County Employees Retirement System
and Kentucky Retirement Systems
Joint Audit Committee
November 28, 2022 at 10:00 a.m. Eastern Time
Live Video Conference/Facebook Live OR
1270 Louisville Road, Frankfort, Kentucky 40601

AGENDA

1.	**Call to Order**	Bill O'Mara
2.	**Opening Video Teleconference Statement**	Legal Representative
3.	**Roll Call**	Sherry Rankin
4.	**Public Comment**	Sherry Rankin
5.	**Approval of August 25, 2022 Joint Audit Committee Minutes***	Bill O'Mara
6.	**External Audit Updates**	Blue and Co.
	a. **DRAFT Results of external audit, fiscal year ended June 30, 2022***	
	i. Includes Financial Section of the Annual Report	
	ii. Includes GASB 67 and 74	
	b. Management Letter Comments	
	c. Auditor Communications with those Charged with Governance	
7.	**Financial Reporting Updates**	Connie Davis
	a. Quarterly Financial Statements for Quarter Ended 9/30/2022	
	b. DRAFT Management Response to Fiscal Year 2021 GFOA ACFR Letter	
8.	**Update on Security Requirements for KPPA Subcontractors with Access to Confidential Information**	Carrie Bass
9.	**Update on Invalid Addresses**	Erin Surratt
10.	**Infrastructure and Application Security Assessment***	Dominique McKinley
11.	**Joint Audit Committee Administrative Updates**	
	a. Information Disclosure Incidents	Carrie Bass
	b. Anonymous Tips	Carrie Bass
	c. Introduction of Internal Audit Staff	Kristen Coffey
	d. Internal Audit Budget as of 9/30/2022	Kristen Coffey
	e. Status of Current Internal Audit Projects	Kristen Coffey
	f. Update on Chase Bank Fiduciary Status	Steve Willer
12.	**Professional Articles**	Matt Daugherty
	a. Association of Government Accountants – AGA Research – The State of Cybersecurity in Government – *March 2022*	
	b. Bloomberg Tax – Holding Auditors Accountable for Complicity in Corporate Fraud – *August 11, 2022*	
13.	**Adjourn***	Bill O'Mara

***Action may be taken by the Joint Audit Committee**

MINUTES OF MEETING
COUNTY EMPLOYEES RETIREMENT SYSTEM AND KENTUCKY RETIREMENT SYSTEMS BOARD OF TRUSTEES JOINT AUDIT COMMITTEE
AUGUST 25, 2022, 10:00 A.M., E.T.
VIA LIVE VIDEO TELECONFERENCE

At the August 25, 2022 meeting of the Joint Audit Committee of the Board of Trustees of the County Employees Retirement System and the Kentucky Retirement Systems, the following Committee members were present: William O'Mara, Betty Pendergrass, Lynn Hampton, and William Summers, V. Staff members present were David Eager, Rebecca Adkins, Erin Surratt, Michael Board, Victoria Hale, Connie Davis, Madeline Perry, Matthew Daugherty, Kristen Coffey, Carrie Bass, Steve Willer, Ann Case, Elizabeth Smith, Ashley Gabbard, Phillip Cook, Katie Park, and Sherry Rankin. Others present included CERS CEO Ed Owens, III, KRS CEO John Chilton, KRS Trustee Ramsey Bova, and Allen Norvell with Blue and Co.

Mr. O'Mara called the meeting to order.

Mr. Board read the Opening Video Teleconference Statement.

Ms. Rankin called roll.

Mr. O'Mara welcomed Mr. William Summers, V. to the Committee.

There being no *Public Comment*, Mr. O'Mara introduced the agenda item *Approval of Minutes – May 24, 2022.* Ms. Hampton made a motion and was seconded by Ms. Pendergrass to approve the minutes as presented. The motion passed unanimously.

Mr. O'Mara introduced the agenda item *Overview of Fiscal Year 2022 External Audit.* Mr. Allen Norvell with Blue & Co. presented the material. Mr. Norvell briefly presented a memo required by professional standards which describes important information relating to the audit. He advised the Committee that the role of Blue & Co. is to express an opinion about whether the financial statements prepared by management are fairly presented and are in accordance with accounting principles generally accepted in the United States. Mr. Norvell directed the Trustees to the memo (meeting materials, pp. 7-9) for further detail and information.

Mr. O'Mara introduced the agenda item *Financial Reporting Updates.* Ms. Adkins presented unaudited Financial Statements for Fiscal Year Ended June 30, 2022 beginning with the Combining Statement of Fiduciary Net Position of the Pension Funds. She stated that all assets were down 4.57% and advised that footnotes were included in the report to clarify any increases or decreases of 10% or more. Ms. Adkins also reviewed the Combining Statement of Changes in Fiduciary Net Position of the Pension Funds. CERS Nonhazardous was down 7.5% and CERS Hazardous was down 7.09% for the entire fiscal year, said Ms. Adkins. KERS Nonhazardous was down .25% and KERS Hazardous was down 6.37%. She advised that SPRS received a 215 million dollar appropriation to pension which was received at the end of FY 22 and would have been down 5.52% without those funds. Mr. Summers asked for clarification regarding the footnote which stated that corrections were being processed. Ms. Adkins advised that health insurance contribution was reported into the pension fund for some time as required by statute. This was corrected once there were changes to the statue which required the funds to be reported to insurance. Next, Ms. Adkins presented the Fiduciary Net Position of the Insurance Funds for FY 22. She reported that returns had decreased by 4.65% for the fiscal year. The Combining Statement of Changes in Fiduciary Net Position for Insurance Funds was also reviewed with the Committee. CERS Nonhazardous was down 3.76% and CERS Hazardous was down 5.79%. KERS Nonhazardous was down 3.81% and KERS Hazardous was down 7.2%. Next, Ms. Adkins reviewed the CERS Pension Funds Contribution Report and stated that CERS Nonhazardous was cash flow negative and CERS Hazardous was cash flow positive. KERS Nonhazardous, KERS Hazardous, and SPRS were all cash flow positive, said Ms. Adkins. The Insurance Fund Contribution Report for CERS illustrated a positive cash flow across plans. KERS Nonhazardous was cash flow positive, however, KERS Hazardous and SPRS had negative cash flows. Ms. Hampton asked when contributions will continue to be made into KERS Hazardous. Ms. Adkins stated that the Actuary makes the decision regarding the pension-insurance split. Further, Ms. Hampton asked if the Actuary has projected when they will begin contributing to that plan. Ms. Adkins advised that she did not have that information. Ms. Hampton also asked what percent the plan is funded. Ms. Adkins stated that the plan was funded 130% in 2021. Ms. Adkins reviewed the budget-to-actual analysis for the FY 21-22 KPPA Administrative Budget with the Committee and reported that about 15% of the budget remained at the end of the fiscal year; 8.5% under budget without the reserve. Adoption Assistance, Ice Miller (legal), Medical Reviewers, and Miscellaneous were over budget, said Ms. Adkins. Ms. Pendergrass asked for a summary regarding the two million dollar increase shown in the Staff Subtotal. Ms. Adkins believed the increase to be attributed to the addition of the CERS and KRS CEOs, increased salaries for positions within the Office of Investments, and an increased salary for the KPPA employees. Ms. Adkins stated that she would need to conduct a study to decipher the details of the increase. Mr. Eager stated that the analysis can be broken down into three issues: headcount, Investment CEOs, and increased compensation for active employees. Ms. Adkins stated that overtime was also a contributor to the increase. Mr. O'Mara suggested that the recent analysis presented to the working group for the Administrative Budget would be a starting point for the requested analysis. Ms. Adkins reviewed the Plan Specific Expenses and Hybrid Percentages for FY 2022. Ms. Adkins advised that Board Separation Expenses for FY 21 and FY 22 would be included in FY 2023. Ms. Hampton asked why Ms. Adkins had not included the Board Separation Expenses as an adjustment since the audit had yet to be finalized. Ms. Connie Davis stated that this was due to the books being closed at BNY Mellon and because the total was not a material amount. Ms. Hampton and Ms. Pendergrass expressed concern and advised that Ms. Davis consult with Blue & Co. to determine if an adjustment can be made. Mr. O'Mara concurred. Ms. Adkins agreed to research and confirm.

Ms. Connie Davis reviewed the drafted timetable for the Fiscal Year 2022 Annual Comprehensive Financial Report (ACFR) and Summary of the Annual Financial Report (SAFR) with the Committee. Ms. Davis reported that she is working with the auditors to meet the required deadlines for these reports. The evaluation and draft are due to the Public Pension Oversight Board (PPOB) by mid-November and the final actuarial evaluation is due by the December meeting of the PPOB, said Ms. Davis. Additionally, the ACFR is due to the State of Kentucky by December 7, 2022 and the SAFR will be released in January of 2023. Ms. Davis stated that the GASB 67 and 74 reports are required for the financial statements and are typically drafted by September or October; therefore, the ACFR and SAFR drafts can be completed in November. The GASB 68 and 75 reports are scheduled to be presented to the CERS and KRS Board of Trustees in March of 2023. Ms. Pendergrass asked Ms. Davis if Blue & Co. understands the critical nature of the GASB 68 and 75 reports for water districts to comply with State law. Ms. Davis stated that they do understand and that she will meet with them several times to ensure that deadlines are met. Ms. Adkins added that a Project Manager had been included this year which would aid in the tracking of deadlines. Mr. Allen Norvell with Blue & Co. confirmed that he and his team are aware of all deadlines. Lastly, Ms. Davis announced that an achievement award and certificate were received for the 2021 ACFR and thanked all involved.

Mr. O'Mara introduced the agenda item *Joint Audit Committee Administrative Updates.* Ms. Carrie Bass with the Office of Legal Services presented the Information Disclosure Incidents for the second quarter of the 2022 calendar year. She reported that there was one incident which implicated HIPAA/HITECH. In this incident, a medical review report related to disability was sent to an incorrect member. The Disclosure Response Team quickly reached out to the member who received the report in error. An affidavit was completed and returned confirming that no other individual had access to the documentation while in their possession and the affected member was notified. There was also an incident which implicated KPPA's Internal Data Disclosure Notification Policy, said Ms. Bass. A member reported receiving a blank Form 6000 with a pre-populated name and ID for another member in addition to receiving their own documentation from KPPA. The recipient completed an affidavit to confirm that no other individual had access to the documentation while in their possession and returned the documentation to KPPA. The affected member was notified. Lastly, a vendor, Managed Medical Review Organization (MMRO), sent 11 auto-generated emails related to KPPA members and two employees of another state retirement system. MMRO immediately stopped all auto-generated emails and reached out to the two email recipients employed at the other state retirement system. The recipients confirmed destruction of the emails that were received in error. Ms. Bass stated that MMRO took quick action to resolve the breach and has since taken action to ensure no reoccurrence. Ms. Pendergrass indicated that MMRO costs four-times the amount of the previous vendor in this position and caused 11 incidents in the second quarter. Next, Ms. Bass reviewed the Anonymous Tips Report. These anonymous tips were received by the Kentucky Retirement Systems prior to April 1, 2021 and the Kentucky Public Pensions Authority on and after April 1, 2021. It was reported that one case had been closed, one case had been opened, and two cases had been opened and then closed. Additional detail on these cases may be viewed on pages 29-30 of the meeting materials.

Ms. Kristen Coffey reported on the Internal Audit Budget as of June 30, 2022 and Proposed Budget for 2023. She stated that approximately 13% of the budget remained at the end of the fiscal year. Staffing/Salaries was the primary cause of this variance, said Ms. Coffey. Ms. Pendergrass expressed concern regarding staffing within the Division of Internal Audit Administration. It was mentioned that one full-time employee and one intern would be recruited in the near future. Ms. Pendergrass asked if additional Staff would be needed. Ms. Coffey advised that she has been working with Mr. Eager on recruitment within the Division and would report any updates at the next meeting of the Joint Audit Committee. Mr. Eager added that KPPA Human Resources was assisting with those recruitments. Next, Ms. Coffey reviewed the Proposed Fiscal Year 2023 Budget with the Committee. She advised that the presented budget had been included in the Administrative Budget which had already been approved by the KPPA Board of Trustees. Ms. Coffey stated that the Proposed Fiscal Year Budget for the Division of Internal Audit Administration can be presented to the Joint Audit Committee prior to KPPA Board approval of the Administrative Budget going forward, if that is the will of the Committee. Mr. O'Mara stated that the Joint Audit Committee would like to review the proposed budget in May of the fiscal year to express their endorsement or opposition. Ms. Hampton and Ms. Pendergrass agreed with Mr. O'Mara. Ms. Coffey agreed to prepare the budget for review by the Joint Audit Committee in May of each fiscal year. Mr. O'Mara asked for further explanation regarding the $110,000 increase in the budget. Ms. Coffey explained that this increase included the 8% raise for active employees which was effective July 2022, the salary for a new full-time position, as well as additional compensation increases for current employees. Lastly, Ms. Coffey provided a status update on current Internal Audit Projects. The Division has purchased TeamMate, an electronic audit software tool. Ms. Coffey stated that this tool will increase efficiency within the Division and assist in the tracking of risks across the Agency and within Divisions. Controls to mitigate the identified risk can also be applied via the tool. Ms. Hampton inquired as to what agencies also use the TeamMate software. Ms. Coffey stated that TeamMate is a premiere auditing software and is used by agencies and companies across the country including the Kentucky Transportation Cabinet. Ms. Coffey briefly reviewed the Status of Fiscal Year 2023 Internal Audit Assignments table (meeting material, p. 34). Ms. Pendergrass stated that she is pleased with the addition of the estimated hours and actual hours columns to track time spent on each assignment. Ms. Coffey discussed the Review of the JP Morgan Chase Accounts audit which the Division has been working on. She advised that recommendations for improvements will be presented in the near future.

Ms. Adkins presented the Plan Liquidity Phase I Update. She stated that there were two recommendations remaining on the Plan Liquidity Phase 1 Audit. The first recommendation is that KPPA leadership should document a clear definition of how the Retirement Allowance Account (RAA) has been established. The second recommendation is that funds deposited into JP Morgan Chase (JPM) be transferred immediately upon receipt to BNY Mellon, the trust custodial bank. Ms. Adkins reviewed the memo with the Committee and advised that these issues would take time to remediate. There was discussion regarding the ideal JPM account balance and sweep account processes. Mr. Summers asked for the timeline of hiring the new Chief Financial Officer (CFO). Ms. Adkins stated that the position is posted and will close at the end of August. Mr. Summers suggested that the hired CFO make recommendations to the Committee regarding sweep accounts and account balances at JPM. Ms. Hampton stated that she would like Ms. Adkins to continue evaluating cash management and then the CFO may review the details and make their recommendation. Ms. Adkins stated that she will work with the hired CFO on the matter when they arrive. Mr. O'Mara summarized the discussion. He stated that this is an open issue which requires further analysis to evaluate what is the best organization and flow with our banking partners. Additionally, the Committee understands that the issues will take time to be resolved and are pending the onboarding of a new CFO; however, the Committee would like periodic updates on the matter. Mr. Summers also asked if it is required that the agency utilize JPM since that is the bank of the Commonwealth. Ms. Adkins stated that she and Staff are researching that question. Mr. O'Mara added that he is hopeful that KPPA will be able to partner with the Finance Cabinet and JPM to design what is best for the agency.

Mr. O'Mara introduced the agenda item *Strategic Audit Plan.* Ms. Pendergrass stated that the provided Strategic Audit Plan is informational and outlines the goals and objectives that the CERS Board would like to accomplish through governance over the next several years. Ms. Hampton asked how Ms. Pendergrass will execute Objective A: Evaluate system risks and identify potential internal audit projects to assess controls designed to manage risks. Ms. Pendergrass stated that this objective is required and that the Committee of Sponsoring Organizations (COSO) requests that governing Boards identify risk that they believe to be important to the system. Management evaluates the risk and determines if controls may be utilized to mitigate the identified risk. Further, Ms. Pendergrass stated that Ms. Coffey has created and sent a survey to Trustees and Staff in the past to identify potential risks within the system. There was discussion of who would evaluate the system risks – Staff or the CERS Board. Ms. Pendergrass stated that both parties would be responsible for the evaluation.

Ms. Erin Surratt stated that the Committee requested a report on the number of member invalid addresses and how Staff reaches out to those members. She advised that the material was placed into the Board Books, but was not included on the meeting agenda; therefore, Ms. Surratt advised that the informational item would be placed on the agenda for the November meeting of the Joint Audit Committee.

Ms. Rebecca Adkins wished to answer a question asked about the salary line item of the Administrative Budget. She advised that the extra funds spent was likely the 25th payroll which occurred in fiscal year 2022. Ms. Adkins stated that she will conduct an analysis to confirm.

Ms. Coffey advised that she has begun drafting the agenda for the November meeting and has added the Invalid Addresses item.

Mr. O'Mara introduced the agenda item *Professional Articles.* Ms. Coffey presented an article entitled *Achieving Governmentwide Enterprise Risk Management*. This article provides information on accessing risk and best practices to identify risk. Additionally, Ms. Coffey presented the article, *Creating Value in Government*, and stated that it may be helpful in the development of a Strategic Plan. Mr. Eager added that these articles may fulfill Trustee Education requirements, if approved by their CEO.

There being no further business, a motion to adjourn was made by Ms. Pendergrass and seconded by Mr. Summers, the meeting adjourned.

The remainder of this page left blank intentionally

CERTIFICATION

I do certify that I was present at this meeting and I have recorded above the action of the Committee on the various items considered by it at this meeting. Further, I certify that all requirements of KRS 61.805-61.850 were met in connection with this meeting.

____
Recording Secretary

I, as Chair of the Joint Audit Committee of the Board of Trustees of the County Employees Retirement System and the Kentucky Retirement Systems, do certify that the Minutes of the meeting held on August 25, 2022 were approved by the Joint Audit Committee on November 28, 2022.

____
Committee Chair

I have reviewed the Minutes of the Audit Committee Meeting on August 25, 2022 for form, content, and legality.

____
Executive Director
Office of Legal Services

FINANCIAL
TABLE OF CONTENTS

REPORT OF INDEPENDENT AUDITORS

To the Members
Kentucky Public Pensions Authority
Frankfort, Kentucky

Report on the Audit of Financial Statements

Opinion

We have audited the accompanying financial statements of Kentucky Public Pensions Authority (KPPA), a component unit of the Commonwealth of Kentucky, as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise KPPA's financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the fiduciary net position of KPPA, as of June 30, 2022, and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of KPPA and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about KPPA's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that

REPORT OF INDEPENDENT AUDITORS (Continued)

includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgement made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgement and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of KPPA's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgement, there are conditions or events, considered in the aggregate, that raise substantial doubt about KPPA's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Summarized Comparative Information

We have previously audited KPPA's 2021 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated December 8, 2021. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2021, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 5 through 13, and the defined benefit pension plan and other post-employment benefit plan supplemental schedules on pages 80 through 106, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a

REPORT OF INDEPENDENT AUDITORS (Continued)

part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinion on the financial statements that collectively comprise KPPA's basic financial statements. The accompanying schedules of administrative expense, direct investment expenses, and professional consultant fees are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedules of administrative expense, direct investment expenses, and professional consultant fees are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated –DATE-- on our consideration of KPPA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of KPPA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering KPPA's internal control over financial reporting and compliance.

Blue & Co., LLC

Lexington, Kentucky
--DATE--

Management's Discussion & Analysis (Unaudited)

This section provides a discussion and analysis of the financial performance of the retirement and OPEB plans administered by the Kentucky Public Pensions Authority (KPPA) for the year ended June 30, 2022. The discussion and analysis of the plans' financial performance is within the context of the accompanying basic financial statements, notes to the financial statements, required supplementary schedules, and additional information following this section.

The Authority is responsible for administering cost-sharing, multiple-employer defined benefit pension plans for various employer agencies of Kentucky, along with a single-employer defined benefit pension plan and defined benefit OPEB plans. All plans are fiduciary plans.

The defined benefit pension plans include:
County Employees Retirement System (includes CERS Nonhazardous and CERS Hazardous)
Kentucky Employees Retirement System (includes KERS Nonhazardous and KERS Hazardous)
State Police Retirement System

The defined benefit OPEB plans are in the Kentucky Retirement System Insurance Trust Fund. The Insurance Fund provides health benefits for CERS Nonhazardous, CERS Hazardous, KERS Nonhazardous, KERS Hazardous, and SPRS plans for retired members and beneficiaries.

The Management Discussion and Analysis is the KPPA leadership summary of the management of the CERS, KERS, and SPRS Fiduciary Pension Plans (collectively the Pension Funds) and Insurance Trust Fund. KPPA is a component unit of the Commonwealth of Kentucky, (the Commonwealth) for financial and reporting purposes.

PENSION FUNDS
The following highlights are explained in more detail later in this report.

Total Pension Funds Fiduciary Net Position was $15.9 billion at the beginning of the fiscal year and decreased by (4.40)% to $15.2 billion as of June 30, 2022. The $(0.7) billion decrease is primarily attributable to unrealized investment losses.

CONTRIBUTIONS
Total contributions reported for fiscal year 2022 were $2,653.1 million compared to $2,243.5 million in fiscal year 2021. The increase is the result of rising Employer Contribution rates for CERS Nonhazardous, CERS Hazardous and SPRS; the Actuarially Accrued Liability Contribution received in KERS Nonhazardous; a General Fund appropriation to SPRS in the amount of $215.0 million; as well as an increase in covered payroll for CERS Nonhazardous, CERS Hazardous, KERS Hazardous and SPRS.

INVESTMENTS
The investment portfolio for the Pension Funds reported a net negative return of 5.73% for fiscal year 2022 compared to a net positive return of 25.00% for fiscal year 2021.

The net depreciation in the fair value of investments for fiscal year 2022 was $1,175.9 million compared to net appreciation of $2,898.3 million for the previous fiscal year.

Interest, dividends, and net securities lending income for fiscal year 2022 was $431.2 million compared to $392.0 million in fiscal year 2021. All investment returns are reported net of fees and investment expenses, including carried interests. Investment expenses totaled $140.0 million for fiscal year 2021 compared to $171.6 million in the current fiscal year. The increase in fees is a result of additional money invested and gains in the private equity, specialty credit and real estate asset classes in fiscal year 2022.

DEDUCTIONS
Pension benefits paid to retirees and beneficiaries for fiscal year 2022 totaled $2,328.6 million compared to $2,263.4 million in fiscal year 2021, a 2.88% increase. The increase was due to a 2.22% increase in the number of retirees to 139,738. Refunded contributions paid to former members upon termination of employment for fiscal year 2022 totaled $42.9 million compared to $32.1 million in fiscal year 2021, a 33.64% increase, as more members elected a refund at employment termination.

Management's Discussion & Analysis (Unaudited)

KPPA's fiscal year 2022 Pension administrative expense totaled $39.7 million compared to $36.8 million in the prior year. The increase was mainly due to the June 30 payroll being paid on June 30, 2022, instead of July 1, 2022, as in previous years, resulting in a twenty-fifth KPPA employee payroll in June of 2022, related employer benefit expenses, an increase in legal expenses, as well as information technology expenses.

INSURANCE FUND

The following highlights are explained in more detail later in this report.

The combined fiduciary net position of the Insurance Fund decreased by $(377.0) million during fiscal year 2022. Total combined net position for the fiscal year was $6,596.6 million. Total contributions and net investment income of $7.7 million offset deductions of $384.6 million which resulted in the net position decrease.

CONTRIBUTIONS

Employer contributions of $319.0 million were received in fiscal year 2022 compared to $346.0 million in fiscal year 2021. Total contributions changed (7.80)% primarily due to a decrease in Employer Contributions, Humana Gain Share Payment, and Employer Cessation Contributions. As well as a decrease in covered payroll for KERS Non-Hazardous.

The reimbursement of retired/reemployed health insurance for fiscal year 2022 totaled $12.7 million compared to $12.5 million in the prior fiscal year. The increase is due to an increase in retired/re-employed members for whom employers are paying health insurance reimbursements.

INVESTMENTS

Interest, dividends, and net securities lending income for fiscal year 2022 was $193.5 million compared to $162.4 million in fiscal year 2021. The increase in income and dividends is the result of an increase in allocation to the public equities and fixed income asset classes.

The investment portfolio reported a net negative return of 5.34% for the fiscal year, which was much lower than fiscal year 2021's record net positive return of 24.95%. The investment return was below the 6.25% assumed rate of return used for actuarial calculations.

The net depreciation in the fair value of investments for fiscal year 2022 was $482.5 million compared to net appreciation of $1,286.3 million for the previous fiscal year. This $(1,769) million decrease in fiscal year 2022 was due to unfavorable market returns compared to fiscal year 2021.

Investment expenses totaled $84.0 million for fiscal year 2022 compared to $71.2 million in the prior fiscal year. The increase in fees is a result of additional money invested and gains in the private equity, specialty credit and real estate asset classes in fiscal year 2022.

DEDUCTIONS

Total insurance premiums, plus self-funded reimbursements were $382.2 million for fiscal year 2022. The fiscal year 2022 insurance premiums were comparable to fiscal year 2021 rates, the number of covered lives only increased approximately 1% year-over-year.

Insurance administrative expenses for retirees under age 65, increased from $2.35 million in fiscal year 2021 to $2.45 million in fiscal year 2022.

Management's Discussion & Analysis (Unaudited)

Using This Financial Report

Because of the long-term nature of a defined benefit pension plan and post-employment healthcare benefit plan, the combining financial statements alone cannot provide sufficient information to properly reflect the Plans' ongoing financial perspective. This financial report consists of three combining financial statements and two schedules of historical trend information. All plans within KPPA are included in the aforementioned combining financial statements. The Combining Statement of Fiduciary Net Position for the Pension Funds on page ## and the Statement of Fiduciary Net Position for the Insurance Fund on page ## provide a snapshot of the financial position of each of the three systems as of fiscal year end 2022. The Combining Statement of Changes in Fiduciary Net Position for the Pension Funds on page ## , and the Statement of Changes in Fiduciary Net Position for the Insurance Fund on page ## , summarize the additions and deductions that occurred for each of the ten funds during fiscal year 2022.

The economic assumptions for the Pension Funds and Insurance Fund for fiscal year 2022 are on page ##, the Schedules of Changes in Employers' Total Pension Liability on pages ##-##, the Schedules of the Employer Net Pension Liability on pages ##-##; the Schedule of Changes in Employers' Total Other Post-Employment Benefits (OPEB) Liability are on pages ###-###; and, the Schedule of the Employers' Net OPEB Liabilities are on pages ###-###. These schedules include current and historical trend information about the actuarially funded status of each plan from a long-term, ongoing plan perspective and the progress made in accumulating sufficient assets to pay benefits and insurance premiums when due. The Schedules of the Employers' Contributions – Pensions are on pages ##-##, and the Schedules of the Employers' Contributions – OPEB are on pages ###-###. These schedules present current and historical trend information about the annual required contributions and the contributions made in relation to the requirement. These schedules provide information that contributes to understanding the changes over time in the funded status of the plans.

Kentucky Public Pensions Authority Combined

KPPA's combined fiduciary net position changed by $(1,051) million in fiscal year 2022, compared to the fiduciary net position for the previous fiscal year. The decrease in fiduciary net position for the fiscal year 2022 is primarily attributable to negative investment performance. This analysis focuses on the net position table and changes in the fiduciary net position table for KPPA's Pension and Insurance Funds.

Management's Discussion & Analysis (Unaudited)

Fiduciary Net Position
As of June 30 ($ in Thousands)

	Pension Plans			Insurance Plans			Total		
	2022	**2021**	**2020**	**2022**	**2021**	**2020**	**2022**	**2021**	**2020**
Cash & Invest.	$15,418,076	$16,391,137	$13,150,428	$6,766,874	$7,184,408	$5,687,583	$22,184,950	$23,575,545	$18,838,011
Receivables	337,832	361,429	295,988	77,410	122,132	87,102	415,242	483,561	383,090
Capital Assets	324	677	1,619	-	-	-	324	677	1,619
Total Assets	**15,756,232**	**16,753,243**	**13,448,035**	**6,844,284**	**7,306,540**	**5,774,685**	**22,600,516**	**24,059,783**	**19,222,720**
Total Liabilities	**(508,052)**	**(830,553)**	**(586,817)**	**(247,644)**	**(332,927)**	**(250,019)**	**(755,696)**	**(1,163,480)**	**(836,836)**
Fiduciary Net Position	**$15,248,180**	**$15,922,690**	**$12,861,218**	**$6,596,640**	**$6,973,613**	**$5,524,666**	**$21,844,820**	**$22,896,303**	**$18,385,884**

Capital Assets include capital assets, intangible assets, depreciation and amortization.

Pension Plan Activities

Member contributions increased by $28.2 million. This is primarily due to an increase in member service purchases and covered payroll in CERS Nonhazardous, CERS Hazardous, KERS Hazardous, and SPRS. Retirement contributions are calculated by applying a percentage factor to salary and are remitted by each employer on behalf of members. Nonhazardous Tier 1 members pay pension contributions of 5.00% of creditable compensation and Hazardous Tier 1 members contribute 8.00% of creditable compensation; whereas, Nonhazardous Tier 2 and 3 members pay contributions of 6.00% of creditable compensation and Hazardous Tier 2 and 3 members contribute 9% of creditable compensation.

Employer contributions increased by $279.6 million for fiscal year 2022. For CERS Nonhazardous and CERS Hazardous the increase in contributions was the result of the increase in rates due to the phase-out of the statutory relief. While KERS Nonhazardous saw an increase in contributions due to the Actuarial Assumed Liability Contributions (AALC) payments received.

Total Pension Plans deductions increased by $79.0 million. The 3.39% increase was primarily driven by the normal increase in retirements across all plans.

Net investment income declined by $(4,066.6) million. This is illustrated in the Investment Income Pension table on the next page. The decrease in fair value of investments during fiscal year 2022 was the driving force of the decline in net investment income. However, despite the decrease in fair value of investments, the Pension Plans experienced an increase in income when compared to fiscal year 2021, due to the increase in allocation to the public equities and fixed income asset classes.

Overall, KPPA reported a net negative return of 5.73% for the fiscal year. This outperformed the IPS policy benchmark return of negative 5.76% but failed to meet the actuarial assumed rate of return of 6.25% used by CERS Nonhazardous, CERS Hazardous and KERS Hazardous, and 5.25% used by KERS Nonhazardous and SPRS.

Management's Discussion & Analysis (Unaudited)

Changes in Fiduciary Net Position
For the fiscal year ending June 30 ($ in Thousands)

	Pension Plans			Insurance Plans			Total		
	2022	2021	2020	2022	2021	2020	2022	2021	2020
Additions:									
Member Cont.	$371,181	$342,980	$353,360	$-	$-	$-	$371,181	$342,980	$353,360
Employer Cont.	1,091,160	1,724,309	1,709,544	217,318	346,026	369,573	1,308,478	2,070,335	2,079,117
Heath Ins. Cont.	(208)	(4)	11	27,791	24,409	23,142	27,583	24,405	23,153
Humana Gain Share	-	-	-	18,382	42,897	-	18,382	42,897	-
Pension Spiking Cont.	122	222	369	-	-	-	122	222	369
General Fund Appro.	215,000	384	1,086	-	-	-	215,000	384	1,086
Employer Cessation Cont.	63,113	175,600	20	2,405	28,400	25	65,518	204,000	45
Premiums Rec'd	-	-	-	364	563	730	364	563	730
Retired Reemp Ins.	-	-	-	12,667	12,535	11,482	12,667	12,535	11,482
Medicare Subsidy	-	-	-	2	3	7	2	3	7
AAL Contributions	912,705	-	-	101,637	-	-	1,014,342	-	-
Invest. Inc. (net)	(916,320)	3,150,288	139,534	(372,900)	1,377,531	23,263	(1,289,220)	4,527,819	162,797
Total Additions	1,736,753	5,393,779	2,203,924	7,666	1,832,364	428,222	1,744,419	7,226,143	2,632,146
Deductions:									
Benefit payments	2,328,594	2,263,388	2,205,859	-	-	-	2,328,594	2,263,388	2,205,859
Refunds	42,927	32,130	33,511	-	-	-	42,927	32,130	33,511
Admin. Exp.	39,742	36,789	37,668	2,454	2,354	2,415	42,196	39,143	40,083
Healthcare Costs	-	-	-	382,167	381,063	381,780	382,167	381,063	381,780
Excise Tax	-	-	-	18	-	-	18	-	-
Total Deductions	2,411,263	2,332,307	2,277,038	384,639	383,417	384,195	2,795,902	2,715,724	2,661,233
Increase (Decrease) in Fiduciary Net Position	**(674,510)**	**3,061,472**	**(73,114)**	**(376,973)**	**1,448,947**	**44,027**	**(1,051,483)**	**4,510,419**	**(29,087)**
Beginning of Period	**15,922,690**	**12,861,218**	**12,934,332**	**6,973,613**	**5,524,666**	**5,480,639**	**22,896,303**	**18,385,884**	**18,414,971**
End of Period	**$15,248,180**	**$15,922,690**	**$12,861,218**	**$6,596,640**	**$6,973,613**	**$5,524,666**	**$21,844,820**	**$22,896,303**	**$18,385,884**

Management's Discussion & Analysis (Unaudited)

CERS

As of June 30 ($ in Thousands)

CERS Nonhazardous Investment Income - Pension	2022	2021	2020
Increase (decrease) in fair value of investments	$(1,011,822)	$1,331,722	$(418,825)
Investment income net of investment expense	136,769	135,711	133,875
Gain on sale of investments	374,057	316,798	341,632
Total Investment Income from Investing Activity	**$(500,996)**	**$1,784,231**	**$56,682**
CERS Hazardous Investment Income - Pension	**2022**	**2021**	**2020**
Increase (decrease) in fair value of investments	$(350,070)	$447,895	$(143,942)
Investment income net of investment expense	48,654	45,850	46,351
Gain on sale of investments	125,985	106,985	113,583
Total Investment Income from Investing Activity	**$(175,431)**	**$600,730**	**$15,992**

KERS

As of June 30 ($ in Thousands)

KERS Nonhazardous Investment Income - Pension	2022	2021	2020
Increase (decrease) in fair value of investments	$(310,014)	$380,850	$(74,946)
Investment income net of investment expense	52,680	50,630	38,727
Gain on sale of investments	91,430	96,959	89,915
Total Investment Income from Investing Activity	**$(165,904)**	**$528,439**	**$53,696**
KERS Hazardous Investment Income - Pension	**2022**	**2021**	**2020**
Increase (decrease) in fair value of investments	$(102,300)	$129,806	$(38,820)
Investment income net of investment expense	15,111	13,943	13,346
Gain on sale of investments	35,348	31,173	32,279
Total Investment Income from Investing Activity	**$(51,841)**	**$174,922**	**$6,805**

SPRS

As of June 30 ($ in Thousands)

Investment Income - Pension	2022	2021	2020
Increase (decrease) in fair value of investments	$(39,791)	$45,055	$(11,168)
Investment income net of investment expense	6,347	5,885	5,314
Gain on sale of investments	11,296	11,026	12,213
Total Investment Income from Investing Activity	**$(22,148)**	**$61,966**	**$6,359**

Insurance Plan Activities

Employer contributions paid into the Insurance Plans decreased by $27.1 million in fiscal year 2022 over the prior fiscal year. The decrease in employer contributions is directly related to a decrease in covered payroll for KERS Nonhazardous as well as a decrease in the insurance contribution rate for CERS Nonhazardous, CERS Hazardous, KERS Nonhazardous and SPRS employer contributions.

Income from investment activities decreased by $1,750.4 million in fiscal year 2022 compared to fiscal year 2021. Overall, KPPA reported a net negative return of 5.34% for the fiscal year. This underperformed both the negative IPS policy benchmark of 5.21% and the actuarial assumed rate of return of 6.25% used by all of the Insurance Plan Funds.

Management's Discussion & Analysis (Unaudited)

CERS

As of June 30 ($ in Thousands)

CERS Nonhazardous Investment Income - Insurance	2022	2021	2020
Increase (decrease) in fair value of investments	$(360,292)	$469,201	$(145,098)
Investment income net of investment expense	51,633	41,009	47,683
Gain on sale of investments	137,960	109,383	106,071
Total Investment Income from Investing Activities	**$(170,699)**	**$619,593**	**$8,656**
CERS Hazardous Investment Income - Insurance	**2022**	**2021**	**2020**
Increase (decrease) in fair value of investments	$(177,397)	$245,549	$(80,031)
Investment income net of investment expense	24,818	20,284	24,998
Gain on sale of investments	74,126	56,984	57,270
Total Investment Income from Investing Activities	**$(78,453)**	**$322,817**	**$2,237**

KERS

KERS Nonhazardous Investment Income - Insurance	2022	2021	2020
Increase (decrease) in fair value of investments	$(146,482)	$195,110	$(41,651)
Investment income net of investment expense	20,023	18,478	18,946
Gain on sale of investments	40,904	45,007	33,329
Total Investment Income from Investing Activities	**$(85,555)**	**$258,595**	**$10,624**
KERS Hazardous Investment Income - Insurance	**2022**	**2021**	**2020**
Increase (decrease) in fair value of investments	$(63,789)	$96,312	$(30,360)
Investment income net of investment expense	9,471	8,372	9,884
Gain on sale of investments	26,912	21,791	21,114
Total Investment Income from Investing Activities	**$(27,406)**	**$126,475**	**$638**

SPRS

Investment Income - Insurance	2022	2021	2020
Increase (decrease) in fair value of investments	$(25,758)	$38,253	$(11,431)
Investment income net of investment expense	3,632	3,060	3,670
Gain on sale of investments	11,339	8,738	8,869
Total Investment Income from Investing Activities	**$(10,787)**	**$50,051**	**$1,108**

Management's Discussion & Analysis (Unaudited)

Historical Trends

Accounting standards require that the Combining Statement of Fiduciary Net Position state asset values at fair value and include benefits and refunds due plan members and beneficiaries; unrealized investment income (loss); and administrative expenses as of the reporting date. Information regarding the actuarial funding status of the Pension and Insurance Funds is provided in the Schedules of Net Pension Liability (NPL) on page ##-## and Net OPEB Liability on pages ##-##. The asset values stated in the Schedules of Changes in Employers' Total Pension Liability (TPL) on pages ##-## and Total OPEB Liability on pages ###-### are the actuarial value of assets. The actuarial value of assets recognizes a portion of the difference between the fair value of assets and the expected fair value of assets based on the investment return assumption. The amount recognized each year is 20% of the difference between fair value and expected fair value. The actuarial accrued liability is calculated using the entry age normal cost funding method. This actuarial accrued liability is the measure of the cost of benefits that have been earned to date by CERS, KERS and SPRS' members, but not yet paid. The difference in value between the actuarial accrued liability and the actuarial value of assets is defined as the unfunded actuarial accrued liability.

The unfunded actuarial accrued liability from the June 30, 2022, actuarial valuation in the Pension Plans increased by $93.4million for a total unfunded amount of $25,101.5 million in fiscal year 2022, compared to an unfunded amount of $25,008.1 million in fiscal year 2021. The overall funding increase is the result of a loss in funds due to less than favorable market conditions during fiscal year 2022. However, both CERS plans experienced a slight increase as a result of the phase-in of higher contribution rates as adjusted by the provisions of House Bill 362 passed during the 2018 legislative session.

The Insurance Plan's unfunded actuarial accrued liability from the June 30, 2022, actuarial valuation for fiscal year 2022, was negative $663.0 million compared to $1,960.0 million for fiscal year 2021. This is a decrease in the unfunded actuarial accrued liability of $2,623.0 million. The decrease is due to the gains for all funds and the significant decrease in Medicare premiums.. Please see the charts on the following page for the unfunded actuarial accrued liability.

Annual required actuarially determined contributions by the employers and actual contributions made by employers and other contributing entities in relation to the required contributions, are provided in the Schedules of Employer Contributions - Pension on pages ##-##, and in the Schedules of Contributions - OPEB on pages ###-###. The difference in the annual required contributions and actual contributions made by employers and other contributing entities in the KERS and SPRS funds is attributable to the fact that the employer contribution rate set by the Kentucky General Assembly was less than the rate recommended by the KPPA actuary in prior years and adopted by the Board.

Information Requests

This financial report is designed to provide a general overview of the CERS, KERS, SPRS, and Insurance Fund finances. Questions concerning any of the information provided in this report or requests for additional information should be directed to:

ATTN: Director of Accounting
Kentucky Public Pensions Authority
1260 Louisville Road
Frankfort, KY. 40601
(502) 696-8800

Management's Discussion & Analysis (Unaudited)

Schedule of Unfunded Actuarial Accrued Liability CERS As of June 30 ($ in Millions)								
	CERS Non-Hazardous				CERS Hazardous			
	Pension		Insurance		Pension		Insurance	
Item	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**
Actuarial Accrued Liability (AAL)	$15,674	$14,895	$2,392	$3,450	$5,862	$5,629	$1,538	$1,751
Actuarial Value of Assets	8,149	7,716	3,160	2,947	2,789	2,629	1,554	1,476
Unfunded AAL	**$7,525**	**$7,179**	**$(768)**	**$503**	**$3,073**	**$3,000**	**$(16)**	**$275**
Funded Ratio	51.99%	51.80%	132.11%	85.42%	47.58%	46.69%	101.02%	84.26%

Schedule of Unfunded Actuarial Accrued Liability KRS As of June 30 ($ in Millions)												
	KERS Non-Hazardous				KERS Hazardous				SPRS			
	Pension		Insurance		Pension		Insurance		Pension		Insurance	
Item	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**
Actuarial Accrued Liability (AAL)	$16,576	$16,321	$1,782	$2,574	$1,316	$1,295	$347	$424	$1,067	$1,053	$233	$272
Actuarial Value of Assets	3,065	2,736	1,409	1,291	832	782	598	575	560	323	234	223
Unfunded AAL	**$13,511**	**$13,585**	**$373**	**$1,283**	**$484**	**$513**	**$(251)**	**$(151)**	**$507**	**$730**	**$(1)**	**$49**
Funded Ratio	18.49%	16.76%	79.08%	50.17%	63.22%	60.41%	172.23%	135.47%	52.46%	30.69%	100.62%	81.96%

Combining Statement of Fiduciary Net Position - Pension

As of June 30, 2022, with Comparative Totals as of June 30, 2021 ($ in Thousands)

ASSETS	CERS Nonhazardous	CERS Hazardous	KERS Nonhazardous	KERS Hazardous	SPRS	Pension Total 2022	Pension Total 2021
CASH AND SHORT-TERM INVESTMENTS							
Cash Deposits	$170	$17	$128	$35	$17	$367	$712
Short-term Investments	286,875	114,933	492,114	77,438	145,573	1,116,933	935,745
Total Cash and Short-term Investments	**287,045**	**114,950**	**492,242**	**77,473**	**145,590**	**1,117,300**	**936,457**
RECEIVABLES							
Accounts Receivable	120,621	35,408	85,356	3,808	10,606	255,799	147,299
Accounts Receivable - Investments	43,002	14,694	16,447	4,627	3,263	82,033	214,130
Total Receivables	**163,623**	**50,102**	**101,803**	**8,435**	**13,869**	**337,832**	**361,429**
INVESTMENTS, AT FAIR VALUE							
Core Fixed Income	894,977	303,150	619,736	103,032	109,439	2,030,334	2,287,125
Public Equities	3,592,281	1,224,631	894,601	329,332	152,376	6,193,221	6,877,974
Private Equities	753,384	251,589	196,183	69,313	19,462	1,289,931	1,235,393
Specialty Credit	1,692,750	574,070	573,266	169,678	88,065	3,097,829	2,617,613
Derivatives	(1,091)	(373)	(1,076)	(141)	(183)	(2,864)	(85)
Real Return	244,801	80,777	60,546	22,364	9,328	417,816	998,141
Opportunistic	-	-	-	-	-	-	404,069
Real Estate	494,607	157,478	164,991	45,860	19,823	882,759	610,215
Total Investments, at Fair Value	**7,671,709**	**2,591,322**	**2,508,247**	**739,438**	**398,310**	**13,909,026**	**15,030,445**
Securities Lending Collateral Invested	208,156	70,856	77,505	21,277	13,957	391,751	424,235
CAPITAL/INTANGIBLE ASSETS							
Capital Assets	1,701	153	929	91	11	2,885	2,885
Intangible Assets	9,961	826	5,920	493	100	17,300	17,301
Accumulated Depreciation	(1,701)	(153)	(929)	(91)	(11)	(2,885)	(2,885)
Accumulated Amortization	(9,794)	(823)	(5,772)	(488)	(100)	(16,977)	(16,624)
Total Capital Assets	**167**	**3**	**148**	**5**	**-**	**323**	**677**
Total Assets	**8,330,700**	**2,827,233**	**3,179,945**	**846,628**	**571,726**	**15,756,232**	**16,753,243**
LIABILITIES							
Accounts Payable	4,156	811	1,766	254	61	7,048	13,983
Investment Accounts Payable	56,042	18,638	23,931	5,860	4,782	109,253	392,335
Securities Lending Collateral	208,156	70,856	77,505	21,277	13,957	391,751	424,235
Total Liabilities	**268,354**	**90,305**	**103,202**	**27,391**	**18,800**	**508,052**	**830,553**
Total Fiduciary Net Position Restricted for Pension Benefits	**$8,062,346**	**$2,736,928**	**$3,076,743**	**$819,237**	**$552,926**	**$15,248,180**	**$15,922,690**

See accompanying notes which are an integral part of these combining financial statements.

Note: The displayed fair values include investable assets held by each System and its associated contributions, payables, equipment and intangible assets; unlike those found in the Investment Section, which include only those investable assets held by each System.

The Opportunistic asset class was merged with Specialty Credit.

Combining Statement of Changes In Fiduciary Net Position - Pension

For the fiscal year ending June 30, 2022, with Comparative Totals as of June 30, 2021 ($ in Thousands)

	CERS Nonhazardous	CERS Hazardous	KERS Nonhazardous	KERS Hazardous	SPRS	Pension Total 2022	PensionTotal 2021
ADDITIONS							
Member Contributions	$186,648	$69,565	$89,607	$20,588	$4,773	$371,181	$342,980
Employer Contributions	606,772	221,968	141,027	59,052	62,341	1,091,160	1,724,309
Actuarially Accrued Liability Contributions	-	-	912,705	-	-	912,705	-
General Fund Appropriations	-	-	-	-	215,000	215,000	384
Pension Spiking Contributions	35	60	24	3	-	122	222
Health Insurance Contributions (HB1)	(60)	(104)	(13)	(5)	(26)	(208)	(4)
Employer Cessation Contributions	-	-	63,113	-	-	63,113	175,600
Total Contributions	**793,395**	**291,489**	**1,206,463**	**79,638**	**282,088**	**2,653,073**	**2,243,491**
INVESTMENT INCOME							
From Investing Activities							
Net Appreciation (Depreciation) in FV of Investments	(637,765)	(224,085)	(218,584)	(66,952)	(28,495)	(1,175,881)	2,898,268
Interest/Dividends	239,643	81,324	75,029	24,179	9,201	429,376	390,618
Total Investing Activities Income/ Loss	(398,122)	(142,761)	(143,555)	(42,773)	(19,294)	(746,505)	3,288,886
Less: Investment Expense	45,454	14,044	10,406	3,921	1,362	75,187	62,509
Less: Performance Fees	58,431	18,972	12,277	5,250	1,532	96,462	77,481
Net Income/Loss from Investing Activities	(502,007)	(175,777)	(166,238)	(51,944)	(22,188)	(918,154)	3,148,896
From Securities Lending Activities							
Securities Lending Income	891	308	321	92	40	1,652	936
Less: Securities Lending Borrower Rebates (Income)/ Expense	(298)	(99)	(72)	(29)	(7)	(505)	(700)
Less: Securities Lending Agent Fees	178	61	59	18	7	323	244
Net Income from Securities Lending	1,011	346	334	103	40	1,834	1,392
Net Investment Income/Loss	**(500,996)**	**(175,431)**	**(165,904)**	**(51,841)**	**(22,148)**	**(916,320)**	**3,150,288**
Total Additions	**292,399**	**116,058**	**1,040,559**	**27,797**	**259,940**	**1,736,753**	**5,393,779**
DEDUCTIONS							
Benefit Payments	858,261	305,790	1,023,375	77,047	64,121	2,328,594	2,263,388
Refunds	19,789	5,766	12,116	4,976	280	42,927	32,130
Administrative Expenses	22,670	1,995	13,339	1,465	273	39,742	36,789
Total Deductions	**900,720**	**313,551**	**1,048,830**	**83,488**	**64,674**	**2,411,263**	**2,332,307**
Net Increase (Decrease) in Fiduciary Net Position Restricted for Pension Benefits	(608,321)	(197,493)	(8,271)	(55,691)	195,266	(674,510)	3,061,472
Total Fiduciary Net Position Restricted for Pension Benefits							
Beginning of Period	**8,670,667**	**2,934,421**	**3,085,014**	**874,928**	**357,660**	**$15,922,690**	**12,861,218**
End of Period	**$8,062,346**	**$2,736,928**	**$3,076,743**	**$819,237**	**$552,926**	**$15,248,180**	**$15,922,690**

See accompanying notes, which are an integral part of these combining financial statements.

Combining Statement of Fiduciary Net Position - Insurance

As of June 30, 2022, with Comparative Totals as of June 30, 2021 ($ In Thousands)

ASSETS	CERS Nonhazardous	CERS Hazardous	KERS Nonhazardous	KERS Hazardous	SPRS	Insurance Total 2022	Insurance Total 2021
CASH AND SHORT-TERM INVESTMENTS							
Cash Deposits	$101	$19	$91	$25	$19	$255	$416
Short-term Investments	144,398	46,794	187,679	39,120	13,696	431,687	429,500
Total Cash and Short-term Investments	**144,499**	**46,813**	**187,770**	**39,145**	**13,715**	**431,942**	**429,916**
RECEIVABLES							
Accounts Receivable	19,338	6,289	12,995	344	949	39,915	36,356
Investment Accounts Receivable	18,395	8,282	6,922	2,735	1,161	37,495	85,776
Total Receivables	**37,733**	**14,571**	**19,917**	**3,079**	**2,110**	**77,410**	**122,132**
INVESTMENTS, AT FAIR VALUE							
Core Fixed Income	334,374	168,783	155,502	68,122	26,732	753,513	856,629
Public Equities	1,354,737	672,981	518,643	233,379	91,893	2,871,633	3,085,630
Specialty Credit	637,910	324,019	263,472	126,429	50,056	1,401,886	1,163,959
Private Equities	292,493	164,729	84,753	57,568	25,912	625,455	584,978
Derivatives	(390)	(185)	(202)	(128)	(29)	(934)	52
Real Return	74,169	39,856	27,755	16,365	6,096	164,241	422,670
Opportunistic	-	-	-	-	-	-	205,755
Real Estate	171,044	93,762	53,737	39,387	15,064	372,994	258,216
Total Investments, at Fair Value	**2,864,337**	**1,463,945**	**1,103,660**	**541,122**	**215,724**	**6,188,788**	**6,577,889**
Securities Lending Cash Collateral Invested	66,459	33,425	28,391	12,806	5,063	146,144	176,603
Total Assets	**3,113,028**	**1,558,754**	**1,339,738**	**596,152**	**236,612**	**6,844,284**	**7,306,540**
LIABILITIES							
Accounts Payable	45,712	11,654	133	-	2	57,501	462
Investment Accounts Payable	19,633	9,698	9,692	3,444	1,532	43,999	155,862
Securities Lending Cash Collateral	66,459	33,425	28,391	12,806	5,063	146,144	176,603
Total Liabilities	**131,804**	**54,777**	**38,216**	**16,250**	**6,597**	**247,644**	**332,927**
Total Fiduciary Net Position Restricted for OPEB	**$2,981,224**	**$1,503,977**	**$1,301,522**	**$579,902**	**$230,015**	**$6,596,640**	**$6,973,613**

See accompanying notes, which are an integral part of these combining financial statements.

Note: The displayed fair values include investable assets held by each System and its associated contributions, payables, equipment and intangible assets; unlike those found in the Investment Section, which include only those investable assets held by each System.

The Opportunistic asset class was merged with Specialty Credit.

Combining Statement of Changes In Fiduciary Net Position - Insurance

For the fiscal year ending June 30, 2022, with Comparative Totals as of June 30, 2021 ($ In Thousands)

	CERS Nonhazardous	CERS Hazardous	KERS Nonhazardous	KERS Hazardous	SPRS	Insurance Total 2022	Insurance Total 2021
ADDITIONS							
Employer Contributions	$118,550	$58,374	$31,611	$1	$8,782	$217,318	$346,026
Actuarially Accrued Liability Contributions	-	-	101,637	-	-	101,637	-
Medicare Drug Reimbursement	1	-	-	1	-	2	3
Insurance Premiums	534	(271)	182	(54)	(27)	364	563
Humana Gain Share Payment	8,912	1,259	7,321	548	342	18,382	42,897
Retired Reemployed Healthcare	4,816	1,530	5,041	1,280	-	12,667	12,535
Health Insurance Contributions (HB1)	15,985	3,758	6,560	1,232	256	27,791	24,409
Employer Cessation Contributions	-	-	2,405	-	-	2,405	28,400
Total Contributions	**148,798**	**64,650**	**154,757**	**3,008**	**9,353**	**380,566**	**454,833**
INVESTMENT INCOME							
From Investing Activities							
Net Appreciation (Depreciation) in FV of Investments	(222,332)	(103,271)	(105,578)	(36,877)	(14,419)	(482,477)	1,286,327
Interest/Dividends	89,003	45,282	34,138	17,519	6,861	192,803	161,768
Total Investing Activities Income	(133,329)	(57,989)	(71,440)	(19,358)	(7,558)	(289,674)	1,448,095
Less: Investment Expense	15,664	8,279	5,992	3,264	1,279	34,478	30,076
Less: Performance Fees	22,044	12,355	8,270	4,849	1,976	49,494	41,086
Net Income/Loss from Investing Activities	(171,037)	(78,623)	(85,702)	(27,471)	(10,813)	(373,646)	1,376,933
From Securities Lending Activities							
Securities Lending Income	312	154	134	56	23	679	403
Less: Securities Lending Borrower Rebates (Income)/ Expense	(86)	(46)	(39)	(20)	(8)	(199)	(300)
Less: Securities Lending Agent Fees	60	30	26	11	5	132	105
Net Income/Loss from Securities Lending	338	170	147	65	26	746	598
Net Investment Income/Loss	**(170,699)**	**(78,453)**	**(85,555)**	**(27,406)**	**(10,787)**	**(372,900)**	**1,377,531**
Total Additions	**(21,901)**	**(13,803)**	**69,202**	**(24,398)**	**(1,434)**	**7,666**	**1,832,364**
DEDUCTIONS							
Healthcare Premiums Subsidies	134,428	89,319	118,451	20,355	14,461	377,014	375,598
Administrative Expenses	933	502	821	125	73	2,454	2,354
Self-Funded Healthcare Costs	3,288	210	1,525	109	21	5,153	5,465
Excise Tax Insurance	12	-	6	-	-	18	-
Total Deductions	**138,661**	**90,031**	**120,803**	**20,589**	**14,555**	**384,639**	**383,417**
Net Increase (Decrease) in Fiduciary Net Position Restricted for OPEB	(160,562)	(103,834)	(51,601)	(44,987)	(15,989)	(376,973)	1,448,947
Total Fiduciary Net Position Restricted for OPEB							
Beginning of Period	**3,141,786**	**1,607,811**	**1,353,123**	**624,889**	**246,004**	**6,973,613**	**5,524,666**
End of Period	**$2,981,224**	**$1,503,977**	**$1,301,522**	**$579,902**	**$230,015**	**$6,596,640**	**$6,973,613**

See accompanying notes, which are an integral part of these combining financial statements.

Combining Statement of Fiduciary Net Position

As of June 30, 2022 with Comparative Totals as of June 30, 2021 ($ in Thousands)

ASSETS	Pension	Insurance	KPPA Total 2022	KPPA Total 2021
CASH AND SHORT-TERM INVESTMENTS				
Cash Deposits	$367	$255	$622	$1,128
Short-term Investments	1,116,933	431,687	1,548,620	1,365,245
Total Cash and Short-term Investments	**1,117,300**	**431,942**	**1,549,242**	**1,366,373**
RECEIVABLES				
Accounts Receivable	255,799	39,915	295,714	183,655
Accounts Receivable - Investments	82,033	37,495	119,528	299,906
Total Receivables	**337,832**	**77,410**	**415,242**	**483,561**
INVESTMENTS, AT FAIR VALUE				
Core Fixed Income	2,030,334	753,513	2,783,847	3,143,754
Public Equities	6,193,221	2,871,633	9,064,854	9,963,604
Private Equities	1,289,931	625,455	1,915,386	1,820,371
Specialty Credit	3,097,829	1,401,886	4,499,715	3,781,572
Derivatives	(2,864)	(934)	(3,798)	(33)
Real Return	417,816	164,241	582,057	1,420,811
Opportunistic	-	-	-	609,824
Real Estate	882,759	372,994	1,255,753	868,431
Total Investments, at Fair Value	**13,909,026**	**6,188,788**	**20,097,814**	**21,608,334**
Securities Lending Cash Collateral Invested	391,751	146,144	537,895	600,838
CAPITAL/INTANGIBLE ASSETS				
Capital Assets	2,885	-	2,885	2,885
Intangible Assets	17,300	-	17,300	17,301
Accumulated Depreciation	(2,885)	-	(2,885)	(2,885)
Accumulated Amortization	(16,977)	-	(16,977)	(16,624)
Total Capital Assets	**323**	**-**	**323**	**677**
Total Assets	**15,756,232**	**6,844,284**	**22,600,516**	**24,059,783**
LIABILITIES				
Accounts Payable	7,048	57,501	64,549	14,445
Investment Accounts Payable	109,253	43,999	153,252	548,197
Securities Lending Cash Collateral	391,751	146,144	537,895	600,838
Total Liabilities	**508,052**	**247,644**	**755,696**	**1,163,480**
Total Fiduciary Net Position Restricted for Benefits	**$15,248,180**	**$6,596,640**	**$21,844,820**	**$22,896,303**

See accompanying notes which are an integral part of these combining financial statements.

Note: The displayed fair values include investable assets held by each System and its associated contributions, payables, equipment and intangible assets; unlike those found in the Investment Section, which include only those investable assets held by each System.

The Opportunistic asset class was merged with Specialty Credit.

Combining Statement of Changes In Fiduciary Net Position

For the fiscal year ending June 30, 2022, with Comparative Totals as of June 30, 2021 ($ In Thousands)

	Pension	Insurance	KPPA Total 2022	KPPA Total 2021
ADDITIONS				
Member Contributions	$371,181	$-	$371,181	$342,980
Employer Contributions	1,091,160	217,318	1,308,478	2,070,335
Actuarially Accrued Liability Contributions	912,705	101,637	1,014,342	-
Medicare Drug Reimbursement	-	2	2	3
Insurance Premiums	-	364	364	563
Humana Gain Share	-	18,382	18,382	42,897
General Fund Appropriations	215,000	-	215,000	384
Pension Spiking Contributions	122	-	122	222
Retired Reemployed Healthcare	-	12,667	12,667	12,535
Health Insurance Contributions (HB1)	(208)	27,791	27,583	24,405
Employer Cessation Contributions	63,113	2,405	65,518	204,000
Total Contributions	**2,653,073**	**380,566**	**3,033,639**	**2,698,324**
INVESTMENT INCOME				
From Investing Activities				
Net Appreciation (Depreciation) in FV of Investments	(1,175,881)	(482,477)	(1,658,358)	4,184,595
Interest/Dividends	429,376	192,803	622,179	552,386
Total Investing Activities Income/Loss	(746,505)	(289,674)	(1,036,179)	4,736,981
Less: Investment Expense	75,187	34,478	109,665	92,585
Less: Performance Fees	96,462	49,494	145,956	118,567
Net Income/Loss from Investing Activities	(918,154)	(373,646)	(1,291,800)	4,525,829
From Securities Lending Activities				
Securities Lending Income	1,652	679	2,331	1,339
Less: Securities Lending Borrower Rebates (Income)/Expense	(505)	(199)	(704)	(1,000)
Less: Securities Lending Agent Fees	323	132	455	349
Net Income from Securities Lending	1,834	746	2,580	1,990
Net Investment Income/Loss	**(916,320)**	**(372,900)**	**(1,289,220)**	**4,527,819**
Total Additions	**1,736,753**	**7,666**	**1,744,419**	**7,226,143**
DEDUCTIONS				
Benefit Payments	2,328,594	-	2,328,594	2,263,388
Refunds	42,927	-	42,927	32,130
Healthcare Premiums Subsidies	-	377,014	377,014	375,598
Self Funded Healthcare Costs	-	5,153	5,153	5,465
Administrative Expenses	39,742	2,454	42,196	39,143
Excise Tax Insurance	-	18	18	-
Total Deductions	**2,411,263**	**384,639**	**2,795,902**	**2,715,724**
Net Increase (Decrease) in Fiduciary Net Position Restricted for Benefits	(674,510)	(376,973)	(1,051,483)	4,510,419
Total Fiduciary Net Position Restricted for Benefits				
Beginning of Period	**15,922,690**	**6,973,613**	**22,896,303**	**18,385,884**
End of Period	**$15,248,180**	**$6,596,640**	**21,844,820**	**$22,896,303**

See accompanying notes, which are an integral part of these combining financial statements.

NOTE A. Summary of Significant Accounting Policies

Kentucky Retirement Systems (KRS) is now responsible for the administration of the Kentucky Employees Retirement System (KERS) and the State Police Retirement System (SPRS). HB 484, passed in the 2020 Legislative Session, also created a separate governing board in KRS 78.782, County Employees Retirement System (CERS), to administer the statewide cost-sharing plans for local government employers. KPPA is responsible for administering the single personnel system for the pension plans, a system of accounting, day-to-day administrative needs of CERS and KRS, selecting consulting and service contractors to provide administrative services including an external auditor. KPPA is also responsible for promulgating administrative regulations on behalf of KRS and CERS, individually or collectively. It is additionally tasked with administering and operating any jointly held assets for KRS and CERS including, but not limited to real estate, office space, equipment, and supplies. KPPA staff manages assets in accordance with investment policies developed by the CERS and KRS Investment Committees and approved by each Board. KPPA staff recommends to the Boards the hiring, retention and termination of investment managers. Each Board is responsible for selection of investment services for the management and custody of the assets while KPPA is responsible for the remaining investment services.

This summary of KPPA's significant accounting policies is presented to assist in understanding the combining financial statements for CERS and KRS. The combining financial statements and notes are representations of KPPA's management, which is responsible for their integrity and objectivity. These accounting policies conform to Generally Accepted Accounting Principles (GAAP) and have been consistently applied in the preparation of the combining financial statements.

Basis of Accounting

KPPA's combining financial statements are prepared using the accrual basis of accounting. Plan member contributions are recognized in the period in which contributions are due. Employer contributions to the plan are recognized when due and the employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan. Premium payments are recognized when due and payable in accordance with the insurance terms of the plan. Administrative and investment expenses are recognized when incurred. The net position represents the five funds of CERS, KERS, SPRS and the five funds of the Kentucky Retirement Insurance Trust Fund (Insurance Fund) that have accumulated thus far to pay pension benefits for retirees, active and inactive members, and health care premiums for current and future employees.

Method Used to Value Investments

Investments are reported at fair value. Fair value is the price that would be received upon selling an asset or the amount paid to transfer a liability in an orderly transaction between market participants at the measurement date. Short-term investments are reported at cost, which approximates fair value. See Investments Note D for further discussion of fair value measurements. Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the dividend date. Gain (loss) on investments includes gains and losses on investments bought and sold as well as held during the fiscal year. Investment returns are recorded in all plans net of investment fees.

Investment Unitization

Within the plan accounting structure there are two primary types of accounts: Plan Accounts and Pool Accounts. Plan Accounts are the owners of the investment pool. An account is established for each plan/fund and these accounts hold Units of Participation that represent the plan's/fund's invested value of the investment pool. Pool Accounts are accounts that hold the assets of the investment pool where all investment related activity and earnings occur. The pooled accounts are the investment strategies of the pool. Units of Participation are bought and sold as each plan/fund contributes or withdraws cash or assets from the investment pool. The investment pool earnings are then allocated to plans utilizing a cost distribution method that allows for fluctuating prices experienced in capital markets. This involves earnings allocated to the plan accounts with an increase or decrease in cost on the Unit of Participation Holdings of the Plan Accounts. Correspondingly, the price of the Unit of Participation Holdings is updated to reflect change in market value in the investment pool. Earnings are allocated based on the daily weighted average of Master Trust Units held by each plan/fund account during each monthly earnings period. This method is commonly used when plans make multiple contributions or withdrawals from the investment pool throughout the month as it eliminates allocation distortion due to large end of month cash flows.

Estimates

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

Equipment

Office equipment is valued at historical cost and depreciation is computed utilizing the straight-line method over the estimated useful lives of the assets ranging from three to ten years. Improvements, which increase the useful life of the equipment, are capitalized. Maintenance and repairs are charged as an expense when incurred. The capitalization threshold used in fiscal year 2022 was $3,000 (see Equipment Note J for further information).

Intangible Assets

Intangible assets, currently computer software, are valued at historical cost and amortization is computed utilizing the straight-line method over the estimated useful lives of the assets which is ten years. The capitalization threshold used in fiscal year 2022 was $3,000 (see Intangible Assets Note K for further information).

Accounts Receivable

Accounts Receivable consist of amounts due from employers. KPPA management considers accounts receivable to be fully collectible; accordingly, no allowance for doubtful accounts is considered necessary. If amounts become uncollectible, they will be charged to operations when that determination is made. If amounts previously written off are collected, they will be credited to income when received.

The Investment Accounts Receivable and Investment Accounts Payable consist of investment management earnings and fee accruals, as well as all buys and sells of securities which have not closed as of the reporting date.

Payment of Benefits

Benefits are recorded when paid.

Expense Allocation

KPPA administrative expenses are allocated based on a hybrid allocation developed by the Boards. The hybrid allocation is based on a combination of plan membership and direct plan expenses. All investment related expenses are allocated in proportion to the percentage of investment assets held by each plan.

Component Unit

KPPA is a component unit of the Commonwealth of Kentucky (the Commonwealth) for financial reporting purposes.

CERS was created by the Kentucky General Assembly on July 1, 1958, pursuant to Kentucky Revised Statute 78.520, and the separate governing board was created in 2021. KERS was created by the Kentucky General Assembly on July 1, 1956, pursuant to Kentucky Revised Statute 61.515. SPRS was created by the Kentucky General Assembly on July 1, 1958, pursuant toKentucky Revised Statute 16.510. The KRS Insurance Trust Fund was created by the Kentucky General Assembly pursuant to Kentucky Revised Statute 61.701. KPPA's administrative budget is subject to approval by the Kentucky General Assembly. Employer contribution rates for KERS and SPRS are also subject to legislative approval. Employer contribution rates for CERS are determined by the Board of CERS without further legislative review. The methods used to determine the employer rates for CERS and KRS (KERS and SPRS) are specified in Kentucky Revised Statutes 78.635 and 61.565. Employee contribution rates are set by statute and may be changed only by the Kentucky General Assembly.

Perimeter Park West, Incorporated (PPW) is governed by a three-member board selected by shareholders. Although it is legally separate from KPPA, PPW is reported as part of KPPA, because its sole ownership is Kentucky Retirement Systems, and therefore through unitization is owned by KERS, CERS, and SPRS. PPW functions as a real estate holding company for theoffices used by the plans administered by KPPA.

Recent Accounting Pronouncements

In June 2017, the Governmental Accounting Standards Board (GASB) issued *Statement Number 87 Leases*. The objective of this Statement is to address government lessee's recognition of lease liabilities, intangible assets, and report amortization expense for using the leased asset, interest expense on the lease liability, and note disclosures about the lease. Another objective of this Statement is to address government lessor's recognition of a lease receivable, deferred inflow, and report lease revenue, interest income, and note disclosures about the lease. Due to COVID-19, *Statement Number 87 Leases* was updated by GASB to extend the requirement of this standard to take effect for financial statements starting with the fiscal year that ends June 30, 2022. KPPA determined that the KPPA lease agreements are not material to the overall financial statements. Therefore, KPPA did not report the leases according to *Statement Number 87 Leases*.

GASB *Statement Number 96, Subscription-Based Information Technology Arrangements (SBITAs)* established standards of accounting and financial reporting for SBITAs by a government end user (a government). The requirements of this Statement apply to financial statements of all state and local governments. The underlying accounting principles for SBITAs are similar to the standards established in *Statement Number 87, Leases*, as amended. The requirements of this Statement will take effect for financial statements starting with the fiscal year that ends June 30, 2023. KPPA is evaluating the impact of the Statement to the financial report.

GASB Statement Number 98, "The Annual Comprehensive Financial Report" required the name change of the annual report. The new name for the annual report is the Annual Comprehensive Financial Report (ACFR)

Note B. Descriptions & Contribution Information

CERS Membership Combined
As of June 30

	2022		
Members	**Nonhazardous**	**Hazardous**	**Total**
Retirees and Beneficiaries Receiving Benefits	65,266	9,121	74,387
Inactive Memberships	101,508	3,481	104,989
Active Members	80,263	9,149	89,412
Total	**247,037**	**21,751**	**268,788**
Number of Participating Employers			1,122

KERS Membership Combined
As of June 30

	2022		
Members	**Nonhazardous**	**Hazardous**	**Total**
Retirees and Beneficiaries Receiving Benefits	44,952	3,440	48,392
Inactive Memberships	50,529	6,889	57,418
Active Members	29,069	3,607	32,676
Total	**124,550**	**13,936**	**138,486**
Number of Participating Employers			325

SPRS Membership
As of June 30

	2022		
Members	**Nonhazardous**	**Hazardous**	**Total**
Retirees and Beneficiaries Receiving Benefits	-	1,562	1,562
Inactive Memberships	-	402	402
Active Members	-	844	844
Total	**-**	**2,808**	**2,808**
Number of Participating Employers			1

Note: Each person is only counted once in the Membership by System report. A member who has both a membership account and a retired account is included in the retired count. Members who have multiple membership accounts are included under the system where they most recently contributed. Members who have more than one retirement account are included in the system with the greatest service credit. If the retired accounts have equal service credit, they are counted first in SPRS, CERS Hazardous, KERS Hazardous, CERS Non-Hazardous, then KERS Non-Hazardous.

Retiree Medical Insurance Coverage
As of June 30, 2022

	Single	Couple/ Family	Parent	Medicare Without Prescription	Medicare With Prescription
CERS Nonhazardous	8,692	543	225	1,958	29,001
CERS Hazardous	1,810	2,961	468	134	4,284
CERS Total	**10,502**	**3,504**	**693**	**2,092**	**33,285**
KERS Nonhazardous	7,141	612	434	989	22,903
KERS Hazardous	686	477	116	84	1,746
KERS Total	**7,827**	**1,089**	**550**	**1,073**	**24,649**
SPRS	217	454	90	14	1,016
Total	**18,546**	**5,047**	**1,333**	**3,179**	**58,950**

The total number of Participating Employers is 1,448.

Note: Medical Insurance coverage is provided based on the member's initial participation date and length of service. Members receive either a percentage or dollar amount for insurance coverage. The counts are the number of medical plans contracted with the Department of Employee Insurance or Medicare vendor and are not representative of the number of persons.

Plan Descriptions

The County Employees Retirement System (CERS), the Kentucky Employees Retirement System (KERS), and the State Police Retirement System (SPRS) provide retirement, disability, and death benefits to system members. Retirement benefits may be extended to beneficiaries of members under certain circumstances. KPPA provides administrative support to CERS, KERS, SPRS, and Kentucky Retirement System Insurance Trust Fund (Insurance Fund). In addition to executive management, the CERS, KERS, SPRS, and Insurance Fund share investment management, accounting, and information system services, the costs of which are allocated to the plans on an equitable basis.

CERS - County Employees Retirement System

CERS was established by Kentucky Revised Statute 78.520. The CERS system is comprised of two plans - CERS Nonhazardous plan and CERS Hazardous plan. The CERS Nonhazardous plan was established to provide retirement benefits to all regular full-time members employed in positions of each participating county, city, school board, and any additional eligible local agencies electing to participate in CERS. The membership of the CERS Hazardous plan includes employees whose position is considered hazardous with principal job duties including, but are not limited to, active law enforcement, probation and parole officers, detectives, pilots, paramedics, and emergency medical technicians, with duties that require frequent exposure to a high degree of danger and also require a high degree of physical condition.

The responsibility for the general administration and operation of the plans within CERS is vested in the CERS Board of Trustees. The CERS Board of Trustees consists of 9 members. Six trustees are appointed by the governor and three are elected by CERS members (active, inactive, and/or retired). The six appointed trustees are selected from a list of candidates provided to the Governor's Office by one of three employer advocacy groups: Kentucky League of Cities, Kentucky Association of Counties, or Kentucky School Board Association. Of the six appointed trustees, three must have investment experience and three must have retirement experience as defined by statute. All appointments by the governor are subject to Senate confirmation.

KERS - Kentucky Employees Retirement System

KERS was established by Kentucky Revised Statute 61.515. The KERS system is comprised of two plans - KERS Nonhazardous plan and KERS Hazardous plan. The KERS Nonhazardous plan was established to provide retirement benefits to all regular full-time members employed in positions of any state department, board, or agency directed by Executive Order to participate in KERS. The membership of the KERS Hazardous plan includes employees whose position is considered hazardous with principal job duties including, but are not limited to, active law enforcement, probation and parole officer, detective, pilots, paramedics, and emergency medical technicians, with duties that require frequent exposure to a high degree of danger and also require a high degree of physical condition. The responsibility for the general administration and operation of KERS is vested with the Kentucky Retirement Systems (KRS) Board of Trustees. The KRS Board of Trustees consist of 9 members. Six trustees are appointed by the governor and three are elected. Of the elected trustees, two are elected by KERS members and one is elected by SPRS members. Active, inactive and retired members of the appropriate system are invited to participate in the election of trustees. Of the six appointed trustees, three must have investment experience and three must have retirement experience as defined by statute. All appointments by the governor are subject to Senate confirmation. The two trustees elected by the KERS membership must be members of or retired from KERS. The one trustee elected by the SPRS membership must be a member of or retired from SPRS.

SPRS - State Police Retirement System

SPRS is a single employer defined benefit pension plan and was established by Kentucky Revised Statute 16.510 to provide retirement benefits to all full-time state troopers employed in positions by the Kentucky State Police. The responsibility for the general administration and operation of the SPRS is vested with the KRS Board of Trustees (see KERS - Kentucky Employees Retirement System for KRS Board composition).

Kentucky Retirement System Insurance Trust Fund

The Insurance Fund was established by Kentucky Revised Statute 61.701 for the purpose of providing hospital and medical insurance benefits for eligible members receiving benefits from CERS Nonhazardous, CERS Hazardous, KERS Nonhazardous, KERS Hazardous, and SPRS (collectively the Insurance Fund). The responsibility for the general administration and operation of the Insurance Fund is vested with both the CERS Board of Trustees and the KRS Boards of Trustees. Each of the OPEB funds: CERS Nonhazardous, CERS Hazardous, KERS Nonhazardous, KERS Hazardous, and SPRS is legally separated with benefits only eligibility to be paid for each of the respective membership groups.

Cost of Living Adjustment (COLA)

Prior to July 1, 2009, COLAs were provided to Retirees annually equal to the percentage increase in the annual average of the consumer price index (CPI) for all urban consumers for the most recent calendar year, not to exceed 5% in any plan year. After July 1, 2009, the COLAs were to be limited to 1.50%.

In 2013 the General Assembly created a new law to govern how COLAs will be granted. Language included in Senate Bill 2 during the 2013 Regular Session states COLAs will only be granted in the future if the Systems' Boards determine that assets of the Systems are greater than 100% of the actuarial liabilities and legislation authorizes the use of surplus funds for the COLA; or the General Assembly fully prefunds the COLA or directs the payment of funds in the year the COLA is provided. Kentucky Revised Statute 78.5518 governs how COLAs may be granted for members of CERS. The granting of COLAs for the KERS and SPRS membership is covered under Kentucky Revised Statute 61.691.

No COLA has been granted since July 1, 2011.

Employer Contributions

Local government participating employers are required to contribute an actuarially determined rate for CERS pension contributions, per the Kentucky Revised Statute Section 78.635. The CERS Board of Trustees establishes the employer contribution rate based on Kentucky Revised Statute section 78.454(33) each year following the annual actuarial valuation as of July 1 and prior to July 1 of the succeeding fiscal year for local governments in Kentucky.

The Commonwealth is required to contribute at an actuarially determined rate for KERS and SPRS pensions. The KRS Board of Trustees recommends the rates each year following the annual actuarial valuation, but the rates are set by the legislature within the budget bill for each biennium. The contribution rate from July 1, 2021, through June 30, 2022, was set within HB 192 passed in the 2021 Regular Legislative Session for SPRS and KERS Hazardous employers.

The KERS Nonhazardous employer contribution rate shall include, (1) the normal cost contribution and (2) the prorated amount of the actuarially accrued liability assigned to each individual nonhazardous employer in accordance with Kentucky Revised Statute 61.565(1)(d). Each employer pays the normal cost as a percentage of reported payroll plus a flat amount to cover the employer-specific actuarially accrued liability contribution for the fiscal year as determined by the annual valuation.

Per Kentucky Revised Statute Section 61.565 and 16.645(18), normal contribution and past service contribution rates shall be determined by the KRS Board on the basis of the last annual valuation preceding July 1 of a new biennium. The KRS Board may amend contribution rates as of the first day of July of the second year of a biennium, if it is determined on the basis of a subsequent actuarial valuation that amended contribution rates are necessary to satisfy requirements determined in accordance with actuarial bases adopted by the KRS Board. However, formal commitment to provide the contributions by the employer is made through the biennial budget for KERS and SPRS.

For the fiscal year ended June 30, 2022, participating employers of CERS Nonhazardous, CERS Hazardous, KERS Hazardous, and SPRS contributed a percentage of each employee's creditable compensation. The actuarially determined rates set by the Boards for the fiscal year is a percentage of each employee's creditable compensation. Participating employers of KERS Nonhazardous contributed the normal cost percentage of each employee's creditable compensation, and the employer's portion of the actuarially accrued liability. Administrative costs of KPPA are financed through employer contributions and investment earnings. See the charts on the following page for the fiscal year employer contribution rates, including the actuarially recommended rates.

Contribution Rate Breakdown by Fund
As of June 30, 2022

	Pension		Insurance		Combined Total	
Fund	**Employer Contribution Rates**	**Actuarially Recommended Rates**	**Employer Contribution Rates**	**Actuarially Recommended Rates**	**Employer Contribution Rates**	**Actuarially Recommended Rates**
CERS Nonhazardous**	22.78%	22.78%	4.17%	4.17%	26.95%	26.95%
CERS Hazardous**	35.60%	35.60%	8.73%	8.73%	44.33%	44.33%
KERS Nonhazardous *	7.90%	7.90%	2.20%	2.20%	10.10%	10.10%
KERS Hazardous	33.43%	33.43%	0.00%	0.00%	33.43%	33.43%
SPRS	127.99%	127.99%	18.07%	18.07%	146.06%	146.06%

** House Bill 8 passed during the 2021 legislative session required, beginning July 1, 2021, the KERS Nonhazardous employers pay the normal cost for all employees plus a flat amount which is equal to their assigned percentage of the annual dollar amount that is sufficient to amortize the total unfunded actuarial accrued liability of the system over a closed period. The percentage is based on the liabiltiy that was attributable to the agency as of June 30, 2019.*

***House Bill 362 passed during the 2018 legislative session caps CERS employer contribution rate increases up to 12% per year over the prior fiscal year for the period of July 1, 2018 to June 30, 2028.*

As of June 30, 2022, the date of the most recent actuarial valuation, membership consisted of:

TIER 1:

Tier 1 plan members who began participating prior to September 1, 2008, are required to contribute 5% (Nonhazardous) or 8% (Hazardous) of their annual creditable compensation. These members are classified in the Tier 1 structure of benefits. Interest is paid each June 30 on members' accounts at a rate of 2.5%. If a member terminates employment and applies to take a refund, the member is entitled to a full refund of contributions and interest.

TIER 2:

Tier 2 plan members, who began participating on or after September 1, 2008, and before January 1, 2014, are required to contribute 6% (Nonhazardous) or 9% (Hazardous) of their annual creditable compensation. Further, 1% of these contributions are deposited to an account created for the payment of health insurance benefits under 26 USC Section 401(h) in the Insurance Fund (see Kentucky Administrative Regulation (KAR) 105 KAR 1:420). These members are classified in the Tier 2 structure of benefits. Interest is paid each June 30 on members' accounts at a rate of 2.5%. If a member terminates employment and applies to take a refund, the member is entitled to a full refund of contributions and interest; however, the 1% Health Insurance Contribution (HIC) to the 401(h) account is non-refundable and is forfeited.

TIER 3:

Tier 3 plan members, who began participating on or after January 1, 2014, are required to contribute to the Cash Balance Plan. The Cash Balance Plan is known as a hybrid plan because it has characteristics of both a defined benefit plan and a defined contribution plan. Members contribute 5% (Nonhazardous) or 8% (Hazardous) of their monthly creditable compensation which is deposited into their account, and an additional 1% which is deposited to an account created for payment of health insurance benefits under 26 USC Section 401(h) in the Insurance Fund (see 105 KAR1:420), which is not refundable. Tier 3 member accounts are also credited with an employer pay credit in the amount of 4% (Non-Hazardous) or 7.5% (Hazardous) of the member's monthly creditable compensation. The employer pay credit amount is deducted from the total employer contribution rate paid on the member's monthly creditable compensation. If a vested (60 months of service) member terminates employment and applies to take a refund, the member is entitled to the members contributions (less HIC) plus employer pay credit plus interest (for both employee contributions and employer pay). If a non-vested (less than 60 months) member terminates employment and applies to take a refund, the member is entitled to receive employee contributions (less HIC) plus interest (on employee contributions only).

Tier 3

Interest is paid into the Tier 3 member's account. The account currently earns 4% interest credit on the member's accumulated account balance as of June 30 of the previous year. The member's account may be credited with additional interest if the fund's five-year Geometric Average Net Investment Return (GANIR) exceeded 4%. If the member was actively employed and participating in the fiscal year, and if KPPA's GANIR for the previous five years exceeds 4%, then the member's account will be credited with 75% of the amount of the returns over 4% on the account balance as of June 30 of the previous year (Upside Sharing Interest). It is possible that one fund in KPPA may get an Upside Sharing Interest, while another may not.

Upside Sharing Interest

Upside Sharing Interest is credited to both the member contribution balance and Employer Pay Credit balance. Upside Sharing Interest is an additional interest credit. Member accounts automatically earn 4% interest annually. The GANIR is calculated on an individual fund basis.

The chart below shows the interest calculated on the members' balances as of June 30, 2021, and credited to each member's account on June 30, 2022.

(A-B) = C x 75% = D then B + D = Interest ($ in Thousands)						
	A	B	C	D		
Fund	5-Year Geometric Average Return	Less Guarantee Rate of 4%	Upside Sharing Interest	Upside Sharing Interest X 75% = Upside Gain	Interest Rate Earned (4% + Upside)	Total Interest Credited to Member Accounts
CERS Nonhazardous	6.24%	4.00%	2.24%	1.68%	5.68%	$19,197
CERS Hazardous	6.38%	4.00%	2.38%	1.79%	5.79%	$6,354
KERS Nonhazardous	5.70%	4.00%	1.70%	1.28%	5.28%	$7,948
KERS Hazardous	6.26%	4.00%	2.26%	1.70%	5.70%	$2,484
SPRS	6.10%	4.00%	2.10%	1.58%	5.58%	$382

Insurance Fund Description

The Insurance Fund was established to provide hospital and medical insurance for eligible members receiving benefits from CERS, KERS, and SPRS. The eligible non-Medicare retirees are covered by the Department of Employee Insurance (DEI) plans. The KPPA Board contracts with Humana to provide health care benefits to the eligible Medicare retirees through a Medicare Advantage Plan. KPPA submits the premium payments to DEI and Humana. The Insurance Fund pays a prescribed contribution for whole or partial payment of required premiums to purchase hospital and medical insurance. For the fiscal year ended June 30, 2022, insurance premiums withheld from benefit payments for KPPA's members were $24.0 million and $3.7 million for CERS Nonhazardous and Hazardous, respectively; $20.1 million and $1.4 million for KERS Nonhazardous and Hazardous, respectively; and, $379,559 for SPRS.

The amount of benefit paid by the Insurance Fund is based on years of service. For members who began participating prior to July 1, 2003, a percentage of the contribution rate is paid based on years of service with 100% of the contribution rate being paid with 20 years of service. Since the passage of House Bill 290 (2004 Kentucky General Assembly), medical insurance benefits have been calculated differently for members who began participating on or after July 1, 2003. Once members reach a minimum vesting period of 10 years, Nonhazardous employees whose participation began on or after July 1, 2003, earn $10 per month for insurance benefits at retirement for every year of earned service. Hazardous employees whose participation began on or after July 1, 2003 earn $15 per month for insurance benefits at retirement for every year of earned service without regard to a maximum dollar amount. Upon death of a Hazardous employee, the employee's spouse receives $10 per month for insurance benefits for each year of the deceased employee's earned Hazardous service. This dollar amount is subject to adjustment annually, which is currently 1.5%, based upon Kentucky Revised Statutes. House Bill 1 (2008 Kentucky General Assembly) changed the minimum vesting requirement for participation in the health insurance plan to 15 years for members whose participation began on or after September 1, 2008. This benefit is not protected under the inviolable contract provisions of Kentucky Revised Statutes 16.652, 61.692 and 78.852. The Kentucky General Assembly reserves the right to suspend or reduce this benefit if, in its judgment, the welfare of the Commonwealth so demands. The Insurance Plan pays 100% of the contribution rate for hospital and medical insurance premiums for the spouse and dependents of members who die as a direct result of an act in the line of duty or from a duty-related injury.

For members participating prior to July 1, 2003, years of service and respective percentages of the maximum benefit are as follows:

Portion Paid by Insurance Fund
As of June 30, 2022

Years of Service	Paid by Insurance Fund (%)
20+ years	100.00%
15-19 years	75.00%
10-14 years	50.00%
4-9 years	25.00%
Less than 4 years	0.00%

The amount of benefit paid by the Insurance Fund is based on years of service. For members participating on or after July 1, 2003, the dollar amounts of the benefit per year of service are as follows:

Dollar Contribution for Fiscal Year 2022 For Member participation date on or after July 1, 2003

	(in Whole $)
CERS Nonhazardous	$13.99
CERS Hazardous	$20.99
KERS Nonhazardous	$13.99
KERS Hazardous	$20.99
SPRS	$20.99

Note C. Cash, Short-Term Investments & Securities Lending Collateral

The provisions of GASB *Statement No. 28 Accounting and Financial Reporting for Securities Lending Transactions* require that cash received as collateral on securities lending transactions and investments made with that cash must be reported as assets on the financial statements. The non-cash collateral is not reported because the securities received as collateral are unable to be pledged or sold unless the borrower defaults. In accordance with GASB *No. 28*, KPPA classifies certain other investments, not related to the securities lending program, as short-term. Cash and short-term investments consist of the following:

Cash, Short-Term Investments, & Securities Lending Collateral
As of June 30 ($ in Thousands)

CERS		
	Pension	**Insurance**
	2022	**2022**
CERS Nonhazardous		
Cash	$170	$101
Short-Term Investments	286,875	144,398
Securities Lending Collateral Invested	208,156	66,459
Total	**$495,201**	**$210,958**
CERS Hazardous		
Cash	$17	$19
Short-Term Investments	114,933	46,794
Securities Lending Collateral Invested	70,856	33,425
Total	**$185,806**	**$80,238**

KERS		
	Pension	**Insurance**
	2022	**2022**
KERS Nonhazardous		
Cash	$128	$91
Short-Term Investments	492,114	187,679
Securities Lending Collateral Invested	77,505	28,391
Total	**$569,747**	**$216,161**
KERS Hazardous		
Cash	$35	$25
Short-Term Investments	77,438	39,120
Securities Lending Collateral Invested	21,277	12,806
Total	**$98,750**	**$51,951**

SPRS		
	Pension	Insurance
	2022	**2022**
Cash	$17	$19
Short-Term Investments	145,573	13,696
Securities Lending Collateral Invested	13,957	5,063
Total	**$159,547**	**$18,778**

Note D. Investments

Kentucky Revised Statutes Sections 61.650 and 78.790 specifically state that the Board of Trustees for the respective retirement Plan(s) shall have the full and exclusive power to invest and reinvest the funds of the Plan(s) they govern. In addition, Kentucky Revised Statutes Sections 61.645 and 78.782 require three (3) members of each Board to have at least ten (10) years of investment experience as defined by the statute(s). The Boards of Trustees are required to establish Investment Committees who are specifically charged with implementing the investment policies adopted by the Board of Trustees and to act on behalf of the Board of Trustees on all investment-related matters. The Board of Trustee and the Investment Committee members are required to discharge their duty to invest the funds of the Plans in accordance with the “Prudent Person Rule” as set forth in Kentucky Revised Statutes Sections 61.650 and 78.790 and to manage those funds consistent with the long-term nature of the trusts and solely in the interest of the members and beneficiaries. All internal investment staff of the Kentucky Public Pensions Authority, and investment consultants must adhere to the Code of Ethics and Standards of Professional Conduct of the CFA Institute and all board trustees must adhere to the Code of Conduct for Members of a Pension Scheme Governing Body of the CFA Institute. The Boards of Trustees are authorized to adopt policies. The Boards of Trustees have adopted Investment Policy Statements (IPS) which define the framework for investing the assets of the Plans. The IPS is intended to provide general principles for establishing the investment goals of the Plans, the allocation of assets, employment of outside asset management, and monitoring the results of the respective Plans. A copy of each Board’s IPS can be found on the KPPA website. By statute, the Boards, through adopted written policies, shall maintain ownership and control over its assets held in its unitized managed custodial account. Additionally, the Investment Committees establish specific investment guidelines that are summarized below and are included in the Investment Management Agreement (IMA) for each investment management firm.

Equity

Public Equity

Investments may be made in common stock; securities convertible into common stock; preferred stock of publicly traded companies on stock markets; asset class relevant Exchange Traded Funds (ETFs); or any other type of security contained in a manager’s benchmark. Each individual equity account has a comprehensive set of investment guidelines, which contains a listing of permissible investments, portfolio restrictions, and standards of performance.

Private Equity

Subject to the specific approval of the Investment Committees, Private Equity investments may be made for the purpose of creating a diversified portfolio of alternative investments under the Equity umbrella. Private equity investments are expected to achieve attractive risk-adjusted returns and, by definition, possess a higher degree of risk with a higher return potential than traditional investments. Accordingly, total rates of return from private equity investments are expected to be greater than those that might be obtained from conventional public equity or debt investments.

Fixed Income

Core Fixed Income

The Core Fixed Income accounts may include, but are not limited to, the following securities: U.S. government and agency bonds; investment grade U.S. corporate credit; investment grade non-U.S. corporate credit; mortgages, including residential mortgage-backed securities; commercial mortgage-backed securities and whole loans; asset-backed securities; and, asset class relevant ETFs.

Specialty Credit

The Specialty Credit accounts may include, but are not limited to, the following types of securities and investments: non-investment grade U.S. corporate credit including both bonds and bank loans; non-investment grade non-U.S. corporate credit including bonds and bank loans; private debt; municipal bonds; non-U.S. sovereign debt; mortgages, including residential mortgage-backed securities; commercial mortgage backed securities and whole loans; asset-backed securities and emerging market debt (EMD), including both sovereign EMD and corporate EMD; and asset class relevant ETFs. Each individual Specialty Credit account shall have a comprehensive set of investment guidelines which contains a listing of permissible investments, portfolio restrictions, risk parameters, and standards of performance for the account.

Cash and Cash Equivalent Securities

The following short-term investment vehicles are considered acceptable: Publicly traded investment grade corporate bonds; variable rate demand notes; government and agency bonds; mortgages, municipal bonds, and collective short-term investment funds (STIFs), money market funds or instruments (including, but not limited to certificates of deposit, bank notes, deposit notes, bankers' acceptance and commercial paper) and repurchase agreements relating to the above instruments. Instruments may be selected from among those having an investment grade rating at the time of purchase by at least one recognized bond rating service. In cases where the instrument has a split rating, the lower of the two ratings shall prevail. All instruments shall have a maturity at the time of purchase that does not exceed 397 days.

Fixed income managers, who utilize cash equivalent securities as an integral part of their investment strategy, are exempt from the permissible investments contained in the preceding paragraph. Permissible short-term investments for Fixed Income managers shall be included in the investment manager's investment guidelines.

Inflation Protected

Real Estate and Real Return

Subject to the specific approval of the corresponding Investment Committee, investments may be made to create a diversified portfolio of alternative investments. Investments are made in equity and debt real estate for the purpose of achieving the highest total rate of return possible consistent with a prudent level of risk. The purpose of the Real Return investments are to identify strategies that provide both favorable stand-alone risk-adjusted returns as well as the benefit of hedging inflation for the broader plans.

Investment Expenses

In accordance with GASB *Statement No. 67 and No. 74*, *Financial Reporting for Pension Plans and Other Postemployment Benefit Plans other than Pension Plans*, KPPA has exercised professional judgment to report investment expenses. It is not cost-beneficial to separate certain investment expenses from either the related investment income or the general administrative expenses. In fiscal year 2015, KPPA changed Private Equity investment fees from a gross basis to a net basis. The Boards made the decision to enhance transparency reporting. Prior to 2015, the majority of the trusts' Private Equity investment fees were netted against investment activity which is the standard used within the Private Equity sector. Trusts' net investment income has always included these fees regardless of the reporting method used. During the 2017 Regular Session of the Kentucky General Assembly, legislators passed SB 2 which requires the reporting of all investment fees and expenses. KPPA staff continues to work with managers to enhance fee and expense reporting.

Derivatives

Derivative instruments are financial contracts that have various effective dates and maturity dates and whose values depend on the values of one or more underlying assets, reference rates, or financial indices. External managers and KPPA Investment Staff are permitted to invest in derivative securities, or strategies which make use of derivative investments, for exposure, cost efficiency and risk management purposes, if such investments do not cause the portfolio to be leveraged beyond a 100% invested position. Any derivative security shall be sufficiently liquid that it can be expected to be sold at, or near, its most recently quoted market price. Examples of such derivatives include, but are not limited to the following securities: foreign currency forward contracts; futures; options; and swaps.

For accounting and financial reporting purposes, all derivative instruments are considered investment derivative instruments. The derivatives have been segregated on the Combining Statement of Fiduciary Net Position for both the Pension and Insurance Funds.

In accordance with GASB *Statement No. 53, Accounting and Financial Reporting for Derivative Instruments*, KPPA provides additional disclosure regarding its derivatives. The charts included represent the derivatives by types as of June 30, 2022. The chart shows the change in fair value of derivative types as well as the current fair value and notional value. The notional value is the reference amount of the underlying asset times its current spot price. The trusts hold investments in options, commitments, futures, and forward foreign exchange contracts.

CERS Pension and Insurance Derivative Instruments - GASB 53
As of June 30, 2022 ($ in Thousands)

Derivatives (by Type)	Net Appreciation (Depreciation) in Fair Value	Classification	Fair Value	Notional
CERS Nonhazardous - Pension				
FX Spots and Forwards	$834	Investment	$834	-
Futures	(1,929)	Investment	(1,929)	333,042
Commits and Options	-	Investment	4	-
Swaps	-	Investment	-	-
CERS Nonhazardous - Insurance				
FX Spots and Forwards	$258	Investment	$258	-
Futures	(649)	Investment	(649)	109,998
Commits and Options	-	Investment	1	-
Swaps	-	Investment	-	-
CERS Hazardous - Pension				
FX Spots and Forwards	$278	Investment	$278	-
Futures	(653)	Investment	(652)	112,825
Commits and Options	-	Investment	1	-
Swaps	-	Investment	-	-
CERS Hazardous - Insurance				
FX Spots and Forwards	$141	Investment	$141	-
Futures	(326)	Investment	(327)	55,431
Commits and Options	-	Investment	1	-
Swaps	-	Investment	-	-

KERS Pension and Insurance Derivative Instruments - GASB 53
As of June 30, 2022 ($ in Thousands)

Derivatives (by Type)	Net Appreciation (Depreciation) in Fair Value	Classification	Fair Value	Notional
KERS Nonhazardous - Pension				
FX Spots and Forwards	$149	Investment	$149	-
Futures	(1,226)	Investment	(1,226)	231,295
Commits and Options	-	Investment	1	-
Swaps	-	Investment	-	-
KERS Nonhazardous - Insurance				
FX Spots and Forwards	$93	Investment	$93	-
Futures	(295)	Investment	(295)	51,186
Commits and Options	-	Investment	-	-
Swaps	-	Investment	-	-
KERS Hazardous - Pension				
FX Spots and Forwards	$73	Investment	$73	-
Futures	(215)	Investment	(215)	38,341
Commits and Options	-	Investment	1	-
Swaps	-	Investment	-	-
KERS Hazardous - Insurance				
FX Spots and Forwards	$4	Investment	$4	-
Futures	(132)	Investment	(132)	22,723
Commits and Options	-	Investment	-	-
Swaps	-	Investment	-	-

SPRS Pension and Insurance Derivative Instruments - GASB 53 As of June 30, 2022 ($ in Thousands)				
Derivatives (by Type)	**Net Appreciation (Depreciation) in Fair Value**	**Classification**	**Fair Value**	**Notional**
SPRS Pension				
FX Spots and Forwards	$31	Investment	$31	-
Futures	(214)	Investment	(214)	40,766
Commits and Options	-	Investment	-	-
Swaps	-	Investment	-	-
SPRS Insurance				
FX Spots and Forwards	$21	Investment	$21	-
Futures	(51)	Investment	(50)	8,763
Commits and Options	-	Investment	-	-
Swaps	-	Investment	-	-

Derivative Instruments Subject to Counterparty Credit Risk - GASB 53
As of June 30, 2022

		Pension				
Counterparty	S & P Ratings	CERS Percentage of Net Exposure	CERS Haz Percentage of Net Exposure	KERS Percentage of Net Exposure	KERS Haz Percentage of Net Exposure	SPRS Percentage of Net Exposure
Derivative Instruments - Pension						
Australia & New Zealand Banking Group Ltd	AA-	1.75%	0.58%	0.31%	0.15%	0.07%
Bank of America Corp	A-	0.00%	0.00%	0.00%	0.00%	0.00%
Bank of Montreal	A+	0.11%	0.04%	0.02%	0.01%	0.00%
The Bank of New York Mellong Corp	A	0.21%	0.07%	0.06%	0.02%	0.01%
Barclays PLC	BBB	1.71%	0.57%	0.31%	0.15%	0.06%
Canadian Imperial Bank of Commerce	A+	5.08%	1.69%	0.91%	0.45%	0.19%
Citigroup Inc	BBB+	7.73%	2.58%	1.39%	0.68%	0.29%
The Goldman Sachs Group Inc	BBB+	1.11%	0.37%	0.20%	0.10%	0.04%
HSBS Holding PLC	A-	6.31%	2.10%	1.13%	0.55%	0.23%
JPMorgan Chase & Co	A-	5.79%	1.93%	1.04%	0.51%	0.21%
Morgan Stanley	A-	6.70%	2.23%	1.20%	0.59%	0.25%
Royal Bank of Canada	AA-	1.97%	0.66%	0.36%	0.17%	0.07%
Standard Chartered PLC	BBB+	1.13%	0.38%	0.20%	0.10%	0.04%
State Street Corp	A	13.26%	4.42%	2.38%	1.17%	0.49%
UBS Group AG	A-	8.19%	2.73%	1.47%	0.72%	0.30%
TOTAL		61.05%	20.35%	10.98%	5.37%	2.25%

Derivative Instruments Subject to Counterparty Credit Risk - GASB 53
As of June 30, 2022

		Insurance				
Counterparty	S & P Ratings	CERS Percentage of Net Exposure	CERS Haz Percentage of Net Exposure	KERS Percentage of Net Exposure	KERS Haz Percentage of Net Exposure	SPRS Percentage of Net Exposure
Derivative Instruments - Insurance						
Australia & New Zealand Banking Group Ltd	AA-	1.45%	0.79%	0.52%	0.02%	0.12%
Bank of America Corp	A-	0.00%	0.00%	0.00%	0.00%	0.00%
Bank of Montreal	A+	0.09%	0.05%	0.03%	0.00%	0.01%
The Bank of New York Mellong Corp	A	0.21%	0.11%	0.10%	0.04%	0.02%
Barclays PLC	BBB	1.40%	0.76%	0.50%	0.02%	0.11%
Canadian Imperial Bank of Commerce	A+	4.14%	2.26%	1.49%	0.07%	0.34%
Citigroup Inc	BBB+	6.21%	3.38%	2.23%	0.10%	0.51%
The Goldman Sachs Group Inc	BBB+	0.91%	0.49%	0.33%	0.02%	0.07%
HSBS Holding PLC	A-	5.13%	2.80%	1.84%	0.08%	0.42%
JPMorgan Chase & Co	A-	4.66%	2.54%	1.68%	0.07%	0.38%
Morgan Stanley	A-	5.45%	2.97%	1.96%	0.08%	0.44%
Royal Bank of Canada	AA-	1.60%	0.87%	0.58%	0.02%	0.13%
Standard Chartered PLC	BBB+	0.91%	0.50%	0.33%	0.01%	0.07%
State Street Corp	A	10.81%	5.89%	3.89%	0.17%	0.88%
UBS Group AG	A-	6.69%	3.65%	2.41%	0.10%	0.55%
Westpac Banking Corp	AA-	0.24%	0.12%	0.11%	0.05%	0.02%
TOTAL		49.90%	27.18%	18.00%	0.85%	4.07%

Custodial Credit Risk for Deposits

Custodial credit risk for deposits is the risk that may occur as a result of a financial institution's failure, whereby KPPA deposits may not be returned. All non-investment related bank balances are held by JP Morgan Chase and each individual account is insured by the Federal Deposit Insurance Corporation (FDIC). None of these balances were exposed to custodial credit risk as they were either insured or collateralized at required levels.

Custodial Credit Risk for Deposits - GASB 40
As of June 30 ($ in Thousands)

	2022
CERS Nonhazardous Pension	$951
CERS Hazardous Pension	11
KERS Nonhazardous Pension	846
KERS Hazardous Pension	30
SPRS Pension	35
CERS Nonhazardous Insurance	108
CERS Hazardous Insurance	19
KERS Nonhazardous Insurance	92
KERS Hazardous Insurance	25
SPRS Insurance	20
Clearing	445
Excess Benefit	-
Note: All the above balances are held at JPM Chase	

Custodial Credit Risk for Investments

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, KPPA will not be able to recover the value of an investment or collateral securities that are in the possession of an outside party. As of June 30, 2022, the currencies in the chart below were uninsured and unregistered, with securities held by the counterparty or by its trust department or agent but not in Trust's name. Below are total cash and securities held by Global Managers and consist of various currencies.

Custodial Credit Risk for Investments - GASB 40
As of June 30, 2022 ($ in Thousands)

	2022
CERS	
CERS Nonhazardous Pension Fund Foreign Currency	$991,215
CERS Hazardous Pension Fund Foreign Currency	334,846
CERS Nonhazardous Insurance Fund Foreign Currency	360,386
CERS Hazardous Insurance Fund Foreign Currency	184,037
KERS	
KERS Nonhazardous Pension Fund Foreign Currency	253,108
KERS Hazardous Pension Fund Foreign Currency	96,224
KERS Nonhazardous Insurance Fund Foreign Currency	150,239
KERS Hazardous Insurance Fund Foreign Currency	67,578
SPRS	
SPRS Pension Fund Foreign Currency	45,244

Pension Plans Securities

CERS Pension Investment Summary - GASB 40 As of June 30, 2022 ($ in Thousands)		
Type	**Fair Value**	
	Nonhazardous	Hazardous
Core Fixed Income	$894,977	$303,150
Public Equities	3,592,281	1,224,631
Private Equities	753,384	251,589
Specialty Credit	1,692,750	574,070
Derivatives	(1,091)	(373)
Real Return	244,801	80,777
Real Estate	494,607	157,478
Short-Term Investments	286,875	114,933
Accounts Receivable (Payable), Net	(13,040)	(3,944)
Total	**$7,945,544**	**$2,702,311**

KERS Pension Investment Summary - GASB 40 As of June 30, 2022 ($ in Thousands)		
Type	**Fair Value**	
	Nonhazardous	Hazardous
Core Fixed Income	$619,736	$103,032
Public Equities	894,601	329,332
Private Equities	196,183	69,313
Specialty Credit	573,266	169,678
Derivatives	(1,076)	(141)
Real Return	60,546	22,364
Real Estate	164,991	45,860
Short-Term Investments	492,114	77,438
Accounts Receivable (Payable), Net	(7,484)	(1,233)
Total	**$2,992,877**	**$815,643**

SPRS Pension Investment Summary - GASB 40 As of June 30, 2022 ($ in Thousands)	
Type	**Fair Value**
Core Fixed Income	$109,439
Public Equities	152,376
Private Equities	19,462
Specialty Credit	88,065
Derivatives	(183)
Real Return	9,328
Real Estate	19,823
Short-Term Investments	145,573
Accounts Receivable (Payable), Net	(1,519)
Total	**$542,364**

Insurance Plans Securities

CERS Insurance Investment Summary - GASB 40 As of June 30, 2022 ($ in Thousands)		
Type	**Fair Value**	
	Nonhazardous	Hazardous
Core Fixed Income	$334,374	$168,783
Public Equities	1,354,737	672,981
Private Equities	292,493	164,729
Specialty Credit	637,910	324,019
Derivatives	(390)	(185)
Real Return	74,169	39,856
Real Estate	171,044	93,762
Short-Term Investments	144,398	46,794
Accounts Receivable (Payable), Net	(1,238)	(1,416)
Total	**$3,007,497**	**$1,509,323**

KERS Insurance Investment Summary - GASB 40 As of June 30, 2022 ($ in Thousands)		
Type	**Fair Value**	
	Nonhazardous	Hazardous
Core Fixed Income	$155,502	$68,122
Public Equities	518,643	233,379
Private Equities	84,753	57,568
Specialty Credit	263,472	126,429
Derivatives	(202)	(128)
Real Return	27,755	16,365
Real Estate	53,737	39,387
Short-Term Investments	187,679	39,120
Accounts Receivable (Payable), Net	(2,770)	(709)
Total	**$1,288,569**	**$579,533**

SPRS Insurance Investment Summary - GASB 40 As of June 30, 2022 ($ in Thousands)	
Type	**Fair Value**
Core Fixed Income	$26,732
Public Equities	91,893
Private Equities	25,912
Specialty Credit	50,056
Derivatives	(29)
Real Return	6,096
Real Estate	15,064
Short-Term Investments	13,696
Accounts Receivable (Payable), Net	(371)
Total	**$229,049**

Credit Risk Debt Securities

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The debt security portfolios are managed by the Office of Investments staff and by external investment management firms. All portfolio managers are required by the CERS IPS and/or the KRS IPS to maintain diversified portfolios. Each portfolio is also required to be in compliance with risk management guidelines that are assigned to them based upon the portfolio's specific mandate. In total, the Pension and Insurance Funds' debt securities portfolios are managed using the following guidelines adopted by the Board:

- Bonds, notes, or other obligations issued or guaranteed by the U.S. Government, its agencies or instrumentalities are permissible investments and may be held without restrictions.
- The duration of the core fixed income portfolios combined shall not vary from that of the system's Fixed Income Index by more than +/- 25% duration as measured by effective duration, modified duration or dollar duration except when the system's Investment Committee has determined a target duration to be used for an interim basis.
- The amount invested in the debt of a single corporation shall not exceed 5% of the total market value of CERS and KRS' assets.
- No public Fixed Income manager shall invest more than 5% of the market value of assets held in any single issue Short-Term instrument with the exception of U.S. Government issued, guaranteed or agency obligations.

As of June 30, 2022, the Pension portfolio had $911.9 million in debt securities rated below BBB- which does not include unrated (NR) securities.

Pension Debt Securities - GASB 40
As of June 30, 2022 ($ in Thousands)

Rating	CERS Nonhazardous	CERS Hazardous	KERS Nonhazardous	KERS Hazardous	SPRS
AAA	$241,678	$81,819	$163,232	$27,612	$28,870
AA+	4,196	1,416	2,422	457	432
AA	13,495	4,565	8,740	1,522	1,550
AA-	14,816	5,011	9,549	1,668	1,693
A+	8,978	3,031	5,292	985	944
A	15,755	5,328	10,065	1,769	1,786
A-	45,536	15,416	30,761	5,207	5,443
BBB+	73,384	24,843	49,513	8,379	8,756
BBB	88,431	29,943	55,453	9,945	9,867
BBB-	135,398	46,079	77,000	15,279	13,913
BB+	94,622	33,524	43,040	10,860	7,728
BB	58,417	21,397	28,172	7,455	5,108
BB-	71,888	26,041	33,768	9,002	6,188
B+	66,056	23,675	30,578	8,537	5,873
B	78,547	28,216	32,497	10,614	6,657
B-	49,751	17,718	19,742	7,014	4,319
CCC+	22,630	8,561	12,773	3,074	2,229
CCC	6,983	2,664	3,991	977	701
CCC-	141	47	26	22	10
CC	14	6	9	2	1
C	0	0	0	0	0
NR	1,268,275	420,607	433,831	116,836	60,083
WD	1,106	369	232	101	66
Total Credit Risk Debt Securities	**2,360,097**	**800,277**	**1,050,686**	**247,316**	**172,220**
Government Agencies	8,178	2,752	3,956	851	716
Government Mortgage-Backed Securities	79,526	26,937	55,069	9,155	9,725
Government Issued Commercial Mortgage Backed	3,671	1,243	2,542	423	449
Government Collateralized Mortgage Obligations	6,302	2,122	3,163	662	570
Government Bonds	129,953	43,888	77,586	14,303	13,825
Total	**$2,587,727**	**$877,220**	**$1,193,002**	**$272,710**	**$197,504**

Note: These ratings are based on Standard & Poor's (S&P) Global Ratings. Where S&P ratings are unavailable, equivalent Fitch and Moody's Ratings are used as proxies.

Differences due to rounding.

Government Agencies, Government Mortgage-Backed Securities, Government Issued Commercial Mortgage Backed and Government Bonds are highly rated securities since they are backed by the US Government.

The NR reported indicate a rating has not been assigned.

As of June 30, 2022, the Insurance portfolio had $389.3 million in debt securities rated below BBB- which does not include unrated (NR) securities.

Insurance Debt Securities - GASB 40
As of June 30, 2022 ($ in Thousands)

Rating	CERS	CERS Hazardous	KERS	KERS Hazardous	SPRS
AAA	$83,799	$42,391	$38,735	$16,609	$6,703
AA+	5,193	2,635	2,380	996	416
AA	4,747	2,414	2,161	884	380
AA-	5,384	2,736	2,456	1,011	431
A+	3,401	1,738	1,526	594	273
A	6,851	3,479	3,132	1,299	549
A-	18,265	9,231	8,467	3,644	1,461
BBB+	27,430	13,878	12,671	5,436	2,194
BBB	33,290	16,854	15,237	6,161	2,659
BBB-	50,109	24,899	23,326	8,619	3,952
BB+	36,267	17,016	15,269	4,688	2,696
BB	24,177	10,310	10,962	3,674	1,693
BB-	28,614	12,426	13,226	4,284	2,036
B+	26,473	11,307	13,580	4,352	1,894
B	32,538	13,358	18,274	5,535	2,300
B-	19,854	7,905	12,489	3,696	1,406
CCC+	9,827	3,997	4,291	1,647	662
CCC	3,104	1,225	1,402	538	206
CCC-	48	18	42	10	4
CC	7	3	3	1	0
C	0	0	0	0	0
NR	467,130	251,306	180,441	105,182	38,000
WD	259	135	112	19	21
Total Credit Risk Debt Securities	**886,765**	**449,259**	**380,183**	**178,881**	**69,936**
Government Agencies	3,193	1,657	1,365	436	257
Government Mortgage-Backed Securities	33,122	16,719	15,403	6,748	2,648
Government Issued Commercial Mortgage Backed	1,538	776	715	313	123
Government Collateralized Mortgage Obligations	2,129	1,104	914	297	171
Government Bonds	45,537	23,286	20,393	7,875	3,653
Total	**$972,284**	**$492,802**	**$418,974**	**$194,551**	**$76,788**

Note: These ratings are based on Standard & Poor's (S&P) Global Ratings. Where S&P ratings are unavailable, equivalent Fitch and Moody's Ratings are used as proxies.

Differences due to rounding.

Government Agencies, Government Mortgage-Backed Securities, Government Issued Commercial Mortgage Backed and Government Bonds are highly rated securities since they are backed by the US Government.

The NR reported indicate a rating has not been assigned.

The WD reported are ratings which have been withdrawn.

Concentration of Credit Risk Debt Securities

Concentration of credit risk is the risk of loss attributed to the magnitude of an entity's exposure in a single issuer. The total debt securities portfolio is managed using the following general guidelines adopted by the CERS and KRS Boards: bonds, notes, or other obligations issued or guaranteed by the U.S. Government, its agencies, or instrumentalities are permissible investments and may be held without restrictions. The amount invested in the debt of a single issuer shall not exceed 5% of the total market value of the Plans' fixed income assets.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Duration measures the sensitivity of the market prices of fixed income securities to changes in the yield curve and can be measured using two methodologies: effective or modified duration. Effective duration uses the present value of cash flows, weighted for those cash flows as a percentage of the investment's full price, and makes adjustments for any bond features that would retire the bonds prior to maturity. The modified duration, similar to effective duration, measures the sensitivity of the market prices to changes in the yield curve, but does not assume the securities will be called prior to maturity.

Below are the market values and modified durations for the combined fixed income securities.

Interest Rate Risk - Modified Duration - GASB 40
As of June 30, 2022 ($ in Thousands)
CERS Pension

TYPE	Fair Value	Weighted Avg Modified Duration	Fair Value	Weighted Avg Modified Duration
	Nonhazardous		Hazardous	
Asset Backed Securities	$188,386	1.45	$63,794	1.45
Financial Institutions	262,780	2.29	89,677	2.31
Collateralized Mortgage Obligations	30,062	2.11	10,162	2.12
Commercial Mortgage Backed Securities	116,399	2.83	39,403	2.83
Corporate Bonds - Industrial	505,123	3.52	180,002	3.58
Corporate Bonds - Utilities	42,127	3.24	14,618	3.30
Agencies	8,178	4.20	2,752	4.19
Government Bonds - Sovereign Debt	2,771	7.61	927	7.61
Mortgage Back Securities Pass-through - Not CMO's	79,891	6.75	27,061	6.75
Local Authorities - Municipal Bonds	5,298	4.40	1,779	4.41
Supranational - Multi-National Bonds	1,627	2.04	543	2.04
Treasuries	129,952	4.74	43,888	4.74
Unclassified	1,208,695	0.06	400,442	0.06
Other	6,438	4.90	2,172	4.90
Total	**$2,587,727**	**1.75**	**$877,220**	**1.80**

Interest Rate Risk - Modified Duration - GASB 40
As of June 30, 2022 ($ in Thousands)
KERS Pension

TYPE	Fair Value	Weighted Avg Modified Duration	Fair Value	Weighted Avg Modified Duration
	Nonhazardous		Hazardous	
Asset Backed Securities	$127,837	1.44	$21,727	1.43
Financial Institutions	141,408	2.36	31,133	2.29
Collateralized Mortgage Obligations	18,870	2.29	3,358	2.17
Commercial Mortgage Backed Securities	78,329	2.80	13,280	2.82
Corporate Bonds - Industrial	258,995	3.49	61,983	3.45
Corporate Bonds - Utilities	27,361	3.17	4,964	3.28
Agencies	3,956	3.45	851	4.01
Government Bonds - Sovereign Debt	770	7.71	258	7.62
Mortgage Back Securities Pass-through - Not CMO's	55,321	6.75	9,197	6.75
Local Authorities - Municipal Bonds	2,183	5.01	531	4.54
Supranational - Multi-National Bonds	292	2.04	143	2.04
Treasuries	77,587	4.80	14,303	4.75
Unclassified	398,179	0.03	110,320	0.08
Other	1,914	4.81	662	4.55
Total	**$1,193,002**	**2.15**	**$272,710**	**1.93**

Interest Rate Risk - Modified Duration - GASB 40
As of June 30, 2022 ($ in Thousands)
SPRS Pension

TYPE	Fair Value	Weighted Avg Modified Duration
Asset Backed Securities	$22,712	1.43
Financial Institutions	27,434	2.24
Collateralized Mortgage Obligations	3,352	2.28
Commercial Mortgage Backed Securities	13,855	2.80
Corporate Bonds - Industrial	47,243	3.38
Corporate Bonds - Utilities	4,808	3.13
Agencies	716	3.51
Government Bonds - Sovereign Debt	148	7.69
Mortgage Back Securities Pass-through - Not CMO’s	9,769	6.75
Local Authorities - Municipal Bonds	400	4.95
Supranational - Multi-National Bonds	60	2.04
Treasuries	13,825	4.79
Unclassified	52,795	0.07
Other	387	4.54
Total	**$197,504**	**2.32**

Interest Rate Risk - Modified Duration - GASB 40
As of June 30, 2022 ($ in Thousands)
CERS Insurance

TYPE	Fair Value	Weighted Avg Modified Duration	Fair Value	Weighted Avg Modified Duration
	Nonhazardous		Hazardous	
Asset Backed Securities	$65,752	1.40	$33,067	1.41
Financial Institutions	102,504	2.27	49,126	2.26
Collateralized Mortgage Obligations	10,211	2.06	5,202	2.04
Commercial Mortgage Backed Securities	42,530	2.63	21,524	2.64
Corporate Bonds - Industrial	198,706	3.61	89,344	3.61
Corporate Bonds - Utilities	16,509	3.55	8,020	3.48
Agencies	3,193	4.38	1,657	4.42
Government Bonds - Sovereign Debt	733	8.76	394	8.73
Mortgage Back Securities Pass-through - Not CMO’s	33,247	6.80	16,782	6.80
Local Authorities - Municipal Bonds	1,993	4.79	1,043	4.74
Supranational - Multi-National Bonds	552	2.03	301	2.03
Treasuries	45,536	5.40	23,286	5.38
Unclassified	448,699	0.06	241,986	0.05
Other	2,119	4.87	1,070	5.07
Total	**$972,284**	**1.83**	**$492,802**	**1.72**

Interest Rate Risk - Modified Duration - GASB 40
As of June 30, 2022 ($ in Thousands)
KERS Insurance

TYPE	Fair Value	Weighted Avg Modified Duration	Fair Value	Weighted Avg Modified Duration
	Nonhazardous		Hazardous	
Asset Backed Securities	$30,969	1.37	$13,282	1.37
Financial Institutions	52,532	2.16	19,325	2.13
Collateralized Mortgage Obligations	4,622	2.10	1,855	2.26
Commercial Mortgage Backed Securities	19,631	2.62	8,400	2.59
Corporate Bonds - Industrial	92,295	3.24	31,973	3.30
Corporate Bonds - Utilities	7,434	3.41	3,125	3.40
Agencies	1,365	4.27	436	3.72
Government Bonds - Sovereign Debt	278	8.86	36	10.23
Mortgage Back Securities Pass-through - Not CMO’s	15,462	6.80	6,773	6.80
Local Authorities - Municipal Bonds	831	4.95	235	5.79
Supranational - Multi-National Bonds	198	2.03	9	2.03
Treasuries	20,393	5.44	7,875	5.58
Unclassified	172,013	0.11	101,039	0.04
Other	951	4.16	188	3.61
Total	**$418,974**	**1.89**	**$194,551**	**1.54**

Interest Rate Risk - Modified Duration - GASB 40
As of June 30, 2022 ($ in Thousands)
SPRS Insurance

TYPE	Fair Value	Weighted Avg Modified Duration
Asset Backed Securities	$5,250	1.41
Financial Institutions	7,949	2.25
Collateralized Mortgage Obligations	818	2.05
Commercial Mortgage Backed Securities	3,402	2.63
Corporate Bonds - Industrial	14,525	3.55
Corporate Bonds - Utilities	1,275	3.47
Agencies	257	4.39
Government Bonds - Sovereign Debt	60	8.75
Mortgage Back Securities Pass-through - Not CMO’s	2,658	6.80
Local Authorities - Municipal Bonds	161	4.78
Supranational - Multi-National Bonds	45	2.03
Treasuries	3,653	5.39
Unclassified	36,568	0.06
Other	167	4.92
Total	**$76,788**	**1.76**

Foreign Currency Risk

Foreign currency risk is the risk that occurs if exchange rates adversely affect the value of a non-U.S. dollar based investment or deposit within the portfolios. Currency risk exposure, or exchange rate risk, primarily resides with the portfolios Non-U.S. equity holdings, but also affects other asset classes. Neither KRS or CERS have a formal policy to limit foreign currency risk; however, some individual managers are given the latitude to hedge some currency exposures. All foreign currency transactions are classified as Short-Term Investments. All gains and losses associated with these transactions are recorded in the Net Appreciation (Depreciation) in Fair Value of Investments on the combining financial statements.

Foreign Currency Risk for the Pension - GASB 40
As of June 30, 2022 ($ in Thousands)

	CERS		KERS		SPRS
	Nonhazardous	**Hazardous**	**Nonhazardous**	**Hazardous**	
Australian Dollar	$15,509	$5,281	$4,317	$1,551	$763
Brazilian Real	14,327	4,856	3,680	1,395	667
Canadian Dollar	51,732	17,533	13,266	5,034	2,404
Chinese Yuan Renminbi	229	76	41	20	8
Colombian Peso	733	244	131	64	27
Czech Koruna	2,013	683	527	197	95
Danish Krone	33,835	11,480	8,851	3,314	1,594
Egyptian Pound	427	145	112	42	20
Euro	400,964	134,651	99,740	38,539	17,564
Hong Kong Dollar	76,544	25,971	20,023	7,497	3,607
Hungarian Forint	2,914	989	762	285	137
Indian Rupee	24,949	8,463	6,505	2,440	1,171
Indonesian Rupiah	18,006	6,080	4,300	1,714	797
Israeli Shekel	4,384	1,487	1,147	429	207
Japanese Yen	86,105	29,215	22,524	8,434	4,057
Malaysian Ringgit	3,237	1,083	631	291	126
Mexican Peso	5,192	1,756	1,277	499	234
New Taiwan Dollar	31,986	10,853	8,367	3,133	1,507
New Zealand Dollar	3,308	1,103	594	291	122
Norwegian Krone	5,059	1,705	1,166	476	219
Philippine Peso	473	158	85	42	17
Polish Zloty	344	117	90	34	16
Pound Sterling	92,296	31,316	24,146	9,040	4,349
Singapore Dollar	1,264	451	637	161	98
South African Rand	5,498	1,865	1,438	538	259
South Korean Won	32,394	10,991	8,474	3,173	1,527
Swedish Krona	23,758	8,061	6,217	2,327	1,119
Swiss Franc	39,628	13,446	10,369	3,882	1,867
Thai Baht	9,327	3,165	2,440	914	440
Turkish Lira	2,705	918	708	265	128
UAE Dirham	2,075	704	543	203	98
Total Foreign Investment Securities	**991,215**	**334,846**	**253,108**	**96,224**	**45,244**
U.S. Dollar	6,954,329	2,367,465	2,739,769	719,419	497,120
Total Investment Securities	**$7,945,544**	**$2,702,311**	**$2,992,877**	**$815,643**	**$542,364**

Foreign Currency Risk for the Insurance Funds- GASB 40
As of June 30, 2022 ($ in Thousands)

	CERS		KERS		SPRS
	Nonhazardous	Hazardous	Nonhazardous	Hazardous	
Australian Dollar	$5,614	$2,800	$2,630	$1,246	$435
Brazilian Real	5,091	2,584	2,280	929	398
Canadian Dollar	19,025	9,661	8,507	3,451	1,488
Chinese Yuan Renminbi	71	39	26	1	6
Colombian Peso	227	123	82	3	18
Czech Koruna	1,090	551	493	208	85
Danish Krone	13,023	6,585	5,888	2,486	1,016
Egyptian Pound	116	59	52	22	9
Euro	146,051	75,494	53,699	27,363	11,713
Hong Kong Dollar	27,434	13,873	12,404	5,237	2,141
Hungarian Forint	1,016	514	459	194	79
Indian Rupee	9,118	4,617	4,110	1,718	712
Indonesian Rupiah	5,815	3,000	2,491	847	459
Israeli Shekel	1,634	826	739	312	128
Japanese Yen	30,924	15,638	13,982	5,904	2,413
Malaysian Ringgit	1,055	566	400	55	85
Mexican Peso	1,788	916	779	286	141
New Taiwan Dollar	11,579	5,855	5,236	2,210	904
New Zealand Dollar	1,043	569	375	16	85
Norwegian Krone	1,740	903	733	231	138
Philippine Peso	178	97	64	3	15
Polish Zloty	120	61	54	23	9
Pound Sterling	34,564	17,478	15,628	6,599	2,697
Singapore Dollar	592	254	374	315	42
South African Rand	1,933	977	874	369	151
South Korean Won	11,791	5,962	5,331	2,251	920
Swedish Krona	8,669	4,384	3,920	1,655	677
Swiss Franc	14,991	7,581	6,778	2,862	1,170
Thai Baht	3,235	1,636	1,463	618	253
Turkish Lira	859	434	388	164	67
Total Foreign Investment Securities	**360,386**	**184,037**	**150,239**	**67,578**	**28,454**
U.S. Dollar	2,647,111	1,325,286	1,138,330	511,955	200,595
Total Investment Securities	**$3,007,497**	**$1,509,323**	**$1,288,569**	**$579,533**	**$229,049**

Fair Value Measurement and Applications (GASB 72)

In accordance with GASB *Statement No. 72, Fair Value Measurement and Application*, KPPA provides this additional disclosure regarding the fair value of its Pension and Insurance investments. KPPA categorizes its fair value measurements within the fair value hierarchy established by GAAP.

KPPA defined the Fair Value Hierarchy and Levels as follows:

Level 1

Quoted prices (unadjusted) in an active market for identical assets or liabilities that KPPA has the ability to access at the measurement date (e.g., prices derived from NYSE, NASDAQ, Chicago Board of Trade, and Pink Sheets). Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using quoted prices (unadjusted) in an active market for identical assets or liabilities that KPPA has the ability to access at the measurement date.

Level 2

Inputs (other than quoted prices included within Level 1) that are observable for an asset or liability, either directly or indirectly. These inputs can include matrix pricing, market corroborated pricing and inputs such as yield curves and indices.

Level 3

Unobservable inputs for an asset or liability, which generally results in using the best information available for the valuation of the assets or liabilities being reported.

Net Asset Value (NAV)

The remaining investments not categorized under the fair value hierarchy are shown at net asset value (NAV). These are investments in non-governmental entities for which a readily determinable fair value is not available, such as member units or an ownership interest in partners' capital to which a proportionate share of net assets is attributed.

Fair Value Measurements and Application (GASB 72) Pension
As of June 30, 2022 ($ in Thousands)

	CERS Nonhazardous			Total	CERS Hazardous			Total
	Level				Level			
Asset Type	**1**	**2**	**3**	**Fair Value**	**1**	**2**	**3**	**Fair Value**
Public Equity								
Emerging Markets	$162,276	$-	$-	**$162,276**	$55,060	$-	$-	**$55,060**
US Equity	2,124,793	-	-	**2,124,793**	724,680	-	-	**724,680**
Non-US Equity	864,053	-	-	**864,053**	293,172	-	-	**293,172**
Total Public Equity	**3,151,122**	**-**	**-**	**3,151,122**	**1,072,912**	**-**	**-**	**1,072,912**
Fixed Income								
Agencies	-	1,717	-	**1,717**	-	582	-	**582**
Asset-Backed	-	208,655	-	**208,655**	-	70,581	-	**70,581**
Bank & Finance	-	153,034	167,863	**320,897**	-	52,155	56,717	**108,872**
Cash & Cash Equivalent	13,611	92,332	-	**105,943**	4,610	48,232	-	**52,842**
Corporate	8,452	464,548	2,014	**475,014**	2,819	167,075	681	**170,575**
Healthcare	-	16,280	-	**16,280**	-	5,544	-	**5,544**
Insurance	-	5,220	-	**5,220**	-	1,779	-	**1,779**
Mortgage-backed securities	-	230,118	-	**230,118**	-	77,908	-	**77,908**
Municipals	-	1,988	-	**1,988**	-	673	-	**673**
Sovereign Debt	-	29,168	-	**29,168**	-	9,727	-	**9,727**
US Government	108,570	-	-	**108,570**	36,760	-	-	**36,760**
Total Fixed Income	**130,633**	**1,203,060**	**169,877**	**1,503,570**	**44,189**	**434,256**	**57,398**	**535,843**
Derivatives								
Futures	(1,929)	-	-	**(1,929)**	(653)	-	-	**(653)**
Options	-	4	-	**4**	-	1	-	**1**
Swaps				**-**				**-**
Total Derivatives	**(1,929)**	**4**	**-**	**(1,925)**	**(653)**	**1**	**-**	**(652)**
Real Return								
Real Return	81,794	398	-	**82,192**	28,168	137	-	**28,305**
Real Return - Fixed Income				**-**				**-**
Total Real Return	**81,794**	**398**	**-**	**82,192**	**28,168**	**137**	**-**	**28,305**
Total Investments at Fair Value	**3,361,620**	**1,203,462**	**169,877**	**4,734,959**	**1,144,616**	**434,394**	**57,398**	**1,636,408**
Investments Measured at NAV								
Specialty Credit	-	-	-	**1,187,792**	-	-	-	**393,438**
Private Equity	-	-	-	**753,384**	-	-	-	**251,589**
Real Estate	-	-	-	**494,607**	-	-	-	**157,478**
Real Return	-	-	-	**164,017**	-	-	-	**52,957**
Fixed Income	-	-	-	**58,219**	-	-	-	**20,029**
Non US Equity	-	-	-	**457,526**	-	-	-	**157,272**
Emerging Markets	-	-	-	**3,084**	-	-	-	**1,046**
US Equity	-	-	-	**22,358**	-	-	-	**7,550**
Total Investments Measured at NAV	**-**	**-**	**-**	**3,140,987**	**-**	**-**	**-**	**1,041,359**
Cash and Accruals	**-**	**-**	**-**	**69,598**	**-**	**-**	**-**	**24,544**
Total Investments	**$3,361,620**	**$1,203,462**	**$169,877**	**$7,945,544**	**$1,144,616**	**$434,394**	**$57,398**	**$2,702,311**

Note: The fair value hierarchies do not reflect cash and accruals thus totals differ from the Investment Summaries.

Note: Cash Equivalents include publicly traded investment grade corporate bonds; variable rate demand notes; government and agency bonds; mortgages; municipal bonds; Short Term Investment Funds (STIF); money market funds or instruments (including, but not limited to, certificates of deposit, bank notes, deposit notes, bankers' acceptances and commercial paper); and repurchase agreements.

Fair Value Measurements and Application (GASB 72) Pension
As of June 30, 2022 ($ in Thousands)

Asset Type	KERS Nonhazardous Level 1	KERS Nonhazardous Level 2	KERS Nonhazardous Level 3	Total Fair Value	KERS Hazardous Level 1	KERS Hazardous Level 2	KERS Hazardous Level 3	Total Fair Value	SPRS Level 1	SPRS Level 2	SPRS Level 3	Total Fair Value
Public Equity												
Emerging Markets	$42,450	$-	$-	**$42,450**	$15,895	$-	$-	**$15,895**	$7,647	$-	$-	**$7,647**
US Equity	538,612	-	-	**538,612**	197,891	-	-	**197,891**	91,751	-	-	**91,751**
Non-US Equity	226,030	-	-	**226,030**	84,633	-	-	**84,633**	40,716	-	-	**40,716**
Total Public Equity	**807,092**	**-**	**-**	**807,092**	**298,419**	**-**	**-**	**298,419**	**140,114**	**-**	**-**	**140,114**
Fixed Income												
Agencies	-	1,189	-	**1,189**	-	198	-	**198**	-	210	-	**210**
Asset-Backed	-	134,554	-	**134,554**	-	23,560	-	**23,560**	-	24,867	-	**24,867**
Bank & Finance	-	99,468	52,028	**151,496**	-	17,457	22,224	**39,681**	-	17,572	13,032	**30,604**
Cash & Cash Equivalent	9,425	407,178	-	**416,603**	1,567	56,760	-	**58,327**	1,664	132,320	-	**133,984**
Corporate	1,625	262,963	1,106	**265,694**	751	56,355	247	**57,353**	330	45,885	214	**46,429**
Healthcare	-	6,901	-	**6,901**	-	1,698	-	**1,698**	-	1,261	-	**1,261**
Insurance	-	2,961	-	**2,961**	-	575	-	**575**	-	526	-	**526**
Mortgage-backed securities	-	153,926	-	**153,926**	-	26,237	-	**26,237**	-	27,246	-	**27,246**
Municipals	-	1,376	-	**1,376**	-	229	-	**229**	-	243	-	**243**
Sovereign Debt	-	5,596	-	**5,596**	-	2,584	-	**2,584**	-	1,134	-	**1,134**
US Government	73,749	-	-	**73,749**	12,423	-	-	**12,423**	13,038	-	-	**13,038**
Total Fixed Income	**84,799**	**1,076,112**	**53,134**	**1,214,045**	**14,741**	**185,653**	**22,471**	**222,865**	**15,032**	**251,264**	**13,246**	**279,542**
Derivatives												
Futures	(1,226)	-	-	**(1,226)**	(215)	-	-	**(215)**	(214)	-	-	**(214)**
Options	-	1	-	**1**	-	-	-	**-**	-	-	-	**-**
Swaps	-		-	**-**	-	-	-	**-**	-	-	-	**-**
Total Derivatives	**(1,226)**	**1**	**-**	**(1,225)**	**(215)**	**-**	**-**	**(215)**	**(214)**	**-**	**-**	**(214)**
Real Return												
Real Return	32,530	158	-	**32,688**	8,148	40	-	**8,188**	3,254	16	-	**3,270**
Real Return - Fixed Income	-	-	-	**-**	-	-	-	**-**	-	-	-	**-**
Total Real Return	**32,530**	**158**	**-**	**32,688**	**8,148**	**40**	**-**	**8,188**	**3,254**	**16**	**-**	**3,270**
Total Investments at Fair Value	**923,195**	**1,076,271**	**53,134**	**2,052,600**	**321,093**	**185,693**	**22,471**	**529,257**	**158,186**	**251,280**	**13,246**	**422,712**
Investments Measured at NAV												
Specialty Credit	-	-	-	**393,962**	-	-	-	**107,907**	-	-	-	**51,664**
Private Equity	-	-	-	**196,183**	-	-	-	**69,314**	-	-	-	**19,462**
Real Estate	-	-	-	**164,991**	-	-	-	**45,860**	-	-	-	**19,823**
Real Return	-	-	-	**28,418**	-	-	-	**14,317**	-	-	-	**6,114**
Fixed Income	-	-	-	**30,949**	-	-	-	**6,885**	-	-	-	**5,768**
Non US Equity	-	-	-	**91,777**	-	-	-	**32,509**	-	-	-	**13,030**
Emerging Markets	-	-	-	**807**	-	-	-	**302**	-	-	-	**145**
US Equity	-	-	-	**5,448**	-	-	-	**1,988**	-	-	-	**871**
Total Investments Measured at NAV	**-**	**-**	**-**	**912,535**	**-**	**-**	**-**	**279,082**	**-**	**-**	**-**	**116,877**
Cash and Accruals	**-**	**-**	**-**	**27,742**	**-**	**-**	**-**	**7,304**	**-**	**-**	**-**	**2,775**
Total Investments	**$923,195**	**$1,076,271**	**$53,134**	**$2,992,877**	**$321,093**	**$185,693**	**$22,471**	**$815,643**	**$158,186**	**$251,280**	**$13,246**	**$542,364**

Note: The fair value hierarchies do not reflect cash and accruals thus totals differ from the Investment Summaries.

Note: Cash Equivalents include publicly traded investment grade corporate bonds; variable rate demand notes; government and agency bonds; mortgages; municipal bonds; Short Term Investment Funds (STIF); money market funds or instruments (including, but not limited to, certificates of deposit, bank notes, deposit notes, bankers' acceptances and commercial paper); and repurchase agreements.

The investments measured at net asset value (NAV) are presented in the chart below:

Fair Value Measurements and Application (GASB 72) Pension
As of June 30, 2022 ($ in Thousands)

	CERS Nonhazardous				CERS Hazardous			
Asset Type	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Specialty Credit [1]	$1,187,792	$198,499	Daily - Quarterly	90 Days	$393,438	$66,160	Daily - Quarterly	90 Days
Real Estate [2]	494,607	128,198			157,478	40,537		
Real Return [3]	164,017	31,285	Daily	30 - 60 Days	52,957	10,137	Daily	30 - 60 Days
Private Equity [4]	753,384	191,800			251,589	63,064		
Fixed Income [5]	58,219	-	Daily		20,029	-	Daily	
Non US Equity [5]	460,610	-	Daily		158,318	-	Daily	
US Equity [5]	22,358	-	Daily		7,550	-	Daily	
Total Investments Measured at NAV	**$3,140,987**	**$549,782**			**$1,041,359**	**$179,898**		

[1] This type includes 14 high yield specialty credit managers with multiple strategies. These managers may invest in U.S. or non-U.S. investment grade corporate credit, U.S. or non U.S. non-investment grade corporate credit, including both bonds and bank loans, municipal bonds, non-U.S. sovereign debt, mortgages including residential mortgage backed securities, commercial mortgage backed securities and whole loans, asset-backed securities and emerging market debt.

[2] This type includes 11 real estate funds that invest primarily in U.S. commercial real estate; however, there is one manager who invests solely in non-U.S. commercial real estate. The fair value of the investments have been determined using the NAV per share of the Plan's ownership interest and in the partners' capital. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the funds will be liquidated over the next 7 to 10 years. Because it is not probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share of the Plan's ownership interest in the partners' capital. Due to restrictions in the contract, redemptions are not likely until the assets of the fund are liquidated.

[3] This type includes 18 real return managers that invest in multiple strategies such as infrastructure, agriculture, royalties, commodities, and natural resources. These investments are intended to provide both favorable risk-adjusted returns and correlation with inflation to help with the hedging of inflation for the broader plan. This group of managers also includes any hedge fund managers remaining in the portfolio which have all been terminated and are only awaiting payouts.

[4] This type includes 36 managers with multiple strategies. These investments cannot be redeemed. Instead, the investments are redeemed throughout the life of the investment. Distributions are received through the liquidation of the underlying assets of the fund. It is expected that each fund will remain invested for a period of 5 to 10 years. It is probable that the all of the investments in this type will be sold at an amount different from the NAV per share of the Plan's ownership interest in partners' capital. Therefore, the fair values of the investment in this asset class have been determined using recent observable transaction information.

[5] This type includes short-term commingled investment instruments issued by the US Government, Federal agencies, sponsored agencies or sponsored corporations.

The investments measured at net asset value (NAV) are presented in the chart below:

Fair Value Measurements and Application (GASB 72) Pension
As of June 30, 2022 ($ in Thousands)

	KERS Nonhazardous				KERS Hazardous				SPRS			
Asset Type	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Specialty Credit [1]	$393,962	$58,836	Daily - Quarterly	90 Days	$107,907	$18,667	Daily - Quarterly	90 Days	$51,664	$6,619	Daily - Quarterly	90 Days
Real Estate [2]	164,991	40,154			45,860	11,636			19,823	4,864		
Real Return [3]	28,418	2,760	Daily	30 - 60 Days	14,317	2,793	Daily	30 - 60 Days	6,114	1,039	Daily	30 - 60 Days
Private Equity [4]	196,183	47,386			69,314	17,743			19,462	5,564		
Fixed Income [5]	30,949	-	Daily		6,885	-	Daily		5,768	-	Daily	
Non US Equity [5]	92,584	-	Daily		32,811	-	Daily		13,175	-	Daily	
US Equity [5]	5,448	-	Daily		1,988	-	Daily		871	-	Daily	
Total Investments Measured at NAV	**$912,535**	**$149,136**			**$279,082**	**$50,839**			**$116,877**	**$18,086**		

[1] This type includes 10 high yield specialty credit managers with multiple strategies. These managers may invest in U.S. or non-U.S. investment grade corporate credit, U.S. or non U.S. non-investment grade corporate credit, including both bonds and bank loans, municipal bonds, non-U.S. sovereign debt, mortgages including residential mortgage backed securities, commercial mortgage backed securities and whole loans, asset-backed securities and emerging market debt.

[2] This type includes 11 real estate funds that invest primarily in U.S. commercial real estate; however, there is one manager who invests solely in non-U.S. commercial real estate. The fair value of the investments have been determined using the NAV per share of the Plan's ownership interest and in the partners' capital. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the funds will be liquidated over the next 7 to 10 years. Because it is not probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share of the Plan's ownership interest in the partners' capital. Due to restrictions in the contract, redemptions are not likely until the assets of the fund are liquidated.

[3] This type includes 18 real return managers that invest in multiple strategies such as infrastructure, agriculture, royalties, commodities, and natural resources. These investments are intended to provide both favorable risk-adjusted returns and correlation with inflation to help with the hedging of inflation for the broader plan. This group of managers also includes any hedge fund managers remaining in the portfolio which have all been terminated and are only awaiting payouts.

[4] This type includes 36 managers with multiple strategies. These investments cannot be redeemed. Instead, the investments are redeemed throughout the life of the investment. Distributions are received through the liquidation of the underlying assets of the fund. It is expected that each fund will remain invested for a period of 5 to 10 years. It is probable that the all of the investments in this type will be sold at an amount different from the NAV per share of the Plan's ownership interest in partners' capital. Therefore, the fair values of the investment in this asset class have been determined using recent observable transaction information.

[5] This type includes short-term commingled investment instruments issued by the US Government, Federal agencies, sponsored agencies or sponsored corporations.

Fair Value Measurements and Application (GASB 72) Insurance
As of June 30, ($ in Thousands)

	CERS Nonhazardous			Total	CERS Hazardous			Total
	Level				Level			
Asset Type	**1**	**2**	**3**	**Fair Value**	**1**	**2**	**3**	**Fair Value**
Public Equity								
Emerging Markets	$56,842	$-	$-	**$56,842**	$28,743	$-	$-	**$28,743**
US Equity	795,684	-	-	**795,684**	391,849	-	-	**391,849**
Non-US Equity	314,478	-	-	**314,478**	159,024	-	-	**159,024**
Total Public Equity	**1,167,004**	**-**	**-**	**1,167,004**	**579,616**	**-**	**-**	**579,616**
Fixed Income								
Agencies	-	650	-	**650**	-	328	-	**328**
Asset-Backed	-	74,257	-	**74,257**	-	37,492	-	**37,492**
Bank & Finance	422	58,057	63,188	**121,667**	230	29,111	27,049	**56,390**
Cash & Cash Equivalent	-	76,471	-	**76,471**	-	13,018	-	**13,018**
Corporate	2,404	187,416	696	**190,516**	1,301	85,208	333	**86,842**
Healthcare	-	5,879	-	**5,879**	-	2,981	-	**2,981**
Insurance	-	1,778	-	**1,778**	-	894	-	**894**
Mortgage-backed securities	-	88,382		**88,382**	-	44,703	-	**44,703**
Municipals	-	898	-	**898**	-	453	-	**453**
Sovereign Debt	-	8,955	-	**8,955**	-	4,873	-	**4,873**
US Government	43,776	184	-	**43,960**	22,132	93	-	**22,225**
Total Fixed Income	**46,602**	**502,927**	**63,884**	**613,413**	**23,663**	**219,154**	**27,382**	**270,199**
Derivatives								
Futures	(649)	-	-	**(649)**	(326)	-	-	**(326)**
Options	-	1	-	**1**	-	1	-	**1**
Swaps				**-**				**-**
Total Derivatives	**(649)**	**1**	**-**	**(648)**	**(326)**	**1**	**-**	**(325)**
Real Return								
Real Return	21,738	-	-	**21,738**	11,203	-	-	**11,203**
Real Return - Fixed Income	-	-	2	**2**	-	-	1	**1**
Total Real Return	**21,738**	**-**	**2**	**21,740**	**11,203**	**-**	**1**	**11,204**
Total Investments at Fair Value	**1,234,695**	**502,928**	**63,886**	**1,801,509**	**614,156**	**219,155**	**27,383**	**860,694**
Investments Measured at NAV								
Specialty Credit	-	-	-	**440,159**	-	-	-	**238,052**
Private Equity	-	-	-	**292,493**	-	-	-	**164,729**
Real Estate	-	-	-	**171,045**	-	-	-	**93,762**
Real Return	-	-	-	**53,385**	-	-	-	**29,146**
Fixed Income	-	-	-	**19,294**	-	-	-	**9,153**
Non US Equity	-	-	-	**194,194**	-	-	-	**96,628**
Emerging Markets	-	-	-	**1,270**	-	-	-	**642**
US Equity	-	-	-	**8,273**	-	-	-	**4,117**
Total Investments Measured at NAV	**-**	**-**	**-**	**1,180,113**	**-**	**-**	**-**	**636,229**
Cash and Accruals	**-**	**-**	**-**	**25,875**	**-**	**-**	**-**	**12,400**
Total Investments	**$1,234,695**	**$502,928**	**$63,886**	**$3,007,497**	**$614,156**	**$219,155**	**$27,383**	**$1,509,323**

Note: The fair value hierarchies do not reflect cash and accruals thus totals differ from the Investment Summaries.

Note: Cash Equivalents include publicly traded investment grade corporate bonds; variable rate demand notes; government and agency bonds; mortgages; municipal bonds; Short Term Investment Funds (STIF); money market funds or instruments (including, but not limited to, certificates of deposit, bank notes, deposit notes, bankers' acceptances and commercial paper); and repurchase agreements.

Fair Value Measurements and Application (GASB 72) Insurance
As of June 30, ($ in Thousands)

	KERS Nonhazardous			Total	KERS Hazardous			Total	SPRS			Total
	Level				Level				Level			
Asset Type	**1**	**2**	**3**	**Fair Value**	**1**	**2**	**3**	**Fair Value**	**1**	**2**	**3**	**Fair Value**
Public Equity												
Emerging Markets	$25,701	$-	$-	**$25,701**	$10,852	$-	$-	**$10,852**	$4,436	$-	$-	$4,436
US Equity	311,247	-	-	**311,247**	139,841	-	-	**139,841**	55,019	-	-	**55,019**
Non-US Equity	142,192	-	-	**142,192**	60,037	-	-	**60,037**	24,543	-	-	**24,543**
Total Public Equity	**479,140**	**-**	**-**	**479,140**	**210,730**	**-**	**-**	**210,730**	**83,998**	**-**	**-**	**83,998**
Fixed Income												
Agencies	-	302	-	**302**	-	133	-	**133**	-	52	-	**52**
Asset-Backed	-	34,596	-	**34,596**	-	15,160	-	**15,160**	-	5,898	-	**5,898**
Bank & Finance	152	26,325	43,841	**70,318**	7	11,006	11,284	**22,297**	34	4,599	4,795	**9,428**
Cash & Cash Equivalent	-	156,102	-	**156,102**	-	26,224	-	**26,224**	-	8,452	-	**8,452**
Corporate	891	79,847	379	**81,117**	78	30,231	130	**30,439**	196	13,650	55	**13,901**
Healthcare	-	2,464	-	**2,464**	-	703	-	**703**	-	463	-	**463**
Insurance	-	778	-	**778**	-	294	-	**294**	-	140	-	**140**
Mortgage-backed securities	-	40,812	-	**40,812**	-	17,396	-	**17,396**	-	7,067	-	**7,067**
Municipals	-	417	-	**417**	-	183	-	**183**	-	72	-	**72**
Sovereign Debt	-	3,244	-	**3,244**	-	178	-	**178**	-	730	-	**730**
US Government	20,268	85	-	**20,353**	8,757	37	-	**8,794**	3,501	15	-	**3,516**
Total Fixed Income	**21,311**	**344,972**	**44,220**	**410,503**	**8,842**	**101,545**	**11,414**	**121,801**	**3,731**	**41,138**	**4,850**	**49,719**
Derivatives												
Futures	(295)	-	-	**(295)**	(132)	-	-	**(132)**	(51)	-	-	**(51)**
Options	-	-	-	**-**	-	-	-	**-**	-	-	-	**-**
Swaps				**-**				**-**				**-**
Total Derivatives	**(295)**	**-**	**-**	**(295)**	**(132)**	**-**	**-**	**(132)**	**(51)**	**-**	**-**	**(51)**
Real Return												
Real Return	9,618	-	-	**9,618**	4,398	-	-	**4,398**	1,717	-	-	**1,717**
Real Return - Fixed Income	-	-	1	**1**	-	-	-	**-**	-	-	-	**-**
Total Real Return	**9,618**	**-**	**1**	**9,619**	**4,398**	**-**	**-**	**4,398**	**1,717**	**-**	**-**	**1,717**
Total Investments at Fair Value	**509,774**	**344,972**	**44,221**	**898,967**	**223,838**	**101,545**	**11,414**	**336,797**	**89,395**	**41,138**	**4,850**	**135,383**
Investments Measured at NAV												
Specialty Credit	-	-	-	**166,813**	-	-	-	**99,958**	-	-	-	**35,905**
Private Equity	-	-	-	**84,753**	-	-	-	**57,568**	-	-	-	**25,912**
Real Estate	-	-	-	**53,737**	-	-	-	**39,387**	-	-	-	**15,064**
Real Return	-	-	-	**18,560**	-	-	-	**12,160**	-	-	-	**4,455**
Fixed Income	-	-	-	**9,689**	-	-	-	**3,388**	-	-	-	**1,486**
Non US Equity	-	-	-	**42,401**	-	-	-	**23,874**	-	-	-	**8,397**
Emerging Markets	-	-	-	**574**	-	-	-	**242**	-	-	-	**99**
US Equity	-	-	-	**3,211**	-	-	-	**1,422**	-	-	-	**568**
Total Investments Measured at NAV	**-**	**-**	**-**	**379,738**	**-**	**-**	**-**	**237,999**	**-**	**-**	**-**	**91,886**
Cash and Accruals	**-**	**-**	**-**	**9,864**	**-**	**-**	**-**	**4,737**	**-**	**-**	**-**	**1,780**
Total Investments	**$509,774**	**$344,972**	**$44,221**	**$1,288,569**	**$223,838**	**$101,545**	**$11,414**	**$579,533**	**$89,395**	**$41,138**	**$4,850**	**$229,049**

Note: The fair value hierarchies do not reflect cash and accruals thus totals differ from the Investment Summaries.

Note: Cash Equivalents include publicly traded investment grade corporate bonds; variable rate demand notes; government and agency bonds; mortgages; municipal bonds; Short Term Investment Funds (STIF); money market funds or instruments (including, but not limited to, certificates of deposit, bank notes, deposit notes, bankers' acceptances and commercial paper); and repurchase agreements.

The investments measured at net asset value (NAV) are presented in the chart below:

Fair Value Measurements and Application (GASB 72) Insurance
As of June 30, 2022 ($ in Thousands)

	CERS Nonhazardous				CERS Hazardous			
Asset Type	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Specialty Credit [1]	$440,159	$67,076	Daily - Quarterly	90 Days	$238,052	$35,965	Daily - Quarterly	90 Days
Real Estate [2]	171,045	44,019			93,762	24,143		
Real Return [3]	53,385	8,740	Daily	30 - 60 Days	29,146	4,727	Daily	30 - 60 Days
Private Equity [4]	292,493	80,491			164,729	43,671		
Fixed Income [5]	19,294	-	Daily		9,153	-	Daily	
Non US Equity [5]	195,464	-	Daily		97,270	-	Daily	
US Equity [5]	8,273	-	Daily		4,117	-	Daily	
Total Investments Measured at NAV	**$1,180,113**	**$200,326**			**$636,229**	**$108,506**		

[1] This type includes 14 high yield specialty credit managers with multiple strategies. These managers may invest in U.S. or non-U.S. investment grade corporate credit, U.S. or non U.S. non-investment grade corporate credit, including both bonds and bank loans, municipal bonds, non-U.S. sovereign debt, mortgages including residential mortgage backed securities, commercial mortgage backed securities and whole loans, asset-backed securities and emerging market debt.

[2] This type includes 11 real estate funds that invest primarily in U.S. commercial real estate; however, there is one manager who invests solely in non-U.S. commercial real estate. The fair value of the investments have been determined using the NAV per share of the Plan's ownership interest and in the partners' capital. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the funds will be liquidated over the next 7 to 10 years. Because it is not probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share of the Plan's ownership interest in the partners' capital. Due to restrictions in the contract, redemptions are not likely until the assets of the fund are liquidated.

[3] This type includes 18 real return managers that invest in multiple strategies such as infrastructure, agriculture, royalties, commodities, and natural resources. These investments are intended to provide both favorable risk-adjusted returns and correlation with inflation to help with the hedging of inflation for the broader plan. This group of managers also includes any hedge fund managers remaining in the portfolio which have all been terminated and are only awaiting payouts.

[4] This type includes 38 managers with multiple strategies. These investments cannot be redeemed. Instead, the investments are redeemed throughout the life of the investment. Distributions are received through the liquidation of the underlying assets of the fund. It is expected that each fund will remain invested for a period of 5 to 10 years. It is probable that the all of the investments in this type will be sold at an amount different from the NAV per share of the Plan's ownership interest in partners' capital. Therefore, the fair values of the investment in this asset class have been determined using recent observable transaction information.

[5] This type includes short-term commingled investment instruments issued by the US Government, Federal agencies, sponsored agencies or sponsored corporations.

The investments measured at net asset value (NAV) are presented in the chart below:

Fair Value Measurements and Application (GASB 72) Insurance
As of June 30, 2022 ($ in Thousands)

	KERS Nonhazardous				KERS Hazardous				SPRS			
Asset Type	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Specialty Credit [1]	$166,813	$25,502	Daily - Quarterly	90 Days	$99,958	$14,643	Daily - Quarterly	90 Days	$35,905	$5,494	Daily - Quarterly	90 Days
Real Estate [2]	53,737	13,620			39,387	10,180			15,064	3,890		
Real Return [3]	18,560	3,474	Daily	30 - 60 Days	12,160	1,999	Daily	30 - 60 Days	4,455	721	Daily	30 - 60 Days
Private Equity [4]	84,753	21,567			57,568	15,063			25,912	6,732		
Fixed Income [5]	9,689	-	Daily		3,388	-	Daily		1,486	-	Daily	
Non US Equity [5]	42,975	-	Daily		24,116	-	Daily		8,496	-	Daily	
US Equity [5]	3,211	-	Daily		1,422	-	Daily		568	-	Daily	
Total Investments Measured at NAV	**$379,738**	**$64,163**			**$237,999**	**$41,885**			**$91,886**	**$16,837**		

[1] This type includes 17 high yield specialty credit managers with multiple strategies. These managers may invest in U.S. or non-U.S. investment grade corporate credit, U.S. or non U.S. non-investment grade corporate credit, including both bonds and bank loans, municipal bonds, non-U.S. sovereign debt, mortgages including residential mortgage backed securities, commercial mortgage backed securities and whole loans, asset-backed securities and emerging market debt.

[2] This type includes 15 real estate funds that invest primarily in U.S. commercial real estate; however, there is one manager who invests solely in non-U.S. commercial real estate. The fair value of the investments have been determined using the NAV per share of the Plan's ownership interest and in the partners' capital. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the funds will be liquidated over the next 7 to 10 years. Because it is not probable that any individual investment will be sold, the fair value of each individual investment has been determined using the NAV per share of the Plan's ownership interest in the partners' capital. Due to restrictions in the contract, redemptions are not likely until the assets of the fund are liquidated.

[3] This type includes 18 real return managers that invest in multiple strategies such as infrastructure, agriculture, royalties, commodities, and natural resources. These investments are intended to provide both favorable risk-adjusted returns and correlation with inflation to help with the hedging of inflation for the broader plan. This group of managers also includes any hedge fund managers remaining in the portfolio which have all been terminated and are only awaiting payouts.

[4] This type includes 36 managers with multiple strategies. These investments cannot be redeemed. Instead, the investments are redeemed throughout the life of the investment. Distributions are received through the liquidation of the underlying assets of the fund. It is expected that each fund will remain invested for a period of 5 to 10 years. It is probable that the all of the investments in this type will be sold at an amount different from the NAV per share of the Plan's ownership interest in partners' capital. Therefore, the fair values of the investment in this asset class have been determined using recent observable transaction information.

[5] This type includes short-term commingled investment instruments issued by the US Government, Federal agencies, sponsored agencies or sponsored corporations.

Money-Weighted Rates of Return

In accordance with GASB *Statement No. 67, Financial Reporting for Pension Plans*, and GASB *Statement No. 74, Financial Reporting for Post-Employment Benefit Plans Other than Pension Plans*, KPPA provides this additional disclosure regarding its money-weighted rate of return for the period of June 30, 2022. The money-weighted rate of return is a method of calculating period-by-period returns on the Pension and Insurance Funds' investments that adjusts for the changing amounts actually invested. For the purposes of this Statement, money-weighted rate of return is calculated as the internal rate of return on investments, net of investment expenses, then adjusted for the changing amounts actually invested.

Money-Weighted Rates of Return As of June 30 - Pension

	CERS Nonhazardous	CERS Hazardous	KERS Nonhazardous	KERS Hazardous	SPRS
2022	(5.83)%	(6.02)%	(5.29)%	(5.94)%	(5.80)%

Money-Weighted Rates of Return As of June 30 - Insurance

	CERS Nonhazardous	CERS Hazardous	KERS Nonhazardous	KERS Hazardous	SPRS
2022	(5.49)%	(4.95)%	(6.22)%	(4.43)%	(4.43)%

Note E. Securities Lending Transactions

Kentucky Revised Statutes Sections 61.650 and 386.020(2) permit the Pension and Insurance Trust Funds to lend their securities to broker-dealers and other entities. KPPA utilizes a securities lending program to temporarily lend securities to qualified agents in exchange for either cash collateral or other securities with an initial fair value of 102% or 105% of the value of the borrowed securities. The borrowers of the securities simultaneously agree to return the borrowed securities in exchange for the collateral. The types of securities lent include U.S. Treasuries, U.S. Agencies, U.S. Corporate Bonds, U.S. Equities, Global Fixed Income Securities, and Global Equities Securities. Securities Lending transactions are accounted for in accordance with GASB 28. The net earnings for the Pension and Insurance Trust Funds was $1.8 million and $0.7 million, respectively.

The IPS does not address any restrictions on the amount of loans that can be made. As of June 30, 2022, KPPA had no credit risk exposure to borrowers because the collateral amounts received exceeded the amounts out on loan. The contracts with the custodial bank require them to indemnify KPPA if the borrowers fail to return the securities and one or both of the custodial banks have failed to live up to their contractual responsibilities relating to the lending of securities.

All securities loans can be terminated on demand by either party to the transaction. BNY Mellon invests cash collateral as permitted by state statute and Board policy. The agent, BNY Mellon, of the Funds cannot pledge or sell collateral securities received unless the borrower defaults. KPPA maintains a conservative approach to investing the cash collateral with BNY Mellon, emphasizing capital preservation, liquidity, and credit quality.

Cash collateral is invested in guaranteed, short-term obligations of the U.S. government, select government agencies and repurchase agreements with qualified agents. KPPA cannot pledge or sell collateral securities received unless the borrower defaults. BNY Mellon as the lending agent also indemnifies KPPA from any financial loss associated with a borrower's default and collateral inadequacy.

As of June 30, 2022, the average days to maturity for loans was one day, and the weighted average investment maturity of cash collateral investments was one day. The trusts had no credit risk exposure to borrowers because the amounts owed to borrowers exceeded the amounts the borrowers owed the trust, and no losses resulted during the period.

Security lending programs can entail interest rate risk and credit risk. KPPA minimizes interest rate risk by limiting the term of cash collateral investments to several days. The credit risk is controlled by investing cash collateral in securities with qualities similar to the credit worthiness of lent securities.

As of June 30, 2022, the cash collateral received for the securities on loan for the Pension and Insurance Trust Funds was $391.8 million and $146.1 million, respectively. The securities non-cash collateral received a total of $136.2 million and $50.3 million, respectively. The collateral volume of the total underlying securities was $528.0 million for Pension and $196.4 million for the Insurance Trust Funds, respectively.

Securities Lending Cash Collateral
As of June 30, 2022

	CERS	CERS	KERS	KERS	SPRS	Pension Total
	Nonhazardous	Hazardous	Nonhazardous	Hazardous		2022
Pension	$208,156	$70,856	$77,505	$21,277	$13,957	$391,751
Insurance	$66,459	$33,425	$28,391	$12,806	$5,063	$146,144

Note F. Risk of Loss

KPPA is exposed to various risks of loss related to torts; thefts of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. Under the provisions of the Kentucky Revised Statutes the Office of Claims and Appeals is vested with full power and authority to investigate, hear proof, and compensate persons for damages sustained to either person or property as a result of negligence of the agency or any of its employees. Awards are limited to $250,000 for a single claim and $400,000 in aggregate per occurrence. Awards and a pro rata share of the operating cost of the Office of Claims and Appeals are paid from the fund of the agency having a claim or claims before the Office of Claims and Appeals.

Claims against the CERS Board, KRS Board and the KPPA Board, or any of its staff as a result of an actual or alleged breach of fiduciary duty, are self-insured effective May 26, 2019.

Claims for job-related illnesses or injuries to employees are insured by the state's self-insured workers' compensation program. Payments approved by the program are not subject to maximum limitations. All medical expenses related to a work injury or illness are paid based upon appropriate statutory and regulatory reductions, and up to 66.67% of wages for temporary disability. Each agency pays premiums based on fund reserves and payroll. Settlements did not exceed insurance coverage in any of the past three fiscal years. Thus, no secondary insurance had to be utilized. There were no claims which were appealed to the Kentucky Workers' Compensation Board.

Note G. Contingencies

In the normal course of business, KPPA is involved in litigation concerning the right of participants, or their beneficiaries, to receive benefits. KPPA does not anticipate any material losses for CERS, KERS, SPRS or the Insurance Fund as a result of the contingent liabilities. KPPA is involved in other litigation; therefore, please see Note O. Litigation, for further information.

Note H. Defined Benefit Pension Plan

KPPA is an agency within the Executive branch of the Commonwealth of Kentucky. All regular full-time employees in nonhazardous positions of any Kentucky State Department, Board, or Agency are directed by Executive Order (EO) to participate in KERS. These employees participate in KERS Nonhazardous, a cost-sharing, multiple-employer defined pension fund that provides retirement, disability, and death benefits to fund members. Fund benefits are extended to beneficiaries of fund members under certain circumstances. Tier 1 Fund members contributed 5% of creditable compensation for the fiscal year ended June 30, 2022. Tier 2 and Tier 3 Fund members contributed 6% of creditable compensation for the fiscal year ended June 30, 2022.

The chart below includes the covered payroll and contribution amounts for the employees of KPPA:

Payroll and Contributions as of June 30 ($ in Thousands)	
	2022
Covered Payroll	14,399
Required Employer Contributions	1,463
Employer Percentage Contributed	100%

Note: KRS 61.565, as amended by the 2021 Regular Legislative Session House Bill 8, requires the employers to contribute a normal cost for retirement plus and actuarially determined unfunded liability contribution. The Office of the State Budget Director determined the percentage of the contribution for FY 2022 for the Excutive Branch to be 73.87% for the actuarially determined unfunded liability and 10.10% for the normal cost.

Note I. Income Tax Status

The Internal Revenue Service (IRS) has ruled that plans administered by KPPA qualify under Section 401(a) of the Internal Revenue Code are, generally, not subject to tax. The plans are subject to income tax on any unrelated business income (UBI).

Note J. Equipment

Equipment as of June 30, 2022 ($ in Thousands)	
	2022
Equipment, cost	$2,885
Less Accumulated Depreciation	(2,885)
Equipment, net	$0

Note K. Intangible Assets

The provisions of GASB *Statement No. 51, Accounting and Financial Reporting for Intangible Assets*, requires that intangible assets be recognized in the Combining Statement of Fiduciary Net Position only if they are considered identifiable. In accordance with the Statement, KPPA has capitalized software costs as indicated below for the Strategic Technology Advancements for the Retirement of Tomorrow (START) project.

Software Expenses as of June 30 ($ in Thousands)	
	2022
Software, Cost	$17,300
Less Accumulated Amortization	(16,977)
Intangible Assets, Net	$323

Note L. Actuarial Valuation

KPPA's actuary, Gabriel, Roeder, Smith & Co. (GRS), completed the actuarial valuation for the calculation of the employer contribution rates for the CERS, KERS, SPRS and Insurance Fund for the period ended June 30, 2022. The last experience study for the five-year period ended June 30, 2018, was completed prior to the June 2019 valuation. At that time, the actuary made changes to the actuarial assumptions used in the annual valuation. For example, one of the more significant changes was to the mortality assumption rate, which presumes improvement in life expectancy. The 2021 valuation utilized the same assumptions. The following two charts show the economic assumptions and target asset allocations for the Pension and Insurance.

Economic Assumptions - Pension as of June 30	CERS		CERS Hazardous		KERS		KERS Hazardous		SPRS	
	2022	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**
Assumed Investment Return	6.25%	6.25%	6.25%	6.25%	5.25%	5.25%	6.25%	6.25%	5.25%	5.25%
Inflation Factor	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%
Payroll Growth	2.00%	2.00%	2.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Economic Assumptions - Insurance as of June 30	CERS		CERS Hazardous		KERS		KERS Hazardous		SPRS	
	2022	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**	**2022**	**2021**
Assumed Investment Return	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%	6.25%
Inflation Factor	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%
Payroll Growth	2.00%	2.00%	2.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Note M.

Financial Report for Pension Plans (GASB 67) and Postemployment Benefit Plans (GASB 74)

The following details actuarial information and assumptions utilized in determining the unfunded (overfunded) actuarial accrued liabilities for CERS, KERS, SPRS and Insurance Fund. Please note that calculations for TPL, net fiduciary position, NPL, total OPEB liability, net OPEB fiduciary position, and net OPEB liability are reported in the Plans' Required Supplementary Information (RSI) on pages ##-### are based on June 30, 2021, actuarial valuations, rolled forward to June 30, 2022. The prior year valuations are used as the basis for the roll forward method and are applied to complete the current year pension and OPEB valuations as of the measurement date, June 30, 2022, in accordance with GASB *Statement No.67*, paragraph 37, and GASB *Statement No. 74*, paragraph 41.

Financial Report for Pension Plan (GASB 67)

Basis of Calculations

GRS completed reports by plan in compliance with GASB S*tatement No. 67 Financial Reporting for Pension Plans.* The TPL, NPL, and sensitivity information are based on an actuarial valuation date of June 30, 2021. The TPL was rolled forward from the valuation date to the Plans' fiscal year ended June 30, 2022, using generally accepted actuarial principles. Information disclosed for years prior to June 30, 2017, were prepared by KPPA's prior actuary. GRS will provide separate reports at a later date with additional accounting information determined in accordance with GASB *Statement No. 68, Accounting and Financial Reporting for Pensions.*

Assumptions

There have been no changes in actuarial assumptions since June 30, 2021. Based on the June 30, 2020, actuarial valuation report, the actuarial methods and assumptions used to calculate these contributions rates are:

- Investment Return - 6.25% for CERS Nonhazardous, and CERS Hazardous, KERS Hazardous, 5.25% for KERS Nonhazardous and SPRS.
- Inflation - 2.30% for all plans.
- Salary Increases - 3.30% to 10.30% for CERS Nonhazardous, 3.55% to 19.05% for CERS Hazardous, 3.30% to 15.30% for KERS Nonhazardous, 3.55% to 20.05% for KERS Hazardous, and 3.55% to 16.05% for SPRS, varies by service.
- Payroll Growth - 2% for CERS Nonhazardous and Hazardous, 0% for KERS Nonhazardous and Hazardous, and SPRS.
- Mortality - System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.

Plan Provisions

House Bill 259 passed during the 2022 legislative session and will increase the benefits in the SPRS Tier 3 cash balance plan by allowing the conversion of unused sick leave in excess of 480 hours to cash balance pay credits at the end of each fiscal year. Similarly, House Bill 259 will also allow the conversion of an SPRS member's balance of unused sick leave to cash balance pay credits upon termination of employment. The total pension liability for the SPRS pension plan as of June 30, 2022 is determined using these updated benefit provisions. There have been no other plan provision changes that would materially impact the total pension liability since June 30, 2021.

House Bill 259 also provided meaningful salary increases effective July 1, 2022 for eligible State Troopers. Additionally, House Bill 1 passed during the 2022 legislative session and included a provision that provided an approximate 8% across-the-board salary increase effective July 1, 2022, for eligible State employees. While these salary increases may produce an actuarial loss with respect to the liability attributable to Tier 1 and Tier 2 active members (i.e. a higher total pension liability than expected based on current actuarial assumptions), there is not sufficient information available at this time to make a reasonable adjustment to the roll-forward Total Pension Liability to reflect these anticipated salary increases. It is GRS' opinion that these procedures for determining the information contained in these reports are reasonable, appropriate, and comply with applicable requirements under GASB No. 67.

Discount Rate

A single discount rate of 5.25% was used for the KERS Nonhazardous pension plan and SPRS pension plan, and a single discount rate of 6.25% was used for the KERS Hazardous pension plan, the CERS Nonhazardous pension plan, and the CERS Hazardous pension plan to measure the total pension liability for the fiscal year ending June 30, 2022. These single discount rates were based on the expected rate of return on pension plan investments. Based on the stated assumptions and the projection of cash flows as of each fiscal year ending, the pension plan's fiduciary net position and future contributions were projected to be sufficient to finance all the future benefit payments of the current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of the projected benefit payments to determine the total pension liability.

The projection of cash flows used to determine the single discount rate must include an assumption regarding actual employer contributions made each future year. Except where noted below, future contributions are projected assuming that the entire actuarially determined employer contribution is received by each plan each future year, calculated in accordance with the current funding policy. The assumed future employer contributions for the CERS plans reflect the provisions of House Bill 362 (passed during the 2018 legislative session) which limit the increases to the employer contribution rates to 12% over the prior fiscal year through June 30, 2028.

Additional health care contributions (IRC 401(h) Subaccount)

Based on guidance issued by GASB in connection with GASB *Statement No. 74*, the 1% of pay member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered as an Other Post Employment Benefit (OPEB) asset. As a result, the reported pension fiduciary net positions as of June 30, 2017, and later are net of the 401(h) asset balance.

Additional Disclosures

The reports are based upon information furnished to GRS by KPPA, which includes benefit provisions, membership information, and financial data. GRS did not audit this data and information, but did apply a number of tests and concluded that it was reasonable and consistent. GRS is not responsible for the accuracy or completeness of the information provided by KPPA. Please see the "Actuarial Valuation Report as of June 30, 2021", for each system for additional discussion of the nature of the actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. These reports should be considered together as a complete report for KPPA's' fiscal year ending June 30, 2022.

Financial Reporting for Postemployment Benefit Plans (GASB 74)

GRS completed reports by plan in compliance with GASB S*tatement No. 74*, *Financial Reporting for Postemployment Benefit Plans Other than Pension Plans* for the fiscal year ended June 30, 2022. GRS will provide separate reports at a later date with additional accounting information determined in accordance with GASB *Statement No. 75*, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions.*

Basis of Calculations

The total OPEB liability, net OPEB liability (NOL), and sensitivity information are based on an actuarial valuation date of June 30, 2021. The total OPEB liability was rolled forward from the valuation date to the plan's fiscal year ended June 30, 2022, using generally accepted actuarial principles.

Assumptions

The discount rates used to calculate the total OPEB liability increased for each fund since the prior year (see further discussion on the calculation of the single discount rates later in this section). There were no other material assumption changes and it is GRS' opinion that these procedures are reasonable and appropriate, and comply with applicable requirements under GASB No. 74.

The actuarially determined contribution rates effective for fiscal year ended 2022 that are documented in the schedules were calculated as of June 30, 2020. Based on the June 30, 2020, actuarial valuation reports the actuarial methods and assumptions used to calculate the required contributions are:

- Investment Return - 6.25%.
- Inflation - 2.30%.

- Salary Increases - 3.30% to 10.30% for CERS Nonhazardous, 3.55% to 19.05% for CERS Hazardous, 3.30% to 15.30% for KERS Nonhazardous, 3.55% to 20.05% for KERS Hazardous, 3.55% to 16.30% for SPRS, varies by service.
- Payroll Growth - 2.00% for CERS Nonhazardous and CERS Hazardous, 0.00% for KERS Nonhazardous, KERS Hazardous, and SPRS.
- Mortality - System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.
- Health Care Trend Rates:
  - Pre-65 - Initial trend starting at 6.40% on January 1, 2022, and gradually decreasing to an ultimate trend rate of 4.05% over a period of 14 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement.
  - Post-65 - Initial trend starting at 6.30% on January 1, 2023, and gradually decreasing to an ultimate trend rate of 4.05% over a period of 13 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement. Additionally, Humana provided “Not to Exceed” 2022 Medicare premiums, which were incorporated and resulted in an assumed 2.90% increase in Medicare premiums at January 1, 2022.

Plan Provisions

Senate Bill 209 passed during the 2022 legislative session increased the insurance dollar contribution for members hired on or after July 1, 2003 by $5 for each year of service a member attains over certain thresholds, depending on a member’s retirement eligibility requirement. This increase in the insurance dollar contribution does not increase by 1.5% annually and is only payable for non-Medicare retirees. Additionally, it is only payable when the member’s applicable insurance fund is at least 90% funded. The increase is first payable January 1, 2023.

To model the financial impact of the requirement for the funds to be 90% funded, GRS assumed the increase in the insurance dollar contribution is payable in all calendar years for the KERS hazardous plan, the CERS plans, and the SPRS plan, as they were above or approaching 90% funded as of the June 30, 2021 Actuarial Valuation. For the KERS nonhazardous insurance plan, we have assumed the increases begin in the year 2047, which is our best estimate of when the fund will begin approaching 90% funding.

Senate Bill 209 also allows members receiving the insurance dollar contribution to participate in a medical insurance reimbursement plan that would provide the reimbursement of premiums for health plans other than those administered by KPPA. In general, allowing members to receive reimbursement to participate in health plans other than those administered by KPPA would increase the utilization of the dollar benefit. The current election assumption for future members receiving the dollar insurance benefit is 100%, so there is no immediate change in the total OPEB liability for active members due to this benefit change. For current retirees and beneficiaries eligible for the dollar insurance benefit who have not yet elected coverage, GRS assumed 50% would elect coverage under this benefit change.

The total OPEB liability as of June 30, 2022 is determined using these updated benefit provisions. There were no other plan provision changes that would materially impact the total OPEB liability and it is GRS’ opinion that these procedures are reasonable and appropriate, and comply with applicable requirements under GASB No. 74.

Implicit Employer Subsidy for non-Medicare retirees

The fully-insured premiums paid for the Kentucky Employees’ Health Plan are blended rates based on the combined experience of active and retired members. Because the average cost of providing health care benefits to retirees under age 65 is higher than the average cost of providing health care benefits to active employees, there is an implicit employer subsidy for the non-Medicare eligible retirees. GASB No. 74 requires that the liability associated with this implicit subsidy be included in the calculation of the Total OPEB Liability.

Discount Rates

The following single discount rates were used to measure the total OPEB liability for the fiscal year ending June 30, 2022.

CERS Nonhazardous	5.70%
CERS Hazardous	5.61%
KERS Nonhazardous	5.72%
KERS Hazardous	5.59%
SPRS	5.69%

The single discount rates are based on the expected rate of return on OPEB plan investments of 6.25% and a municipal bond rate of 3.69%, as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2022. Based on the stated assumptions and the projection of cash flows as of each fiscal year ending, the plan's fiduciary net position and future contributions were projected to be sufficient to finance the future benefit payments of the current plan members. Therefore, the long-term expected rate of return on insurance plan investments was applied to all periods of the projected benefit payments paid from the retirement system. However, the cost associated with the implicit employer subsidy is not currently being included in the calculation of the plan's actuarial determined contributions, and it is our understanding that any cost associated with the implicit subsidy will not be paid out of the plan's trust. Therefore, the municipal bond rate was applied to future expected benefit payments associated with the implicit subsidy.

The projection of cash flows used to determine the single discount rate must include an assumption regarding actual employer contributions made each future year. Future contributions are projected assuming that the entire actuarially determined employer contribution is received by each plan each future year, calculated in accordance with the current funding policy.

Additional health care contributions (IRC 401(h) Subaccount)

Based on guidance issued by GASB in connection with GASB Statement No. 74, the 1% of pay member contributions for Tier 2 and Tier 3 members to a 401(h) subaccount is considered an OPEB asset. As a result, the reported fiduciary net position includes these 401(h) assets. Additionally, these member contributions and associated investment income and administrative expenses are included in the reconciliation of the fiduciary net position.

Additional Disclosures[1]

The reports are based upon information furnished to GRS by the KPPA, which includes benefit provisions, membership information, and financial data. GRS did not audit this data and information, but GRS applied a number of tests and concluded that it was reasonable and consistent. GRS is not responsible for the accuracy or completeness of the information provided by KPPA. Please see the "Actuarial Valuation Report as of June 30, 2021" for additional discussion of the nature of the actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions. These reports should be considered together as a complete report for fiscal year ending June 30, 2022.

Target Asset Allocation

The long-term (10-year) expected rates of return were determined by using a building block method in which best estimated ranges of expected future real rates of return were developed for each asset class. The ranges were combined by weighting the expected future real rate of return by the target asset allocation percentage. The target allocation and best estimates of arithmetic real rate of return for each major asset class are summarized in the tables below.

1 Note: Data and information regarding GASB 67 and GASB 74 reporting was provided by GRS Retirement Consulting.

Target Asset Allocation - CERS Pension and Insurance
As of June 30, 2022

Allocations apply to All Pension and Insurance Funds maintained by CERS

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Equity		
Public Equity	50.00%	4.45%
Private Equity	10.00%	10.15%
Fixed Income		
Core Fixed Income	10.00%	0.28%
Specialty Credit	10.00%	2.28%
Cash	0.00%	-0.91%
Inflation Protected		
Real Estate	7.00%	3.67%
Real Return	13.00%	4.07%

Target Asset Allocation - Pension
As of June 30, 2022

Allocations apply to KERS Nonhazardous and SPRS Pension Funds

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Equity		
Public Equity	32.50%	4.45%
Private Equity	7.00%	10.15%
Fixed Income		
Core Fixed Income	20.50%	0.28%
Specialty Credit	15.00%	2.28%
Cash	5.00%	-0.91%
Inflation Protected		
Real Estate	10.00%	3.67%
Real Return	10.00%	4.07%

Target Asset Allocation - Pension and Insurance
As of June 30, 2022

Allocations apply to KERS Hazardous Pension and all KRS Insurance Funds

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Equity		
Public Equity	43.50%	4.45%
Private Equity	10.00%	10.15%
Fixed Income		
Core Fixed Income	10.00%	0.28%
Specialty Credit	15.00%	2.28%
Cash	1.50%	-0.91%
Inflation Protected		
Real Estate	10.00%	3.67%
Real Return	10.00%	4.07%

NOTE: Minor deviations are expected between the actuarial assumed rate of return and the expected rate of return reported in the above charts. The actuarial assumed rates of return are based on a review of economic assumptions completed periodically as warranted but not longer than every 5 years; whereas, the expected rate of return is calculated annually for GASB purposes by taking the current asset allocation and applying the most relevant long term market expectations (September 2020) for each asset class.

Sensitivity of the NPL to Changes in the Discount Rate Fiscal Year 2022
As of June 30, 2022 ($ in Thousands)

	CERS Nonhazardous	CERS Hazardous	KERS Nonhazardous	KERS Hazardous	SPRS
	Current 6.25%	Current 6.25%	Current 5.25%	Current 6.25%	Current 5.25%
1% Decrease	$9,035,370	$3,801,089	$15,259,602	$670,608	$642,237
Current Discount Rate	7,229,013	3,051,457	13,267,343	507,516	506,053
1% Increase	$5,735,007	$2,440,928	$11,626,900	$375,348	$395,014

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate and Healthcare Trend Rate
As of June 30, 2022 ($ in Thousands)

	CERS Nonhazardous	CERS Hazardous	KERS Nonhazardous	KERS Hazardous	SPRS
	Single 5.70%	Single 5.61%	Single 5.72%	Single 5.59%	Single 5.69%
Sensitivity of the Net OPEB Liability to Changes in the Discount Rate					
1% Decrease	$2,638,273	$1,183,531	$2,648,282	$91,455	$167,531
Single Discount Rate	1,973,514	851,786	2,212,111	7,627	120,211
1% Increase	$1,423,979	$582,347	$1,810,717	$(60,421)	$81,657
Sensitivity of the Net OPEB Liability to Changes in the Current Healthcare Cost Trend Rate					
1% Decrease	$1,467,264	$594,791	$1,818,723	$(53,939)	$81,720
Current Healthcare Cost Trend Rate	1,973,514	851,786	2,212,111	7,627	120,211
1% Increase	$2,581,425	$1,165,048	$2,634,576	$82,395	$166,889

Development of Single Discount Rate for OPEB
As of June 30, 2022

	CERS Nonhazardous	CERS Hazardous	KERS NonHazardous	KERS Hazardous	SPRS
2022					
Single Discount Rate	5.70%	5.61%	5.72%	5.59%	5.69%
Long-Term Expected Rate of Return	6.25%	6.25%	6.25%	6.25%	6.25%
Long-Term Municipal Bond Rate	3.69%	3.69%	3.69%	3.69%	3.69%

Note: 1. Fixed-income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of June 30, 2022.

Schedule of Employers' NPL - CERS Nonhazardous As of June 30, 2022 ($ in Thousands)	
Total Pension Liability (TPL)	$15,192,599
Plan Fiduciary Net Position	7,963,586
Net Pension Liability	$7,229,013
Ratio of Plan Fiduciary Net Position to TPL	52.42%
Covered Payroll [(1)]	$2,835,173
Net Pension Liability as a Percentage of Covered Payroll	254.98%

Schedule of Employers' NPL - CERS Hazardous As of June 30, 2022 ($ in Thousands)	
Total Pension Liability (TPL)	$5,769,691
Plan Fiduciary Net Position	2,718,234
Net Pension Liability	$3,051,457
Ratio of Plan Fiduciary Net Position to TPL	47.11%
Covered Payroll [(1)]	$666,346
Net Pension Liability as a Percentage of Covered Payroll	457.94%

Schedule of Employers' NPL - KERS Nonhazardous As of June 30, 2022 ($ in Thousands)	
Total Pension Liability (TPL)	$16,281,188
Plan Fiduciary Net Position	3,013,845
Net Pension Liability	$13,267,343
Ratio of Plan Fiduciary Net Position to TPL	18.51%
Covered Payroll [(1)]	$1,432,960
Net Pension Liability as a Percentage of Covered Payroll	925.87%

Schedule of Employers' NPL - KERS Hazardous As of June 30, 2022 ($ in Thousands)	
Total Pension Liability (TPL)	$1,318,494
Plan Fiduciary Net Position	810,978
Net Pension Liability	$507,516
Ratio of Plan Fiduciary Net Position to TPL	61.51%
Covered Payroll [(1)]	$188,648
Net Pension Liability as a Percentage of Covered Payroll	269.03%

Schedule of Employer's NPL - SPRS As of June 30, 2022 ($ in Thousands)	
Total Pension Liability (TPL)	$1,057,752
Plan Fiduciary Net Position	551,699
Net Pension Liability	$506,053
Ratio of Plan Fiduciary Net Position to TPL	52.16%
Covered Payroll [(1)]	$48,061
Net Pension Liability as a Percentage of Covered Payroll	1,052.94%

[(1)] *Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.*

Schedule of the Employers' Net OPEB Liability - CERS Nonhazardous
As of June 30, 2022 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [1]	Net OPEB Liability as a Percentage of Covered Payroll
2022	$5,053,498	$3,079,984	$1,973,514	60.95%	$2,843,218	69.41%

[1] Based on derived compensation using the provided employer contribution information.

Schedule of the Employers' Net OPEB Liability - CERS Hazardous
As of June 30, 2022 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [1]	Net OPEB Liability as a Percentage of Covered Payroll
2022	$2,374,457	$1,522,671	$851,786	64.13%	$668,667	127.39%

[1] Based on derived compensation using the provided employer contribution information.

Schedule of the Employers' Net OPEB Liability - KERS Nonhazardous
As of June 30, 2022 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [1]	Net OPEB Liability as a Percentage of Covered Payroll
2022	$3,576,530	$1,364,419	$2,212,111	38.15%	$1,437,132	153.93%

[1] Based on derived compensation using the provided employer contribution information.

Schedule of the Employers' Net OPEB Liability - KERS Hazardous
As of June 30, 2022 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [1]	Net OPEB Liability as a Percentage of Covered Payroll
2022	$595,789	$588,162	$7,627	98.72%	$188,648	4.04%

[1] Based on derived compensation using the provided employer contribution information. For 2021 and 2022, derived compensation based on pension contribution information, as there were no required employer contributions for the insurance fund for FYE 2021 and FYE 2022.

Schedule of the Employer's Net OPEB Liability-SPRS Plan
As of June 30, 2022 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [1]	Net OPEB Liability as a Percentage of Covered Payroll
2022	$351,453	$231,242	$120,211	65.80%	$48,600	247.35%

[1] Based on derived compensation using the provided employer contribution information.

Note N. Pension Legislation

2022 Regular Session

The 2022 Regular Session of the Kentucky General Assembly adjourned on Thursday, April 14, 2022. Highlights of the 2022 Session include:

HOUSE BILLS:

House Bill 1 (State/Executive Branch budget bill): House Bill 1, sponsored by Representative Jason Petrie, set the Employer Contribution rates for KERS Hazardous and SPRS at the Actuarially Determined Rate as approved by the KRS Board of Trustees. The KERS Nonhazardous rate for Executive Branch employers will once again be determined by the State Budget Director in accordance with House Bill 8 from the 2021 Regular Session.

In addition, the bill includes money to assist with the anticipated increase in retirement costs over each quasi-state agency employer's fiscal year 2019-2020 baseline contribution per House Bill 8 from the 2021 Regular Session; and it allocates $200 million to the Kentucky Permanent Pension Fund in FY 2023-24. This Fund was created by the 2016 General Assembly to address the unfunded liabilities of the Commonwealth's public employee pension funds (the systems operated by KPPA as well as the Teachers' and Judicial/Legislator Retirement Systems).

One of the most significant parts of House Bill 1 is that it allocates an additional $485 million in General Fund dollars to the systems. This amount includes $215 million in FY 2021-2022 for the State Police Retirement System (SPRS) pension fund to be applied to the unfunded liability, which immediately lowered the SPRS contribution rate from the planned 146.06% to 99.43% for the 2022-2023 fiscal year. The rest of the $485 million will consist of $135 million in each fiscal year of the biennium (2022-23 and 2023-24) for the KERS Nonhazardous pension fund to be applied to the unfunded liability.

Finally, the bill contained an 8% raise for State employees effective July 1, 2022, and no Cost of Living Adjustments (COLAs) for retirees**.**

House Bill 604: KERS Nonhazardous receives additional allocations

On the last day of the Session, House Bill 604 (sponsored by Rep. Kimberly Moser) was amended by a Senate Committee Substitute to allocate $105 million in each fiscal year to be applied to the unfunded liability of the KERS Nonhazardous pension fund.

House Bill 9: Charter Schools

House Bill 9 (Rep. Chad McCoy) requires public charter school classified employees to participate in the County Employees Retirement Systems, and for the public charter school to make employer contributions to the retirement systems and health insurance plans.

House Bill 49: Pension Spiking

When a member retires, KPPA evaluates creditable compensation growth to determine if "pension spiking," a 10% increase during the last five years of employment, has occurred. Pension spiking provisions are intended to prevent abuse of the benefit calculation formula: receiving large salary increases in the final years of employment can result in the artificial inflation of a member's final retirement benefit.

Some statutory exemptions to the spiking provisions have been previously enacted by the General Assembly. **House Bill 49** (Rep. Jerry Miller) adds two additional pension spiking exemptions:

1. The first one hundred (100) hours of mandatory overtime required by the employer during a fiscal year are exempt; and

2. Overtime performed as a result of a local government issued state of emergency in which the Governor authorizes mobilization of the Kentucky National Guard is now exempt. This provision is retroactive to May 28, 2020 and will apply toward any overtime worked as a result of the emergency through May 11, 2021 regardless of whether the National Guard was mobilized for the entire period. Retired members who had a spike for this reason will have their benefit recalculated based upon correctly completed verification from the employer.

House Bill 76: Enhanced Frequency and Scope of Actuarial Studies/ Service purchase for Educational Students

House Bill 76 (Rep. Jerry Miller and Rep. C. Ed Massey) enhances the frequency and scope of actuarial studies for the state's pension plans. The bill requires the plans to perform an actuarial investigation of economic assumptions (inflation rate, investment return, payroll growth assumptions, etc.) once every two years rather than once every five years. House Bill 76 also requires CERS to provide projections in the annual actuarial valuation related to experience studies, assumption changes, and other changes made by the boards of each system over a 30-year period rather than a 20-year period.

Finally, the bill allows those people who were "bound by an educational contract prior to December 31, 2003" to have a membership date based on the earliest date in the contract and purchase service credit, and have that credit apply to their retirement eligibility and benefit determination. Previous legislation passed in the early 2000's placed restrictions on those service purchases effective August 1, 2004. The systems' independent actuary says this will not have a measurable fiscal impact on the systems.

House Bill 259: Sick Leave Buyback Program for SPRS Tier 3 participants

For members earning benefits in the SPRS Tier 3 hybrid cash balance plan, **House Bill 259** (Rep. Scott Lewis) converts unused sick leave in excess of 480 hours (i.e. 60 days) to cash balance pay credits at the end of each fiscal year. The bill also converts the member's balance of unused sick leave to cash balance pay credits upon termination of employment.

In addition, House Bill 259 increased the base pay for cadet Troopers to $45,000 and increased base pay for Troopers and commercial vehicle enforcement based on years of service and rank. The salary schedule increase began July 1, 2022 and is subject to the General Assembly funding the benefit in the executive branch budget bill. Funding has been provided for the upcoming biennium from July 1, 2022 – June 30, 2024.

House Bill 259 only applies to SPRS Tier 3 members: there is no change in benefits for members earning Tier 1 and Tier 2 benefits.

House Bill 297: Passage creates new health insurance plan for Medicare eligible retired-reemployed members

House Bill 297 (sponsored by Rep. Jerry Miller), the KPPA housekeeping bill, included a statutory amendment allowing KPPA to offer a new health insurance plan for Medicare eligible members who are reemployed with a participating employer and are affected by the Medicare Secondary Payer Act. This new plan will be effective October 1, 2022.

In addition to the traditional "cleanup" of current statutes and administrative issues that gives a "housekeeping bill" its name, House Bill 297 also gives KPPA needed flexibility to compete with other public pension plans in attracting, hiring, and retaining key investment positions. The bill allows KPPA to hire a total of six (6) unclassified investment specialists who would not be subject to the salary limitations of the state personnel system.

Other provisions of House Bill 297 include a requirement for KPPA to conduct an annual performance evaluation of the executive director, pre-approve future unclassified positions, and approve an annual personnel report before submission to the Public Pension Oversight Board. The bill also requires KPPA to approve the biennial budget unit request before submitting it.

House Bill 668: Exemptions from House Bill 8 Reporting Requirements for Contracts with "Non-Core Services Independent Contractors"

House Bill 668 (Rep. Jim DuPlessis) exempts contracts for services through a non-core services independent contractor used by a KERS quasi-governmental employer from the reporting requirements established in KRS 61.5991 by House Bill 8 during the 2021 Regular Session.

A "non-core services independent contractor" is defined to mean a company or business that is not owned or controlled by an employer participating in the system, whose business also provides services to the general public or other public agencies not participating in the system, such as facilities services, grounds services, custodial services, bookstore services, dining services, etc.

The bill also requires KERS to provide employers with the member data provided to the actuary and the data the actuary produced as it relates to prorating liabilities to each employer under House Bill 8 passed during the 2021 Regular Session. The bill is retroactive to July 1, 2021.

House Bill 777: New Agency Created/Employees Given Opportunity to Join KERS

House Bill 777 (Rep. Ken Fleming) creates the Kentucky Board of Emergency Medical Services as an independent agency. The bill provides a 30-day window to allow employees of this Agency who are currently participating in the 403(b) defined contribution plan maintained by the Kentucky Community and Technical College System (KCTCS) to either remain in employment with KCTCS and be assigned to provide services to the Agency, or to elect to be transferred and employed directly by the Agency.

Employees who elect to be transferred and employed directly by the Agency will become KERS members. The Benefit Tier for these employees will be based on the earlier of the date of initial participation in KERS and the 403(b) defined contribution plan maintained by KCTCS. However, there will be no duplication of benefits and the member will not receive additional benefit service credit prior to the transfer date.

SENATE BILLS:

Senate Bill 27: Part-Time Adjunct Instructors for the Kentucky Fire Commission

Senate Bill 27 (Senator Michael Nemes) allows part-time adjunct instructors for the Kentucky Fire Commission who are eligible to retire from the CERS and have not participated in KERS prior to retirement, to retire and draw benefits without being required to resign from their position as part-time adjunct instructor.

Senate Bill 209: Health Insurance Benefits

Senate Bill 209 (Senator Michael Nemes) increases the non-Medicare eligible retiree health subsidy for career members of KERS, CERS, and SPRS who began participating in the system on or after July 1, 2003, who are eligible for a fixed-dollar retiree health subsidy not tied to the premium. This increase in the insurance dollar contribution is only payable for non- Medicare eligible retirees when the member's applicable insurance fund is at least 90% funded.

Additionally, the insurance changes in Senate Bill 209 would allow members who are eligible for the insurance dollar contribution to be reimbursed for premiums for health insurance plans other than those administered by KPPA. These reimbursement provisions take effect January 1, 2023.

State Senate Confirms Gubernatorial Appointments to CERS and KRS Boards

State law requires gubernatorial appointments to the CERS and KRS boards receive Senate approval. On April 14, three Senate Resolutions confirming Governor Andy Beshear's recent appointments to the boards were unanimously adopted by a vote of 36-0. Each Resolution was sponsored by Senator Julie Raque Adams:

A. **Senate Resolution 198** confirmed the appointment of **Pamela F. Thompson** to the Board of Trustees of the Kentucky Retirement Systems for a term expiring June 17, 2023;

B. **Senate Resolution 242** confirmed the appointment of **Martin I. Milkman** to the Board of Trustees of the County Employees Retirement System for a term ending July 1, 2025; and

C. **Senate Resolution 261** confirmed the appointment of **E. Lynn Hampton** to the Board of Trustees of the Kentucky Retirement Systems for a term expiring June 17, 2022.

The Resolutions only required Senate confirmation and did not need to be adopted in the House.

Note O. Litigation

Seven Counties

Seven Counties Services, Inc. (Seven Counties) filed for Chapter 11 bankruptcy in the United States Bankruptcy Court for the Western District of Kentucky (the Bankruptcy Court) in April 2013. Seven Counties provides mental health services for the Cabinet for Health and Family Services for the greater Louisville, Kentucky area and surrounding counties. Seven Counties participated in KERS for approximately twenty-five years. Seven Counties identified KERS as a creditor with a primary objective of discharging its continuing obligation to remit retirement contributions for approximately 1,300 employees and to terminate its participation in KERS. If Seven Counties is successful in discharging its obligations to KERS, the estimated member pension and insurance actuarial accrued liability is in the range of $145 to $150 million.

KERS opposed Seven Counties' attempt to discharge its obligations and terminate its participation. KERS asserted that Seven Counties is a Governmental Unit properly participating in KERS by Executive Order issued in 1978 and thus ineligible for Chapter 11 relief. Consequently, Seven Counties would remain statutorily obligated to continue participation and remit contributions. On May 30, 2014, the Bankruptcy Court held that Seven Counties was not a Governmental Unit and could move forward with its Chapter 11 bankruptcy case. The Bankruptcy Court further held that Seven Counties' statutory obligation to participate in and remit contributions to KERS was a "contract" eligible for rejection. KRS appealed this decision.

On August 24, 2018, the U.S. Court of Appeals for the Sixth Circuit (the Sixth Circuit) issued a two to one Opinion affirming the decision that Seven Counties is eligible to file for bankruptcy under Chapter 11. However, the Sixth Circuit went on to state, "lacking state court precedent characterizing the nature of the relationship between Seven Counties and KERS, we certify that question to the Kentucky Supreme Court." KERS filed a petition to have the Opinion Reheard En Banc by the entire Sixth Circuit. On October 5, 2018, the Sixth Circuit issued an order holding the petition in abeyance pending a response from the Kentucky Supreme Court on the certified question of law. On November 1, 2018, the Supreme Court of Kentucky issued an Order granting certification of the question. The certified question of law was briefed by the parties and oral arguments were held before the Supreme Court of Kentucky on March 6, 2019. On August 29, 2019, the Supreme Court of Kentucky ruled that Seven Counties' participation in and its contributions to KERS are based on a statutory obligation. The Supreme Court of Kentucky's ruling was forwarded to the Sixth Circuit for further consideration.

On July 20, 2020, the Sixth Circuit Court of Appeals issued an Opinion stating that they affirmed their previous determination that Seven Counties was eligible to file a Chapter 11 bankruptcy case. The Sixth Circuit also reversed the conclusion that Seven Counties can reject its obligation to participate as an executory contract and that Seven Counties need not maintain its statutory contribution obligation during the pendency of the bankruptcy. The Sixth Circuit dismissed Seven Counties' cross appeal and remanded the case for further proceedings consistent with the opinion. KERS again filed a petition to have the Opinion regarding Seven Counties' ability to file a Chapter 11 bankruptcy Reheard En Banc by the entire Sixth Circuit. This petition was denied in an Order dated September 11, 2020. The case was remanded back to the Bankruptcy Court.

The parties were able to stipulate to the principal amount of Seven Counties unpaid employer contributions for the post-petition time-frame of April 6, 2014 through February 5, 2015. A limited hearing occurred in February 2022 regarding whether interest is applicable to the stipulated amount. The Bankruptcy Court entered an order that set the amount of the contributions, but did not order Seven Counties to pay that amount. The order was silent regarding the application of interest. Both Seven Counties and KERS appealed the Bankruptcy Court's order to the United States District Court where it will be joined with the pending appeal of the confirmation of Seven Counties' reorganization plan.

Mayberry

In December 2017, members and beneficiaries of KERS filed a derivative action suit in Franklin Circuit Court naming KRS as a nominal defendant. The suit alleges that investment managers actively pursued KRS while it was under the control of Trustees who were acting adversely to its interests, and that the investment managers recommended risky investments in alternative investment strategies which resulted in billions of dollars in losses to KRS. The Amended Complaint alleges numerous claims against KRS Trustees and Officers, hedge fund sellers, actuarial, fiduciary, and investment advisors, and an annual report certifier. Plaintiffs alleged that the defendants breached statutory, fiduciary, and other duties and engaged in civil conspiracy. The Complaint further alleged claims against Officers and hedge fund sellers, actuarial, fiduciary, and investment advisors, and an annual report certifier for aiding and abetting breaches of statutory, fiduciary, and other duties. Plaintiffs sought compensatory and punitive damages, as well as equitable relief. More specifically, plaintiffs sought compensatory damages against defendants for the violations of statutory, fiduciary, and other duties; while also seeking punitive damages against hedge fund sellers, investment, actuarial, and fiduciary advisors and each of their principals/officers named as defendants. Further, plaintiffs requested several forms of equitable relief, which included directing a complete accounting of fees associated with fund of hedge funds and other absolute return strategies.

On April 19, 2018, KRS and plaintiffs filed a Joint Notice to the Court and Parties notifying the parties that (1) KRS will not pursue the claims asserted by plaintiffs; and (2) KRS would not have been in a position to pursue those claims had they been brought prior to the filing of the Complaint. Since then, the Franklin Circuit Court has ruled on various defendants' motions to dismiss, denying nearly all of them. On January 10, 2019, Kohlberg, Kravis, Roberts (KKR), Henry Kravis and George Roberts (collectively, "KKR Parties") amended their Answer to assert cross-claims against KRS. Certain Officer and Trustee defendants appealed the denial of their Motion to Dismiss on immunity grounds to the Court of Appeals and that appeal was transferred to the Supreme Court of Kentucky. The hedge fund defendants filed a Petition for Writ of Prohibition in the Court of Appeals arguing that the Circuit Judge acted outside his jurisdiction. The Writ was issued on April 23, 2019, and the judgment granting standing was vacated. Plaintiffs promptly appealed the Court of Appeals' decision to the Supreme Court of Kentucky. On July 9, 2020, the Supreme Court of Kentucky issued an Opinion stating that the plaintiffs, as beneficiaries of a defined-benefit plan who have received all of their vested benefits so far and are legally entitled to receive their benefits for the rest of their lives, do not have a concrete stake in this case and therefore lack standing to bring this claim. The case was remanded to the circuit court with directions to dismiss the complaint. Thereafter, plaintiffs filed a motion seeking to amend their complaint to add parties and claims that would purportedly correct the standing defect identified by the Supreme Court of Kentucky. Furthermore, the Attorney General of the Commonwealth sought leave to intervene in this action through a motion filed July 20, 2020, and an Intervening Complaint on July 22, 2020. On February 1, 2021, a new group of Tier 3 KRS members sought to intervene on a derivative basis, and filed a 3rd Amended Complaint in the Mayberry matter. The Attorney General filed an Amended Complaint on May 24, 2021. On June 14, 2021, the Franklin Circuit Court denied the Tier 3 Motion to Intervene as well as denied their 3rd Amended Complaint. The Tier 3 plaintiffs also filed an independent lawsuit with similar allegations to those they seek to pursue in *Mayberry*. That independent action is still in the initial stages and is pending with Franklin Circuit Court.

A number of related cases have also developed based on issues raised in the above referenced Mayberry action. The hedge fund sellers have filed suits against KRS in various states seeking reimbursement of their legal fees. KRS has filed an action against Hallmark Specialty Insurance seeking a declaratory judgment that Hallmark has a duty to defend and indemnify Kentucky Retirement Systems in the Mayberry action. There has been an action filed by a number of the Trustees and Officers named in Mayberry seeking reimbursement by Kentucky Retirement Systems of their legal fees. Finally, the Commonwealth brought a suit against the hedge fund sellers seeking a declaratory judgment that the indemnification clauses in the contracts between the hedge fund sellers and KRS violate the Kentucky Constitution and are unenforceable.

Bayhills

In 2018, Kentucky Retirement Systems sued Bayhills for breach of contract seeking to terminate Bayhills as investment managers. Kentucky Retirement Systems filed the suit in Franklin Circuit Court, but Bayhills removed it to federal district court. Kentucky Retirement Systems successfully had the case remanded back to state court. The case is now pending before Franklin Circuit Court. The Court entered an injunction preventing Bayhills from paying themselves management and other fees during the litigation. Bayhills has appealed this ruling to the Court of Appeals. The Court of Appeals and the Kentucky Supreme Court denied Bay Hills their requested relief on appeal. Litigation is still ongoing.

Kentucky State Lodge & Linda Cook

In January and February 2022, two complaints were filed on behalf of specific named plaintiffs and others similarly situated based on the same facts that gave rise to the former River City Fraternal Order of Police (FOP) complaint. KPPA was aware that the River City FOP case impacted more individuals than the named plaintiffs and had been working on legislative and regulatory solutions. Legislation passed by the 2022 General Assembly allows individuals negatively impacted by the Medicare Secondary Payer Act to receive their health insurance through the Kentucky Employees Health Plan, and KPPA has promulgated a regulation to reimburse those individuals who had to pay for health insurance consistent with the Sixth Circuit Opinion. The two lawsuits from January and February are currently in the discovery phase concerning class certification.

Mountain Comprehensive Care Center & Adanta

In 2022, Mountain Comprehensive Care Center and Adanta filed separate suits challenging the actuarially accrued liability assigned these two entities via the process outlined in KRS 61.565, known as House Bill 8 from the 2021 Regular Session of the Kentucky General Assembly. The suits challenge not only the liability assigned to them, but they challenge the constitutionality of the statutory scheme. These suits are currently in the early stages of litigation.

Note P. Reciprocity Agreement

In accordance with Kentucky Revised Statutes 78.5536 and 61.702, CERS and KRS have reciprocity agreements with Teachers' Retirement System of Kentucky (TRS), and Judicial Form Retirement System (JFRS) for the payment of insurance benefits for those members who have creditable service in CERS, KERS, and/or SPRS, and TRS and/or JFRS systems.

Note Q. Reimbursement of Retired Re-Employed Health Insurance, Active Member Health Insurance Contributions, and Retired Re-Employed Employer Contributions

Reimbursement of Retired Re-Employed Health Insurance

If a retiree is re-employed in a regular full-time position and has chosen health insurance coverage through KPPA, the employer is required to reimburse KPPA for the health insurance premium paid on the retiree's behalf, not to exceed the cost of the single premium rate. Exceptions for retired members who re-employ as a police officer, sheriff or school resource officer exist which may exempt employers from paying employer contributions and health insurance reimbursements if certain requirements are met. For the fiscal year ended June 30, 2022, the reimbursement totaled $12.7 million.

Active Member Health Insurance Contributions

For new plan participants after August 31, 2008, an active member contribution of 1% in addition to the member pension contribution is required. This 1% is applicable to all Nonhazardous and Hazardous funds, and reported in the Insurance Fund. For the fiscal year ended June 30, 2022, members paid into the Insurance Fund $27.8 million.

Retired Re-Employed Employer Contributions

Employers are required to report employer contributions on retired members who are employed in a regular full-time position. These members are referred to as retired re-employed members. These are reported within the employer contributions on the financial statements. Please see the chart below for the breakdown.

Retired Re-employed Employer Contributions As of June 30 ($ in Thousands)	CERS	CERS	KERS	KERS	SPRS	KPPA Total
	Non-Hazardous	Hazardous	Non-Hazardous	Hazardous		
FY 2022	$17,074	$6,364	$4,603	$2,673	$-	$30,714

Note R. General Fund Appropriations

The 2022 Regular Session of the Kentucky General Assembly allocated an additional $485 million in general fund dollars to the KERS plans and the SPRS plan. This amount includes $215 million in FY 2021-2022 for the SPRS pension fund to be applied to the unfunded liability, which immediately lowered the SPRS contribution rate from the planned 146.06% to 99.43% for the 2022-2023 fiscal year. The rest of the $485 million will consist of $135 million in each fiscal year of the biennium (2022-23 and 2023-24) for the KERS Nonhazardous pension fund to be applied to the unfunded liability. Also, House Bill 604 allocated $105 million in fiscal year 2023 and fiscal year 2024 to be applied to the unfunded liability of the KERS Nonhazardous pension plan.

Note S. Prisma Daniel Boone Fund

The funds invested with Prisma Daniel Boone Fund continue to be held in a contingency reserve to cover potential obligations arising from the Mayberry Action (see Note O for details of Mayberry Case). The total reported in reserve as of June 30, 2022 is $96.7 million for the Pension Plans and $40.2 million for the Insurance Plan. This is based on the May 31, 2022 report because Absolute Return managers are reported on a one month lag.

Note T. Subsequent Events

Management has evaluated the period June 30, 2022 to December 8, 2022 (the date the combining financial statements were available to be issued) for items requiring recognition or disclosure in the combining financial statements.

Note U. Employer Cessation

Kentucky Revised Statutes 61.522, 61.523 and 78.535 allow for an employer of KERS or CERS to make an election to cease participating in the systems operated by KPPA. The statutes require that the employer ceasing from the plan must pay the employer's portion of the unfunded liability as calculated by the actuary. HB 1 of the 2019 Regular Session established a one-time, voluntary cessation window for KERS Quasi-Governmental Employers, including universities and community colleges, to cease participation for its nonhazardous employees by June 30, 2020. SB 249 of the 2020 Regular session extended the cessation date to June 30, 2021. HB 1 also added additional parameters apart from the normal cessation process including a soft freeze option (Tier 1 and Tier 2 employees continue to earn service credit after the cessation date), created an installment payment option and established different discount rates for use in calculating the cost. Northern Kentucky University (NKU) and Kentucky Housing Corporation (KHC) elected to cease participation effective June 30, 2021, under HB 1. HB 8 of the 2021 Regular Session further adjusted the discount rate to be used to calculate the cessation cost for universities and community colleges. NKU elected a soft-freeze, lump sum payment option, and its actuarially determined estimated portion of the cessation cost was $204.0 million. NKU paid $175.6 million for the pension portion and $28.4 million for the insurance portion of the cessation cost in the 2021 fiscal year. The final cost was calculated in early 2022, and NKU received refunds of $(13.4) million for the pension portion, and $(8.5) million for the insurance portion of the cessation cost. KHC did not make a payment in fiscal year 2021. KHC elected a hard freeze, lump sum payment option, and its actuarially determined estimated portion of the cessation cost was $87.4 million. KHC paid $76.5 million for the pension portion and $10.9 million for the insurance portion of the cessation cost. The deadline has passed for Quasi-Governmental Employers to cease participation under special provisions, therefore, any future cessations will be calculated under normal parameters unless new legislation is enacted.

REQUIRED SUPPLEMENTARY INFORMATION
INCLUDING GASB 67 AND 74

Schedule of Employers' NPL - CERS Nonhazardous Pension
As of June 30 ($ in Thousands)

Year	Total Pension Liability (TPL)	Plan Fiduciary Net Position	Net Pension Liability	Ratio of Plan Fiduciary Net Position to TPL	Covered Payroll [1]	Net Pension Liability as a Percentage of Covered Payroll
2022	$15,192,599	$7,963,586	$7,229,013	52.42%	$2,835,173	254.98%
2021	14,941,437	8,565,652	6,375,785	57.33%	2,446,612	260.60%
2020	14,697,244	7,027,327	7,669,917	47.81%	2,462,752	311.44%
2019	14,192,966	7,159,921	7,033,045	50.45%	2,424,796	290.05%
2018	13,109,268	7,018,963	6,090,305	53.54%	2,454,927	248.08%
2017	12,540,545	6,687,237	5,853,308	53.32%	2,376,290	246.32%
2016	11,065,013	6,141,395	4,923,618	55.50%	2,417,187	203.69%
2015	10,740,325	6,440,800	4,299,525	59.97%	2,296,716	187.20%
2014	$9,772,522	$6,528,146	$3,244,376	66.80%	$2,272,270	142.78%

[1] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later. These tables are intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Employers' NPL - CERS Hazardous Pension
As of June 30 ($ in Thousands)

Year	Total Pension Liability (TPL)	Plan Fiduciary Net Position	Net Pension Liability	Ratio of Plan Fiduciary Net Position to TPL	Covered Payroll[1]	Net Pension Liability as a Percentage of Covered Payroll
2022	$5,769,691	$2,718,234	$3,051,457	47.11%	$666,346	457.94%
2021	5,576,567	2,914,408	2,662,159	52.26%	572,484	465.02%
2020	5,394,732	2,379,704	3,015,028	44.11%	559,551	538.83%
2019	5,176,003	2,413,708	2,762,295	46.63%	553,541	499.02%
2018	4,766,794	2,348,337	2,418,457	49.26%	562,853	429.68%
2017	4,455,275	2,217,996	2,237,279	49.78%	526,559	424.89%
2016	3,726,115	2,010,174	1,715,941	53.95%	526,334	326.02%
2015	3,613,308	2,078,202	1,535,106	57.52%	483,641	317.41%
2014	$3,288,826	$2,087,002	$1,201,824	63.46%	$479,164	250.82%

[1] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later. These tables are intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Employers' NPL - KERS Nonhazardous Pension
As of June 30 ($ in Thousands)

Year	Total Pension Liability (TPL)	Plan Fiduciary Net Position	Net Pension Liability	Ratio of Plan Fiduciary Net Position to TPL	Covered Payroll (1)	Net Pension Liability as a Percentage of Covered Payroll
2022	$16,281,188	$3,013,845	$13,267,343	18.51%	$1,432,960	925.87%
2021	16,335,657	3,018,660	13,316,997	18.48%	1,441,337	923.93%
2020	16,472,733	2,308,080	14,164,653	14.01%	1,476,156	959.56%
2019	16,356,674	2,233,672	14,123,002	13.66%	1,485,854	950.50%
2018	15,608,221	2,004,446	13,603,775	12.84%	1,509,955	900.94%
2017	15,445,206	2,056,870	13,388,336	13.32%	1,602,396	835.52%
2016	13,379,781	1,980,292	11,399,489	14.80%	1,631,025	698.92%
2015	12,359,673	2,327,783	10,031,890	18.83%	1,544,234	649.64%
2014	$11,550,110	$2,578,291	$8,971,819	22.32%	$1,577,496	568.74%

(1) Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later. These tables are intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Employers' NPL - KERS Hazardous Pension
As of June 30 ($ in Thousands)

Year	Total Pension Liability (TPL)	Plan Fiduciary Net Position	Net Pension Liability	Ratio of Plan Fiduciary Net Position to TPL	Covered Payroll (1)	Net Pension Liability as a Percentage of Covered Payroll
2022	$1,318,494	$810,978	$507,516	61.51%	$188,648	269.03%
2021	1,311,767	866,140	445,627	66.03%	172,725	258.00%
2020	1,251,027	690,350	560,677	55.18%	171,840	326.28%
2019	1,227,226	680,932	546,294	55.49%	160,600	340.16%
2018	1,150,610	645,485	505,125	56.10%	152,936	330.29%
2017	1,098,630	601,529	497,101	54.75%	178,511	278.47%
2016	919,517	527,879	391,638	57.41%	158,828	246.58%
2015	895,433	552,468	342,965	61.70%	128,680	266.53%
2014	$816,850	$561,484	$255,366	68.74%	$129,076	197.84%

(1) Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later. These tables are intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Employer's NPL - SPRS Pension
As of June 30 ($ in Thousands)

Year	Total Pension Liability (TPL)	Plan Fiduciary Net Position	Net Pension Liability	Ratio of Plan Fiduciary Net Position to TPL	Covered Payroll (1)	Net Pension Liability as a Percentage of Covered Payroll
2022	$1,057,752	$551,699	$506,053	52.16%	$48,061	1,052.94%
2021	1,055,824	356,346	699,478	33.75%	47,873	1,461.11%
2020	1,049,237	293,949	755,288	28.02%	49,019	1,540.81%
2019	1,035,000	286,165	748,835	27.65%	49,515	1,512.34%
2018	969,622	267,572	702,050	27.60%	50,346	1,394.45%
2017	943,271	255,737	687,534	27.11%	54,065	1,271.68%
2016	795,421	218,012	577,409	27.41%	46,685	1,236.82%
2015	734,156	247,228	486,928	33.68%	45,765	1,063.97%
2014	$681,118	$260,974	$420,144	38.32%	$44,616	941.69%

(1) Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later. These tables are intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employers' TPL - CERS Nonhazardous
As of June 30 ($ in Thousands)

Total Pension Liability (TPL)	2022	2021	2020	2019	2018	2017	2016	2015	2014
Service Cost	$272,250	$280,165	$280,092	$254,643	$254,169	$193,082	$209,101	$207,400	$192,482
Interest	906,401	892,309	861,720	794,935	760,622	803,555	780,587	733,002	710,526
Benefit Changes	-	4,106	-	-	15,708	-	-	-	-
Difference between Expected and Actual Experience	(49,439)	(91,776)	173,345	87,377	279,401	(208,015)	-	49,966	-
Changes of Assumptions	-	-	-	727,351	-	1,388,800	-	606,293	-
Benefit Payments	(878,050)	(840,611)	(810,879)	(780,608)	(741,177)	(701,891)	(665,000)	(628,858)	(597,136)
Net Change in TPL	**251,162**	**244,193**	**504,278**	**1,083,698**	**568,723**	**1,475,532**	**324,687**	**967,803**	**305,872**
TPL – Beginning	**14,941,437**	**14,697,244**	**14,192,966**	**13,109,268**	**12,540,545**	**11,065,013**	**10,740,325**	**9,772,522**	**9,466,650**
TPL – Ending (a)	**$15,192,599**	**$14,941,437**	**$14,697,244**	**$14,192,966**	**$13,109,268**	**$12,540,545**	**$11,065,013**	**$10,740,325**	**$9,772,522**
Plan Fiduciary Net Position [1]									
Contributions – Employer	$606,807	$472,228	$475,416	$393,453	$358,017	$333,554	$284,105	$298,565	$324,231
Contributions – Member [2]	186,648	165,698	168,994	159,064	160,370	150,715	141,674	140,311	128,568
Net Investment Income [2]	(494,801)	1,762,739	56,178	390,664	573,829	825,900	(40,800)	110,568	895,530
Retirement Benefit	(858,261)	(826,749)	(795,960)	(766,221)	(726,569)	(687,461)	(651,246)	(615,335)	(582,850)
Administrative Expense	(22,670)	(21,729)	(22,304)	(21,659)	(19,592)	(19,609)	(19,385)	(18,212)	(18,615)
Refunds of Contributions	(19,789)	(13,862)	(14,918)	(14,387)	(14,608)	(14,430)	(13,753)	(13,523)	(14,286)
Other	-	-	-	44 [5]	361 [5]	(42,827) [4]	-	10,280	-
Net Change in Plan Fiduciary Net Position	**(602,066)**	**1,538,325**	**(132,594)**	**140,958**	**331,808**	**545,843**	**(299,405)**	**(87,346)**	**732,578**
Plan Fiduciary Net Position - Beginning	**8,565,652**	**7,027,327**	**7,159,921**	**7,018,963**	**6,687,237**	**6,141,395**	**6,440,800**	**6,528,146**	**5,795,568**
Prior Year Adjustment	**-**	**-**	**-**	**-**	**(82)**	**-**	**-**	**-**	**-**
Plan Fiduciary Net Position – Ending (b)	**7,963,586**	**8,565,652**	**7,027,327**	**7,159,921**	**7,018,963**	**6,687,237**	**6,141,395**	**6,440,800**	**6,528,146**
Net Pension Liability – Ending (a) – (b)	**$7,229,013**	**$6,375,785**	**$7,669,917**	**$7,033,045**	**$6,090,305**	**$5,853,308**	**$4,923,618**	**$4,299,525**	**$3,244,376**
Plan Fiduciary Net Position as a Percentage	52.42%	57.33%	47.81%	50.45%	53.54%	53.32%	55.50%	59.97%	66.80%
Covered Payroll [3]	$2,835,173	$2,446,612	$2,462,752	$2,424,796	$2,454,927	$2,376,290	$2,417,187	$2,296,716	$2,272,270
Net Pension Liability as a Percentage of Covered Payroll	**254.98%**	**260.60%**	**311.44%**	**290.05%**	**248.08%**	**246.32%**	**203.69%**	**187.20%**	**142.78%**

[1] Does not include 401(h) assets for fiscal years 2017 and later. Assets totaled $98,760,000 as of June 30, 2022.

[2] Does not include 401(h) contributions or associated investment income for fiscal years 2017 and later. For fiscal year 2022, 401(h) contributions equaled $(60,000); and associated investment return equaled $(6,196,000).

[3] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

[4] Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later.

[5] Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employers' TPL - CERS Hazardous
As of June 30 ($ in Thousands)

Total Pension Liability (TPL)	2022	2021	2020	2019	2018	2017	2016	2015	2014
Service Cost	$109,683	$109,350	$109,887	$77,426	$81,103	$58,343	$66,249	$71,934	$66,761
Interest	338,799	327,963	314,762	289,741	270,694	270,860	262,886	247,008	238,665
Benefit Changes	-	333	-	-	2,172	-	-	-	-
Difference between Expected and Actual Experience	56,197	38,850	73,696	27,364	205,882	92,588	-	41,935	-
Changes of Assumptions	-	-	-	276,541	-	536,667	-	166,849	-
Benefit Payments	(311,555)	(294,661)	(279,616)	(261,863)	(248,332)	(229,299)	(216,327)	(203,244)	(192,299)
Net Change in TPL	**193,124**	**181,835**	**218,729**	**409,209**	**311,519**	**729,159**	**112,807**	**324,482**	**113,127**
TPL – Beginning	**5,576,567**	**5,394,732**	**5,176,003**	**4,766,794**	**4,455,275**	**3,726,115**	**3,613,308**	**3,288,826**	**3,175,699**
TPL – Ending (a)	**$5,769,691**	**$5,576,567**	**$5,394,732**	**$5,176,003**	**$4,766,794**	**$4,455,275**	**$3,726,115**	**$3,613,308**	**$3,288,826**
Plan Fiduciary Net Position [1]									
Contributions – Employer	$222,028	$172,205	$168,443	$138,053	$127,660	$115,947	$105,713	$108,071	$115,240
Contributions – Member [2]	69,565	62,367	63,236	58,661	61,089	60,101	52,972	47,692	43,722
Net Investment Income [2]	(174,217)	596,641	15,914	132,232	191,324	270,473	(9,020)	37,104	288,490
Retirement Benefit	(305,789)	(289,999)	(275,802)	(259,009)	(244,118)	(226,984)	(213,448)	(200,134)	(189,635)
Administrative Expense	(1,995)	(1,848)	(1,981)	(1,726)	(1,504)	(1,421)	(1,366)	(1,288)	(1,721)
Refunds of Contributions	(5,766)	(4,662)	(3,814)	(2,854)	(4,214)	(2,315)	(2,879)	(3,111)	(2,664)
Other	-	-	-	14 [5]	111 [5]	(7,979) [4]	-	2,865	-
Net Change in Plan Fiduciary Net Position	**(196,174)**	**534,704**	**(34,004)**	**65,371**	**130,348**	**207,822**	**(68,028)**	**(8,801)**	**253,432**
Plan Fiduciary Net Position – Beginning	**2,914,408**	**2,379,704**	**2,413,708**	**2,348,337**	**2,217,996**	**2,010,174**	**2,078,202**	**2,087,002**	**1,833,570**
Prior Year Adjustment	**-**	**-**	**-**	**-**	**(7)**	**-**	**-**	**-**	**-**
Plan Fiduciary Net Position – Ending (b)	**2,718,234**	**2,914,408**	**2,379,704**	**2,413,708**	**2,348,337**	**2,217,996**	**2,010,174**	**2,078,202**	**2,087,002**
Net Pension Liability – Ending (a) – (b)	**$3,051,457**	**$2,662,159**	**$3,015,028**	**$2,762,295**	**$2,418,457**	**$2,237,279**	**$1,715,941**	**$1,535,106**	**$1,201,824**
Plan Fiduciary Net Position as a Percentage	47.11%	52.26%	44.11%	46.63%	49.26%	49.78%	53.95%	57.52%	63.46%
Covered Payroll [3]	$666,346	$572,484	$559,551	$553,541	$562,853	$526,559	$526,334	$483,641	$479,164
Net Pension Liability as a Percentage of Covered Payroll	**457.94%**	**465.02%**	**538.83%**	**499.02%**	**429.68%**	**424.89%**	**326.02%**	**317.41%**	**250.82%**

[1] Does not include 401(h) assets for fiscal years 2017 and later. Assets totaled $18,694,000 as of June 30, 2022

[2] Does not include 401(h) contributions or associated investment income for fiscal years 2017 and later. For fiscal year 2022, 401(h) contributions equaled $(104,000): and associated investment return equaled $(1,215,000).

[3] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

[4] Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later.

[5] Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employers' TPL - KERS Nonhazardous
As of June 30 ($ in Thousands)

Total Pension Liability (TPL)	2022	2021	2020	2019	2018	2017	2016	2015	2014
Service Cost	$165,616	$171,472	$179,702	$184,988	$195,681	$143,858	$139,631	$143,847	$133,361
Interest	830,440	838,084	832,178	793,163	785,123	870,725	891,897	859,509	853,653
Benefit Changes	-	2,091	-	-	9,624	-	-	-	-
Difference between Expected and Actual Experience	(15,034)	(130,268)	115,515	70,529	153,565	(134,379)	-	30,958	-
Changes of Assumptions	-	-	-	700,464	-	2,145,530	923,999	694,592	-
Benefit Payments	(1,035,491)	(1,018,455)	(1,011,336)	(1,000,691)	(980,978)	(960,309)	(935,419)	(919,343)	(903,564)
Net Change in TPL	**(54,469)**	**(137,076)**	**116,059**	**748,453**	**163,015**	**2,065,425**	**1,020,108**	**809,563**	**83,450**
TPL – Beginning	**16,335,657**	**16,472,733**	**16,356,674**	**15,608,221**	**15,445,206**	**13,379,781**	**12,359,673**	**11,550,110**	**11,466,660**
TPL – Ending (a)	**$16,281,188**	**$16,335,657**	**$16,472,733**	**$16,356,674**	**$15,608,221**	**$15,445,206**	**$13,379,781**	**$12,359,673**	**$11,550,110**
Plan Fiduciary Net Position [1]									
Contributions – Employer Other [6]	$1,116,869	$1,134,232	$948,592	$1,035,462	$689,143	$757,121	$513,084	$521,691	$296,836
Contributions – Member [2]	89,607	90,202	96,594	93,759	104,972	100,543	106,494	104,606	97,487
Net Investment Income [2]	(162,461)	516,223	52,499	112,371	144,881	220,985	(20,663)	44,570	337,923
Retirement Benefit	(1,023,375)	(1,009,502)	(999,813)	(988,349)	(967,375)	(948,490)	(923,288)	(905,791)	(889,937)
Administrative Expense	(13,339)	(11,622)	(11,941)	(11,712)	(10,692)	(10,957)	(10,989)	(10,474)	(11,145)
Refunds of Contributions	(12,116)	(8,953)	(11,523)	(12,342)	(13,603)	(11,819)	(12,130)	(13,552)	(13,627)
Other	-	-	-	37 [5]	301 [5]	(30,805) [4]	-	8,442	-
Net Change in Fiduciary Net Position	**(4,815)**	**710,580**	**74,408**	**229,226**	**(52,373)**	**76,578**	**(347,491)**	**(250,508)**	**(182,463)**
Plan Fiduciary Net Position – Beginning	**3,018,660**	**2,308,080**	**2,233,672**	**2,004,446**	**2,056,870**	**1,980,292**	**2,327,783**	**2,578,291**	**2,760,754**
Prior Year Adjustment	**-**	**-**	**-**	**-**	**(51)**	**-**	**-**	**-**	**-**
Plan Fiduciary Net Position – Ending (b)	**3,013,845**	**3,018,660**	**2,308,080**	**2,233,672**	**2,004,446**	**2,056,870**	**1,980,292**	**2,327,783**	**2,578,291**
Net Pension Liability – Ending (a) – (b)	**$13,267,343**	**$13,316,997**	**$14,164,653**	**$14,123,002**	**$13,603,775**	**$13,388,336**	**$11,399,489**	**$10,031,890**	**$8,971,819**
Plan Fiduciary Net Position as a Percentage	18.51%	18.48%	14.01%	13.66%	12.84%	13.32%	14.80%	18.83%	22.32%
Covered Payroll [3]	$1,432,960	$1,441,337	$1,476,156	$1,485,854	$1,509,955	$1,602,396	$1,631,025	$1,544,234	$1,577,496
Net Pension Liability as a Percentage of Covered Payroll	**925.87%**	**923.93%**	**959.56%**	**950.50%**	**900.94%**	**835.52%**	**698.92%**	**649.64%**	**568.74%**

[1] Does not include 401(h) assets for fiscal years 2017 and later. Assets totaled $62,898,000 as of June 30, 2022

[2] Does not include 401(h) contributions or associated investment income for fiscal year 2017 and later. For fiscal year 2022 401(h) contributions equaled $(13,000); and associated investment return equaled $(3,444,000)

[3] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

[4] Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later.

[5] Northern Trust Settlement.

[6] Includes $63.1 million and $175.6 million employer cessation contributions for fiscal year 2022 amd 2021, respectively

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employers' TPL - KERS Hazardous
As of June 30 ($ in Thousands)

Total Pension Liability (TPL)	2022	2021	2020	2019	2018	2017	2016	2015	2014
Service Cost	$26,885	$28,450	$25,568	$27,117	$28,641	$21,081	$20,751	$18,729	$16,880
Interest	79,422	75,743	74,357	69,657	66,536	66,589	64,851	61,005	59,594
Benefit Changes	-	26	-	-	705	-	-	-	-
Difference between Expected and Actual Experience	(17,557)	34,789	(1,095)	1,395	24,215	26,902	-	6,067	-
Changes of Assumptions	-	-	-	50,658	-	127,878	-	52,165	-
Benefit Payments	(82,023)	(78,268)	(75,029)	(72,211)	(68,117)	(63,338)	(61,518)	(59,383)	(57,151)
Net Change in TPL	**6,727**	**60,740**	**23,801**	**76,616**	**51,980**	**179,112**	**24,084**	**78,583**	**19,323**
TPL – Beginning	**1,311,767**	**1,251,027**	**1,227,226**	**1,150,610**	**1,098,630**	**919,517**	**895,433**	**816,850**	**797,527**
TPL – Ending (a)	**$1,318,494**	**$1,311,767**	**$1,251,027**	**$1,227,226**	**$1,150,610**	**$1,098,630**	**$919,517**	**$895,433**	**$816,850**
Plan Fiduciary Net Position [1]									
Contributions – Employer	$59,055	$62,200	$59,115	$55,259	$43,661	$52,974	$23,759	$28,536	$11,670
Contributions - Member [2]	20,588	19,961	19,769	17,118	17,891	17,524	15,739	13,207	12,546
Net Investment Income [2]	(51,317)	173,152	6,739	36,380	51,467	70,994	(1,653)	8,701	80,724
Retirement Benefit	(77,047)	(73,888)	(71,861)	(69,527)	(65,616)	(61,231)	(59,306)	(56,773)	(54,320)
Administrative Expense	(1,465)	(1,255)	(1,176)	(1,103)	(975)	(919)	(916)	(844)	(897)
Refunds of Contributions	(4,976)	(4,380)	(3,168)	(2,684)	(2,501)	(2,106)	(2,211)	(2,610)	(2,830)
Other	-	-	-	4 [5]	33 [5]	(3,586) [4]	-	767	-
Net Change in Plan Fiduciary Net Position	**(55,162)**	**175,790**	**9,418**	**35,447**	**43,960**	**73,650**	**(24,588)**	**(9,016)**	**46,893**
Plan Fiduciary Net Position – Beginning	**866,140**	**690,350**	**680,932**	**645,485**	**601,529**	**527,879**	**552,468**	**561,484**	**514,591**
Prior Year Adjustment	**-**	**-**	**-**	**-**	**(4)**	**-**	**-**	**-**	**-**
Fiduciary Net Position – Ending (b)	**810,978**	**866,140**	**690,350**	**680,932**	**645,485**	**601,529**	**527,879**	**552,468**	**561,484**
Net Pension Liability – Ending (a) – (b)	**$507,516**	**$445,627**	**$560,677**	**$546,294**	**$505,125**	**$497,101**	**$391,638**	**$342,965**	**$255,366**
Plan Fiduciary Net Position as a Percentage	61.51%	66.03%	55.18%	55.49%	56.10%	54.75%	57.41%	61.70%	68.74%
Covered Payroll [3]	$188,648	$172,725	$171,840	$160,600	$152,936	$178,511	$158,828	$128,680	$129,076
Net Pension Liability as a Percentage of Covered Payroll	**269.03%**	**258.00%**	**326.28%**	**340.16%**	**330.29%**	**278.47%**	**246.58%**	**266.53%**	**197.84%**

[1] Does not include 401(h) assets for fiscal years 2017 and later. Assets totaled $8,260,000 as of June 30, 2022.

[2] Does not include 401(h) contributions or associated investment income for fiscal years 2017 and later. For fiscal years 2022, 401(h) contributions equaled $(5,000); and associated investment return equaled $(523,000).

[3] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

[4] Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later.

[5] Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employer's TPL - SPRS
As of June 30 ($ in Thousands)

Total Pension Liability (TPL)	2022	2021	2020	2019	2018	2017	2016	2015	2014
Service Cost	$12,158	$12,530	$13,192	$11,726	$11,890	$8,297	$8,402	$7,695	$7,142
Interest	53,740	53,417	52,697	49,301	47,978	51,769	52,951	50,661	50,391
Benefit Changes	3,130	35	-	-	184	-	-	-	-
Difference between Expected and Actual Experience	(2,700)	4,127	10,859	20,952	25,126	8,143	-	9,331	-
Changes of Assumptions	-	-	-	44,510	-	136,602	56,191	40,201	-
Benefit Payments	(64,400)	(63,522)	(62,511)	(61,111)	(58,827)	(56,960)	(56,279)	(54,850)	(53,239)
Net Change in TPL	**1,928**	**6,587**	**14,237**	**65,378**	**26,351**	**147,850**	**61,265**	**53,038**	**4,294**
TPL - Beginning	**1,055,824**	**1,049,237**	**1,035,000**	**969,622**	**943,271**	**795,421**	**734,156**	**681,118**	**676,824**
TPL – Ending (a)	**$1,057,752**	**$1,055,824**	**$1,049,237**	**$1,035,000**	**$969,622**	**$943,271**	**$795,421**	**$734,156**	**$681,118**
Plan Fiduciary Net Position [1]									
Contributions – Employer	$277,341	$59,650	$59,453	$60,048	$46,877	$63,239	$25,822	$31,990	$20,279
Contributions - Member [2]	4,773	4,752	4,767	5,062	5,522	5,348	5,263	5,244	5,075
Net Investment Income [2]	(22,088)	61,729	6,341	14,816	18,437	26,795	(3,843)	3,426	40,374
Retirement Benefit	(64,120)	(63,249)	(62,423)	(60,949)	(58,805)	(56,934)	(56,268)	(54,765)	(53,026)
Administrative Expense	(273)	(212)	(266)	(225)	(194)	(181)	(178)	(201)	(215)
Refunds of Contributions	(280)	(273)	(88)	(162)	(22)	(26)	(11)	(85)	(213)
Other	-	-	-	3 [5]	21 [5]	(517) [4]	-	645	-
Net Change in Plan Fiduciary Net Position	**195,353**	**62,397**	**7,784**	**18,593**	**11,836**	**37,724**	**(29,215)**	**(13,746)**	**12,274**
Plan Fiduciary Net Position – Beginning	**356,346**	**293,949**	**286,165**	**267,572**	**255,737**	**218,012**	**247,228**	**260,974**	**248,700**
Prior Year Adjustment	**-**	**-**	**-**	**-**	**(1)**	**-**	**-**	**-**	**-**
Plan Fiduciary Net Position – Ending (b)	**551,699**	**356,346**	**293,949**	**286,165**	**267,572**	**255,737**	**218,012**	**247,228**	**260,974**
Net Pension Liability – Ending (a) – (b)	**$506,053**	**$699,478**	**$755,288**	**$748,835**	**$702,050**	**$687,534**	**$577,409**	**$486,928**	**$420,144**
Plan Fiduciary Net Position as a Percentage	52.16%	33.75%	28.02%	27.65%	27.60%	27.11%	27.41%	33.68%	38.32%
Covered Payroll [3]	$48,061	$47,873	$49,019	$49,515	$50,346	$54,065	$46,685	$45,765	$44,616
Net Pension Liability as a Percentage of Covered Payroll	**1,052.94%**	**1,461.11%**	**1,540.81%**	**1,512.34%**	**1,394.45%**	**1,271.68%**	**1,236.82%**	**1,063.97%**	**941.69%**

[1] Does not include 401(h) assets for fiscal years 2017 and later. Assets totaled $1,227,000 as of June 30, 2022.

[2] Does not include 401(h) contributions or associated investment income for fiscal years 2017 and later. For fiscal year 2022, 401(h) contributions equaled ($26,000); and associated investment return equaled ($61,000).

[3] Based on derived compensation using the provided employer contribution information for fiscal years 2017 and later.

[4] Adjustment due to 401(h) plan asset balance being considered an OPEB asset under GASB 74 for fiscal years 2017 and later.

[5] Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

The actuarially determined contributions effective for fiscal year ending 2022 that are documented in the schedules on the following pages, were calculated as of June 30, 2020. Based on the June 30, 2020, actuarial valuation report, the actuarial methods and assumptions used to calculate these contribution rates are below:

Notes to Schedule of Employers' Contribution Item	CERS	CERS Hazardous	KERS	KERS Hazardous	SPRS
Determined by the Actuarial Valuation as of:	June 30, 2020	June 30, 2020	June 30, 2020	June 30, 2020	June 30, 2020
Actuarial Cost Method:	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal
Asset Valuation Method:	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized
Amortization Method:	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay
Amortization Period:	30-year closed period at June 30, 2019, Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases	30-year closed period at June 30, 2019, Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases	30-year closed period at June 30, 2019, Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases	30-year closed period at June 30, 2019, Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases	30-year closed period at June 30, 2019, Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases
Payroll Growth	2.00%	2.00%	0.00%	0.00%	0.00%
Investment Return:	6.25%	6.25%	5.25%	6.25%	5.25%
Inflation:	2.30%	2.30%	2.30%	2.30%	2.30%
Salary Increase:	3.30% to 10.30%, varies by service	3.55% to 19.05%, varies by service	3.30% to 15.30%, varies by service	3.55% to 20.05%, varies by service	3.55% to 16.05%, varies by service
Mortality:	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019
Phase-In provision	Board certified rate is phased into the actuarially determined rate in accordance with HB 362 enacted in 2018.	Board certified rate is phased into the actuarially determined rate in accordance with HB 362 enacted in 2018.	N/A	N/A	N/A

Schedule of Employers' Contributions Pension - CERS Nonhazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending	Actuarially Determined Contribution [1]	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll [2]	Actual Contributions as a Percentage of Covered Payroll
2022	$636,071	$606,807	$29,264	$2,835,173	21.40%
2021	582,538	472,228	110,310	2,446,612	19.30%
2020	554,612	475,416	79,196	2,462,752	19.30%
2019	529,575	393,453	136,122	2,424,796	16.23%
2018	355,473	358,017	(2,544)	2,454,927	14.58%
2017	331,492	333,554	(2,062)	2,376,290	14.04%
2016	282,767	284,106	(1,339)	2,417,187	11.75%
2015	297,715	298,566	(851)	2,296,716	13.00%
2014	324,231	324,231	-	2,272,270	14.27%
2013	$294,914	$294,914	$-	$2,236,277	13.19%

[1] Actuarially determined contribution for fiscal year ending 2022 is based on the contribution rate calculated with the June 30, 2020, actuarial valuation.

[2] Based on derived compensation using the provided employer contribution information for fiscal years 2017, and later.

Schedule of Employers' Contributions Pension - CERS Hazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending	Actuarially Determined Contribution [1]	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll [2]	Actual Contributions as a Percentage of Covered Payroll
2022	$269,542	$222,028	$47,514	$666,346	33.32%
2021	240,558	172,205	68,353	572,484	30.08%
2020	206,922	168,443	38,479	559,551	30.10%
2019	197,559	138,053	59,506	553,541	24.94%
2018	124,953	127,660	(2,707)	562,853	22.68%
2017	114,316	115,947	(1,631)	526,559	22.02%
2016	104,952	105,713	(761)	526,334	20.08%
2015	107,514	108,071	(557)	483,641	22.35%
2014	115,240	115,240	-	479,164	24.05%
2013	$120,140	$120,140	$-	$461,673	26.02%

[1] Actuarially determined contribution for fiscal year ending 2022 is based on the contribution rate calculated with the June 30, 2020, actuarial valuation.

[2] Based on derived compensation using the provided employer contribution information for fiscal years 2017, and later.

Schedule of Employers' Contributions Pension - KERS Nonhazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending	Actuarially Determined Contribution [1]	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll [2]	Actual Contributions as a Percentage of Covered Payroll
2022	$1,048,861	$1,116,869	$(68,008)	$1,432,960	77.94%
2021	1,056,211	1,134,232	(78,021)	1,441,337	78.69%
2020	1,048,513	948,592	99,921	1,476,156	64.26%
2019	1,055,402	1,035,462	19,940	1,485,854	69.69%
2018	633,879	689,143	(55,264)	1,509,955	45.64%
2017	623,813	757,121	(133,308)	1,602,396	47.25%
2016	512,670	513,084	(414)	1,631,025	31.46%
2015	520,948	521,691	(743)	1,544,234	33.78%
2014	520,765	296,836	223,929	1,577,496	18.82%
2013	$485,396	$280,874	$204,522	$1,644,409	17.08%

[1] Actuarially determined contribution for fiscal year ending 2022 is based on the contribution rate calculated with the June 30, 2020, actuarial valuation, as amended by HB8 (2021 legislative session) which adjusted how the employer contribution would be allocated amongst participating employers.

[2] Based on derived compensation using the provided employer contribution information for fiscal year ended 2017, and later.

Schedule of Employers' Contributions Pension - KERS Hazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending	Actuarially Determined Contribution [1]	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll [2]	Actual Contributions as a Percentage of Covered Payroll
2022	$59,052	$59,055	$(3)	$188,648	31.30%
2021	62,181	62,200	(19)	172,725	36.01%
2020	59,096	59,115	(19)	171,840	34.40%
2019	55,230	55,259	(29)	160,600	34.41%
2018	31,321	43,661	(12,340)	152,936	28.55%
2017	37,630	52,974	(15,344)	178,511	29.68%
2016	23,690	23,759	(69)	158,828	14.96%
2015	28,374	28,536	(162)	128,680	22.18%
2014	13,570	11,670	1,900	129,076	9.04%
2013	$21,502	$27,334	$(5,832)	$131,015	20.86%

[1] Actuarially determined contribution for fiscal year ending 2022 is based on the contribution rate calculated with the June 30, 2020, actuarial valuation.

[2] Based on derived compensation using the provided employer contribution information for fiscal year ended 2017, and later.

Schedule of Employer's Contributions Pension - SPRS
As of June 30 ($ in Thousands)

Fiscal Year Ending	Actuarially Determined Contribution [(1)]	Total Employer Contribution	Contribution Deficiency (Excess)	Covered Payroll [(2)]	Actual Contributions as a Percentage of Covered Payroll
2022	$62,341	$277,341	$(215,000)	$48,061	577.06%
2021	59,263	59,650	(387)	47,873	124.60%
2020	58,358	59,453	(1,095)	49,019	121.29%
2019	58,948	60,048	(1,100)	49,515	121.27%
2018	36,033	46,877	(10,844)	50,346	93.11%
2017	35,937	63,240	(27,303)	54,065	116.97%
2016	25,723	25,822	(99)	46,685	55.31%
2015	31,444	31,990	(546)	45,765	69.90%
2014	25,808	20,279	5,529	44,616	45.45%
2013	$23,117	$18,501	$4,616	$45,256	40.88%

[(1)] Actuarially determined contribution for fiscal year ending 2022 is based on the contribution rate calculated with the June 30, 2020, actuarial valuation.

[(2)] Based on derived compensation using the provided employer contribution information for fiscal years ended 2017, and later.

Schedule of the Employers' Net OPEB Liability - CERS Nonhazardous
As of June 30 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [1]	Net OPEB Liability as a Percentage of Covered Payroll
2022	$5,053,498	$3,079,984	$1,973,514	60.95%	$2,843,218	69.41%
2021	5,161,251	3,246,801	1,914,450	62.91%	2,619,695	73.08%
2020	4,996,309	2,581,613	2,414,696	51.67%	2,620,585	92.14%
2019	4,251,466	2,569,511	1,681,955	60.44%	2,577,378	65.26%
2018	4,189,606	2,414,126	1,775,480	57.62%	2,570,156	69.08%
2017	$4,222,878	$2,212,536	$2,010,342	52.39%	$2,480,130	81.06%

[1] Based on derived compensation using the provided employer contribution information. This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of the Employers' Net OPEB Liability - CERS Hazardous
As of June 30 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [1]	Net OPEB Liability as a Percentage of Covered Payroll
2022	$2,374,457	$1,522,671	$851,786	64.13%	$668,667	127.39%
2021	2,436,383	1,627,824	808,559	66.81%	613,985	131.69%
2020	2,245,222	1,321,117	924,105	58.84%	596,001	155.05%
2019	2,080,574	1,340,714	739,860	64.44%	583,632	126.77%
2018	1,993,941	1,280,982	712,959	64.24%	588,526	121.14%
2017	$2,015,673	$1,189,001	$826,672	58.99%	$542,710	152.32%

[1] Based on derived compensation using the provided employer contribution information. This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of the Employers' Net OPEB Liability - KERS Nonhazardous
As of June 30 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [(1)]	Net OPEB Liability as a Percentage of Covered Payroll
2022	$3,576,530	$1,364,419	$2,212,111	38.15%	$1,437,132	153.93%
2021	3,698,804	1,419,477	2,279,327	38.38%	1,452,345	156.94%
2020	3,599,557	1,060,649	2,538,908	29.47%	1,482,431	171.27%
2019	3,217,985	995,089	2,222,896	30.92%	1,515,953	146.63%
2018	3,262,117	891,205	2,370,912	27.32%	1,573,898	150.64%
2017	$3,353,332	$817,370	$2,535,962	24.37%	$1,593,097	159.18%

[(1)] Based on derived compensation using the provided employer contribution information. This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of the Employers' Net OPEB Liability - KERS Hazardous
As of June 30 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [(1)]	Net OPEB Liability as a Percentage of Covered Payroll
2022	$595,789	$588,162	$7,627	98.72%	$188,648	4.04%
2021	622,152	633,677	(11,525)	101.85%	172,725	(6.67)%
2020	564,524	521,755	42,769	92.42%	182,209	23.47%
2019	507,204	534,053	(26,849)	105.29%	151,448	(17.73)%
2018	485,904	519,072	(33,168)	106.83%	190,317	(17.43)%
2017	$494,869	$488,838	$6,031	98.78%	$171,087	3.53%

[(1)] Based on derived compensation using the provided employer contribution information. For 2021, derived compensation based on pension contribution information, as there were no required employer contributions for the insurance fund for FYE 2021. This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of the Employer's Net OPEB Liability - SPRS
As of June 30 ($ in Thousands)

Year	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability/(Asset)	Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	Covered Payroll [(1)]	Net OPEB Liability as a Percentage of Covered Payroll
2022	$351,453	$231,242	$120,211	65.80%	$48,600	247.35%
2021	364,899	247,318	117,581	67.78%	47,155	249.35%
2020	339,942	201,340	138,602	59.23%	48,231	287.37%
2019	312,553	201,206	111,347	64.38%	48,780	228.26%
2018	301,012	190,847	110,165	63.40%	50,064	220.05%
2017	$313,234	$178,838	$134,396	57.09%	$48,873	274.99%

[(1)] Based on derived compensation using the provided employer contribution information. This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employers' Net OPEB Liability - CERS Nonhazardous
As of June 30 ($ in Thousands)

	2022	2021	2020	2019	2018	2017
Total OPEB Liability						
Service Cost	$138,225	$132,407	$131,289	$119,011	$122,244	$85,468
Interest on Total OPEB liability	263,390	262,128	236,126	240,352	242,048	240,854
Benefit Changes	74,108	3,359	-	-	4,306	-
Difference between Expected and Actual Experience	(68,111)	(340,831)	505,843	(404,301)	(240,568)	(6,641)
Assumption Changes	(323,247)	282,975	60,225	268,842	(4,876)	520,286
Benefit Payments [1] [2]	(192,118)	(175,096)	(188,640)	(162,044)	(156,426)	(140,120)
Net Change in Total OPEB Liability	**(107,753)**	**164,942**	**744,843**	**61,860**	**(33,272)**	**699,847**
Total OPEB Liability - Beginning	**5,161,251**	**4,996,309**	**4,251,466**	**4,189,606**	**4,222,878**	**3,523,031**
Total OPEB Liability - Ending (a)	**$5,053,498**	**$5,161,251**	**$4,996,309**	**$4,251,466**	**$4,189,606**	**$4,222,878**
Plan Fiduciary Net Position						
Contributions – Employer [2]	$187,204	$186,509	$179,521	$168,905	$145,809	$133,326
Contributions – Member	15,925	13,613	12,964	11,801	10,825	9,158
Benefit Payments [1] [2]	(192,118)	(175,096)	(188,640)	(162,044)	(156,426)	(140,120)
OPEB Plan Net Investment Income	(176,895)	641,084	9,160	137,591	202,068	264,782
OPEB Plan Administrative Expense	(933)	(922)	(903)	(877)	(761)	(789)
Other [4]	-	-	-	9	75	-
Net Change in Plan Fiduciary Net Position	**(166,817)**	**665,188**	**12,102**	**155,385**	**201,590**	**266,357**
Plan Fiduciary Net Position – Beginning	**3,246,801**	**2,581,613**	**2,569,511**	**2,414,126**	**2,212,536**	**1,946,179**
Plan Fiduciary Net Position – Ending (b)	**3,079,984**	**3,246,801**	**2,581,613**	**2,569,511**	**2,414,126**	**2,212,536**
Net OPEB Liability – Ending (a) – (b)	**$1,973,514**	**$1,914,450**	**$2,414,696**	**$1,681,955**	**$1,775,480**	**$2,010,342**
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	60.95%	62.91%	51.67%	60.44%	57.62%	52.39%
Covered Payroll [3]	$2,843,218	$2,619,695	$2,620,585	$2,577,378	$2,570,156	$2,480,130
Net OPEB Liability as a Percentage of Covered Payroll	**69.41%**	**73.08%**	**92.14%**	**65.26%**	**69.08%**	**81.06%**

[1] Benefit payments include expected benefits due to the implicit subsidy for members under age 65. They are also offset by insurance premiums received from retirees, Medicare Drug Reimbursements, and Humana Gain Share Payments (in applicable years).

[2] Employer contributions include expected benefits due to the implicit subsidy for members under age 65, equal to $63,837,433 for fiscal year 2022.

[3] Based on derived compensation using the provided employer contribution information.

[4] Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employers' Net OPEB Liability - CERS Hazardous
As of June 30 ($ in Thousands)

	2022	2021	2020	2019	2018	2017
Total OPEB Liability						
Service Cost	$52,265	$48,413	$47,443	$32,623	$33,948	$20,493
Interest on Total OPEB liability	120,640	116,710	115,998	116,768	118,009	113,166
Benefit Changes	44,909	1,146	-	-	484	-
Difference between Expected and Actual Experience	(7,814)	(47,937)	38,156	(103,317)	(100,348)	(2,470)
Assumption Changes	(176,969)	159,106	46,925	116,618	(2,500)	391,061
Benefit Payments [(1) (2)]	(94,957)	(86,277)	(83,874)	(76,059)	(71,325)	(63,656)
Net Change in Total OPEB Liability	**(61,926)**	**191,161**	**164,648**	**86,633**	**(21,732)**	**458,594**
Total OPEB Liability - Beginning	**2,436,383**	**2,245,222**	**2,080,574**	**1,993,941**	**2,015,673**	**1,557,079**
Total OPEB Liability - Ending (a)	**$2,374,457**	**$2,436,383**	**$2,245,222**	**$2,080,574**	**$1,993,941**	**$2,015,673**
Plan Fiduciary Net Position						
Contributions – Employer [(2)]	$66,320	$63,509	$59,662	$60,445	$51,615	$44,325
Contributions – Member	3,654	3,098	2,762	2,458	2,173	1,708
Benefit Payments [(1) (2)]	(94,957)	(86,277)	(83,874)	(76,059)	(71,325)	(63,656)
OPEB Plan Net Investment Income	(79,668)	326,905	2,315	73,317	109,854	143,892
OPEB Plan Administrative Expense	(502)	(528)	(462)	(434)	(376)	(381)
Other [(4)]	-	-	-	5	40	-
Net Change in Plan Fiduciary Net Position	**(105,153)**	**306,707**	**(19,597)**	**59,732**	**91,981**	**125,888**
Plan Fiduciary Net Position – Beginning	**1,627,824**	**1,321,117**	**1,340,714**	**1,280,982**	**1,189,001**	**1,063,113**
Plan Fiduciary Net Position – Ending (b)	**1,522,671**	**1,627,824**	**1,321,117**	**1,340,714**	**1,280,982**	**1,189,001**
Net OPEB Liability – Ending (a) – (b)	**$851,786**	**$808,559**	**$924,105**	**$739,860**	**$712,959**	**$826,672**
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	64.13%	66.81%	58.84%	64.44%	64.24%	58.99%
Covered Payroll [(3)]	$668,667	$613,985	$596,001	$583,632	$588,526	$542,710
Net OPEB Liability as a Percentage of Covered Payroll	**127.39%**	**131.69%**	**155.05%**	**126.77%**	**121.14%**	**152.32%**

(1) Benefit payments include expected benefits due to the implicit subsidy for members under age 65. They are also offset by insurance premiums received from retirees, Medicare Drug Reimbursements, and Humana Gain Share Payments (in applicable years).

(2) Employer contributions include expected benefits due to the implicit subsidy for members under age 65, equal to $6,415,278 for fiscal year 2022.

(3) Based on derived compensation using the provided employer contribution information.

(4) Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employers' Net OPEB Liability - KERS Nonhazardous
As of June 30 ($ in Thousands)

	2022	2021	2020	2019	2018	2017
Total OPEB Liability						
Service Cost	$62,548	$58,831	$59,600	$61,345	$66,360	$46,992
Interest	190,531	191,624	179,811	186,820	191,178	192,911
Benefit Changes	21,884	1,382	-	-	1,865	-
Difference between Expected and Actual Experience	(37,249)	(231,631)	288,235	(302,189)	(191,147)	(3,921)
Changes of Assumptions	(206,907)	220,184	13,767	158,004	(11,235)	414,835
Benefit Payments [1] [2]	(153,081)	(141,143)	(159,841)	(148,112)	(148,236)	(139,601)
Net Change in Total OPEB Liability	**(122,274)**	**99,247**	**381,572**	**(44,132)**	**(91,215)**	**511,216**
Total OPEB Liability - Beginning	**3,698,804**	**3,599,557**	**3,217,985**	**3,262,117**	**3,353,332**	**2,842,116**
Total OPEB Liability - Ending (a)	**$3,576,530**	**$3,698,804**	**$3,599,557**	**$3,217,985**	**$3,262,117**	**$3,353,332**
Plan Fiduciary Net Position						
Contributions – Employer [2][5]	181,294	$223,661	$208,300	$201,155	$152,985	$162,636
Contributions – Member	6,547	6,318	6,128	5,963	5,786	5,156
Benefit Payments [1] [2]	(153,081)	(141,143)	(159,841)	(148,112)	(148,236)	(139,601)
OPEB Plan Net Investment Income	(88,998)	270,811	11,820	45,749	64,028	94,239
OPEB Plan Administrative Expense	(820)	(819)	(847)	(875)	(760)	(861)
Other [4]	-	-	-	4	32	-
Net Change in Plan Fiduciary Net Position	**(55,058)**	**358,828**	**65,560**	**103,884**	**73,835**	**121,569**
Plan Fiduciary Net Position – Beginning	**1,419,477**	**1,060,649**	**995,089**	**891,205**	**817,370**	**695,801**
Plan Fiduciary Net Position – Ending (b)	**1,364,419**	**1,419,477**	**1,060,649**	**995,089**	**891,205**	**817,370**
Net OPEB Liability – Ending (a) – (b)	**$2,212,111**	**$2,279,327**	**$2,538,908**	**$2,222,896**	**$2,370,912**	**$2,535,962**
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	38.15%	38.38%	29.47%	30.92%	27.32%	24.37%
Covered Payroll [3]	$1,437,132	$1,452,345	$1,482,431	$1,515,953	$1,573,898	$1,593,097
Net OPEB Liability as a Percentage of Covered Payroll	**153.93%**	**156.94%**	**171.27%**	**146.63%**	**150.64%**	**159.18%**

[1] Benefit payments are offset by insurance premiums received from retirees, Medicare Drug Reimbursements, and Humana Gain Share Payments (in applicable years).

[2] Employer contributions and benefit payments include expected benefits due to the implicit subsidy for members under age 65, equal to $40,600,669 for fiscal year 2022.

[3] Based on derived compensation using the provided employer contribution information.

[4] Northern Trust Settlement.

[5] Includes $2.4 million and $28.4 million employer cessation contribution for fiscal year 2022, and 2021, respectively.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employers' Net OPEB Liability - KERS Hazardous
As of June 30 ($ in Thousands)

	2022	2021	2020	2019	2018	2017
Total OPEB Liability						
Service Cost	$14,474	$13,633	$11,548	$12,337	$12,893	$8,002
Interest on Total OPEB liability	30,599	29,254	28,101	27,990	28,500	27,591
Benefit Changes	10,289	48	-	-	167	-
Difference between Expected and Actual Experience	(12,515)	(6,402)	27,668	(30,947)	(31,240)	(1,029)
Assumption Changes	(46,406)	42,022	11,428	31,687	(581)	89,401
Benefit Payments [1] [2]	(22,804)	(20,927)	(21,425)	(19,767)	(18,704)	(16,618)
Net Change in Total OPEB Liability	**(26,363)**	**57,628**	**57,320**	**21,300**	**(8,965)**	**107,347**
Total OPEB Liability - Beginning	**622,152**	**564,524**	**507,204**	**485,904**	**494,869**	**387,522**
Total OPEB Liability - Ending (a)	**$595,789**	**$622,152**	**$564,524**	**$507,204**	**$485,904**	**$494,869**
Plan Fiduciary Net Position						
Contributions – Employer [2]	$4,116	$3,556	$7,441	$5,556	$5,165	$4,579
Contributions – Member	1,227	1,167	1,105	934	909	811
Benefit Payments [1] [2]	(22,804)	(20,927)	(21,425)	(19,767)	(18,704)	(16,618)
OPEB Plan Net Investment Income	(27,929)	128,244	704	28,373	42,950	59,614
OPEB Plan Administrative Expense	(125)	(118)	(123)	(117)	(104)	(105)
Other [4]	-	-	-	2	18	-
Net Change in Plan Fiduciary Net Position	**(45,515)**	**111,922**	**(12,298)**	**14,981**	**30,234**	**48,281**
Plan Fiduciary Net Position – Beginning	**633,677**	**521,755**	**534,053**	**519,072**	**488,838**	**440,557**
Plan Fiduciary Net Position – Ending (b)	**588,162**	**633,677**	**521,755**	**534,053**	**519,072**	**488,838**
Net OPEB Liability – Ending (a) – (b)	**$7,627**	**$(11,525)**	**$42,769**	**$(26,849)**	**$(33,168)**	**$6,031**
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	98.72%	101.85%	92.42%	105.29%	106.83%	98.78%
Covered Payroll [3]	$188,648	$172,725	$182,209	$151,448	$190,317	$171,087
Net OPEB Liability as a Percentage of Covered Employee Payroll	**4.04%**	**(6.67)%**	**23.47%**	**(17.73)%**	**(17.43)%**	**3.53%**

[1] Benefit payments are offset by insurance premiums received from retirees, Medicare Drug Reimbursements, and Humana Gain Share Payments (in applicable years).

[2] Employer contributions and benefit payments include expected benefits due to the implicit subsidy for members under age 65, equal to $2,835,815 for fiscal year 2022.

[3] Based on derived compensation using the provided employer contribution information. For 2021 and 2022, derived compensation based on pension contribution information, as there were no required employer contributions for the insurance fund for FYE 2021 and for FYE 2022.

[4] Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Schedule of Changes in Employer's Net OPEB Liability - SPRS As of June 30 ($ in Thousands)						
	2022	**2021**	**2020**	**2019**	**2018**	**2017**
Total OBEP Liability						
Service Cost	$5,605	$5,218	$5,389	$4,816	$6,087	$4,147
Interest on Total OPEB liability	18,592	17,984	17,600	17,724	18,432	17,993
Benefit Changes	4,975	101	-	-	34	-
Difference between Expected and Actual Experience	(5,952)	(6,318)	13,810	(14,295)	(23,320)	(573)
Assumption Changes	(21,937)	21,784	4,578	16,483	(358)	57,312
Benefit Payments [1] [2]	(14,729)	(13,812)	(13,988)	(13,187)	(13,097)	(12,123)
Net Change in Total OPEB Liability	**(13,446)**	**24,957**	**27,389**	**11,541**	**(12,222)**	**66,756**
Total OPEB Liability - Beginning	**364,899**	**339,942**	**312,553**	**301,012**	**313,234**	**246,478**
Total OPEB Liability - Ending (a)	**$351,453**	**$364,899**	**$339,942**	**$312,553**	**$301,012**	**$313,234**
Plan Fiduciary Net Position						
Contributions – Employer [2]	$9,343	$9,381	$12,873	$12,623	$8,535	$7,862
Contributions – Member	230	209	196	176	155	131
Benefit Payments [1] [2]	(14,729)	(13,812)	(13,988)	(13,187)	(13,097)	(12,123)
OPEB Plan Net Investment Income	(10,847)	50,289	1,124	10,815	16,470	21,627
OPEB Plan Administrative Expense	(73)	(89)	(71)	(69)	(62)	(66)
Other [4]	-	-	-	1	8	-
Net Change in Plan Fiduciary Net Position	**(16,076)**	**45,978**	**134**	**10,359**	**12,009**	**17,431**
Plan Fiduciary Net Position – Beginning	**247,318**	**201,340**	**201,206**	**190,847**	**178,838**	**161,407**
Plan Fiduciary Net Position – Ending (b)	**231,242**	**247,318**	**201,340**	**201,206**	**190,847**	**178,838**
Net OPEB Liability – Ending (a) – (b)	**$120,211**	**$117,581**	**$138,602**	**$111,347**	**$110,165**	**$134,396**
Plan Fiduciary Net Position as a Percentage of the Total OPEB Liability	65.80%	67.78%	59.23%	64.38%	63.40%	57.09%
Covered Payroll [3]	$48,600	$47,155	$48,231	$48,780	$50,064	$48,873
Net OPEB Liability as a Percentage of Covered Payroll	**247.35%**	**249.35%**	**287.37%**	**228.26%**	**220.05%**	**274.99%**

[1] Benefit payments are offset by insurance premiums received from retirees, Medicare Drug Reimbursements, and Humana Gain Share Payments (in applicable years).

[2] Employer contributions and benefit payments include expected benefits due to the implicit subsidy for members under age 65, equal to $561,417 for fiscal year 2022.

[3] Based on derived compensation using the provided employer contribution information.

[4] Northern Trust Settlement.

This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

The actuarially determined contribution effective for fiscal year ending 2022 that is documented in the schedule below was calculated as of June 30, 2020. Separate contribution rates are determined for each fund based on the liabilities associated with the current active members, former inactive members, and members receiving benefits from each respective fund, as well as the separately maintained asset balances for each fund.

Based on the June 30, 2020, actuarial valuation report, the actuarial methods and assumptions used to calculate the required contributions follow.

Notes to Schedule of Employers' OPEB Contributions

Item	CERS Nonhazardous	CERS Hazardous	KERS Nonhazardous	KERS Hazardous	SPRS
Determined by the Actuarial Valuation as of:	June 30, 2020	June 30, 2020	June 30, 2020	June 30, 2020	June 30, 2020
Actuarial Cost Method:	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal	Entry Age Normal
Asset Valuation Method:	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized.	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized.	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized.	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized.	20% of the difference between the market value of assets and the expected actuarial value of assets is recognized.
Amortization Method:	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay	Level Percent of Pay
Amortization Period:	30-year closed period at June 30, 2019 Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases.	30-year closed period at June 30, 2019 Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases.	30-year closed period at June 30, 2019 Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases.	30-year closed period at June 30, 2019 Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases.	30-year closed period at June 30, 2019 Gains/losses incurring after 2019 will be amortized over separate closed 20-year amortization bases.
Payroll Growth Rate:	2.00%	2.00%	0.00%	0.00%	0.00%
Investment Return:	6.25%	6.25%	6.25%	6.25%	6.25%
Inflation:	2.30%	2.30%	2.30%	2.30%	2.30%
Salary Increase:	3.30% to 10.30%, varies by service.	3.55% to 19.05%, varies by service.	3.30% to 15.30%, varies by service.	3.55% to 20.05%, varies by service.	3.55% to 16.30%, varies by service.
Mortality:	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.	System-specific mortality table based on mortality experience from 2013-2018, projected with the ultimate rates from MP-2014 mortality improvement scale using a base year of 2019.

Notes to Schedule of Employers' OPEB Contributions					
Item	CERS Nonhazardous	CERS Hazardous	KERS Nonhazardous	KERS Hazardous	SPRS
Healthcare Trend Rates:					
Pre-65	Initial trend starting at 6.40% at January 1, 2022 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 14 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement.	Initial trend starting at 6.40% at January 1, 2022 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 14 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement.	Initial trend starting at 6.40% at January 1, 2022 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 14 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement.	Initial trend starting at 6.40% at January 1, 2022 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 14 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement.	Initial trend starting at 6.40% at January 1, 2022 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 14 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement.
Post-65	Initial trend starting at 6.30% at January 1, 2023 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 13 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement. Additionally, Humana provided "Not to Exceed" 2022 Medicare premiums, which were incorporated and resulted in an assumed 2.90% increase in Medicare premiums at January 1, 2022.	Initial trend starting at 6.30% at January 1, 2023 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 13 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement. Additionally, Humana provided "Not to Exceed" 2022 Medicare premiums, which were incorporated and resulted in an assumed 2.90% increase in Medicare premiums at January 1, 2022.	Initial trend starting at 6.30% at January 1, 2023 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 13 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement. Additionally, Humana provided "Not to Exceed" 2022 Medicare premiums, which were incorporated and resulted in an assumed 2.90% increase in Medicare premiums at January 1, 2022.	Initial trend starting at 6.30% at January 1, 2023 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 13 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement. Additionally, Humana provided "Not to Exceed" 2022 Medicare premiums, which were incorporated and resulted in an assumed 2.90% increase in Medicare premiums at January 1, 2022	Initial trend starting at 6.30% at January 1, 2023 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 13 years. The 2021 premiums were known at the time of the valuation and were incorporated into the liability measurement. Additionally, Humana provided "Not to Exceed" 2022 Medicare premiums, which were incorporated and resulted in an assumed 2.90% increase in Medicare premiums at January 1, 2022.

Schedule of Employers' OPEB Contributions - CERS NonHazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending [1]	Actuarially Determined Contribution [2]	Total Employer Contribution [3]	Contribution Deficiency (Excess)	Covered Payroll [4]	Actual Contributions as a Percentage of Covered Payroll
2022	$118,551	$123,366	$(4,815)	$2,843,218	4.34%
2021	142,249	129,903	12,346	2,619,695	4.96%
2020	124,740	129,267	(4,527)	2,620,585	4.93%
2019	160,055	139,655	20,400	2,577,378	5.42%
2018	120,797	124,619	(3,822)	2,570,156	4.85%
2017	122,270	120,712	1,558	2,480,130	4.87%
2016	110,987	111,836	(849)	2,352,762	4.75%
2015	119,511	119,444	67	2,296,716	5.20%
2014	130,652	123,278	7,374	2,272,270	5.43%
2013	$195,561	$159,993	$35,568	$2,236,277	7.15%

[1] Data for years prior to 2018 is based on contribution data provided in the 2017 ACFR, based on calculations provided by the prior actuary.

[2] Actuarially determined contribution for fiscal year endig 2022 is based on the contribution rate calculated with the June 30, 2020, actuarial valuation.

[3] Employer contributions do not include the expected implicit subsidy.

[4] Based on derived compensation using the provided employer contribution information.

Schedule of Employers' OPEB Contributions - CERS Hazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending [1]	Actuarially Determined Contribution [2]	Total Employer Contribution [3]	Contribution Deficiency (Excess)	Covered Payroll [4]	Actual Contributions as a Percentage of Covered Payroll
2022	$58,375	$59,905	$(1,530)	$668,667	8.96%
2021	60,539	59,799	740	613,985	9.74%
2020	56,739	57,897	(1,158)	596,001	9.71%
2019	71,028	62,272	8,756	583,632	10.67%
2018	55,027	56,002	(975)	588,526	9.52%
2017	53,131	51,537	1,594	542,710	9.50%
2016	64,253	67,619	(3,366)	492,851	13.72%
2015	69,103	71,778	(2,675)	483,641	14.84%
2014	74,360	74,792	(432)	479,164	15.61%
2013	$102,011	$85,319	$16,692	$461,673	18.48%

[1] Data for years prior to 2018 is based on contribution data provided in the 2017 ACFR, based on calculations provided by the prior actuary.

[2] Actuarially determined contribution for fiscal year ended 2022 is based on the contribution rate calculated with the June 30, 2020, actuarial valuation.

[3] Employer contributions do not include the expected implicit subsidy.

[4] Based on derived compensation using the provided employer contribution information.

Schedule of Employers' OPEB Contributions - KERS NonHazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending [1]	Actuarially Determined Contribution [2]	Total Employer Contribution [3]	Contribution Deficiency (Excess)	Covered Payroll [4]	Actual Contributions as a Percentage of Covered Payroll
2022	$135,809	$140,694	$(4,885)	$1,437,132	9.79%
2021	161,936	186,676	(24,740)	1,452,345	12.85%
2020	183,821	175,007	8,814	1,482,431	11.81%
2019	187,978	178,964	9,014	1,515,953	11.81%
2018	132,365	136,419	(4,054)	1,573,898	8.67%
2017	133,024	152,356	(19,332)	1,593,097	9.56%
2016	121,899	135,816	(13,917)	1,529,249	8.88%
2015	130,455	135,940	(5,485)	1,544,234	8.80%
2014	208,881	166,610	42,271	1,577,496	10.56%
2013	$286,143	$165,331	$120,812	$1,644,409	10.05%

[1] Data for years prior to 2018 is based on contribution data provided in the 2017 ACFR, based on calculations provided by the prior actuary.

[2] Actuarially determined contribution for fiscal year ended 2022 is based on the contribution rate calculated with the June 30, 2020, actuarial valuation, as amended by HB8 (2021 legislative session) which adjusted how the employer contribution would be allocated amongst participating employers.

[3] Employer contributions do not include the expected implicit subsidy.

[4] Based on derived compensation using the provided employer contribution information.

Schedule of Employers' OPEB Contributions - KERS Hazardous
As of June 30 ($ in Thousands)

Fiscal Year Ending [1]	Actuarially Determined Contribution [2]	Total Employer Contribution [3]	Contribution Deficiency (Excess)	Covered Payroll [4]	Actual Contributions as a Percentage of Covered Payroll
2022	$-	$1,281	$(1,281)	$188,648	0.68%
2021	-	1,300	(1,300)	172,725	0.75%
2020	4,482	5,776	(1,294)	182,209	3.17%
2019	3,726	4,970	(1,244)	151,448	3.28%
2018	2,550	5,288	(2,738)	190,317	2.78%
2017	4,688	5,620	(932)	171,087	3.28%
2016	9,186	16,766	(7,580)	147,563	11.36%
2015	13,152	14,882	(1,730)	128,680	11.57%
2014	15,627	23,874	(8,247)	129,076	18.50%
2013	$26,253	$25,682	$571	$132,015	19.45%

[1] Data for years prior to 2018 is based on contribution data provided in the 2017 ACFR, based on calculations provided by the prior actuary.

[2] Actuarially determined contribution for fiscal year ended 2022 is based on the contribution rate calculated with the June 30, 2020, actuarial valuation.

[3] Employer contributions do not include the expected implicit subsidy.

[4] Based on derived compensation using the provided employer contribution information. For 2021 and 2022, derived compensation based on pension contribution infomration as there were no required employer contributions for the insurance fund for FYE 2021 and FYE 2022.

Schedule of Employer's OPEB Contributions - SPRS As of June 30 ($ in Thousands)					
Fiscal Year Ending [1]	**Actuarially Determined Contribution [2]**	**Total Employer Contribution [3]**	**Contribution Deficiency (Excess)**	**Covered Payroll [4]**	**Actual Contributions as a Percentage of Covered Payroll**
2022	$8,782	$8,782	$-	$48,600	18.07%
2021	9,285	9,285	-	47,155	19.69%
2020	13,133	13,133	-	48,231	27.23%
2019	13,283	13,288	(5)	48,780	27.24%
2018	9,062	9,397	(335)	50,064	18.77%
2017	9,222	9,222	-	48,873	18.87%
2016	8,553	10,237	(1,684)	45,551	22.47%
2015	9,890	10,382	(492)	45,765	22.69%
2014	20,879	14,493	6,386	44,616	32.48%
2013	$27,234	$16,829	$10,405	$45,256	37.19%

[1] Data for years prior to 2018 is based on contribution data provided in the 2017 ACFR, based on calculations provided by the prior actuary.

[2] Actuarially determined contribution for fiscal year ended 2022 is based on the contribution rate calculated with the June 30, 2020, actuarial valuation.

[3] Employer contributions do not include the expected implicit subsidy.

[4] Based on derived compensation using the provided employer contribution information

Money-Weighted Rates of Return

In accordance with GASB, KPPA provides this additional disclosure regarding the money-weighted rate of return for the Pension Funds and Insurance Fund. The money-weighted rate of return is a method of calculating period-by-period returns on Pension Funds' and Insurance Fund's investments that adjusts for the changing amounts actually invested. For purposes of this statement, money-weighted rate of return is calculated as the internal rate of return on Pension Funds' and Insurance Fund's investments, net of Pension Funds' and Insurance Fund's investment expense, adjusted for the changing amounts actually invested.

See below for the money-weighted rates of return for multiple periods including fiscal year June 30, 2022, as calculated by the custodian bank, BNY Mellon:

Money - Weighted Rates of Return As of June 30					
	CERS	CERS	KERS	KERS	SPRS
	Nonhazardous	Hazardous	Nonhazardous	Hazardous	
Pension					
2022	(5.83)%	(6.02)%	(5.29)%	(5.94)%	(5.80)%
2021	25.72%	25.58%	22.53%	25.21%	21.70%
2020	0.84%	0.71%	2.35%	0.96%	2.21%
2019	5.72%	5.76%	5.77%	5.68%	5.67%
2018	8.82%	8.82%	7.63%	8.69%	7.68%
2017	13.80%	13.72%	12.08%	13.45%	12.50%
2016	(0.62)%	(0.46)%	(0.97)%	(0.33)%	(1.76)%
2015	1.90%	1.95%	2.30%	1.84%	1.80%
2014	15.56%	15.50%	15.50%	15.65%	15.66%
Insurance					
	CERS	CERS	KERS	KERS	SPRS
	Nonhazardous	Hazardous	Nonhazardous	Hazardous	
2022	(5.49)%	(4.95)%	(6.22)%	(4.43)%	(4.43)%
2021	24.81%	24.99%	25.16%	24.99%	25.36%
2020	0.36%	0.27%	0.98%	0.21%	0.64%
2019	5.73%	5.78%	5.04%	5.56%	5.73%
2018	9.22%	9.35%	7.95%	8.93%	9.39%
2017	13.67%	13.69%	13.77%	13.75%	13.69%

Note: This table is intended to show information for ten years; additional year's information will be displayed as it becomes available.

Additional Supporting Schedules

Schedule of Administrative Expenses
As of June 30 ($ in Thousands)

	2022	2021
Personnel		
Salaries and Per Diem	$15,803	$14,426
Pension, Insurance Related Benefits	16,165	14,875
Unemployment Compensation	-	-
Tuition Assistance	10	10
Total Personnel	**31,978**	**29,311**
Contractual		
Actuarial Services	474	449
Audit Services	142	72
Healthcare	6	-
Legal Counsel	1,126	754
Medical Review Services	1,593	316
Miscellaneous	124	88
Total Contractual	**3,465**	**1,679**
Communication		
Printing	77	107
Telephone	123	106
Postage	377	552
Travel	32	15
Total Communication	**609**	**780**
Internal Audit		
Travel/Conferences	2	1
Dues/Subscriptions	1	2
Total Internal Audit	**3**	**3**
Investments-Pension Funds		
Travel/Conferences	7	-
Dues/Subscriptions	8	9
Legal	-	10
Total Investments	**15**	**19**
Rentals		
Office Space	1,013	1,061
Equipment	90	67
Total Rentals	**1,103**	**1,128**
Information Technology		
Software	2,972	2,430
Total Information Technology	**2,972**	**2,430**
Miscellaneous		
Utilities	142	153
Supplies	85	47
Insurance	5	4
Dues & Subscriptions	57	44
Maintenance	-	1
Other	34	1
COVID Expenses	13	153
Total Miscellaneous	**336**	**403**
Depreciation/Amortization/Accruals	(739)	1,113
Bayhills legal fees paid out of admin	-	(77)
Total Pension Fund Administrative Expense	**39,742**	**36,789**
Healthcare Fees	2,454	2,354
Total Insurance Fund Administrative Expense	**2,454**	**2,354**
Total Administrative Expenses	**$42,196**	**$39,143**

Pension Fund Schedule of Direct Investment Expenses
As of June 30 ($ in Thousands)

	CERS		KERS		SPRS
	Nonhazardous	Hazardous	Nonhazardous	Hazardous	
Security Lending Fees					
Borrower (Income) Rebates	$(298)	$(99)	$(72)	$(29)	$(7)
Lending Agent Fees	178	61	59	18	7
Total Security Lending	**(120)**	**(38)**	**(13)**	**(11)**	**0**
Contractual Services					
Investment Management	44,097	13,583	9,908	3,783	1,298
Security Custody	884	300	326	90	42
Investment Consultant	473	161	172	48	22
Performance Fees	58,431	18,972	12,277	5,250	1,532
Total Contractual Services	**$103,885**	**$33,016**	**$22,683**	**$9,171**	**$2,894**

Insurance Fund Schedule of Direct Investment Expenses
As of June 30 ($ in Thousands)

	CERS		KERS		SPRS
	Nonhazardous	Hazardous	Nonhazardous	Hazardous	
Security Lending Fees					
Borrower (Income) Rebates	$(86)	(46)	(39)	(20)	(8)
Lending Agent Fees	60	30	26	11	5
Total Security Lending	**(26)**	**(16)**	**(13)**	**(9)**	**(3)**
Contractual Services					
Investment Management	15,043	7,965	5,725	3,143	1,231
Security Custody	446	225	192	87	34
Investment Consultant	175	89	75	34	14
Performance Fees	22,044	12,355	8,270	4,849	1,976
Total Contractual Services	**$37,708**	**$20,634**	**$14,262**	**$8,113**	**$3,255**

Schedule of Professional Consultant Fees
As of June 30 ($ in Thousands)

	2022	2021
Actuarial Services	$474	$448
Medical Review Services	1,593	316
Audit Services	142	72
Legal Counsel	1,126	687
Healthcare	6	-
Miscellaneous	124	88
Total	**$3,465**	**$1,611**

REPORT OF INDEPENDENT AUDITORS ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

To the Members
Kentucky Public Pensions Authority
Frankfort, Kentucky

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of Kentucky Public Pensions Authority, as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the Kentucky Public Pensions Authority's basic financial statements, and have issued our report thereon dated –DATE--.

Report on Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Kentucky Public Pensions Authority's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Kentucky Public Pensions Authority's internal control. Accordingly, we do not express an opinion on the effectiveness of the Kentucky Public Pensions Authority's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that have not been identified.

REPORT OF INDEPENDENT AUDITORS ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS* (Continued)

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Kentucky Public Pensions Authority's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Kentucky Public Pensions Authority's internal control or on compliance. This report is an integral part of an audit performed in accordance *with Government Auditing Standards* in considering the Kentucky Public Pensions Authority's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Blue & Co., LLC

Lexington, Kentucky
--DATE--

--DATE--

Joint CERS-KRS Audit Committee
Kentucky Public Pensions Authority
Frankfort, Kentucky

We have audited the financial statements of Kentucky Public Pension Authority (KPPA) for the year ended June 30, 2022. Professional standards require that we provide you with information about our responsibilities under generally accepted auditing standards and Government Auditing Standards, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to you dated August 18, 2022. Professional standards also require that we communicate to you the following information related to our audit.

SIGNIFICANT AUDIT MATTERS

QUALITATIVE ASPECTS OF ACCOUNTING PRACTICES

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by KPPA are described in Note A to the financial statements. No new accounting policies were adopted and the application of existing policies was not changed during the year. We noted no transactions entered into by KPPA during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the financial statements were:

- Management's estimates related to the fair value of its investments based on the net asset value (NAV) of units of the investee. The NAV, as provided by the investment manager, is used as a practical expedient. The NAV is based on the fair value of the underlying investments held by the investee less its liabilities. Due to the nature of the investments held by the investee, changes in market conditions and the economic environment may significantly impact the net asset value of the investee and, consequently, the fair value of KPPA's interests in the investee. In performing our audit, we have considered the internal controls of KPPA in selecting, monitoring, and valuing these investments. We have also confirmed the year end balances of alternative investments and have reviewed selected investments' underlying annual audited financial statements. We evaluated the key factors and assumptions used to develop NAV and believe that they are reasonable in relation to the financial statements taken as a whole.

- Management's disclosure of the net pension liability in Note M to the financial statements. The information presented therein was obtained from KPPA's actuarial valuations and the methods and assumptions used in determining the amounts are disclosed in the footnote. We evaluated the key factors and assumptions used to develop the estimate in determining that it is reasonable in relation to the financial statements taken as a whole.
- Management's disclosure of the net OPEB liability of KPPA in Note M the financial statements. The information presented therein was obtained from the KPPA's actuarial valuations and the methods and assumptions used in determining the amounts are disclosed in the footnote. We evaluated the key factors and assumptions used to develop the estimate in determining that it is reasonable in relation to the financial statements taken as a whole.

The financial statement disclosures are neutral, consistent, and clear.

DIFFICULTIES ENCOUNTERED IN PERFORMING THE AUDIT

We encountered no significant difficulties in dealing with management in performing and completing our audit.

CORRECTED AND UNCORRECTED MISSTATEMENTS

Professional standards require us to accumulate all misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. The below entry summarizes uncorrected misstatements of the financial statements. Management has determined that its effect is immaterial, both individually and in the aggregate, to the financial statements taken as a whole. The uncorrected misstatement or the matter underlying them could potentially cause future period financial statements to be materially misstated, even though, in our judgment, such uncorrected misstatements are immaterial to the financial statements under audit.

Entry to adjust value of investments to June 30, 2022, net asset value:

DR. Net Depreciation in FV of Investments	$352,389,000	
CR. Investments		$36,517,000
CR. Fiduciary Net Position Restricted for Benefits		$315,872,000

DISAGREEMENTS WITH MANAGEMENT

For purposes of this letter, a disagreement with management is a disagreement on a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Joint CERS-KRS Audit Committee
Kentucky Public Pensions Authority
--DATE--
Page 3 of 4

MANAGEMENT REPRESENTATIONS

We have requested certain representations from management that are included in the management representation letter dated as of the date of this letter.

MANAGEMENT CONSULTATIONS WITH OTHER INDEPENDENT ACCOUNTANTS

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to KPPA's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations.

OTHER AUDIT FINDINGS OR ISSUES

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as KPPA's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

OTHER MATTERS

We applied certain limited procedures to the required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

We were engaged to report on the additional supporting schedules of administrative expenses, direct investment expenses, and professional consultant fees which accompany the financial statements but are not RSI. With respect to this supplementary information, we made certain inquiries of management and evaluated the form, content, and methods of preparing the information to determine that the information complies with accounting principles generally accepted in the United States of America, the method of preparing it has not changed from the prior period, and the information is appropriate and complete in relation to our audit of the financial statements. We compared and reconciled the supplementary information to the underlying accounting records used to prepare the financial statements or to the financial statements themselves.

Joint CERS-KRS Audit Committee
Kentucky Public Pensions Authority
--DATE--
Page 4 of 4

This information is intended solely for the use of management, the board of directors, and others within KPPA and is not intended to be, and should not be, used by anyone other than these specified parties.

We appreciate this opportunity to be of service and extend our thanks to everyone at KPPA for their cooperation and assistance. We would be pleased to discuss any of the above matters with you at your convenience.

Very truly yours,

Blue & Co., LLC

Combining Statement of Fiduciary Net Position - Pension Funds

As of September 30, 2022, with Comparative Totals as of September 30, 2021 ($ in Thousands) (Unaudited)

	CERS		KERS		SPRS	KPPA TOTAL		Percentage	
ASSETS	Nonhazardous	Hazardous	Nonhazardous	Hazardous		FY 2023	FY 2022	of Change	Note
CASH AND SHORT-TERM INVESTMENTS									
Cash Deposits	$217	$54	$267	$38	$12	$588	$4,162	(85.87)%	1
Short-term Investments	177,877	93,866	534,728	75,389	138,065	1,019,924	1,017,510	0.24%	
Total Cash and Short-term Investments	**178,094**	**93,920**	**534,994**	**75,427**	**138,077**	**1,020,512**	**1,021,672**	**-0.11%**	
RECEIVABLES									
Accounts Receivable	113,366	39,515	86,484	3,527	4,377	247,269	177,063	39.65%	2
Accounts Receivable - Investments	61,982	21,242	29,145	6,737	5,484	124,591	139,382	(10.61)%	3
Total Receivables	**175,348**	**60,757**	**115,630**	**10,265**	**9,861**	**371,860**	**316,444**	**17.51%**	
INVESTMENTS, AT FAIR VALUE									
Core Fixed Income	899,557	304,701	622,907	103,559	109,999	2,040,723	2,269,217	(10.07)%	4
Public Equities	3,458,793	1,181,970	865,407	313,517	154,710	5,974,396	6,783,669	(11.93)%	5
Private Equities	710,787	237,043	178,664	65,363	17,885	1,209,742	1,305,498	(7.33)%	
Specialty Credit	1,696,569	575,328	572,987	170,035	88,507	3,103,426	2,724,226	13.92%	6
Derivatives	(3,743)	(1,274)	(2,680)	(431)	(468)	(8,595)	4,005	(314.60)%	7
Real Return	243,789	80,601	62,389	22,329	9,256	418,364	936,739	(55.34)%	8
Opportunistic	-	-	-	-	-	-	433,478	(100.00)%	9
Real Estate	503,827	160,388	169,452	46,707	20,237	900,611	677,700	32.89%	10
Total Investments, at Fair Value	**7,509,578**	**2,538,757**	**2,469,126**	**721,079**	**400,126**	**13,638,666**	**15,134,531**	**(9.88)%**	
Securities Lending Collateral Invested	300,800	102,760	115,662	30,933	20,775	570,930	460,391	24.01%	11
CAPITAL/INTANGIBLE ASSETS									
Capital Assets	1,701	153	929	91	11	2,885	2,885	0.00%	
Intangible Assets	9,961	827	5,920	494	100	17,301	17,301	0.00%	
Accumulated Depreciation	(1,701)	(153)	(929)	(91)	(11)	(2,885)	(2,885)	0.00%	
Accumulated Amortization	(9,839)	(824)	(5,812)	(490)	(100)	(17,065)	(16,712)	2.11%	
Total Capital Assets	**121**	**3**	**107**	**4**	**-**	**235**	**588**	**(60.00)%**	
Total Assets	**8,163,941**	**2,796,196**	**3,235,519**	**837,707**	**568,839**	**15,602,203**	**16,933,626**	**(7.86)%**	
LIABILITIES									
Accounts Payable	4,422	671	2,090	316	31	7,530	8,152	(7.63)%	
Investment Accounts Payable	73,135	24,448	35,856	7,653	6,799	147,891	334,424	(55.78)%	12
Securities Lending Collateral	300,800	102,760	115,662	30,933	20,775	570,930	460,391	24.01%	13
Total Liabilities	**378,358**	**127,879**	**153,607**	**38,902**	**27,605**	**726,350**	**802,966**	**(9.54)%**	
Total Fiduciary Net Position Restricted for Pension Benefits	**$7,785,584**	**$2,668,318**	**$3,081,912**	**$798,805**	**$541,234**	**$14,875,853**	**$16,130,660**	**(7.78)%**	

NOTE - Variance Explanation ***Differences due to rounding***

1) Variance is a result of continuous fluctuation of deposits and transactions that flow through the cash account.

2) The increase in Accounts Receivable is due to the ERCON Pension/Insurance split correction in CERS and CERH.

3) The variance in Investment Accounts Receivable is due to pending trades.

4) The decrease in Core Fixed Income is due to a rebalance of the portfolio as a result of the revised IPS and a decline in market value of the assets.

5) The decline in Public Equities market values is the result of unrealized losses for the period.

6) The increase in Specialty Credit is due to the merging of the Specialty Credit asset class and the Opportunistic asset class.

7) Variance is a result of hedging and arbitration of risk within the portfolios.

8) The decrease in Real Return is a result of the redemption of Putnam and continued liquidation of hedge funds.

9) The decrease in Opportunistic is a result of the merging of the Opportunistic asset class with the Specialty Credit asset class.

10) The increase in Real Estate is due to additional funding and increasing market values for current managers.

11) The variance is a result of the demand of the Securities Lending Program.

12) The variance in Investment Accounts Payable is due to pending trades.

13) The variance is a result of the demand of the Securities Lending Program.

Combining Statement of Changes In Fiduciary Net Position - Pension Funds

For the three month period ending September 30, 2022, with Comparative Totals for the three month period September 30, 2021 ($ in Thousands) (Unaudited)

	CERS	CERS	KERS	KERS	SPRS	KPPA Total		Percentage	
	Nonhazardous	Hazardous	Nonhazardous	Hazardous		FY 2023	FY 2022	of Change	Note
ADDITIONS									
Member Contributions	$44,230	$20,061	$24,927	$6,129	$1,607	$96,954	$85,385	13.55%	1
Employer Contributions	145,487	72,892	27,742	15,425	14,427	275,972	264,252	4.44%	
Actuarially Accrued Liability Contributions (AALC)	-	-	226,639	-	-	226,639	228,328	(0.74)%	
General Fund Appropriation	-	-	60,000	-	-	60,000	-	100.00%	2
Pension Spiking Contributions	22	18	3	-	-	43	45	(4.60)%	
Health Insurance Contributions (HB1)	(3)	(2)	(1)	-	(1)	(7)	2	473.91%	3
Employer Cessation Contributions	-	-	-	-	-	-	50,464	(100.00)%	4
Total Contributions	**189,737**	**92,968**	**339,309**	**21,555**	**16,032**	**659,601**	**628,475**	**4.95%**	
INVESTMENT INCOME									
From Investing Activities									
Net Appreciation (Depreciation) in FV of Investments	(276,055)	(95,729)	(90,083)	(26,032)	(14,922)	(502,821)	118,737	(523.47)%	5
Interest/Dividends	55,155	18,985	21,506	5,980	3,864	105,491	115,364	(8.56)%	
Total Investing Activities Income	(220,900)	(76,744)	(68,578)	(20,051)	(11,058)	(397,331)	234,101		
Less: Investment Expense	11,703	3,910	3,418	1,116	505	20,652	17,752	16.34%	6
Less: Performance Fees	1,231	151	(184)	108	60	1,368	34,742	(96.06)%	7
Net Income from Investing Activities	(233,835)	(80,805)	(71,812)	(21,276)	(11,623)	(419,351)	181,607		
From Securities Lending Activities									
Securities Lending Income	1,493	515	523	149	88	2,769	262		
Less: Securities Lending Borrower Rebates (Income)/ Expense	1,214	420	422	121	72	2,249	(667)		
Less: Securities Lending Agent Fees	42	14	15	4	2	78	139		
Net Income from Securities Lending	237	81	86	24	14	441	789	(44.08)%	8
Net Investment Income	**(233,598)**	**(80,724)**	**(71,726)**	**(21,252)**	**(11,610)**	**(418,909)**	**182,396**	**(329.67)%**	
Total Additions	**(43,861)**	**12,245**	**267,583**	**302**	**4,423**	**240,692**	**810,871**	**(70.32)%**	
DEDUCTIONS									
Benefit Payments	220,772	78,546	255,797	19,468	15,985	590,568	580,888	1.67%	
Refunds	6,492	1,812	3,385	912	61	12,662	11,150	13.57%	9
Administrative Expenses	5,637	497	3,232	354	70	9,789	10,864	(9.90)%	
Total Deductions	**232,901**	**80,855**	**262,414**	**20,734**	**16,115**	**613,019**	**602,902**	**1.68%**	
Net Increase (Decrease) in Fiduciary Net Position Restricted for Pension Benefits	(276,762)	(68,610)	5,169	(20,432)	(11,692)	(372,327)	207,969		
Total Fiduciary Net Position Restricted for Pension Benefits									
Beginning of Period	**8,062,346**	**2,736,928**	**3,076,743**	**819,237**	**552,926**	**15,248,180**	**15,922,691**	**(4.24)%**	
End of Period	**$7,785,584**	**$2,668,318**	**$3,081,912**	**$798,806**	**$541,234**	**$14,875,853**	**$16,130,660**	**(7.78)%**	

NOTE - Variance Explanation ***Differences due to rounding.***

1) Member contributions increased due to an increase in covered payroll for all plans.

2) General Fund Appropriation 1st Quarter (KERS only): HB1 $33,750,000; HB604 $26,250,000;

3) Health Insurance Contributions continue to fluctuate in the Pension accounts due to Tier 2 and Tier 3 retiree health insurance system costs as well as corrections being processed to previous fiscal years.

4) Employer Cessation payment received from Kentucky Housing Corporation FY2022.

5) The decrease in Net Appreciation in Fair Value of Investments is due to unfavorable market conditions resulting in unrealized losses primarily within the public equity asset class.

NOTE - Variance Explanation continued on next page.

6) The increase in Investment Expense is a result of increased market values primarily in the Private Equity, Specialty Credit and Real Estate asset classes which have higher fees.
7) The drop in performance fees is the result in less than favorable market conditions causing returns to drop when compared to the first quarter of FY22.
8) The variance is a result of the demand of the Securities Lending Program.
9) The increase in Refunds is due to an increase in refunds taken by members who terminated employment and were not eligible for a retirement benefit (CERS, CERH, KERS and SPRS).

Combining Statement of Fiduciary Net Position - Insurance Funds

As of September 30, 2022, with Comparative Totals as of September 30, 2021 ($ in Thousands) (Unaudited)

	CERS	CERS	KERS	KERS	SPRS	KPPA Total		Percentage	
ASSETS		Hazardous		Hazardous		FY 2023	FY 2022	of Change	
CASH AND SHORT-TERM INVESTMENTS									
Cash Deposits	$108	$39	$92	$37	$46	$322	$923	(65.12)%	1
Short-term Investments	105,076	26,561	178,836	35,215	12,122	357,810	777,988	(54.01)%	2
Total Cash and Short-term Investments	**105,184**	**26,600**	**178,927**	**35,252**	**12,168**	**358,132**	**778,911**	**(54.02)%**	
RECEIVABLES									
Accounts Receivable	11,527	4,413	12,435	339	898	29,613	35,201	(15.88)%	3
Investment Accounts Receivable	23,323	10,710	8,920	3,481	1,544	47,978	59,464	(19.32)%	4
Total Receivables	**34,850**	**15,123**	**21,355**	**3,820**	**2,442**	**77,590**	**94,665**	**(18.04)%**	
INVESTMENTS, AT FAIR VALUE									
Core Fixed Income	334,327	168,759	155,480	68,112	26,729	753,407	846,866	(11.04)%	5
Public Equities	1,315,909	648,491	496,460	220,065	87,299	2,768,224	3,042,380	(9.01)%	
Private Equities	275,341	155,048	88,344	55,141	24,521	598,395	616,691	(2.97)%	
Specialty Credit	637,481	323,946	263,144	126,362	50,033	1,400,965	1,206,749	16.09%	6
Derivatives	(1,386)	(692)	(651)	(320)	(107)	(3,157)	1,466	(315.33)%	7
Real Return	73,310	39,333	27,688	16,119	6,010	162,459	392,493	(58.61)%	8
Opportunistic	-	-	-	-	-	-	220,730	(100.00)%	9
Real Estate	174,369	95,586	54,790	40,150	15,357	380,252	286,775	32.60%	10
Total Investments, at Fair Value	**2,809,350**	**1,430,472**	**1,085,256**	**525,629**	**209,842**	**6,060,547**	**6,614,149**	**(8.37)%**	
Securities Lending Collateral Invested	84,504	42,290	36,271	16,191	6,407	185,663	134,782	37.75%	11
Total Assets	**3,033,888**	**1,514,484**	**1,321,809**	**580,892**	**230,859**	**6,681,933**	**7,622,508**	**(12.34)%**	
LIABILITIES									
Accounts Payable	45,717	11,623	128	-	-	57,468	438	13,010.29%	12
Investment Accounts Payable	22,655	11,381	10,537	3,952	1,766	50,292	411,423	(87.78)%	13
Securities Lending Collateral	84,504	42,290	36,271	16,191	6,407	185,663	134,782	37.75%	14
Total Liabilities	**152,876**	**65,294**	**46,937**	**20,143**	**8,173**	**293,423**	**546,643**	**(46.32)%**	
Total Fiduciary Net Position Restricted for OPEB	**$2,881,011**	**$1,449,190**	**$1,274,873**	**$560,749**	**$222,686**	**$6,388,510**	**$7,075,864**	**(9.71)%**	

NOTE - Variance Explanation ***Differences due to rounding***

1) Variance is a result of continuous fluctuation of deposits and transactions that flow through the cash account.

2) Short term investments are primarily comprised of cash on hand at the custodial bank, the balance decline is the result of excess cash being invested.

3) The decrease in Accounts Receivable is due to a decrease in the member/employer monthend accrual.

4) The variance in Investment Accounts Receivable is due to pending trades.

5) The decrease in Core Fixed Income is due to a rebalance of the portfolio as a result of the revised IPS and a decline in market value of the assets due to the unfavorable market conditions.

6) The increase in Specialty Credit is due to the merging of the Specialty Credit asset class and the Opportunistic asset class.

7) Variance is a result of hedging and arbitration of risk within the portfolios.

8) The decrease in Real Return is a result of the redemption of Putnam and continued liquidation of hedge funds.

9) The decrease in Opportunistic is a result of the merging of the Opportunistic asset class with the Specialty Credit asset class.

10) The increase in Real Estate is due to additional funding and increasing market values for current managers.

11) Variance is a result of the demands of the Securities Lending Program.

12) The increase in Accounts Payable is primarily due to the ERCON Pension/Insurance split correction in CERS and CERH.

13) The variance In Investment Accounts Payable is due to pending trades.

14) Variance is a result of the demands of the Securities Lending Program.

Combining Statement of Changes In Fiduciary Net Position - Insurance Funds

For the three month period ending September 30, 2022, with Comparative Totals for the three month period ending September 30, 2021 ($ In Thousands) (Unaudited)

	CERS Non-hazardous	CERS Hazardous	KERS Non-hazardous	KERS Hazardous	SPRS	KPPA Total FY 2023	KPPA Total FY 2022	Percentage of Change	Note
ADDITIONS									
Employer Contributions	$22,920	$12,636	$8,574	$2	$2,236	$46,368	$62,864	(26.24)%	1
Actuarially Accrued Liability Contributions (AALC)	-	-	22,114	-	-	$22,114	$25,426	(13.03)%	2
Medicare Drug Reimbursement	-	-	1	-	-	1	1	(13.09)%	3
Insurance Premiums	136	(17)	50	-	-	170	188	(10.00)%	4
Humana Gain Share Payment	8,912	-	-	-	-	8,912	-	100.00%	5
Retired Re-employed Healthcare	1,239	380	1,341	324	-	3,284	2,844	15.46%	6
Health Insurance Contributions (HB1)	3,854	1,053	1,935	363	82	7,287	6,138	18.73%	7
Employer Cessation Contributions	-	-	-	-	-	-	9,536	(100.00)%	8
Total Contributions	**37,061**	**14,053**	**34,015**	**689**	**2,318**	**88,135**	**106,998**	**(17.63)%**	
INVESTMENT INCOME									
From Investing Activities									
Net Appreciation (Depreciation) in FV of Investments	(109,182)	(54,372)	(37,032)	(18,048)	(7,327)	(225,961)	69,397	(425.60)%	9
Interest/Dividends	21,649	10,842	9,514	4,248	1,702	47,955	48,318	(0.75)%	
Total Investing Activities Income	(87,533)	(43,530)	(27,518)	(13,801)	(5,625)	(178,006)	117,715		
Less: Investment Expense	4,388	2,314	1,629	898	355	9,585	8,311	15.33%	10
Less: Performance Fees	(428)	(349)	900	(56)	(31)	38	20,528	(99.82)%	11
Net Income from Investing Activities	(91,494)	(45,495)	(30,047)	(14,643)	(5,949)	(187,629)	88,877		
From Securities Lending Activities									
Securities Lending Income	503	245	206	83	36	1,072	109		
Less: Securities Lending Borrower Rebates (Income)/Expense	404	195	163	66	29	857	(275)		
Less: Securities Lending Agent Fees	15	7	6	3	1	32	58		
Net Income from Securities Lending	85	42	36	14	6	183	327	(43.99)%	12
Net Investment Income	**(91,410)**	**(45,453)**	**(30,012)**	**(14,629)**	**(5,943)**	**(187,445)**	**89,204**	**(310.13)%**	
Total Additions	**(54,348)**	**(31,400)**	**4,003**	**(13,940)**	**(3,625)**	**(99,310)**	**196,202**	**(150.62)%**	
DEDUCTIONS									
Healthcare Premiums Subsidies	44,826	23,215	30,002	5,162	3,680	106,885	91,848	16.37%	13
Administrative Expenses	238	129	198	31	18	615	618	(0.43)%	
Self-Funded Healthcare Costs	801	43	452	19	5	1,320	1,475	(10.53)%	14
Excise Tax Insurance	-	-	-	-	-	-	9	(100.00)%	15
Total Deductions	**45,865**	**23,387**	**30,652**	**5,213**	**3,703**	**108,820**	**93,951**	**15.83%**	
Net Increase (Decrease) in Fiduciary Net Position Restricted for OPEB	(100,213)	(54,787)	(26,649)	(19,153)	(7,328)	(208,130)	102,251		
Total Fiduciary Net Position Restricted for OPEB									
Beginning of Period	**2,981,224**	**1,503,977**	**1,301,522**	**579,902**	**230,015**	**6,596,640**	**6,973,613**	**(5.41)%**	
End of Period	**$2,881,011**	**$1,449,190**	**$1,274,873**	**$560,749**	**$222,686**	**$6,388,510**	**$7,075,864**	**(9.71)%**	

NOTE - Variance Explanation. ***Differences due to rounding***

1) Employer Contributions due to a decrease in the employer insurance rate as well as the CERS/CERH correction.

NOTE - Variance Explanation. ***Differences due to rounding***

2) AALC will fluctuate year to year based on the actuarial valuation.

3) Medicare Drug Reimbursement payments fluctuate year to year based on claims received.

4) Health Insurance Premiums decreased primarily due to refunds processed to hazardous retirees for premiums paid for dependents that should have been covered by KPPA.

5) Humana Gain Share payments will fluctuate based on timing and actual claims paid.

6) Retired Re-employed will continue to increase as more retirees return to work.

7) Health Insurance Contributions will continue to rise as Tier 2 and Tier 3 members increase.

8) Employer Cessation payment received from Kentucky Housing Corporation FY2022.

9) The decrease in Net Appreciation in Fair Value of Investments is due to unfavorable market conditions resulting in unrealized losses primarily within the public equity asset class.

10) The increase in Investment Expense is a result of increased market values primarily in the Private Equity, Specialty Credit and Real Estate asset classes which have higher fees.

11) The drop in performance fees is the result in less than favorable market conditions causing returns to drop when compared to the first quarter of FY22.

12) The variance is a result of the demand of the Securities Lending Program.

13) Healthcare Premiums Subsidies increased due to an increase in premiums paid for retirees (primarily an increase in age 65+ retirees)..

14) Self funded insurance decreased due to a decrease in claims for out of state retirees.

15) The Excise Tax will fluctuate based on the timing of the posting of the payment.

Pension Funds Contribution Report

For the three month period ending September 30, 2022, with Comparative Totals for the three month period ending September 30, 2021 ($ in Millions)

CERS
County Employees Retirement System

	County Employees Retirement System			
	Nonhazardous		Hazardous	
	FY23	FY22	FY23	FY22
Member Contributions	$44.3	$40.8	$20.1	$16.5
Employer Contributions	145.5	122.1	72.9	50.9
Net Investment Income	42.5	34.6	15.0	11.7
Total Inflows	**232.3**	**197.5**	**108.0**	**79.1**
Benefit Payments/Refunds	227.3	217.7	80.4	76.7
Administrative Expenses	5.6	6.5	0.5	0.6
Total Outflows	**232.9**	**224.2**	**80.9**	**77.3**
NET Contributions	**(0.6)**	**(26.7)**	**27.1**	**1.8**
Realized Gain/(Loss)	0.9	78.3	-	26.9
Unrealized Gain/(Loss)	(277.0)	(7.1)	(95.7)	(2.7)
Change in Net Position	**(276.7)**	**44.5**	**(68.6)**	**26.0**
Beginning of Period	**8,062.3**	**8,670.7**	**2,736.9**	**2,934.4**
End of Period	**$7,785.6**	**$8,715.2**	**$2,668.3**	**$2,960.4**

Differences due to rounding.

Net Contributions*	($43.1)	($61.3)	$12.1	($9.9)
Cash Flow as % of Assets	(0.55)%	(0.70)%	0.45%	(0.34)%
Net Investment Income	$42.5	$34.6	$15.0	$11.7
Yield as % of Assets	0.55%	0.40%	0.56%	0.40%

**Net Contributions are less Net Investment Income.*

Pension Funds Contribution Report

For the three month period ending September 30, 2022, with Comparative Totals for the three month period ending September 30, 2021 ($ in Millions)

KERS Kentucky Employees Retirement System / SPRS State Police Retirement System	Kentucky Employees Retirement System				State Police Retirement System	
	Nonhazardous		Hazardous			
	FY23	**FY22**	**FY23**	**FY22**	**FY23**	**FY22**
Member Contributions	$24.9	$22.2	$6.1	$4.7	$1.6	$1.2
Employer Contributions	27.8	61.8	15.4	14.0	14.4	15.4
Actuarially Accrued Liability Contributions	226.6	228.3	-	-	-	-
Employer Cessation Contributions	-	50.5	-	-	-	-
General Fund Appropriations	60.0	-	-	-	-	-
Net Investment Income	18.4	12.3	4.8	3.7	3.3	1.4
Total Inflows	**357.7**	**375.1**	**26.3**	**22.4**	**19.3**	**18.0**
Benefit Payments/Refund	259.2	261.3	20.4	20.3	16.0	16.0
Administrative Expenses	3.2	3.3	0.3	0.3	0.1	0.1
Total Outflows	**262.4**	**264.6**	**20.7**	**20.6**	**16.1**	**16.1**
NET Contributions	**95.3**	**110.5**	**5.6**	**1.8**	**3.2**	**1.9**
Realized Gain/(Loss)	(3.9)	11.6	(0.2)	7.2	(1.0)	2.2
Unrealized Gain/(Loss)	(86.1)	3.9	(25.8)	(1.3)	(13.9)	(0.3)
Change in Net Position	**5.3**	**126.0**	**(20.4)**	**7.7**	**(11.7)**	**3.8**
Beginning of Period	**3,076.7**	**3,085.0**	**819.2**	**874.9**	**552.9**	**357.7**
End of Period	**$3,082.0**	**$3,211.0**	**$798.8**	**$882.6**	**$541.2**	**$361.5**

Differences due to rounding.

Net Contributions*	$77.0	$98.2	$0.8	($1.8)	($0.1)	$0.5
Cash Flow as % of Assets	2.50%	3.06%	0.10%	(0.21)%	(0.02)%	0.14%
Net Investment Income	$18.4	$12.3	$4.8	$3.7	$3.3	$1.4
Yield as % of Assets	0.60%	0.38%	0.60%	0.42%	0.61%	0.39%

**Net Contributions are less Net Investment Income.*

Insurance Fund Contribution Report

For the three month period ending September 30, 2022, with Comparative Totals for the three month period ending September 30, 2021 ($ in Millions)

CERS County Employees Retirement System	County Employees Retirement System			
	Nonhazardous		Hazardous	
	FY23	**FY22**	**FY23**	**FY22**
Employer Contributions	$22.9	$35.5	$12.6	$16.9
Insurance Premiums	0.1	0.1	-	-
Humana Gain Share	8.9	-	-	-
Retired Reemployed Healthcare	1.2	1.0	0.4	0.3
Health Insurance Contributions	3.9	3.4	1.1	0.9
Net Investment Income	17.8	8.7	8.9	4.1
Total Inflows	**54.8**	**48.7**	**23.0**	**22.2**
Healthcare Premiums	45.6	33.7	23.3	21.6
Administrative Expenses	0.2	0.2	0.1	0.1
Total Outflows	**45.8**	**33.9**	**23.4**	**21.7**
NET Contributions	**9.0**	**14.8**	(0.4)	**0.5**
Realized Gain/(Loss)	(1.5)	36.6	(0.4)	19.6
Unrealized Gain/(Loss)	(107.7)	(1.9)	(54.0)	0.9
Change in Net Position	**(100.2)**	**49.5**	**(54.8)**	**21.0**
Beginning of Period	**2,981.2**	**3,141.8**	**1,504.0**	**1,607.8**
End of Period	**$2,881.0**	**$3,191.3**	**$1,449.2**	**$1,628.8**

Differences due to rounding.

Net Contributions*	($8.8)	$6.1	($9.3)	($3.6)
Cash Flow as % of Assets	(0.30)%	0.19%	(0.64)%	(0.22)%
Net Investment Income	$17.8	$8.7	$8.9	$4.1
Yield as % of Assets	0.62%	0.27%	0.62%	0.25%

**Net Contributions are less Net Investment Income.*

Insurance Fund Contribution Report

For the three month period ending September 30, 2022, with Comparative Totals for the three month period ending September 30, 2021 ($ in Millions)

KERS Kentucky Employees Retirement System / SPRS State Police Retirement System	Kentucky Employees Retirement System				State Police Retirement System	
	Nonhazardous		Hazardous			
	FY23	FY22	FY23	FY22	FY23	FY22
Employer Contributions	$8.6	$8.0	$-	$0.2	$2.2	$2.2
Actuarially Accrued Liability Contributions	22.1	25.4	-	-	-	-
Employer Cessation Contributions	-	9.6	-	-	-	-
Insurance Premiums	-	-	-	-	-	-
Humana Gain Share	-	-	-	-	-	-
Retired Reemployed Healthcare	1.4	1.2	0.3	0.3	-	-
Health Insurance Contributions	1.9	1.6	0.4	0.3	0.1	0.1
Net Investment Income	7.0	4.6	3.4	1.8	1.4	0.6
Total Inflows	**41.0**	**50.4**	**4.1**	**2.6**	**3.7**	**2.9**
Healthcare Premiums	30.5	29.3	5.2	5.3	3.7	3.5
Administrative Expenses	0.2	0.2	-	-	-	-
Total Outflows	**30.7**	**29.5**	**5.2**	**5.3**	**3.7**	**3.5**
NET Contributions	**10.3**	**20.9**	**(1.1)**	**(2.7)**	**0.0**	**(0.6)**
Realized Gain/(Loss)	(2.3)	9.1	(0.3)	6.6	(0.1)	2.9
Unrealized Gain/(Loss)	(34.6)	(4.8)	(17.8)	0.2	(7.2)	0.2
Change in Net Position	**(26.6)**	**25.2**	**(19.2)**	**4.1**	**(7.3)**	**2.5**
Beginning of Period	**1,301.5**	**1,353.1**	**579.9**	**624.9**	**230.0**	**246.0**
End of Period	**$1,274.9**	**$1,378.3**	**$560.7**	**$629.0**	**$222.7**	**$248.5**

Differences due to rounding.

Net Contributions*	$3.3	$16.3	($4.5)	($4.5)	($1.4)	($1.2)
Cash Flow as % of Assets	0.26%	1.18%	(0.80)%	(0.72)%	(0.61)%	(0.48)%
Net Investment Income	$7.0	$4.6	$3.4	$1.8	$1.4	$0.6
Yield as % of Assets	0.55%	0.33%	0.61%	0.29%	0.62%	0.25%

**Net Contributions are less Net Investment Income.*

KPPA ADMINISTRATIVE BUDGET FY 2022-2023
BUDGET-TO-ACTUAL ANALYSIS
FOR THE THREE MONTH PERIOD ENDING SEPTEMBER 30, 2022, WITH COMPARATIVE TOTALS FOR THE THREE MONTH PERIOD ENDING SEPTEMBER 30, 2021

Account Name	Budgeted	FY 2023 Expense	Remaining	Percent Remaining	FY 2022 Expense	Percent Difference
PERSONNEL						
Staff						
Salaries/Wages	$17,000,000	$4,117,295	$12,882,705	75.78%	$4,316,718	(4.62)%
Wages (Overtime)	285,000	42,947	242,053	84.93%	48,884	(12.15)%
Emp Paid Retirement	13,482,300	3,029,365	10,452,935	77.53%	3,426,929	(11.60)%
Emp Paid Health Ins	2,700,000	557,530	2,142,470	76.91%	735,904	(24.24)%
Emp Paid Sick Leave	115,000	28,831	86,169	74.93%	-	100.00%
Adoption Assistance Benefit	8,000	-	8,000	100.00%	-	0.00%
Workers Compensation	75,000	11,116	63,884	85.18%	75,163	(85.21)%
Unemployment	8,000	-	8,000	100.00%	-	0.00%
Other Personnel	1,273,448	294,019	979,429	76.91%	309,998	(5.15)%
Employee Training	18,000	2,680	15,320	85.11%	2,421	10.70%
Bonds	-	-	-	0.00%	-	0.00%
Staff Subtotal	**34,964,748**	**8,083,783**	**26,880,965**	**76.88%**	**8,916,017**	**(9.33)%**
LEGAL & AUDITING SERVICES						
Legal Hearing Officers	100,000	36,941	63,059	63.06%	16,665	121.67%
Legal (Stoll, Keenon)	150,000	16,461	133,539	89.03%	9,199	78.94%
Frost Brown (Tax Advisor)	80,000	10,902	69,098	86.37%	(11,335)	(196.18)%
Reinhart	25,000	-	25,000	100.00%	-	0.00%
Ice Miller	300,000	21,270	278,730	92.91%	303	6919.80%
Johnson, Bowman, Branco LLC	150,000	28,683	121,318	80.88%	-	100.00%
Dentons Bingham & Greenebaum	150,000	22,274	127,726	85.15%	-	100.00%
Legal Expense	25,000	-	25,000	100.00%	-	0.00%
Auditing	200,000	6,578	193,422	96.71%	41,385	(84.11)%
CONSULTING SERVICES						
Medical Reviewers	1,800,000	181,080	1,618,920	89.94%	300,493	(39.74)%
Escrow for Actuary Fees	-	(28,866)	28,866	0.00%	-	(100.00)%
CONTRACTUAL SERVICES						
Miscellaneous Contracts	100,000	9,886	90,114	90.11%	8,850	11.71%
Human Resources Consulting	8,000	-	8,000	100.00%	5,794	(100.00)%
Actuarial Services	500,000	79,953	420,047	84.01%	81,179	(1.51)%
Facility Security Charges	80,000	13,105	66,895	83.62%	17,887	(26.73)%
PERSONNEL SUBTOTAL	**$38,640,748**	**$8,482,049**	**$30,180,973**	**78.11%**	**$11,169,773**	**(24.06)%**
OPERATIONAL						
Natural Gas	35,000	1,446	33,554	95.87%	1,227	17.85%
Electric	125,000	32,045	92,955	74.36%	30,238	5.98%
Rent-Non State Building	56,000	12,661	43,339	77.39%	12,661	0.00%
Building Rental - PPW	1,000,000	240,492	759,508	75.95%	240,524	(0.01)%
Copier Rental	67,000	-	67,000	100.00%	15,890	(100.00)%
Rental Carpool	5,500	1,065	4,435	80.63%	970	9.79%
Vehicle/Equip. Maint.	1,000	-	1,000	100.00%	249	(100.00)%
Postage	420,000	41,377	378,623	90.15%	24,300	70.28%
Freight	200	-	200	100.00%	114	(100.00)%
Printing (State)	12,000	100	11,900	99.17%	320	(68.75)%
Printing (non-state)	105,000	2,977	102,023	97.17%	4,219	(29.44)%
Insurance	12,000	5,572	6,428	53.57%	5,422	2.77%
Garbage Collection	6,000	1,810	4,190	69.83%	1,324	36.71%
Conference Expense	35,000	2,878	32,122	91.78%	4,307	(33.18)%
Conference Exp. Investment	-	-	-	0.00%	-	0.00%
Conference Exp. Audit	2,000	-	2,000	100.00%	-	0.00%
MARS Usage	50,000	6,775	43,225	86.45%	6,775	0.00%
COVID-19 Expenses	12,000	-	12,000	100.00%	3,716	(100.00)%
Office Supplies	75,000	21,490	53,510	71.35%	16,170	32.90%
Furniture & Office Equipment	20,000	-	20,000	100.00%	-	0.00%
Travel (In-State)	15,000	3,577	11,423	76.15%	1,565	128.56%

KPPA ADMINISTRATIVE BUDGET 2022-23
BUDGET-TO-ACTUAL ANALYSIS
FOR THE THREE MONTH PERIOD ENDING SEPTEMBER 30, 2022, WITH COMPARATIVE TOTALS FOR THE THREE MONTH PERIOD ENDING SEPTEMBER 30, 2021

Account Name	Budgeted	FY 2023 Expense	Remaining	Percent Remaining	FY 2022 Expense	Percent Difference
Travel (In-State) Investment	1,000	-	1,000	100.00%	-	0.00%
Travel (In-State) Audit	500	-	500	100.00%	-	0.00%
Travel (Out of State)	75,000	6,796	68,204	90.94%	-	100.00%
Travel (Out of State) Investment	100,000	4,448	95,552	95.55%	-	100.00%
Travel (Out of State) Audit	500	-	500	100.00%	-	0.00%
Dues & Subscriptions	70,000	13,742	56,258	80.37%	10,559	30.14%
Dues & Subscriptions Invest	17,000	3,990	13,010	76.53%	3,613	10.43%
Dues & Subscriptions Audit	1,500	-	1,500	100.00%	1,700	(100.00)%
Miscellaneous	70,000	14,670	55,330	79.04%	128	11,360.94%
Miscellaneous Investment	-	-	-	0.00%	-	0.00%
Miscellaneous Audit	200	-	200	100.00%	-	0.00%
COT Charges	25,000	3,609	21,391	85.56%	3,940	(8.40)%
Telephone - Wireless	7,000	1,428	5,572	79.60%	1,368	4.39%
Telephone - Other	150,000	24,517	125,483	83.66%	26,541	(7.63)%
Telephone - Video Conference	12,000	2,421	9,579	79.82%	-	100.00%
Computer Equip./Software	3,500,000	507,190	2,992,810	85.51%	696,646	(27.20)%
Comp. Equip./Software Invest	-	-	-	0.00%	-	0.00%
Comp. Equip/Software Audit	3,000	-	3,000	100.00%	-	0.00%
OPERATIONAL SUBTOTAL	**$6,086,400**	**$957,077**	**$5,129,324**	**84.28%**	**$417,838**	**129.05%**
SUB-TOTAL	**$44,727,148**	**$9,439,126**	**$35,288,022**	**78.90%**	**$11,587,611**	**(18.54)%**
Reserve	**5,457,352**	**-**	**5,457,352**	**0.00%**		
TOTAL	**$50,184,500**	**$9,439,126**	**$40,767,648**	**81.24%**	**$11,587,611**	**(18.54)%**

Differences due to rounding

Plan	Budgeted	FY 2023 Expense	% of Total KPPA FY 2023 Expense
CERS Nonhazardous	**$28,896,235**	**$5,435,049**	**57.58%**
CERS Hazardous	**2,559,410**	**481,395**	**5.10%**
KERS Nonhazardous	**16,543,320**	**3,111,608**	**32.965%**
KERS Hazardous	**1,824,207**	**343,112**	**3.635%**
SPRS	**361,328**	**67,962**	**0.720%**
TOTAL	**$50,184,500**	**$9,439,126**	

KENTUCKY PUBLIC PENSIONS AUTHORITY
David L. Eager, Executive Director
1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822

Kentucky Public Pensions Authority

December 7, 2022

Government Finance Officers Association
203 North LaSalle Street, Suite 2700
Chicago, IL 60601-1210

RE: Certificate of Achievement for Excellence in Financial Reporting
Report #00758

Pursuant to the instructions included in the report referenced above, responses to the comments and suggestions for improvement of Kentucky Public Pensions Authority's (KPPA) Annual Comprehensive Financial Report (ACFR) for the Fiscal Year Ended June 30, 2021, follow:

Comment 101: Cover, table of contents, and formatting

The title page should indicate the individual or department responsible for preparing the annual comprehensive financial report.

Management concurs with the recommendation. The departments responsible for preparing the ACFR are on the title page.

Comment 112: Note disclosures (other than the SSAP and pension–related disclosures)

When Cash collateral related to securities lending transactions is invested, the notes should disclose whether the maturities of the resulting investments generally match the maturities of the securities lending arrangements themselves. The notes also should disclose the extent of such matching as of the reporting date.

Management concurs with the recommendation. Note E, Securities Lending Transactions, discloses whether the maturities of the resulting investments generally match the maturities of the securities lending arrangements themselves. The note also discloses the extent of such matching as of the reporting date.

The notes should disclose the amount of credit risk arising in connection with securities lending arrangements in force as of the reporting date.

Management concurs with the recommendation. Note E, Securities Lending Transactions, discloses the amount of credit risk arising in connection with securities lending arrangements in force as of the reporting date.

Comment 113: Pension-related note disclosures

For single-employer and cost-sharing multiple-employer defined benefit pension plans that are administered through trusts or equivalent arrangements, the measure of payroll should be "covered payroll" rather than "covered-employee payroll." Note that covered payroll is the payroll on which contributions to a pension plan are based.

Management concurs with the recommendation. The contributions are based on a measure of pay for all plans. For the KERS Nonhazardous Plan each employer will pay a normal cost contribution on covered payroll of their employees and contribute to the fund an allocated share of the cost required to amortize the unfunded liability. Therefore, the note disclosures have been changed to use "covered payroll" as the measure of payroll for contributions to the pension plans.

Comment 114: Required supplementary information (RSI)

Please clarify if contributions are based on a measure of pay. This comment was provided last year and was not implemented.

For single employer and cost-sharing multiple-employer defined benefit OPEB plans, the RSI schedules should use "covered payroll" as the measure of payroll if contributions to the OPEB plan are based on a measure of pay. If contributions to the OPEB plan are not based on a measure of pay, no measure of payroll should be presented.

Management concurs with the recommendation. The contributions are based on a measure of pay. For the KERS Nonhazardous Plan each employer will pay a normal cost contribution on the covered payroll of their covered employees and contribute to the fund an allocated share of the cost required to amortize the unfunded liability. Therefore, the RSI schedules have been changed to use "covered payroll" as the measure of payroll for contributions to the OPEB plan.

Comment 117: Actuarial Section

Expressly state that the assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice.

The actuary's certification letter should expressly state that the assumptions and methods used for funding purposes meet the parameters set by Actuarial Standards of Practice. If they do not, a description of how they depart from those parameters should be included.

Management concurs with the recommendation. The actuary's letter expressly states that the assumptions and methods used for funding purposes meets the parameters set by Actuarial Standards of Practice.

Should you have any questions regarding our responses, or our ACFR for FYE 2022, please do not hesitate to telephone me directly at (502) 696-8604.

Sincerely,

Rebecca H. Adkins
Executive Director, Office of Operations

Enclosure

cc: David L. Eager
Executive Director

Connie A. Davis, CIA, CGAP, CRMA
Director of Accounting

h:/ACFR Submission Letter - 2022

KENTUCKY PUBLIC PENSIONS AUTHORITY
David L. Eager, Executive Director
1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822

Kentucky Public Pensions Authority

MEMORANDUM

TO: Kristen Coffey, Director of Internal Audit Administration

FROM: Carrie Bass, Staff Attorney Supervisor, Office of Legal Services

DATE: November 18, 2022

SUBJECT: Standard security and confidentiality requirements for subcontractors in Kentucky Public Pensions Authority ("KPPA") contracts and agreements

At the May 24, 2022 meeting of the Joint Audit Committee of the Board of Trustees of the County Employees Retirement System and the Board of Trustees of the Kentucky Retirement Systems ("Joint Committee"), the Joint Committee asked for information on the standard terms used by the KPPA to ensure that subcontractors of the KPPA's contractors maintain the security and privacy of any KPPA confidential information to which the subcontractor has access. The attached table summarizes standard terms addressing the security and confidentiality requirements for subcontractors used in contracts and Business Associate Agreements ("BAA") with the KPPA's contractors.

The first row of the attached table summarizes terms relevant to security and confidentiality requirements for subcontractors that are generally found in the KPPA's standard contracts (other than personal services contracts[1]). The second row of the attached table summarizes terms relevant to security and confidentiality requirements for subcontractors that are generally found in the KPPA's standard BAA. Please note that BAAs are only used with contractors that will have access to Protected Health Information ("PHI") or Electronic Protected Health Information ("EPHI"). PHI and EPHI are a subset of information pertaining to health care that is maintained by the KPPA, and governed by the Health Insurance Portability and Accountability Act ("HIPAA") and the Health Information Technology for Economic and Clinical Health ("HITECH") Act.

[1] Personal services contracts typically do not contain provisions pertaining to subcontractors because personal services contracts are with an individual person, rather than an organization, and the KPPA would permit such services to be subcontracted to another party only in extremely rare circumstances.

Type of document	Document terms establishing subcontractor security or confidentiality requirements
Standard contracts (non-personal services contracts)	• Subcontractor access to confidential information: Subcontractors may have access to confidential data maintained by the KPPA to the extent necessary to carry out the contractor's responsibilities under a contract. • Supervision and training of subcontractors: Contractor shall ensure adequate supervision and training of subcontractors to ensure compliance with the terms of a contract, including: ○ Subcontractor must presume that all KPPA information is confidential: All information received from the KPPA pursuant to the contract is assumed to be confidential unless specifically designated as not confidential by the KPPA. ○ Subcontractor must encrypt data to maintain confidentiality: Electronic data shall be encrypted during transport and at rest utilizing the KPPA's policy standards. ○ Subcontractor must not disseminate confidential information: No confidential data collected, maintained, or used in the course of performance of the contract shall be disseminated except as authorized by law and with the written consent of the KPPA. ○ Subcontractor must report unauthorized disclosures: Any unauthorized disclosure of confidential information must be reported immediately to the KPPA.
Business Associate Agreements ("BAA")	• Subcontractor access, use, and disclosure to PHI: Subcontractor must request, use, and disclosure PHI to the "minimum necessary" extent to carry out obligation under the contract. • Subcontractor requirements for security of EPHI: Subcontractor must agree in writing to implement reasonable and appropriate administrative, physical, and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of EPHI that it creates, receives, maintains, or transmits on behalf of the KPPA. • Subcontractor notification of requests to access PHI: Subcontractor must notify the contractor if any individual requests access to PHI so that the contractor can forward the request to the KPPA within three (3) business day of the request being made.

	• Subcontractor must return or destroy PHI received: Subcontractor must return or destroy all PHI received from the KPPA upon termination of the BAA for any reason. • Subcontractor training: Subcontractor is subject to all conditions in the BAA, including training on security, privacy, and confidentiality of PHI. • Subcontractor must maintain list of authorized disclosures: Subcontractor is subject to all conditions in the BAA, including maintaining documentation of authorized disclosures. • Obligations in event of unauthorized disclosure or security breach: o Subcontractor must mitigate harm: Subcontractor must mitigate harm of use of disclosure of PHI in violation of the BAA. o Contractor must notify KPPA of subcontractor unauthorized disclosure or security breach: Contractor must notify the KPPA of a subcontractor's actual or suspected unauthorized use or disclosure of PHI, and also must notify the KPPA of a subcontractor security breach or security incident affecting PHI, within forty-eight (48) hours of becoming aware of the use, disclosure, breach, or incident.

KENTUCKY PUBLIC PENSIONS AUTHORITY
David L. Eager, Executive Director
1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822

MEMORANDUM

TO: JOINT CERS-KRS AUDIT COMMITTEE

FROM: ERIN SURRATT, EXECUTIVE DIRECTOR, OFFICE OF BENEFITS
KENTUCKY PUBLIC PENSIONS AUTHORITY

DATE: NOVEMBER 22, 2022

RE: INVALID ADDRESSES

At the Joint CERS-KRS Audit Committee meeting held on February 22, 2022, a draft Election Policy was reviewed by members of the Committee. The discussion led to further dialogue surrounding House Bill 297 (2022), KPPA's Housekeeping bill and its impact on the distribution of paper ballots for future elections. House Bill 297 (2022) removed the requirement to distribute paper ballots to addresses that have been reported as invalid. Former KERS committee member, Larry Totten, asked for the total number of inactive accounts with an invalid address and the agency's process of updating invalid addresses.

KPPA uses the National Change of Address (NCOA) software program to verify, and update (if necessary), addresses in a monthly batch through the START Line of Business (LOB) Application. Accounts marked as invalid were not previously validated via NCOA, however, those accounts will be included in the monthly batch for NCOA validation effective December. Mail returned to KPPA marked as undeliverable by the United States Postal Service (USPS) without a forwarding address, is marked as invalid in LOB to prevent a disclosure. If the account has a phone number listed, the member is contacted to verify their updated address and a blank Change of Address form is mailed, requiring the member's signature to update the record in LOB. For active member invalid address validation, a report is generated in Employer Self Service each month notifying the employer to update the account record. Retired member accounts with invalid addresses will be contacted individually by the Benefits Team to obtain updated address information.

Membership Status	Invalid Address Count	% of Membership Status	Valid Email Address
ACTIVE	169	**0.14%**	40
INACTIVE	14,588	**9%**	70
RETIRED	31	**0.03%**	10

KENTUCKY PUBLIC PENSIONS AUTHORITY

David L. Eager, Executive Director

1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822

In an effort to decrease the number of accounts with invalid addresses, KPPA will send a list to a third-party vendor with a repository of physical identity intelligence and consumer data, for current address validation. Additional member information will be attained outside the scope of what NCOA currently provides. KPPA will send a letter to the address returned by the vendor requesting the address to be validated via Self Service or the Change of Address form enclosed with the letter. Additionally, a Self-Service flyer with detailed instructions to validate the address online and a KPPA return envelope will be included. KPPA's current contract with Lexis Nexis has been amended to provide the service during the first quarter of Calendar Year 2023 with Lexis Nexis.

In an ongoing effort to help reduce the number of invalid addresses, KPPA will run a monthly batch to query membership accounts that change from "active" to "inactive" status. A letter will be generated to the member upon the status change with pertinent information concerning the benefits they are entitled to and to stress the importance of validating their account information, including email and postal addresses, and the means to update their account information via Member Self Service or a Change of Address form. Oftentimes, when members leave employment, their KPPA account is forgotten. Sending a letter will serve as not only a means to update their account but as a notice of their rights to benefits.

*No action is needed. This memo is for discussion purposes only.

KENTUCKY PUBLIC PENSIONS AUTHORITY

David L. Eager, Executive Director

1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822

Kentucky Public Pensions Authority

MEMORANDUM

TO: David L. Eager
Executive Director

FROM: Dominique McKinley
Division Director, Enterprise & Technology Services

DATE: November 15, 2022

SUBJECT: Information Security Assessment Summaries

Since 2006, KPPA has contracted with a third party to perform an annual assessment of the security of the KPPA information infrastructure. In April and May of 2022, Crowe performed an information security assessment that included the following activities:

- External Penetration Assessment: The objective of the External Penetration Assessment was to assess the ability of the KPPA network to resist attacks from external threats. Crowe identified KPPA systems and services that were accessible on the KPPA external network. Crowe then attempted to identify and verify vulnerabilities that could allow an attacker to gain elevated access to the KPPA network or to gain access to sensitive information. Crowe also assessed the security awareness of KPPA employees through surreptitious attempts to persuade employees to divulge information and execute malicious programs.

- Internal Penetration Assessment: The objective of the Internal Penetration Assessment was to assess the ability of the KPPA network to resist attacks from internal threats. Crowe identified KPPA systems and services that were accessible on the KPPA internal network. Crowe then attempted to identify and verify vulnerabilities that could allow an attacker to gain elevated access to the KPPA network or to gain access to sensitive information. Crowe also assessed the security awareness of KPPA employees through surreptitious attempts to persuade employees to gain access to the internal network and employee workstations.

- Remote Workforce Review: The objective of the Remote Workforce Review was to assess the ability of KPPA's security controls related to remote network access to resist attacks from external threats. Crowe interviewed KPPA staff to gain an understanding of the KPPA environment. Crowe also reviewed the configurations of the technical controls in place to secure remote access for KPPA users.

Significant Findings

Finding Criticality	Information Security Assessment
Low Risk	6
Moderate Risk	5
High Risk	4
Total Findings	**15**

Crowe has documented the assessment findings in their report dated May 2022. Due to the threat level has increased in the cyber security world, Crowe raised their scoring level compared to past years.

High Risk – Requires immediate remedy and, if left uncorrected, exposes KPPA to significant or immediate risk of loss, asset misappropriation, data compromise or interruption, fines and penalties, or increased regulatory scrutiny.

Moderate Risk – Requires timely remedy and, if left uncorrected, may expose KPPA to risk of loss or misappropriation of company assets, compromise of data, fines and penalties, or increased regulatory scrutiny. These issues should be resolved in a timely manner, but after any high priority issues.

Low Risk – Should be addressed as time and resources permit. While it is not considered to represent significant or immediate risk, repeated oversights without corrective action or compensating controls could lead to increased exposure or scrutiny.

Additional Recommendations

The annual third-party information security audit is a critical measurement of how well KPPA is protecting our resources and member data. In addition to the findings from the assessments, I recommend the following:

Third Party Infrastructure Assessment

- A third party information security audit should once again be approved and conducted to ensure remediation efforts were successful and to identify any new risks and vulnerabilities. The assessment should be conducted in 2023.

Assessment Remediation

- The Division of Enterprise & Technology Services should continue to ensure that issues identified in the Crowe assessment report, along with issues identified in previous assessment reports, are remediated and that controls remain in place when system changes occur. All recommendations should be implemented or in the case of business needs that make implementation not feasible, the risk of not implementing should be addressed through the formal security exemption process.

Personnel Related

- KPPA needs to proactively continue to make security-focused training available to all business and technical employees, as well as targeted security awareness materials related to the mission and operations of KPPA. This training will meet regulatory requirements and help ensure that our staff members protect member data and resources.

cc: John Chilton, KRS Chief Executive Officer
Ed Owens, CERS Chief Executive Officer
Rebecca H. Adkins, Executive Director, Office of Operations
Erin Surratt, Executive Director, Office of Benefits
Steve Willer, Executive Director, Office of Investments
Michael Board, General Counsel, Office of Legal Services
Lori Casey, Division Director, Human Resources
Connie Davis, Division Director, Accounting
Kristen Coffey, Internal Auditor

KENTUCKY PUBLIC PENSIONS AUTHORITY
David L. Eager, Executive Director
1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822

Kentucky Public Pensions Authority

MEMORANDUM

TO: Kristen Coffey, Director of Internal Audit Administration

FROM: Carrie Bass, Staff Attorney Supervisor, Office of Legal Services
Beth Camic, Staff Assistant, Office of Legal Services

DATE: November 18, 2022

SUBJECT: Potential Information Disclosures/Breaches
3rd Quarter Calendar Year 2022 / 1st Quarter Fiscal Year 2023

This memo outlines potential disclosure incidents made by the Kentucky Public Pensions Authority ("KPPA"), or any of its external vendors, during the 3rd Quarter of Calendar Year 2022 (July through September) (also known as 1st Quarter in Fiscal Year 2023), and compares them to previous each quarter in Calendar Year 2021.

SUMMARY OF POTENTIAL DISCLOSURES
3RD QUARTER OF CALENDAR YEAR 2022

Total disclosures investigated: 05

0 Implicated HIPAA/HITECH
0 Implicated state law
3 Implicated internal Data Disclosure Notification Policy
2 Found to not be an internal disclosure

Potential Information Disclosures/Breaches								
	Calendar Year 2021				Calendar Year 2022			
Number of Potential Disclosures by Type	1st Q	2nd Q	3rd Q	4th Q	1st Q	2nd Q	3rd Q	4th Q
Email	1	1	1	5	2	11	0	-
Postal Mail	4	2	3	0	6	2	5	-
Fax	0	0	0	0	0	-	0	-
Other	0	2	3	3	3	-	0	-
TOTAL	**5**	**5**	**7**	**8**	**11**	**13**	**5**	**-**
Members Affected - -- KRS & CERS	5	3	73	8	6	2	3	-
Members Affected - -- External	0	2	65	0	27	11	2	-

Number of Incidents by Source								
KPPA, KRS, & CERS	3	3	4	4	7	2	4	-
External Entity (e.g. Bus. Assocs)	2	2	3	2	4	11	1	-
TOTAL	**5**	**5**	**7**	**6**	**11**	13	5	-

POTENTIAL DISCLOSURES/BREACHES BY THE KPPA IN THE 2ND QUARTER OF CALENDAR YEAR 2022 / 4th QUARTER IN FISCAL YEAR 2022

Federal law (HIPAA/HITECH): There were no potential breach of protected health information by the KPPA during the 3rd Quarter of Calendar Year 2022.

State law (KRS 61.931, et seq.): There were no potential "security breaches" of "personal information" as defined by state law by the KPPA during the 1st Quarter of Calendar Year 2022.

Internal Data Disclosure:

- **Background:** Power of Attorney for member called and stated member received a packet from KPPA containing the member's documents as well as an income verification letter for another member with a similar name to the caller. Caller stated the packet was received sometime in May, but the caller had not had time to reach out to KPPA regarding the disclosure. Caller confirmed only she saw the contents of the letter meant for the other member. Caller promptly returned the letter to KPPA and the document was destroyed. The affected member was sent a copy of the disclosed letter.
    - **Root Cause:** Undetermined. However, the recipient and the affected member had almost identical names. It's likely the member's address was searched for by member name and the recipient's address was selected in error. This disclosure appears to be an isolated incident and there are no concerns for future disclosures at this process stage.
    - **Follow Up:** Reminded staff to look-up member contact information using member ID when possible.
- **Background:** Employer called their ERCE representative to report an employee received another member's retirement paperwork. Employer verified no one else saw the documentation except for the employer and their employee. The employer verified they destroyed the document.
    - **Root Cause:** Undetermined. Disclosure likely occurred during envelope stuffing stage. Only one similar incident reported during this quarter.
    - **Follow Up:** The Office Services Branch Manager stated they would remind staff to exercise caution when stuffing envelopes. Additional note, there were several envelope processes that changed during this quarter. Similar incidents have not been reported in the current quarter.

- **Background:** Caller reported receiving their retirement packet which included in the one a document belonging to another member. Caller verified no one else saw the document

2

and promptly returned to KPPA. The document was destroyed. The affected member was resent new paperwork.

- **Root Cause:** Undetermined. Disclosure likely occurred during envelope stuffing stage.
- **Follow Up:** The Office Services Branch Manager stated they would remind staff to exercise caution when stuffing envelopes. Additional note, there were several envelope processes that changed during this quarter. Similar incidents have not been reported in the current quarter.

EXTERNAL DISCLOSURES/BREACHES IN THE 2nd QUARTER OF CALENDAR YEAR 2022

- **Background:** Hearing Officer called legal department to report receiving an exceptions document pertaining to an appeal not assigned to them. Hearing Officer promptly returned. The assigned Hearing Officer was sent the correct documentation. Not considered to be a disclosure because Hearing Officers are contracted to receive confidential information from KPPA pertaining to cases.
  - **Root Cause:** Assigned Hearing Officer not verified prior to mail being sent out.
  - **Follow-Up**: To mitigate future risks, the support staff in both advocacy and non-advocacy divisions are checking for the correct hearing officer at all stages of the filing process.

- **Background:** Caller reported receiving health insurance and dependent verification forms for another member and their spouse. Third party vendor (Anthem) reported promptly and followed HIPPA guidelines.
  - **Root Cause:** Third party vendor – root cause unknown.
  - **Follow-Up**: Vendor followed all protocols as outline in contract and followed HIPPA guidelines.

RECOMMENDATION

This memorandum is provided for informational purposes only.

KENTUCKY PUBLIC PENSIONS AUTHORITY
David L. Eager, Executive Director
1260 Louisville Road • Frankfort, Kentucky 40601
kyret.ky.gov • Phone: 502-696-8800 • Fax: 502-696-8822

Kentucky Public Pensions Authority

MEMORANDUM

TO: Kristen Coffey, Director of Internal Audit Administration

FROM: Carrie Bass, Staff Attorney Supervisor, Office of Legal Services

DATE: November 18, 2022

SUBJECT: Anonymous Reports Received

The chart at the end of this Memorandum provides updated information on anonymous tips received by the Kentucky Retirement Systems prior to April 1, 2021 and the Kentucky Public Pensions Authority on and after April 1, 2021.

To summarize the information contained in the chart below, since the Joint Audit Committee of the Board of Trustees of the Kentucky Retirement Systems and the Board of Trustees of the County Employees Retirement System met on August 25, 2022, three (3) cases have been opened and five (5) cases have been opened and closed.

Additionally, the open cases can be summarized as follows:

- One (1) related to possible fraudulent disability payments;
- One (1) related to multiple retired members allegedly continuing to provide the same services to their former employers via contract arrangements;
- Four (4) related to an alleged prearranged agreement for an employee to retire and return to work for the same employer; and
- One (1) related to the alleged misreporting of an employee in a hazardous position.

Date Reported	Issue	Current Action	Status
Various	Possible fraudulent disability payments.	This tip involved two members. For one member, an administrative hearing process was initiated. The final result of that hearing process was that no fraudulent activity by this member was verifiable. A second member reported via the same tip is still being investigated.	Partially complete; partially pending
3/2/2022	Multiple retired members allegedly continuing to provide	The Office of Legal Services is reviewing compiled	Open

	the same services to their former employers via contract arrangements	information to determine if any action can or should be taken regarding the retired members.	
5/5/2022	Alleged prearranged agreement for an employee to retire and return to work for the same employer	The Office of Legal Services is investigating.	Open
5/17/2022	Alleged misreporting of employee in hazardous position	The Office of Legal Services is investigating.	Open
8/18/2022	Alleged prearranged agreement for an employee to retire and return to work for the same employer	The Office of Legal Services is investigating.	Open
8/18/2022	Alleged prearranged agreement for an employee to retire and return to work for the same employer	The Office of Legal Services investigated and determined this tip cannot be corroborated.	Opened, then closed
8/23/2022	Alleged prearranged agreement for two employees to retire and return to work for the same employer	The Office of Legal Services previously investigated this tip and determined this tip cannot be corroborated.	Opened, then closed
9/21/2022	Alleged prearranged agreement for an employee to retire and return to work for the same employer	The Office of Legal Services investigated and determined there was no violation of state or federal law.	Opened, then closed
9/22/2022	Alleged prearranged agreement for an employee to retire and return to work for the same employer	The Office of Legal Services is investigating.	Open
10/3/2022 10/28/2022	Alleged prearranged agreement for an employee to retire and return to work for the same employer	The Office of Legal Services is investigating.	Open
10/19/2022	Survivor benefit fraud	The Office of Legal Services was unable to identify a member account based on the information provided in this tip.	Opened, then closed
11/10/2022	Alleged failure to separate from service after retiring	The Office of Legal Services investigated and corroborated the tip. The member has been advised that they are not able to reemploy under state and federal law. No further action is required at this time.	Opened, then closed.

Kentucky Public Pensions Authority

Internal Audit Administration

Melinda Wofford – Internal Auditor

I joined Kentucky Public Pensions Authority May 2017 as a Retirement Counselor in the Division of Employer Reporting, Compliance and Education. I transferred to the Division of Internal Audit on October 1, 2022. I have a Bachelor's degree in Business Administration from Berea College and a Master's degree in Business Administration from Eastern Kentucky University. I'm currently working to complete an Accounting Certificate from Eastern Kentucky University. Upon completion of the certificate, I plan to sit for the CPA exam. Auditing experience includes close to 8 years as an internal auditor during my time spent at Corning Incorporated. Current professional memberships include Association of International Certified Professional Accountants (AICPA) and Kentucky Society of Certified Public Accountants (KYCPA).

William Prince – Auditor I

I first joined KPPA as an Audit Intern May 16, 2022, while a student at Eastern Kentucky University pursuing a Bachelor of Business Administration with a concentration in Management Accounting. During my time at EKU I was a member of their student chapter of The Institute of Management Accountants and the Tau Sigma Honor Society. I completed my degree and graduated from EKU in August 2022. Following graduation and the completion of my internship, I joined KPPA full time as an Auditor I on September 16, 2022.

Kentucky Public Pensions Authority

Internal Audit Administration

To: Members of the Joint Audit Committee

From: Kristen N. Coffey, CICA KNC
Division Director, Internal Audit Administration

Date: November 28, 2022

Subject: Fiscal Year 2023 Internal Audit Budget as of September 30, 2022

Account Number	Account Name	FYE 2023 Budget	FY 2023 Actual Expenditures	Remaining Budget	Percent Remaining
111	Salaries	$ 243,145.00	$ 52,100.76	$ 191,044.24	78.57%
121	Employer Paid FICA	18,600.59	3,902.10	14,698.49	79.02%
122	Employer Paid Retirement	196,611.56	37,308.87	159,302.69	81.02%
123	Employer Paid Health Insurance	40,000.00	6,879.06	33,120.94	82.80%
124	Employer Paid Life Insurance	46.00	9.00	37.00	80.43%
125	Employer Paid HRA	-	-	-	-
133T	Employee Training	1,000.00	-	1,000.00	100.00%
259T	Conference Expenses	2,000.00	-	2,000.00	100.00%
361T	Travel - In State	500.00	-	500.00	100.00%
362T	Travel - Out State	500.00	-	500.00	100.00%
381T	Dues & Subscriptions	1,500.00	-	1,500.00	100.00%
399T	Miscellaneous	200.00	-	200.00	100.00%
	Total	**$ 504,103.15**	**$ 100,199.79**	**$ 403,903.36**	**80.12%**

Current Internal Audit Projects

Project Name	State	Phase	Scheduled Start	Actual Start	Days Over/ (Under) Estimated Start Date	Scheduled End	Actual End	Days Over/ (Under) Estimated End Date	Estimated Hours	Actual Hours	Hours Over/ (Under) Estimated Hours
Audit/Reviews											
Employer Penalty Waiver (used as implementation test)	Open	Completion	7/8/2021	7/8/2021	0	11/19/2021	11/19/2021	0	150.00	69.50	(80.50)
Review of Chase Accounts	Open	Fieldwork	6/2/2022	6/2/2022	0	11/10/2022			2,100.00	1,536.20	(563.80)
Plan Liquidity Phase 3 - Available Cash Balance/Cash Projection	Open	Fieldwork	11/1/2021	11/1/2021	0	12/30/2022			800.00	672.75	(127.25)
Accuracy of Information Sent to DEI	Open	Fieldwork	4/5/2022	4/5/2022	0	12/30/2022			300.00	150.50	(149.50)
Receiving and Balancing Contributions	Open	Planning	4/19/2022	4/19/2022	0	12/30/2022			300.00	99.75	(200.25)
Follow-up: Reconciliation of Great Plains to eMARS	Open	Planning	9/26/2022	9/21/2022	(5)	1/31/2023			300.00	139.00	(161.00)

Other Projects											
August 2022 - Hiring Auditor 1	Closed	Completion	8/3/2022	8/2/2022	(1)	9/9/2022	9/7/2022	(2)	86.00	42.75	(43.25)
Review FY 2023 Annual Financial Report and Summary Financial Report	Open	Planning	9/1/2022	8/8/2022	(24)	11/16/2022			112.00	109.50	(2.50)
KPPA Inventory Project	Open	Planning	2/28/2022	2/28/2022	0	12/30/2022			75.00	10.50	(64.50)
Follow-up on Open Issues	Open	Fieldwork	11/1/2022	11/1/2022	0	2/10/2023			150.00	6.00	(144.00)
2023 IT Governance Review	Open		9/1/2022			3/16/2023			2.00	2.00	0.00
Update Charters	Open	Fieldwork	11/1/2022	9/30/2022	(32)	3/23/2023			30.00	2.50	(27.50)
Trustee Election Policy Updates	Open	Planning	11/1/2022	10/6/2022	(26)	4/4/2023			22.00	1.00	(21.00)
KPPA Risk Assessment	Open	Planning	7/1/2022	7/1/2022	0	5/12/2023			300.00	62.75	(237.25)
Audit Committee Meetings	Open	Planning	7/1/2022	7/1/2022	0	6/30/2023			65.00	14.50	(50.50)
Microsoft 365 Implementation	Open	Fieldwork	8/15/2022	8/15/2022	0	12/30/2022	11/10/2022	(50)	85.00	22.00	(63.00)
Trustee Election RFP	Open		12/1/2022			12/1/2023			125.00	2.75	(122.25)

March 2022

AGA Research

The State of Cybersecurity in Government

AGA™

Acknowledgments

AGA is proud to recognize members of our Corporate Partner Advisory Group's (CPAG) Technology Committee for supporting this effort

Contributors

Team Lead: Andre Leroux, Senior Consultant, CGI

Denise Bottomley, Business & Technology Transformation Consulting, EY

Kerry Canfield, Vice President, CGI

James Cox, Manager, CLA

Stacy Dawn, Director Consulting Expert, CGI

Julie Edwards, Director, CohnReznick

Christine Horwege, Director, CGI

Kevin Greer, Vice President, CGI

Michael Huffman, Chief Growth Officer, cBEYONData

Jennie Melchior, Director, Guidehouse

Ryan O'Conor, Manager, CLA

Paresh Patel, VP Consulting Expert, CGI

Angela Rey, Technical Advisor

Bill Sterbinsky, Technical Director, CGI

AGA

Ann Ebberts, MS, PMP, Chief Executive Officer

Susan Fritzlen, Chief Operating Officer

Mary Margaret Yodzis, Editor

AGA's Corporate Partner Advisory Group is a network of public accounting firms, major system integrators, IT companies, management consulting firms, financial services organizations, and education and training companies. These organizations all have long-term commitments to supporting the financial management community and choose to partner with and help AGA in its mission of advancing government accountability.

Type text here

AGA is the association that provides a network for connecting and empowering financial and related professionals to **advance** good government, **grow** their expertise and **accelerate** their careers!

The State of Cybersecurity in Government

Table of Contents

Introduction

Since the early 2000s, discussions among agency executives on technology and digital transformation typically did not include cybersecurity funding requirements as a primary driver. Priorities changed over the last ten years as the technological capabilities of bad actors matured. Today, the increasing need for cybersecurity resources leads chief information officers (CIO), chief information security officers (CISO), Inspectors General (IG) and IT front-line leaders to examine and consider cybersecurity priorities with CFOs, risk and audit committees, and operational and program leaders. The growing reliance on technology and interconnections, intensified by remote work, demonstrates the urgency in every agency to prioritize technology to meet its mission.

Events in the past 18–24 months, such as the 2020 data breach in the federal government and the Colonial Pipeline ransomware attack, appear to have raised agencies' concerns about cyber risks in operations. To better understand the current costs and risks of cybersecurity, volunteers from the Technology Committee of AGA's Corporate Partner Advisory Group (CPAG) interviewed leaders from several agencies, including CIOs, CISOs and IGs, and reviewed related industry journals and government reports to assess present spending priorities, constraints, drivers and risks for federal agencies to meet their missions. AGA also gathered their recommendations for planning and managing cybersecurity budgets.

At AGA's Technology & Transformation Summit (TTS) in November 2021, a panel on "The State of Cybersecurity in Government" discussed ways agencies currently prioritize cybersecurity solutions for financial and technical management. Panelists shared their challenges in planning for, acquiring, implementing and monitoring new technologies, and they reviewed governmentwide and agency-specific policies and associated processes to meet the demands of an "emerging cyber pandemic." Session moderators also polled the audience of approximately 700 government and industry leaders on their top cybersecurity concerns. All polling data is included in this paper.

Executive Summary

The Technology Committee of AGA's Corporate Partner Advisory Group (CPAG) gathered information for this report through numerous interviews, peer-reviewed industry articles, and polls of government and industry leaders. The research aimed to elucidate difficulties in cybersecurity funding and present solutions to address ongoing resource constraints. Researchers also examined the impact of mounting business requirements and funding priorities to support cybersecurity.

Interviewees included leaders from four large agencies within the Cabinet of the United States who are responsible for risk reporting, mitigation plans, budgets and security posture. The research also delved into recent regulatory mandates and guidance on cyber activities, articles on the increasing cost of ransomware and cybersecurity measures, and the insights of practitioners who participated in a panel discussion on cybersecurity at AGA's Technology and Transformation Summit (TTS) in November 2021.

Four distinct themes emerged from AGA's research:

1 Agencies struggle to acquire and preserve resources for cybersecurity.

The number of skilled professionals, the amount of technology funding, and the cybersecurity initiatives needed are not aligned with current business resource allocations. Near-term increases in funding and staff are not keeping up with the need for change and improvements, nor with required maintenance costs. Rapid technology advancement outpaced agencies' ability to hire, train and retain proficient cybersecurity personnel, mainly because the federal hiring process is slow and starting salaries are not competitive with more lucrative industry positions.

Which of the following events has created the most disruption to your short- and long-term funding plans?[1]

Choice	Percentage
A) Pandemic	52%
B) Employee turnover	26%
C) Regulatory changes	12%
D) Cyber threats or incidents (ransomware, attacks, forensics)	10%
E) Third party provider breaches	2%

Poll conducted at AGA's TTS 2021 on Nov. 18, 2021.

2 Crises affect priorities set by the agency funding model.

Agencies plan and allocate spending for long-term initiatives, complicating the appropriate apportionment or realignment of resources when a crisis occurs. Agencies not only need to respond quickly to threats and trends, but also need a proactive process to remain secure. Timelines for government contracts are elongated and burdensome, and they cause delays, constraints and inefficiencies in implementing upgrades and emerging technologies.

3 Technology and cybersecurity decisions need input from more than the CIO and CISO.

Most agencies view cybersecurity as a top priority. Yet lack of engagement at all levels of the organization exposes it to attacks and limits visibility for cyber leadership staff. Transformation efforts are most effective when product owners are committed at all operational levels.

4 Agency risk profiles are MODERATE with a trajectory to HIGH.

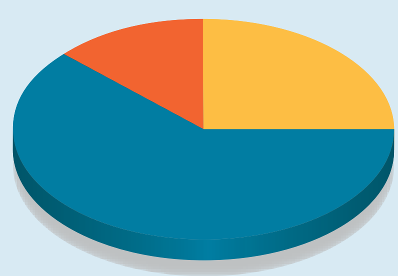
Cybersecurity is not a technical challenge; it is an enterprise risk management (ERM) challenge. Agency risk profiles are arguably "high" because federal entities are prime targets of cybercrime. The amount of data collected, transacted and stored by agencies is vast. Also, the compliance requirements for data governance and management increase an agency's risk profile. Nevertheless, attendees polled at AGA's 2021 TTS suggested current agency security posture may be moderate rather than high, as shown in **Figure 1**.

The remainder of this report details research findings, organized by the four themes stated above. It presents both cybersecurity challenges noted by agency leaders and recommendations for addressing them based on our analysis of the findings.

Figure 1. Agency Risk Rating

Based on the current security posture, compliance requirements and threats, how would you rate the risk profile at your organization or agency?

A) High 25%
B) Moderate 62%
C) Low 13%



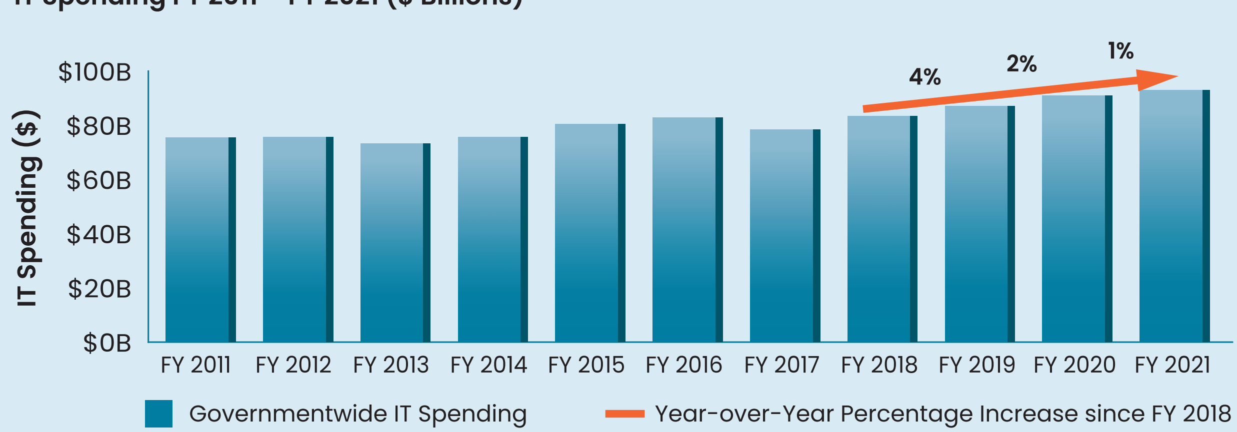
Agencies Struggle to Acquire and Preserve Resources for Cybersecurity

The uncertainty of available cybersecurity resources for the future directly affects an agency's ability to implement and maintain a comprehensive cybersecurity solution. Continued shortages in funding and personnel as well as complexities in managing technology are among the distinct concerns voiced by our interviewees. One solution is turning to trusted industry partners, an excellent resource for government entities seeking cybersecurity solutions.

Since agencies have trouble keeping up with rapid industry changes, and agency budgets usually require months to years of planning, getting outside help in cybersecurity may be necessary. Even with the transition to agile methodologies, federal budget cycles often do not align with needed technology and process updates, implementation deadlines or required reporting dates. Agencies must prepare to act quickly when a cyberattack occurs; the situation is urgent. More comprehensive IT strategic plans, plus action plans and roadmaps for transitioning from a current to a future state, can speed up agency response to critical threats.

Figure 2 illustrates governmentwide IT spending in the past decade and reflects a steady year-over-year increase since 2018, but this trend is not in line with agency automation and security requirements.[2] What the chart does not detail is that the increase in IT spending focuses primarily on health care agencies, Veterans Affairs, and the Department of Defense, leaving many other agencies' IT plans to stagnate or even decline. The more relevant measure is the percentage of spending on security and cybersecurity activities.

Figure 2. IT Dashboard Illustrates Agency IT Spending, Year-over-Year



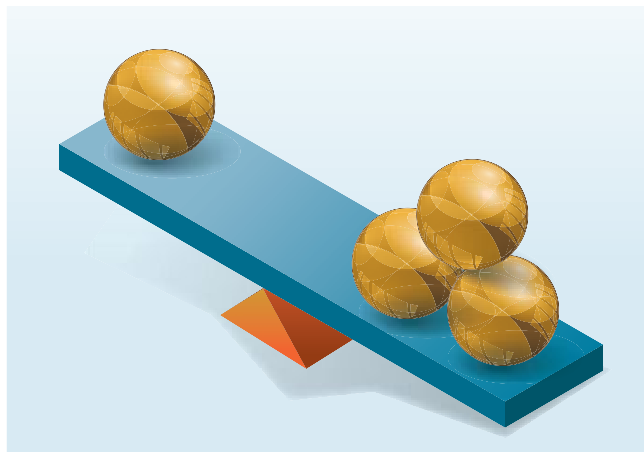
Source: https://itdashboard.gov/

Crises Affect Priorities Set by the Agency Funding Model

Agencies plan and allocate spending for long-term initiatives. Unplanned, short-term events can dramatically alter the availability of resources and strain an agency's funding capability to meet existing commitments alongside crisis response and federal mandates. As agencies struggle with these challenges, the supplemental appropriation will help them remediate pressing concerns, but it provides little to no resources to address future, unforeseen crises.

Risks are ever present, emergencies will undoubtedly occur, and agencies often acquire new responsibilities as top priorities while maintaining ongoing duties. For instance, COVID-19 forced agencies to create solutions and make large-scale changes in work environments to support ongoing operations during the pandemic, yet cybersecurity risks escalated with widespread telework. As more and more crises involve technology, the federal government may need to establish a Crisis Center of Excellence or Cybersecurity Center of Excellence involving collaboration among agency representatives to maintain operational progress as issues arise.

In preventative crisis management, the federal government struggles to meet the cost of technology implementation. Appropriating billions of dollars to remediate a hack like SolarWinds is simple in hindsight. Unfortunately, the initiatives that followed SolarWinds typically received little to no extra funding to modernize systems, despite mandates to upgrade. It is one thing to quantify cybersecurity risks, but another to complete business plans and align funding for them.



The latest cyberattacks on government agencies led to Executive Order (EO) 14028, *Improving the Nation's Cybersecurity*. The EO and its complementary directives and memoranda instruct agencies to move faster to correct issues in the software supply chain, vulnerability reporting, information sharing, and compiled log data. While the EO is part of a broader cyber plan that requires the coordination of skilled personnel, technology and deployments, the prospect of accomplishing its goals is daunting. A common theme that emerged from AGA's interviews and research indicates that the expectation of agencies to respond to cybersecurity requirements far outweighs available resources — specifically, people, process, technology, time and budget.

Technology and Cybersecurity Decisions Need Input from More than the CIO and CISO

Discussions must move past traditional CIO and CISO initiatives to include agency business leaders so that agencies can fully grasp the challenges they face. These conversations are most often included in the ERM agency assessments and reviews. Almost every organization is dependent on technology. For many professionals outside the CIO or CISO offices, technology and cybersecurity are hard to measure and understand from a business perspective, because security is often counted as a preventative cost. Business metrics focus on growth, revenue and time to market, whereas cybersecurity metrics address loss prevention and potential costs, making business value comparisons difficult. As agencies become ever more dependent on technologies and networks for business operations, all executives need to understand the impact of security breaches and make more data-driven decisions related to security. Cybersecurity is not a technical challenge; it is a risk management challenge for the entire organization and should be highlighted in every agency's ERM planning.

Quantifying risk and assessing ways to mitigate risk helps leaders, like the agency head, chief management officer, Undersecretary for Management or CFO, understand potential problems. Management executives may not understand the technical aspects of a cybersecurity issue or potential threat, but they will understand impacts on operations. Therefore, they need to fully understand the "internal attributes of IT systems [that] create risks and opportunities and generate costs. These attributes determine just how agile and resilient an organization can be, as well as how productive each marginal dollar of IT spending can be."[3]

> Over the last few years, many federal agencies have lost highly skilled workers in a variety of mission critical areas, which has made it more difficult for the federal government to accomplish its mission. These workers include, among others, scientists, climate professionals, mine inspectors, civil rights attorneys, housing professionals, and personnel with acquisitions, human capital, and cybersecurity expertise.[4]

Agencies Need to Acquire and Retain Qualified Cybersecurity Personnel

Cybersecurity concerns have escalated from non-existent 20–30 years ago to a top-tier priority in many agencies. Rapid technological advancement has outpaced agencies' ability to hire, train and retain high quality cybersecurity professionals. The hiring process in the federal government is slow. Competent people may stay within the government system but often move on to other internal or external agency positions, stalling progress in the departmental initiatives they leave behind. Other considerations in this personnel predicament are attrition rates, not accounted for in staffing procedures, and siloed departments that prevent cross training within teams. Many managers struggle to see the long-term benefit in the short-term cost of cross training an employee in another department.

Several government agencies are allowed to use Direct Hire Authority to bring in cybersecurity and other needed skill sets faster. For example, the U.S. Department of Homeland Security initiated a Cyber Talent Management System to address challenges in hiring, compensation and career development and attracting quality cybersecurity personnel.[5] However, for most agencies, the General Schedule (GS) pay scale for federal employees is still not competitive with private sector salaries for cybersecurity personnel. The GS precludes agencies from extending competitive offers to potential cybersecurity hires by restricting position and salary levels to the number of years served in the federal government, not the number of years worked in cybersecurity in general. As a result, many agencies cannot compete in the marketplace for talent.

Instead of simple "pay comparisons," the federal government should spell out a total compensation package so that potential candidates can weigh salary plus benefits in their decisions about job offers. Job mobility is one benefit that the federal government should certainly highlight, given the offices in every (or nearly every) state in the U.S., as well as overseas. Government employees could potentially enjoy opportunities to move around to accept advancements, yet retain their benefits or tenure towards retirement by remaining with the federal government.

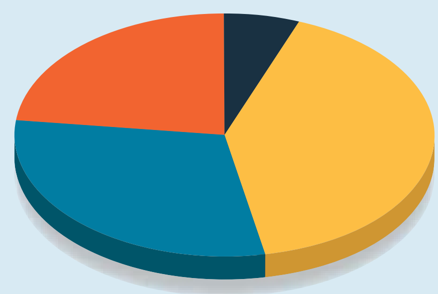
Endeavors such as the Office of Management and Budget's Federal Cyber Reskilling Academy attempted to train existing federal employees to meet upcoming cybersecurity demands. Although many attendees completed the required courses, they lacked the years of federal government experience to obtain positions that would qualify for higher pay as cybersecurity personnel.[6]

In addition, most cybersecurity personnel fall under the *2210 Computer Specialist* career field, a "catch all" for computer support that does not distinguish computer support by categories that compare with the IT industry. Some agencies encourage hiring managers to create positions in other career fields with fewer degree requirements; however, this approach could create problems because the overall requirements may eliminate cybersecurity positions. Business support functions, HR and the CFO staff, for instance, are not necessarily trained in or aware of the intricacies of cybersecurity, which results in incorrect job codification and funding. Agencies then find it even harder to compete for talent.

Presenting the threat, or risk, in a way that the business side of the agency comprehends will help the agency frame risks for informed decision-making about technology and cybersecurity issues. It must be made clear to financial leaders that the CIO and CISO need their help in addressing technology and cyber risks. Even though finance and operations departments may not understand the full extent of breaches or cyber incidents because of their technological complexity, they understand the funding requests to remediate damage, stabilize operations, and reinstate the integrity and availability of needed systems and data. Technology and security are no longer CIO-CISO problems; they are the problems of every leader in an agency.

There is a projected gap for security and technology skills over the next 10 years, what do you see as the primary constraint for acquiring your workforce needs?

- Industry is perceived more 'attractive' than government (pay, benefits, workplace, other) 41%
- Retention is difficult, causing turnover and loss of knowledge, skills and capability 30%
- Skillsets are constantly changing with the technology, tools, processes, cannot hire the right people fast enough 23%
- Pool of applicants does not meet requirements 6%



The Agency Risk Profiles Are MODERATE with a Trajectory to HIGH

Federal agencies are prime cyber targets because of their large amounts of collected, transacted and stored data. Recent reports[7,8] suggest a sound security posture and better compliance in the federal government, but a deeper dive into incidents, mitigations and current technologies indicate a different story. Gaps in software, services and supply chain risks have not been defined; plus, the size and scope of federal agencies cause mitigation efforts to take years to implement.

Cybersecurity is among the top three priorities in all federal agencies. An article in the *Summer 2021* issue of the *Journal of Government Financial Management* outlines the CFO's role in funding business initiatives and describes the significance of enterprise risk in prioritizing cybersecurity spending to protect taxpayers' money and information.[9] The article refers to business systems and ownership, rather than technology and security, as a responsibility that extends beyond the CIO and CISO. In our interviews for this report, a similar theme emerged. One agency leader said, "I really want to change the language… It is a mission and business system, and there is a business owner."

Since security systems directly influence the bottom line, their availability and capacity to store data, or their upkeep if they are legacy systems, influence operating costs, time to market, and customer delivery. One factor that affects federal agencies' cybersecurity management is the number of resources committed to compliance. Our interviewees openly shared information on the cost to meet system compliance requirements of the Federal Information Security Management Act (FISMA). In most agencies, the same personnel who keep data secure also must answer all of the compliance interviews and requests. Given time constraints and multiple demands in federal agencies, implementations can become rushed, incomplete or disjointed, leading to increased risk of attack and potential network security gaps. As agencies review the cost of compliance and business threats, limited resources remain to address emerging risks and apply complete changes to the business model. These impacts were evident as the COVID-19 pandemic rearranged priorities in many agencies. Therefore, agencies must view cybersecurity as a top priority in day-to-day operations and management and bring it to their technology status discussions.[10]

Recommendations

Some agency senior staff interviewed, as well as industry peer publications reviewed in this research, recommend that agencies:

- Revise their IT development approach and assign technology product ownership roles to business leaders.
- Update procurement processes to decrease time to market for new technologies.
- Improve communication within cybersecurity teams to enable cross training and support.
- Form partnerships with agency leadership to align and scale technology to meet operational, security and governance outcomes.

Summary

Our nation depends on every government agency making cybersecurity one of its top priorities for resource funding and risk reduction. Our polls provide evidence that cybersecurity is already a top priority; however, there is still more work to do to increase the participation and visibility of cybersecurity practitioners in the upper levels of business operations.

To achieve the desired result, the government C-Suite must become responsible for cybersecurity and technology decisions in tandem with operational decisions. If they have not already, agency leaders must shift their thinking about technology and cybersecurity strategies from the domain of CIOs and CISOs to a common concern of an entire agency. As the global community adjusts to the prevalence of complicated technology, connected devices, and competitiveness for limited cyber expertise, agencies, particularly the Office of Personnel Management, must become more agile in hiring, compensation and career development in the broader cybersecurity job market.

Based on your current business planning and funding process, how would you rank cybersecurity initiatives in relation to other funding requests for your organization or agency?

Choice	Percentage
A) Top 3	50%
B) Part of CIO budget planning only	28%
C) Not currently discussing	12%
D) Priority #1	10%

Poll conducted at AGA's TTS 2021 on Nov. 18, 2021.

> I really want to change the language...it is a mission and business system; and there is a business owner.
>
> —Jim Gfrerer

Endnotes

1 "The State of Cybersecurity in Government," Technology & Transformation Summit, Virtual Conference: AGA, T112, Nov. 18, 2021.

2 "Our information technology investments at work," https://itdashboard.gov/. Accessed Dec. 6, 2021.

3 Schwartz, M. "The CIO-CFO Conversation: Technical Debt—An Apt Term?" AWS Cloud Enterprise Strategy Blog, Dec. 16, 2020.

4 "Talent Surge: Playbook for Rebuilding the Federal Workforce," U.S. Office of Personnel Management, Dec. 2021.

5 https://www.dhs.gov/homeland-security-careers/cybersecurityservice. Accessed Nov. 11, 2021.

6 Bur, J. "What makes federal reskilling programs flourish or fail?" *Federal Times*, March 11, 2020.

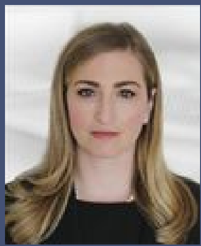
7 Executive Office of the President of the U.S. *Federal Cybersecurity Risk Determination Report and Action Plan*, May 2018.

8 GAO. *High-Risk Series*: *Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas* (GAO-19-157SP), March 6, 2019.

9 "The CFO on the Front Lines of Cybersecurity" *Journal of Government Financial Management*, Summer 2021, Vol. 70, No. 2, p. 26–30.

10 "2020 Global Security Attitude Survey," Crowdstrike.com.

www.agacgfm.org



LAURA H. POSNER
212.220.2925
lposner@cohenmilstein.com
V-CARD

Holding Auditors Accountable for Complicity in Corporate Fraud

The health of the U.S. financial markets and investors is dependent on auditors fulfilling their critical gatekeeping function. While the Sarbanes-Oxley Act led to great improvement in financial reporting, it didn't go far enough to ensure auditor independence, says Laura H. Posner, a Partner in Cohen Milstein.

In July, the Sarbanes-Oxley Act turned 20 years old. Sarbanes-Oxley, a landmark piece of legislation that transformed auditing and financial reporting in the wake of the Enron and Arthur Andersen scandal, has proven to be one of the most effective pieces of financial legislation passed since the enactment of the Securities Act of 1933 and the Securities Exchange Act of 1934.

Among other things, Sarbanes-Oxley led corporations to adopt and implement significantly more robust financial controls, leading to fewer and smaller restatements. But since it was enacted, both the financial markets and the Big Four accounting firms have transformed dramatically. Audit firms have expansive consulting arms, and financial products are significantly more complex. Legal developments have also made it increasingly difficult to hold fraudsters accountable when they run afoul of auditing rules and the securities laws. Perhaps most alarming is the dangerous pattern of auditors lacking independence from their clients, creating conflicts of interest that we must not ignore.

WHILE SARBANES-OXLEY LED TO GREAT IMPROVEMENT IN FINANCIAL REPORTING, IT DIDN'T GO FAR ENOUGH TO ENSURE AUDITOR INDEPENDENCE.

While Sarbanes-Oxley led to great improvement in financial reporting, it didn't go far enough to ensure auditor independence. Hopefully, the necessary changes will be made before the next auditing scandal rocks the markets and harms investors.

"Independent" Auditors

Sarbanes-Oxley attempted to ensure auditor independence, requiring engagement partners to rotate off clients every five years and audit firms to bar certain consulting work for audit clients. But the concept of the independent auditor in the U.S. has blurred as accounting firms have become increasingly ensconced in their clients, leading to erosion of investor confidence and opening the door to corporate misstatements, breaches of fiduciary duties, or worse—fraud.

An illustration of this is the recent report that Ernst & Young devised elaborate—and what federal authorities now claim were sham—tax shelters that allowed Perrigo, a leading maker of nonprescription drugs, to avoid more than $100 million in federal taxes. When Perrigo's outside auditor, BDO, questioned the legality of the tax shelters, Perrigo replaced BDO with Ernst & Young, which then blessed the transactions its consulting arm helped create. This is a prime example of why there must be a bright line defining what it means to be an independent auditor and proscribing what activities are permitted and which run afoul of auditor independence rules.

While the Securities and Exchange Commission has released some guidance on what kinds of relationships accounting firms and their auditing divisions can and cannot have with clients, it is not surprising that this activity still takes place. The client, after all, is the one who pays the bills.

Role of Litigation

Auditor independence issues often play an important role in private litigation, too. For example, investors recently settled securities litigation against Mattel Inc. and its auditor, PwC, for $98 million. According to Mattel's own audit committee, PwC's lead audit partner for the engagement violated auditor independence rules by providing recommendations on candidates for Mattel's senior finance positions. A Mattel whistleblower referenced in the complaint also alleged that PwC then helped cover up Mattel's valuation allowance misstatement that ultimately led to the need for a restatement. Mattel had improperly understated its net loss by approximately $109 million, effectively overstating earnings by $0.32 per share.

While Sarbanes-Oxley attempted to prevent such compromises of independence, the Mattel/PwC case demonstrates that the legislation did not go far enough and that further regulatory action and civil litigation is necessary to protect investors.

THE CONCEPT OF THE INDEPENDENT AUDITOR IN THE U.S. HAS BLURRED AS ACCOUNTING FIRMS HAVE BECOME INCREASINGLY ENSCONCED IN THEIR CLIENTS, LEADING TO EROSION OF INVESTOR CONFIDENCE AND OPENING THE DOOR TO CORPORATE MISSTATEMENTS, BREACHES OF FIDUCIARY DUTIES, OR WORSE—FRAUD.

Call for Regulators to Get Tough

In the U.S., accounting firms are regulated by both the SEC and the Public Company Accounting Oversight Board, a quasi-public agency created by Sarbanes-Oxley. SEC and PCAOB rules require audit firms to keep an arms-length relationship with the companies they oversee. In 2020, the SEC clarified the auditor independence rule under then-SEC Chairman Jay Clayton. Under the revised rules, companies are required to limit the number of services they provide to a single client to ensure objectivity and impartiality in their audit work.

Unfortunately, since the fall of Arthur Anderson in the wake of the Enron scandal, the SEC and PCAOB have often failed to go after auditors playing fast and loose with the rules. The death knell of Arthur Andersen—which was one of the "Big Five" auditing firms—was a massive blow to the accounting industry and gave many regulators cold feet in bringing claims against audit firms. When the Supreme Court later overturned the government's obstruction of justice case against Arthur Andersen, it further dampened enforcement efforts.

THE SEC RECENTLY ROLLED OUT A NEW ENFORCEMENT INITIATIVE AIMED AT INVESTIGATING CONFLICTS OF INTEREST IN THE NATION'S LARGEST ACCOUNTING FIRMS—A KEY STEP TO ENSURE AUDITORS ARE ACTING AS THE INDEPENDENT GATEKEEPERS.

The SEC recently rolled out a new enforcement initiative aimed at investigating conflicts of interest in the nation's largest accounting firms—a key step to ensure auditors are acting as the independent gatekeepers. One suggestion is for the SEC and PCAOB to look across the pond at the Competition and Markets Authority and Financial Reporting Council's recent hardline efforts to regulate the separation of the audit and non-audit practices of the UK's largest auditing firms—the same Big Four as in the U.S.—as a part of the UK's "Restoring Trust in Audit and Corporate Governance."

In addition to the Big Four establishing a separate regulatory audit board, FRC's April 2022 proposed revisions to the Audit Firm Governance Code stipulates a maximum tenure of nine years to guard against threats to independence and requires an independent non-executive to participate in the auditing process alongside the audit board. The INE would be entirely independent from the auditor and audited entities. It also would be meant to represent the public interest and act for the benefit of the common good, including that of the shareholder and other stakeholders.

Conclusion

The health of the U.S. financial markets and investors is dependent on auditors fulfilling their critical gatekeeping function. To do so, accounting firms must be truly independent from the companies they are auditing. ■

This Expert Commentary originally appeared in Bloomberg Tax on August 11, 2022.

Laura H. Posner is a Partner in Cohen Milstein's Securities Litigation & Investor Protection and Ethics and Fiduciary Counseling practices. Prior to joining Cohen Milstein in 2017, Posner was the Bureau Chief for the New Jersey Bureau of Securities.