and as a leader amongst its peers.



## Task 4: Identify Recommendations for Improvement

Kroll was tasked with evaluating how the CRF could enhance the investment-related policies, procedures, and practices that were considered in scope for this review to bring them in line with best practices. We are not providing advice on any specific investments.

Throughout this report, we have highlighted recommendations or areas for improvement, which we detail in the section to follow. Broadly speaking we have organized our recommendations into three categories: Information Technology, Business Continuity, and overall Fund Management.

### Recommendation 1: Information Technology

In the previous Fiduciary and Conflict of Interest Review, the primary recommendation involved multiple facets of the information technology infrastructure, including the leveraging of OSC IT resources and enhancements to existing technology-oriented processes. The previous report was delivered to the CRF just prior to the pandemic's onset and subsequent transition to WFH status. The CRF appropriately turned their attention to managing the operations and investments of the Fund in the context of the State's disaster declaration and the impact on human capital resources in this new paradigm.

Kroll believes that the importance of the CRF to the System's participants and the need to operate in the most efficient and effective manner justifies a reiteration of the recommendation to enhance PICM's technology profile from the 2019 Review.

PICM currently operates with a very lean, dedicated Information Technology staff considering the amount of assets managed by the Fund and the risk that entails. Like the other divisions and bureaus within OSC, PICM's technology needs are met primarily by OSC's Division of the Chief Information Officer ("CIO").<sup>21</sup> Under an enterprise wide IT model at OSC, CIO offers a variety of services available to the entirety of OSC, an agency of over 2,800 employees with a broad mandate primarily focused outside of PICM, including maintaining the State's accounting system and administering the State's payroll; administering pension benefits to over one million retirees and beneficiaries; reviewing State contracts and auditing State agencies and public benefit corporations; reporting on State finances; and managing and issuing State debt, among other things. CIO has a service level agreement ("SLA") with PICM that sets a framework for the information technology services available to all divisions of OSC. It lays out specific terms and minimum service levels to be provided and includes core infrastructure items such as hardware management, network support and a helpdesk. There is a further addendum that outlines a shared resource or project manager to coordinate between the CIO and PICM. The addendum uses the IT service options available to all of OSC as a basis for any supplemental services to be provided to PICM.

Neither the SLA nor the addendum specifically covers technology support for portfolio management, investment processing, trade processing, or commitments around limiting market impacts resulting from technology. While the CRF has multiple software solutions in place

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<sup>21</sup> To avoid confusion, CIO in sections regarding information technology refers to the Division of the Chief Information Officer. Instances where the Chief Investment Officer and Chief Information Officer overlap will refer to the Chief Information Officer explicitly





allowing for both real-time market transactions and the passing of those transactions to the custodian, these products are separate and not necessarily able to be easily integrated and therefore lack the core efficiencies for effective operational processing. It also warrants commenting that the solutions are supported by the product vendors, not through CIO.

Within PICM, the Deputy Director of Operations (the “DDO”), among other responsibilities, supervises technology resources and the deployment of those resources for the division. The DDO was hired in August of 2018 and had significant IT experience in prior roles, including, notably, in supporting the investment division of another New York public pension plan. Currently, PICM is limited in its ability to leverage the benefit of this prior experience to relevant cases within CRF due to restrictions on what technology tasks CIO allows individual divisions within OSC to perform. As this position developed, technology has become a primary responsibility, which was highlighted by the Covid-19 pandemic and the crucial role that the DDO and his direct report played in meeting the technology needs of PICM employees. It is clear to us that PICM management is committed to implementing technology solutions, but additional IT staff resources within PICM are required as well as increased CIO coordination with and support of such PICM IT Staff.

As of March 31, 2021, PICM managed \$258.1 billion for the Fund; yet, even with the DDO and the additional IT-focused hire in Operations, PICM lacks the necessary authority to deploy investment related IT solutions and two individuals is insufficient relative to the Fund’s size. Pension industry leaders such as the California Public Employees Retirement System (“CalPERS”) and the Teacher Retirement System of Texas (“TRS”) have entire technology divisions within Investment Operations to support those operations and coordinate with wider enterprise IT. CalPERS has at least six technology divisions including an operations and technology division embedded within the Investment Office and an Enterprise Operations and Technology group that supports the entirety of just CalPERS.<sup>22</sup> We recognize, however, that structurally, the Fund is very different from the state plans mentioned; those plans are independent entities that do not sit within a broader state-wide agency. This fundamental difference will have implications for how the Fund navigates implementing these recommendations.

An enterprise-wide IT model has many efficiencies, particularly for the delivery of services that all or several of the component business divisions require. However, PICM’s unique business needs and highly time sensitive and market sensitive processes require the resources of additional PICM IT staff. We believe the IT staff resources currently allocated within PICM are not reflective of the risk posed by managing \$258 billion on behalf of the over one million participants and beneficiaries. While we view the services provided by CIO as a positive for PICM in the core functional IT and Information Security support areas, we also see a need for differentiated PICM IT solutions to address specific investment needs. Additional dedicated PICM IT staff would be able to spearhead technology initiatives and effectively utilize deployed software in those PICM specific areas.

However, it is just as important that PICM IT staff have sufficient resources, access, and functional authority to implement investment technology solutions that address PICM’s needs, bearing in

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<sup>22</sup> <https://www.calpers.ca.gov/docs/calpers-organization-chart.pdf>



mind that those technology solutions may differ from the broader OSC needs, or the services or solutions that CIO supports. A broader delegation of authority from CIO on these needs would not only benefit both PICM and the wider OSC technology effort, but also the non-PICM specific areas that have central roles in supporting the PICM processing such as Accounting. We recognize that additional PICM IT staff with the functionality as proposed may require additional CIO resources to support the coordination with PICM IT that will be required.

## **Automation**

During the course of our interviews, we discovered several processes performed by the Investment Officers managing the Fund, particularly for internally managed strategies, that in our experience, are typically accomplished through automation. The automation of day-to-day and mechanical tasks has been a staple of investment management firms for decades. Straight-Through-Processing (“STP”) is a widely used solution, varying in function by securities type, whereby the manual aspects of trading and processing a security are minimized or completely removed.

A typical example of this in the industry would be an investment officer placing a securities order through an electronic order management system. Once executed, the trade automatically flows directly back to the trader and into the portfolio management system without any further human intervention. Before STP, there was manual intervention at each of those steps, increasing the risk for error. STP is currently in place for portions of the investment process but should be implemented for the entire trade lifecycle.

Automation brings with it a multitude of benefits, first and foremost a reduction in risk by reducing the number of “hands” involved in a process. Secondly, Investment staff are able to focus more of their time on managing the Fund and generating positive returns for the Fund. This process has already begun, with increased attention from the DDO, but additional resources are still needed. Much of the automation necessary to achieve greater STP usage can be accomplished by augmenting and enabling internal technology staff with the necessary business and technical knowledge to understand the current investments processing environment and ability to analyze the delta between systems currently implemented and additional solutions required to extend capabilities to achieve operational efficiency.

We understand that the Fund is actively considering the implementation of an IBOR to provide reporting across asset classes. Multiple interviewees noted that this would greatly increase their ability to view and understand the broader risks of the CRF portfolio in the context of their individual asset class. This would be in conjunction with the augmented STP processing models mentioned above. As market conditions become more volatile, it becomes increasingly important to minimize disruptions in collaboration, communication, and processing in the decision-making process.

## **IT Project Management**

Investment Officers by definition are, and should be, focused on managing their individual asset classes and should not be involved in all of the technicalities of the systems they use to manage those assets, nor on how the capabilities of those systems might be leveraged across asset classes.



An effective way to retain investment talent is to reduce the time they spend on operational matters and make the mechanics of their roles as smooth as possible. The Operations team has made this an area of focus and believes it contributes to the longevity of senior investment personnel at the CRF. The average tenure of the Asset Class Directors is over 24 years at the CRF, while the average tenure of the Directors and Deputy Directors as a group is over 20 years.

The involvement of PICM IT staff in the procurement, deployment, maintenance, and optimization of systems can bring expertise in how discrete systems can work together (potentially improving the quality of systems being deployed), knowledge of what new or developing technologies might exist that could improve existing processes, and an overall sense of the PICM IT enterprise risk. This process is currently managed within the Operations group, which is where it should reside, but for optimal functioning, as previously recommended, the team should have a broader scope of authority from CIO and the number of PICM IT staff should be increased. As noted previously, this may also require an increase in staff resources on the CIO side of the equation.

A relatively small investment in expanding the IT team within PICM could generate efficiencies and returns far outweighing the costs. In our discussions with several different asset class heads, Investment Officers and Operations staff, multiple different investment management, risk management, and portfolio monitoring systems were discussed. The tools and the structure necessary to manage the implementation of all these diverse systems and to leverage specific services provided across asset classes is currently lacking. Importantly, as we previously highlighted, as additional qualified IT staff are added to PICM, it is imperative that those resources are granted sufficient permissions and access to implement investment technology solutions. While collaboration with CIO to achieve desired results is critical, the investment experience leveraged from these resources is key to achieving the efficiencies to sound technology implementations.

### **PICM Technology During the Covid-19 Pandemic**

The PICM Operations team worked closely with both CIO and OSC leadership, including the Comptroller, immediately before, during, and in the aftermath of the depths of the pandemic. The Executive Team communicated consistently with the entirety of OSC and with PICM through the Chief Investment Officer, the Director of Operations and the DDO. Kroll reviewed an email from February 28, 2020 from the DDO outlining the Emergency Response Plan (“ERP”) and the potential initiation of the Business Continuity Plan. An excerpt from that email reads: *“The ERP encompasses Business Continuity planning for each division and each division has their own specific plans. PICM is updating our plan separate from the Coronavirus and have been putting into place a number of improvements to ensure continuity. There is an essential staff list and a vendor/broker list. The staff identified as essential staff have been notified and requested to bring their laptops home nightly. We periodically have been testing the ‘work-from-home’ capabilities for essential staff members to ensure daily operational activities can be performed.”* This communication was one of many sent to PICM Staff throughout the pandemic to update and inform personnel during an uncertain period.

The CIO applauded the efforts of PICM for being well prepared prior to the Covid-19 pandemic and responding quickly and effectively to any challenges that arose during this challenging time. He noted that the DDO should have more resources, particularly additional personnel with both technical and investment acumen. It is our view that the pandemic highlighted the importance of



PICM Operations to the broader Agency. As the world returns to some sense of normalcy in the coming months, it would be beneficial for the Operations team to have both additional resources and the autonomy to utilize their skills in networking, programming, and investment management to enhance this critically important function within the broader OSC.

The pandemic highlighted a support need unique to PICM due to the significant level of inter-state and international travel that normally occurs to diligence and monitor investments. We feel compelled to stress the importance of being able to work efficiently once business travel resumes with consistent access to email, documentation, and other necessary systems.

To increase the efficiency of CRF staff that travel, an independent cloud-based collaboration solution accessible from any internet connected device would be particularly useful. As it currently stands, while traveling, investment officers have to take notes offline and then input them upon their return to share with their team. They have reduced or, in some cases, no access to documentation, and rely on all collaboration to occur after the fact, upon return to the office. There are several products available that would make the taking, tracking and sharing of content and research amongst the entire CRF team significantly easier while traveling. Content can be shared among investment officers, support staff and Compliance. The benefit of this automated sharing functionality would not be limited to travel status and can also aid in creating further institutional knowledge across the entire Fund. This solution could be further secured for domestic and international travel purposes by integrating the solution with dual or multi-factor authentication functionality.

Technology in general is making the world smaller. The work of PICM is global in nature, where processing and decision making needs to continue in a mobile capacity. PICM needs to focus on building an agile workforce that can be effective while traveling outside the continental United States while minimizing cyber risk.

## **Cyber Training**

CRF staff are subject to the standard OSC provided cyber training, which provides a solid educational base. While some CRF staff receive ad-hoc cyber training when they plan to travel, we feel it would benefit the entire PICM organization to be aware of the increased threat from cyber criminals, particularly if the future CRF workplace model includes the ability of employees to occasionally work from home. The SEC has made it a priority in recent years to highlight the threat posed to investment organizations, both reputational and monetary in nature. The frequency and severity of hacking attempts in organizations both large and small increased dramatically during the pandemic, reinforcing the need for proper information security protocols across the CRF.

In addition to travel security threats, a common security breach is with individual users clicking on malicious emails, phishing, spear-phishing attacks, or malware attacks. Criminals have greatly increased the sophistication and targeting of these attacks and therefore continual training is a best practice. This would allow CRF staff to be regularly reminded and cognizant of the threat. The CIO conducts annual phishing tests, but we would recommend a higher frequency (quarterly), risk-based testing with remedial training when necessary.



## Recommendation 2: Business Continuity

The Covid-19 pandemic has dramatically altered the way people and organizations work. In early March of 2020, companies across the country sent their employees home for what many thought would be a few weeks or months. Almost two years later, businesses are still coping with the ramifications of this new work paradigm – partial return to work policies, health and wellness concerns of employees and employers, and continued limits on business travel. As discussed earlier in this Report, OSC, and specifically PICM, were as well prepared as an institution could be under the circumstances to maintain operational integrity and conduct the important business of the CRF.

The CRF sent staff home until further notice on March 16, 2020, and the Business Continuity Plan was initiated. Copies of the BCP were given to all employees either in hard copy or electronically. It was also entered electronically into the cloud-based recovery website at that time. Essential staff were able to work onsite in Albany or New York City if they were required to by job function, provided they followed proper protocols in terms of social distancing and the wearing of masks. Despite some early connectivity issues with a surge in traffic on the OSC VPN, the CRF was able to conduct all investment and cash management tasks as described earlier in the Report.

At the Agency level, a Covid-19 Task Force was assembled, with ultimate representation by all 26 units of OSC. PICM had three members on this Task Force. Within OSC, in June of 2020 the Emergency Preparedness and Internal Communications (“EPIC”) committee was formed within the Division of Finance and Administration. One function of the EPIC team is to conduct “table-top exercises” where they envision business disruption events and run through scenarios to remedy these events. Kroll recommends that PICM establish a similar committee or working group to contemplate high-impact, unanticipated events and develop policies and procedures to mitigate the risk of significant capital loss within the CRF portfolio.

The DDO is the liaison to EPIC for PICM. Members of EPIC that we interviewed noted that PICM was well prepared for the transition to WFH given their experience with the network outage that occurred in 2019 as well as the impact to the New York City office during super storm Sandy. Kroll believes that there is the potential, while small, for other disruptive events to occur and that an internal working group comprised of staff from Investments, Operations, Risk, Legal and Compliance would be able to offer solutions more specific to PICM to maintain the CRF’s operational status.

The goal of this entity would be to engrain the notion of business continuity and disaster recovery in every member of the PICM Division. Loss of location, loss of staff and loss of technology should be the three areas of focus.

While some units within PICM tested their WFH capabilities ahead of the pandemic, as outlined in the BCP, others relied on the fact that they traveled for work and were accustomed to working on their laptops while on business. The pandemic allowed for PICM Staff to function as if they were traveling for work, but there are other events that would limit or entirely preclude this type of activity. Examples would include:

- A massive cyber-attack that completely shuts down the CRF’s internal systems, including trading and cash management, for a significant amount of time;



- A natural or man-made disaster that impacts one or both of the CRF's locations, particularly one that fully shuts down connectivity for an extended period; and
- The power grid in the Northeastern United States being attacked or otherwise shut down by a bad actor.

This working group could be housed within the Operations or Risk teams, given their existing roles and responsibilities. These teams, along with the CIO and Deputy CIO, are well situated to identify potential stress points early on in an event.

We would recommend the group lead periodic exercises and identify personnel to lead training around these exercises. While it is difficult to envision every possible scenario or emergency, periodic review and analysis of the response can mitigate any harm to the CRF or its employees.

The Securities and Exchange Commission has issued several alerts relating to cyberattacks and suggested policies and procedures for mitigating or preventing those attacks. These alerts can serve as an ongoing source of guidance and can be found on the SEC's website at [www.sec.gov](http://www.sec.gov).



## Recommendation 3: Fund Management

### Transaction Files

In conjunction with our broader recommendations, in particular concerning improvements to information technology infrastructure, we are noting that the CRF utilizes a very manual file organization system that proved cumbersome to use when auditing the transaction files. To enhance recordkeeping, increase consistency across files, allow for better user access and bolster institutional memory, a more standardized and automated file keeping system should be utilized. There are file storage software options in the marketplace similar to manager data rooms that can serve as a repository which is both secure and easily searchable.

We acknowledge that individual transaction files come from a disparate group of authors within PICM and also include legal documents from many different law firms. While there will be more initial work required to bring these into a consistent format, there will be a great value add in the future when it is necessary to review a particular transaction folder.

### Culture and Onboarding of Staff

We commend the Comptroller and senior staff for engendering a collegial, family-oriented culture at the CRF. Kroll believes this was a key element driving the success of the organization during the pandemic. Staff in both human resources and throughout OSC noted that the CRF invests in its people. While there are programs offered throughout the Agency, PICM has developed onboarding and training opportunities that apply specifically to PICM's activities and responsibilities. There is also an employee development week where OSC employees can take up to four classes to maintain or enhance their technical or leadership skills. While this is not currently mandatory it is encouraged by the Comptroller and Kroll would recommend that PICM provide similar programs targeted to the CRF for its personnel.

The CRF has had challenges in the past meeting the salary needs of highly sought after industry professionals, particularly in investments and technology. While there are limits to what the Fund can offer, culture and work/life balance are attractive to existing employees; Kroll would point out that 47 individuals were hired during the Review period while only 17 left. There has been a commitment by OSC and PICM leadership to add employees in areas of need. In fact, several Asset Class Directors noted in interviews that they were able to add significantly to their teams in the last several years without losing a high number of valued employees. CRF should work with their recruiters to communicate the intangible benefits of working there as a way to offset any perceived shortfalls on the compensation front.

The current onboarding process appears to be thorough in content, but we would recommend that all training takes place in person, when possible, instead of via video conference. The existence of a Deputy Director of Compliance in New York City (see below) would help facilitate in-person compliance training across the CRF.

### Staffing

While compliance at the CRF is the responsibility of all CRF Staff, the Director of Compliance for PICM is currently assisted by two other staff members.



We highly recommend the addition of at least one other compliance staff member for the near term. While we found the Compliance team to be knowledgeable and dedicated, the sheer volume of daily tasks that they must complete, including by the Director of Compliance, does not allow appropriate time and resources for strategic thinking and a thorough analysis of potential risks. With the addition of the broker search and evaluation responsibility, the team has been stretched even further.

One approach to this situation, and one we would recommend, would be to add a Deputy Director of Compliance, much like deputies have been added across the organization within PICM. Ideally this position would be filled by an external hire with significant compliance experience. Currently the entire Compliance team is based out of Albany, whereas approximately half of PICM is located in New York City. Locating a Deputy Director of Compliance within the New York City office would enhance compliance supervision of the team there and allow easier monitoring of locally based Partners, as well as lessen the travel burden of the current Compliance team members.

### **Operations Manuals**

The Compliance team is nearing the completion of a guidebook or “Compliance Manual” to assist in organizing its varied roles and responsibilities and documenting its policies and procedures. This will not only help to ensure that no tasks slip through the cracks but will help the team forecast and assign workstreams for each team member. We applaud the drafting of this document and recommend that other units follow suit. We understand that the Operations team is currently working on a similar document. Areas like Pension Risk Management could benefit immensely from the codification of their internal processes and key internal deliverables. These manuals serve to memorialize institutional knowledge, which can be a benefit should key employees decide to leave the CRF.

### **Leveraging Existing Managers and Other Business Partners**

The Fund utilizes several well-regarded firms as investment managers to execute specific mandates for which the Fund does not have the appropriate resources in house. This is in addition to the various investment consulting firms to assist each asset class and the Fund’s general consultant that assists with overall portfolio strategy. Kroll believes these investment managers provide tremendous value to the CRF, not only in the execution of their specific investment mandate but also through their general expertise. For example, one of their managers has extensive experience in executing virtual conferences, and the Emerging Manager and Operations teams were able to leverage that experience in putting on the Emerging Managers Conference in a completely virtual environment.

Kroll believes there are other areas where the managers can provide additional value. These firms typically have robust internal reporting systems across a complex array of businesses; perhaps they could provide input to the CRF’s effort to establish an IBOR and a comprehensive risk reporting dashboard. They also tend to have best-of-breed IT and cyber security infrastructure and protocols. These external business partners are well placed to provide advice and counsel to these and other CRF initiatives on a high-level basis.





The CRF's investment policies require that an investment consultant evaluation be included with each investment recommended for approval by the Comptroller. There is a policy in place to limit opportunities for firms to serve as a consultant and a manager for the CRF at the same time.<sup>23</sup> Further, consultants are typically selected in a competitive procurement process undertaken approximately every five years. They are also subject to annual questionnaires attesting to compliance with various conflict of interest and gifts and entertainment provisions as noted earlier in this report.

CRF policies and procedures require independent external consultant evaluation of transactions. However, there are some investment-related services performed by consultants that should also be reviewed periodically to determine whether staff can replicate some or all of the consulting services in-house. For example, CRF relies on an external manager in effect as a consultant to source and conduct due diligence on co-investment opportunities in the private equity and venture capital space. This illustrates a situation where PICM could hire investment professionals with co-investment experience and the knowledge to conduct that sort of diligence, and therefore with modest additional resources could bring that functionality in-house at a substantial cost savings to the Fund.

## Risk Management

### Risk Appetite Statement of the CRF:

*The CRF is dedicated to providing a secure pension for generations of NYSLRS members, retirees and beneficiaries. In pursuit of this mission, the CRF is committed to the highest standards of ethics and prudent investment management. In their decision making, the Trustee and staff of the CRF may take prudent investment risks when compensated by higher expected returns in order to generate stronger long-term performance. Regardless of potential returns, the CRF endeavors to avoid the risk of a loss of asset value that could compromise the economic viability of the current plan structure or call into question the integrity and responsibility of the CRF or its staff. Therefore, the CRF diligently seeks to identify and avoid such risk.*<sup>24</sup>

The CRF has a PRM investment risk team that provides an investment risk framework for the Fund. PRM is headed by the CIRO and is assisted by several staff members and is advised by the RC. This position is currently open, as the previous CIRO left the CRF in February of 2021. Currently the PRM is led by the Interim Director of Risk. The RC, chaired by the CIRO, includes established members and additional participation by Internal Audit, the Office of the Inspector General, and the office of the Chief Information Officer on an as-needed basis.

The roles of the PRM team, the CIRO and the RC are both wide ranging and detailed. All enterprise risks that may impact investment activities of the CRF are within the Committee's purview. Prior to the pandemic, these risks included market and credit risk, operational risk as it may relate to the investment process, as well as relevant aspects of liquidity risk, reputational risk, asset/liability risk, cyber risk, and governance risk as they may pertain to CRF investment

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<sup>23</sup> <https://www.osc.state.ny.us/files/common-retirement-fund/resources/pdf/policy-on-independence-of-consultants.pdf>

<sup>24</sup> Risk Appetite approved by the Comptroller in 2018 and reflected in NYLSRS 2019 Comprehensive Annual Report.



programs. Covid-19 and other external events have added yet another risk for the PRM to consider.

Currently the CIRO relies heavily on reporting from the Fund Custodian and from a third-party risk data provider. The data provided by this firm can be incredibly in-depth, but in our experience, typically requires a significant amount of analytics built in-house to be relevant to the end user. There is currently a project in place to improve the management reporting function of this data, but as with all technology projects, staff resources are an issue. We would recommend an increase in the allocation of technology resources to the CIRO that would tie in with our earlier recommendation of having PICM-specific technology experts.

As we noted earlier in the recommendations, adding a Deputy Director of Risk would add a layer of human capital strength and mitigate the challenges presented by a sudden departure at the senior level.



## Appendix 1: Closed Transaction Summary

	Date	Consultant Rec <sup>25</sup>	Staff Rec <sup>26</sup>	Comptroller Approval <sup>27</sup>	Placement Agent Fee Memo <sup>28</sup>	IIC or REAC <sup>29</sup>	Background Check <sup>30</sup>	ESG Risk Assessment	Gift Restriction Acknowledgement <sup>31</sup>	Placement Agent <sup>32</sup>	Legal Review	Political Contribution Limits <sup>33</sup>	Conflicts of Interest <sup>34</sup>	FEAA Boycotts <sup>35</sup>	MacBride Fair Emolvment <sup>36</sup>	DFS Access <sup>37</sup>
<b>Fixed Income</b>																
Advent Phoenix Convertibles	07/12/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Calvert Bond Fund	12/05/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MSIM TALF Fund	06/04/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Neuberger Berman Fixed Income LLC	06/14/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New Century Advisors	02/04/21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Nuveen Core Impact Bond Strategy	12/05/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Global Equity</b>																
Acadian MSCI EAFE Small Cap	06/01/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AQR Capital Domestic	05/01/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ariel Investments MSCI ACWI ex US	10/30/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Barings International Small Cap Account	04/14/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Barings MSCI EAFE Small Cap	07/01/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cevian Capital II	7/5/2018	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fiera International Equity Account	10/01/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Global Alpha Capital Management Global Equity Account	03/01/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
LSV International Equity Account LSV ACWI Ex U.S.	10/30/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Martin Currie Emerging Markets Account	10/01/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

<sup>25</sup> Investment Consultant recommendation is required prior to the investment being recommended to the Comptroller.

<sup>26</sup> Investment Staff recommendation to the Comptroller.

<sup>27</sup> Comptroller approval of a particular investment transaction.

<sup>28</sup> Placement Agent Fee Disclosure Determination Memo from Committee.

<sup>29</sup> Internal Investment Committee or Real Estate Advisory Committee Minutes

<sup>30</sup> Background checks completed or waived as applicable.

<sup>31</sup> Acknowledgement of requirement to comply with the provisions of Section 73, sub (5) of the New York Public Officers Law.

<sup>32</sup> Contractual bring-down of the manager's representation that no placement agents were used.

<sup>33</sup> Representation that the manager has not violated Rule 206(4)-5 of the US Investment Advisers Act of 1940 with respect to the CRF.

<sup>34</sup> Manager representation required by DFS Regulation 136-2.4(c)

<sup>35</sup> Representation that the manager has not violated and will not violate the Federal Export Administration Act of 1979 and successor laws (as amended).

<sup>36</sup> Representation that the CRF is subject to Section 423-a of the NYS RSSL.

<sup>37</sup> The manager acknowledgements and agreements required by DFS Regulation 136-2.5(b).



Palisade Capital Management-Domestic Small Cap	05/01/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wellington Asia ex-Japan International Equity Account	12/15/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Opportunistic</b>																
ADV Opportunities Fund II, LP	04/19/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cowen Sustainable Investments I LP	11/10/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Empire Co-Invest, L.P.	12/11/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Insight Partners Opportunities Fund I, L.P.	08/17/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stellex Capital Partners II LP	06/12/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stellex II Co-Investment NY LP	06/12/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Varde Specialty Finance Fund	05/22/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vivo Opportunity Fund, LP	06/01/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Private Equity</b>																
57 Stars Global Opportunity Fund (NYSCRF), L.P.	12/09/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
57 Stars Global Opportunity Fund 5 - Direct Impact, L.P.	12/31/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ares Corporate Opportunities Fund VI, L.P.	06/15/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Armory Square Ventures II, L.P.	02/06/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Avance Investment Partners	03/08/21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blackstone Capital Partners VIII, L.P.	03/29/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blackstone Core Equity Partners NY	05/17/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bridgepoint Development Capital IV, L.P.	09/03/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wigmore Street BDC IV Co-Investment, L.P.	09/03/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bridgepoint Europe VI, L.P.	06/01/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wigmore Street VI Co-Investment No. 3, L.P.	08/17/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brookfield Capital Partners V, L.P.	12/20/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cinven VII	04/16/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Clearlake Capital Partners VI, L.P.	03/30/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Contour Opportunity Fund II, L.P.	02/15/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Contour Venture Partners IV-A, L.P.	08/21/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Crestview Partners IV, L.P.	09/04/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CVC Capital Partners Asia-Pacific V, L.P.	02/15/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CVC Capital Partners VIII, L.P.	06/08/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CVC Growth II, L.P.	04/29/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CVC Growth II Co-Investment Fund, L.P.	04/29/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CVC Strategic Opportunities Fund II, L.P.	06/22/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CVC Strategic Opportunities II Co-Investment, L.P.	11/09/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



EQT IX SCSp	07/10/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FIMI Opportunity VII, L.P.	02/11/21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Francisco Partners VI, L.P.	04/29/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FS Equity Partners VIII, L.P.	03/15/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
GenNx 360 Capital Partners III, L.P.	06/21/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Green Equity Partners VIII, L.P.	11/27/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hellman & Friedman Capital Partners IX, L.P.	10/04/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
IK IX Fund No. 1 SCSp	10/11/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Insight Venture Partners XI, L.P.	12/17/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
KKR Asian Fund IV, L.P.	06/05/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
KKR Global Impact Fund SCSp	12/07/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
KSL Capital Partners V, L.P.	10/22/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lindsay Goldberg V, L.P.	06/07/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New York Business Development Corp (NYBDC)	07/12/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New York Credit Co-Investment Fund III, L.P.	12/09/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NY Balanced Pool Asia Investors III (Asia Alt)	10/31/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NY Co-Invest Pool Asia III (Asia Alt)	10/31/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NYSCRF NB Co-Investment Fund II, LLC	02/12/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NYSCRF Pioneer Co-Investment Fund II - Farol	05/08/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NYSCRF Pioneer Partnership Fund A- III	12/31/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NYSCRF PioneerTransition Annex Fund	08/09/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Primary Select Fund I	08/07/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Primary Venture Partners II-A	05/23/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Primary Venture Partners III	09/30/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Providence Equity Partners VIII, L.P.	06/12/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Providence Strategic Growth Fund III, L.P.	06/12/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Providence Strategic Growth IV	04/26/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Searchlight Capital Partners III, L.P.	07/02/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Siris Partners IV, L.P.	04/17/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TA XIII, L.P.	05/03/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Thoma Bravo Fund XIII, L.P.	12/07/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Thoma Bravo XIV, L.P.	10/23/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Towerbrook Investors V, L.P.	06/21/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vista Co-Investment Fund 2018-2, L.P.	09/30/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vista Credit Partners Fund III	03/02/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vista Equity Partners Perennial Fund, L.P.	11/21/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vista Equity Partners VII, L.P.	08/31/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



Vista Foundation Fund IV	02/21/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Warburg Pincus China & Southeast Asia II	07/03/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Real Assets</b>																
Blackstone Infrastructure Partners	06/30/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blackstone Infrastructure Partners IV Renew Sidecar	10/07/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brookfield Infrastructure Fund IV	05/17/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brookfield Infrastructure Fund IV Co-Invest	02/12/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Castlake Aviation Stable Yield IV	07/24/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Copenhagen Infrastructure IV	02/02/21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EQT Infrastructure Fund IV	02/01/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EQT Infrastructure Fund V	01/22/21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Excelsior Renewable Energy Investment Fund I	12/24/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Global Infrastructure Partners IV	11/08/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Global Infrastructure Partners IV Co-Investment Renewables Sidecar	11/08/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Grain Communications II (EM)	12/07/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Grain Communications Opportunity Fund III	12/31/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Grain Spectrum Holdings III	09/16/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
GSO Energy Select Opportunities Fund II	12/21/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ISQ Global Infrastructure Fund II	07/27/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ISQ Global Infrastructure Fund II Co-Invest	07/29/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ISQ Global Infrastructure Fund III	12/11/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ITE Rail Fund	03/13/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
North Haven Infrastructure Partners III	09/17/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SASOF V LP (Carlyle Aviation Partners)	02/28/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stonepeak Global Renewables Fund	06/29/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stonepeak Global Renewables Fund Co-Invest (NY)	09/30/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stonepeak Infrastructure Fund IV	06/10/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Real Estate</b>																
Ares European Property Enhancement Partners III (AEPEP)	03/21/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AEPEP III Strategic Co-Invest	06/18/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ARA Real Estate Partners Asia II	10/23/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Artemis Real Estate Partners Income & Growth Fund	08/13/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Asana Partners Select Retail Fund	04/06/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



Bergdorf Goodman Fifth Avenue NY.NY <sup>38</sup>	03/19/20	✓	✓	✓	✓	✓	✓	✓	NA	✓	✓	NA	NA	NA	NA	NA
Black Creek Industrial Fund	10/31/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blackstone BioMed Life Science Real Estate Partners	02/05/21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blackstone Property Partners	04/27/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blackstone Real Estate Partners Europe VI SCSp	05/24/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blackstone Real Estate Partners IX	12/21/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Brookfield Strategic Real Estate Partners III	11/20/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cortland Enhanced Value Fund V	08/28/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Empire GCM RE Anchor Fund	06/24/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EPNY Ventures I	08/23/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Exeter Europe industrial Core Fund	06/16/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Exeter Europe Value Ventures III	06/29/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fairfield Create Core Multifamily Fund	05/12/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Heitman Value Partners IV	06/28/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HVP IV Sidecar I (Heitman Value Partners)	08/02/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
JP Morgan Strategic Property Fund	07/10/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
JPM Star Lake Fund III	08/20/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kanye Anderson Real Estate Partners VI	03/31/21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
LaSalle Property Fund	03/31/21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Niam Nordic VII	11/19/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NREP Nordic Strategies Fund IV LP SCSp	08/24/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NREP Nordic Strategies Fund IV Co-Invest	10/28/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oaktree Real Estate Opportunities Fund VIII	03/15/21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PGIM Real Estate Capital VII	06/03/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PRISA LP	10/01/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Prologis Targeted US Logistics Fund (USLF)	04/16/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Westbrook Real Estate Fund XI	02/28/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Westbrook Real Estate Fund XI Co-Invest	02/28/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Credit</b>																
Avenue Sustainable Solutions Fund	01/23/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blackstone Tactical Opportunities Fund III	03/09/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blantyre Special Situations Fund (& MSF I listed separately)	10/01/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Madison Square Fund, LP	10/01/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Blantyre Special Situations Fund II (& MSF II listed separately)	02/09/21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

<sup>38</sup> As the Bergdorf Goodman transaction was a mortgage, the items marked Not Applicable ("NA") were not required for approval.



Madison Square Fund II (Co-Invest to Blantyre II)	03/15/21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bridgepoint Credit Empire SMA SCSp	10/31/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Clearlake Opportunities Partners II, L.P.	05/31/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hollis Park Value Fund LP	02/19/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Neuberger Berman Loan Advisors Holdings II (Delaware), L.P.	06/26/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Orchard Taiga Special Opportunities DAC	09/27/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pearl Diver Empire Fund LP	09/25/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SSG Capital Partners V	11/27/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SSG Capital Partners V Sidecar, L.P.	11/27/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TSSP Adjacent Opportunities Partners (F) LP	02/07/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TSSP Opportunities IV (A) LP	12/21/18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whitehorse Liquidity Partners (Empire) LP	11/09/20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Whitehorse Liquidity Partners III, LP	06/25/19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓





## Appendix 2: Team Biographies

### Chris Lombardy - Managing Director

Chris is a Managing Director and former Head of U.S. Compliance Consulting at Kroll. He joined Kroll in January 2015 from Kinetic Partners as a result of Kroll's acquisition of Kinetic.

Chris has extensive experience within the investment advisory industry as a lawyer, chief compliance officer, and consultant. Mr. Lombardy works closely with investment advisory and broker dealer clients on numerous matters such as formation and structuring, establishing compliance and operations infrastructure, selecting appropriate service providers, identifying and addressing risks and conflicts, performing operational due diligence reviews and preparing for and dealing with regulatory examinations, and performing mock regulatory examinations.

Chris is frequently asked to lecture on panels on matters specific to investment adviser regulations, developing a robust compliance infrastructure, industry best practices, preparing for regulatory examinations and due diligence reviews, investment advisers and directors & officers insurance.

Chris earned his B.S. in International Finance and Master of Business Administration in Finance from American University, Kogod College of Business and his Juris Doctorate from St. Thomas University School of Law.



### Mark McGrath - Director

Mark is a Director in the Financial Services Compliance and Regulation Consulting practice at Kroll, specializing in operational and investment due diligence of alternative investment managers. He has over 15 years of experience as both an allocator of capital and investment manager research and due diligence. Mark has experience investing in and doing deep analysis of multiple alternative investment sub-strategies, including long/short equity, global macro, credit, multi-strategy, special situations, distressed debt, private equity, and venture capital. He has worked in the capital markets for the entirety of his career.

Prior to Kroll, Mark was the Director of Research for Alternative Investments at a multi-billion dollar private bank. He was responsible for sourcing, evaluating, and monitoring the alternative investment managers on the firm's approved manager platform. He served on the firm's Investment Committee and Wealth Management Committee and helped set strategic capital market expectations for client portfolios across the firm.

Previously, he was a Vice President in the Private Equity Group at a large multi-family office. In addition to managing client portfolios as a Family Investment Officer, Mark was part of a team that managed a series of private equity fund and direct private investment commingled vehicles for the firm's ultra-affluent clients. Mark also spent several years in Investor Relations consulting and worked at several investment firms as an analyst.

He received an MBA in Finance from Emory University and a Bachelor of Arts in Political Science from Miami University (OH).



### Peter Wilson – Managing Director

Peter is an attorney and Managing Director at Kroll in the Financial Services Compliance and Regulation practice. He specializes in counseling a variety of investment advisers, including those managing hedge funds, private equity and real estate funds.

With over 15 years of legal and regulatory experience, Peter has worked extensively with private fund managers. His expertise includes designing compliance programs, implementing industry best practices, conducting mock regulatory examinations, supporting regulatory filings, and performing operational due diligence. Peter also has significant experience guiding advisers through regulatory examinations and corresponding with federal and state securities regulators.

Peter held numerous senior level management positions within the asset management industry. Prior to joining Kroll, he served as Chief Compliance Officer and legal counsel for several SEC-registered entities, including an investment adviser to a global multi-billion dollar fund-of-hedge funds and a number of mutual funds. Peter also served as Chief Compliance Officer at a CFTC registered swap execution facility where he oversaw firm-wide compliance management and strategy, designed operational systems, and implemented robust controls to promote sound governance of the trading platform.

Peter began his legal career in the U.S. Army JAG Corps, where he held numerous positions including prosecutor and criminal defense trial attorney. He is admitted to practice law in New York, Connecticut and before the U.S. District Court for the Southern District of New York.

Lindon Bluth – Senior Associate

Lindon Bluth is an attorney and Senior Associate in Kroll's Financial Services and Compliance Regulation Consulting group, based in Chicago. He advises investment managers on SEC and NFA regulatory and compliance matters. Lindon specializes in counseling SEC-registered entities to prepare for SEC examinations and then mitigate any findings from those examinations. He regularly conducts mock exams for several different strategies of firms, including private equity funds, real estate funds, and hedge funds. Additionally, he supports in the creation and implementation of compliance programs and performs the necessary testing, due diligence, and monitoring of those programs. Previously he was a Compliance Officer for an options clearing firm where he managed the regulatory exams (SEC, CFTC, Federal Reserve) and remediated the subsequent findings.

Lindon received his J.D. from Chicago-Kent College of Law with a focus on Compliance for Financial Institutions. He is admitted to the Illinois State Bar.



### Laura Ferguson – Partner, Locke Lord LLP

Laura Ferguson is a Partner in the Houston office of Locke Lord LLP where she assists clients with a wide variety of employee benefits, executive compensation, and privacy and cybersecurity matters. Prior to joining Locke Lord LLP, Laura was an associate attorney at Cox Smith Matthews Inc. (now part of Dykema) in San Antonio, Texas. Laura's practice includes regularly drafting, reviewing, and amending all types of retirement and welfare plans for compliance with the Employee Retirement Income Security Act, Internal Revenue Code, and other applicable federal or state laws. Laura assists clients with identifying and resolving benefit plan document and/or operational failures through the preparation and submission of voluntary compliance program applications to the IRS and/or DOL. She also counsels plan sponsors and administrators with respect to the identification and management of fiduciary duties under ERISA and the design and execution of prudent procedures relating to plan administration and the selection and monitoring of investments and third-party service providers.

Laura has a Juris Doctor from Boston University School of Law and a Bachelor of Commerce from the University of Alberta.

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