



Audit and Compliance Committee Meeting

[1111 E. Main Street](#)  
[Third Floor Board Room](#)

Thursday, 12/8/2022  
10:00 AM - 12:00 PM ET

- I. Welcome
- II. Minutes of the September 13th Meeting
  - Meeting Minutes - Page 2*
- III. Matters for Discussion with the Auditor of Public Accounts
  - Matters for Discussion with the APA Cover Slide - Page 9*
  - A. Exit on 2022 Annual Comprehensive Financial Report
  - B. Entrance for 2022 Employer Assurances Review
    - APA December 2022 VRS Board Exit and Entrance - Page 11*
- IV. Results of the Quality Assurance Improvement Program
  - FY2022 QAIP Annual Results - Page 35*
- V. Quarterly Report on Fraud, Waste and Abuse Hotline Cases
  - Fraud Waste and Abuse Report: August 1, 2022 through October 31, 2022 - Page 38*
- VI. Management's Quarterly Travel Expenses and Per Diem Report
  - Quarterly Travel Expenses Q1 FY2023 - Page 42*
- VII. Confirmation of 2023 Meeting Schedule
  - 2023 Confirmed Board and Committee Meeting Dates - Page 53*
- VIII. Audit Reports
  - A. Report 447: General Ledger
    - General Ledger System: Audit Report - Page 55*
    - General Ledger System: Management's Response - Page 76*
  - B. Report 448: myVRS and the Fraud System (Closed Session)

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## Minutes

The Audit and Compliance Committee of the Board of Trustees met on September 13, 2022, at the Virginia Retirement System located in Richmond, Virginia. The following individuals were present.

Audit and Compliance Committee Members:

Joseph W. Montgomery, Committee Chair, Board Vice Chair  
W. Brett Hayes, Committee Vice Chair  
A. Scott Andrews, Board Chair

Other Members of the Board of Trustees:

J. Brandon Bell, II – attended remotely from Roanoke, Virginia under § 2.2-3708.3(B)(3)  
John M. Bennett  
Troilen G. Seward, Ed.S.

VRS Staff:

Patricia Bishop, Jennifer Schreck, Judy Bolt, Jeanne Chenault, Michael Cooper, Barry Faison, Laurie Fennell, Joshua Fox, Krystal Groff, Robert Irving, Curt Mattson, Gregory Oliff, Matthew Priestas, Steven Ramirez, Paula Reid, Kristy Scott, Leslie Weldon and Cynthia Wilkinson.

Guests:

Zach Borgerding and Erin Rodriguez, Auditor of Public Accounts

The meeting convened at 2:00 p.m.

### Opening Remarks

Mr. Montgomery called the meeting to order and welcomed everyone to the September 13, 2022, meeting of the Audit and Compliance Committee. After noting that meeting was being held in accordance with Section 2.2-3708.3(B)(3) of the *Code of Virginia*, Mr. Montgomery completed a roll call for attendance purposes:

Mr. Hayes: Present  
Mr. Andrews: Present  
Senator Bell: Present  
Mr. Bennett: Present  
Ms. Seward: Present  
Mr. Montgomery: Present

### Approval of Minutes

Upon motion of Mr. Andrews, seconded by Mr. Hayes, the committee approved the minutes of the Audit and Compliance Committee meeting held on June 16, 2022 with the following roll call vote:

Mr. Hayes: Aye  
Mr. Andrews: Aye  
Senator Bell: Aye  
Mr. Bennett: Aye  
Ms. Seward: Aye  
Mr. Montgomery: Aye

### **Audit Reports**

The committee received two audit reports from staff.

#### Audit Report 445 – Disability Retirements

Ms. Bolt presented the results of Internal Audit's review of Disability Retirements. The review determined disability retirement processes are operating as expected and disability retirement payments are valid, accurate and complete. There were no recommendations resulting from the review. The committee discussed current trends for disability retirement applications.

#### Audit Report 446 – Fixed Income and Securities Lending Programs

Mr. Fox presented the results of Internal Audit's review of the Fixed Income and Security Lending Programs. The review determined VRS provides appropriate oversight and monitoring of the programs. There were no recommendations resulting from the review.

### **Acceptance of the Audit Reports**

Upon motion of Mr. Bennett, seconded by Mr. Andrews, the committee accepted audit reports 445 and 446 as presented, with the following roll call vote:

Mr. Hayes: Aye  
Mr. Andrews: Aye  
Senator Bell: Aye  
Mr. Bennett: Aye  
Ms. Seward: Aye  
Mr. Montgomery: Aye

### **Annual Progress Reports on Internal Audit**

#### Annual Report on Internal Audit Department

Ms. Schreck recognized the contributions of the internal audit team over the past year. She explicitly confirmed to the committee that the VRS Internal Audit Department and its staff are organizationally independent of the activities they examine and possess the appropriate qualifications to meet the needs of the approved audit

plans. She also discussed the department's conformance with the Institute of Internal Auditors' *Standards* and noted that the departmental charter had been reviewed for potential updates and none were deemed necessary.

#### Annual Report on the Audit Recommendation Follow-up System

Ms. Schreck highlighted the Annual Report on the Audit Recommendation Follow-Up System (ARFUS) for management as of June 30, 2022. Ms. Schreck noted ARFUS contained ten internal recommendations, one of which was reviewed and released. As a result, there were nine outstanding recommendations in ARFUS which would be monitored during FY 2023.

#### Annual Reports on FY 2022 Audit Plan and FY 2021 - FY 2024 Long Range Plan Status

Ms. Schreck then presented the annual audit plan results for the fiscal year ended June 30, 2022, along with the status of the long-range audit plan for the four years ending June 30, 2024. Ms. Schreck noted modifications have been made to the long-range plan to accommodate the changing risk environment.

### **Proposed FY2023 Annual Audit Plan**

Ms. Schreck then presented the proposed audit plan for FY 2023, noting it is derived from the long-range plan, and represents the third year of the long-range audit plan period.

#### RBA: Approval of the FY2023 Annual Audit Plan

***Request for Board Action:*** *The VRS Board of Trustees approves the proposed FY2023 Annual Audit Plan.*

Upon motion of Mr. Andrews, seconded by Mr. Bennett, the committee approved the proposed Annual Audit Plan for fiscal year 2023 and recommended that the Board approve the plan as well with the following roll call vote:

Mr. Hayes: Aye  
Mr. Andrews: Aye  
Senator Bell: Aye  
Mr. Bennett: Aye  
Ms. Seward: Aye  
Mr. Montgomery: Aye

### **Quarterly Report on Fraud, Waste and Abuse Hotline Cases**

Ms. Bolt shared there was one Fraud, Waste and Abuse case reported for the period May 1, 2022 through July 31, 2022. The case was related to long term disability benefits, was unsubstantiated and closed.

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### Miscellaneous Updates

#### Review of Agency Performance Outcomes and Operational Measures

Ms. Schreck reported on Internal Audit's review of the Agency Performance Outcomes and Operational Measures for the fiscal year ended June 30, 2022, noting this information was shared with the Administration and Personnel Committee for their September 2022 meeting to support the Board's actions regarding the gain-sharing Bonus for Administrative staff.

#### Review of VRS Investment Variable Performance Program

Ms. Schreck disclosed the results of Internal Audit's review of the Investment Department's 2022 compensation calculations and noted the results would also be shared with the Administration and Personnel Committee at their September 2022 meeting to support the Board's actions regarding investment professionals' compensation.

#### Management's Quarterly Travel Expense and Per Diem Report

Ms. Schreck shared management's quarterly travel expense and per diem report was included in the meeting materials for the Audit and Compliance Committee's review.

#### Next Committee Meeting Date

Ms. Schreck noted the next meeting of the committee is scheduled for December 8, 2022, at 10:00 a.m. Ms. Schreck noted that board and committee members will be polled to determine board and committee meeting dates for calendar year 2023.

### Closed Session Motion

Mr. Hayes moved, with a second by Mr. Andrews, that the Audit and Compliance Committee of the Virginia Retirement System Board of Trustees convene a closed meeting in accordance with the Virginia Freedom of Information Act to evaluate the performance of the VRS internal audit director, pursuant to the personnel exemption at Virginia Code § 2.2-3711(A)(1).

The committee approved the motion upon the following roll call vote:

Mr. Hayes: Aye  
Mr. Andrews: Aye  
Senator Bell: Aye  
Mr. Bennett: Aye  
Ms. Seward: Aye  
Mr. Montgomery: Aye

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### Certification

Upon return to the open meeting, Mr. Hayes moved, with a second by Mr. Andrews, the following resolution:

WHEREAS, the Audit and Compliance Committee of the Virginia Retirement System Board of Trustees convened a closed meeting on this date pursuant to an affirmative recorded vote and in accordance with the provisions of the Virginia Freedom of Information Act; and

WHEREAS, § 2.2-3712 of the Code of Virginia requires a certification by this committee that such closed meeting was conducted in conformity with Virginia law;

NOW, THEREFORE, BE IT RESOLVED, that the committee certifies that, to the best of each member's knowledge, (i) only public business matters lawfully exempted from open meeting requirements under this chapter were discussed in the closed meeting to which this certification resolution applies, and (ii) only such public business matters as were identified in the motion by which the closed meeting was convened were heard, discussed or considered by the committee.

The committee approved the resolution upon the following roll call vote:

Mr. Hayes: Aye  
Mr. Andrews: Aye  
Senator Bell: Aye  
Mr. Bennett: Aye  
Ms. Seward: Aye  
Mr. Montgomery: Aye

### Audit Director's Performance Review

Upon exiting from the closed session, the committee indicated they would like to make a recommendation for approval to the full Board.

RBA: Approval of Performance Bonus for Audit Director

**Request for Board Action:** *The VRS Board of Trustees approves a 7% performance bonus for the audit director.*

Upon motion of Mr. Bennett, seconded by Mr. Andrews, the committee approved the performance bonus for the audit director and recommended approval by the Board as well, with the following roll call vote:

Mr. Hayes: Aye  
Mr. Andrews: Aye  
Senator Bell: Aye  
Mr. Bennett: Aye  
Ms. Seward: Aye  
Mr. Montgomery: Aye

**Meeting Adjournment**

There being no further business, upon motion by Mr. Andrews, seconded by Ms. Seward, the Audit and Compliance Committee adjourned the meeting at approximately 3:12 p.m. with the following roll call vote:

Mr. Hayes: Aye  
Mr. Andrews: Aye  
Senator Bell: Aye  
Mr. Bennett: Aye  
Ms. Seward: Aye  
Mr. Montgomery: Aye

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**Committee Chair**

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**Secretary**

# Matters for Discussion with the Auditor of Public Accounts



# Matters for Discussion with the APA

## Exit on the 2022 VRS ACFR Audit

The Auditor of Public Accounts (APA) anticipates finalizing their opinion on VRS' Annual Comprehensive Financial Report (ACFR) on December 7<sup>th</sup>. As the majority of their work is complete, they plan to exit with the Committee on December 8<sup>th</sup>. We are not aware of any formal, written audit recommendations for the audit; however, at the time of compilation of these materials, the APA's examination was in its final stages and certain observations may still be under consideration.

### QUESTIONS POSED TO EXTERNAL AUDITORS WHEN EXITING

For reference purposes, a list of example questions posed to external auditors when exiting is set forth below. However, exit meetings with the APA are typically informal, with questions posed as the members of the Committee see fit.

- Are there any unresolved accounting or auditing problems?
- Were there any significant adjustments to the accounting records?
- Were there any significant accounting or auditing problems encountered during the examination?
- Were there any significant changes in accounting policies or principles during the year?
- Are there any major year-to-year fluctuations in the amounts reported in the financial statements? What were the causes of the changes?
- In your review of other documents prepared by management (e.g., Department of Accounts ACFR submissions), did you identify any inconsistencies or material misstatements of fact?
- Were there any indications of financial weaknesses, which should be addressed by the Committee?
- Did you detect any material errors, fraud, illegal acts or significant deficiencies or material weaknesses in the internal control system?
- Are there any pertinent comments concerning operations in general?
- Did you review information furnished to others (e.g., actuaries)?
- Did the quality and quantity of personnel involved in the preparation and control of financial information appear adequate? Did personnel seem to be fulfilling their responsibilities in a conscientious and professional manner?
- Was the level of cooperation received from management and internal audit during the examination appropriate?
- Did you have enough time to complete all phases of your audit?

## APA Exit Materials

The APA has provided a series of slides highlighting the status of the audit and addressing certain required communications.

## APA 2022 Report on Internal Control

The APA's companion Report on Internal Control and Compliance issued in conjunction with its opinion on the financial statements will be provided to the Committee and Board of Trustees once finalized. Given the expected completion date for fieldwork, the APA anticipates releasing their report in January 2023.

## VRS 2022 ACFR

Due to the voluminous nature of VRS' ACFR, it is not included in the meeting materials. An unaudited draft report was provided to the Committee ahead of this meeting. Once finalized, the 2022 ACFR will be found on VRS' website at the following link, along with prior year annual reports dating back to 2002:

[Publications | Virginia Retirement System \(varetire.org\)](https://www.varetire.org/publications)

## Entrance on the VRS 2022 Employer Assurances Audit

The APA will entrance with the Committee on their 2022 Employer Assurances Audit. Materials relating to the entrance begin on page 12 of their presentation, which immediately follows this document. A copy of their engagement memorandum, which details the staffing, timing, scope and reports, as well as the terms of the engagement, will be discussed with management and provided to members of the Committee at a later date.

For reference purposes, a list of some types of questions posed to external auditors when entrancing is provided below. However, entrance meetings with the APA are typically informal, with questions posed as the Committee deems necessary.

### QUESTIONS POSED TO EXTERNAL AUDITORS WHEN ENTRANCING

- Do you anticipate any substantial changes in your audit approach, scope, standards, procedures, resources allocated or other circumstances which may significantly affect your examination?
- Are there any significant changes in generally accepted accounting principles or other changes which will significantly impact your examination, our financial reporting or your opinion thereon?
- Have you identified any possible changes in the character of VRS' activities? Have these changes, if any, affected your audit approach or scope?
- Are there any special areas in which you expect to focus?
- Are there any potential restrictions on your audit scope or other matters that could affect your audit opinion?
- Do you foresee any significant problems and, if so, how will they be handled?
- Are there any issues the Committee needs to be aware of or are there any areas where you require special assistance or cooperation from VRS?

### Scope

As was done for 2021, the scope of work for this year's Employer Assurances Audit will include the reporting requirements for Governmental Accounting Standards Board (GASB) Statement No. 68, Accounting and Financial Reporting for Pensions (as amended) and GASB Statement No. 75, Accounting and Financial Reporting for Post-Employment Benefits Other Than Pensions (as amended).

Certain programs administered by VRS will not be included in the scope due to immateriality.

### Engagement Memo

A more detailed document defining the terms of the audit engagement will be discussed with management and provided to members of the Committee at a later date.



## 2022 VRS Financial Statement Audit Update

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December 8, 2022

Zach Borgerding

Auditor of Public Accounts

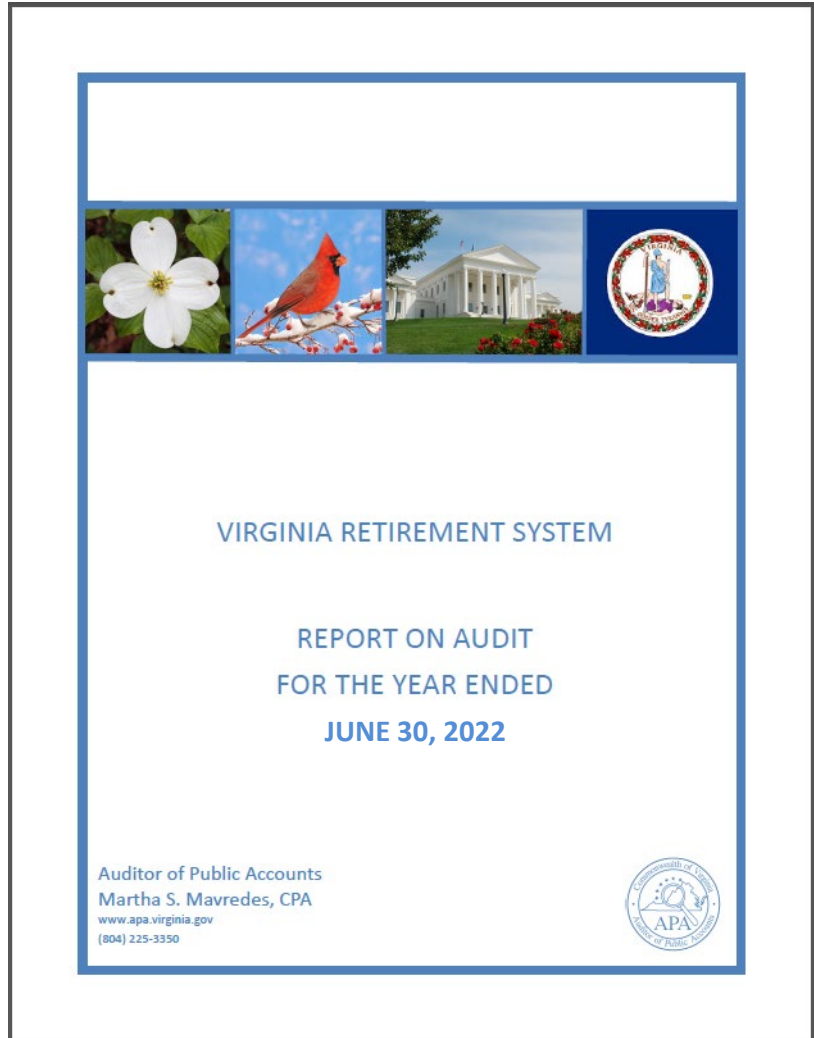
## Audit Status as of December 1<sup>st</sup>

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- Audit work is in final stage
- All adjustments currently proposed have been discussed with management
- Anticipate issuing an unmodified opinion to be dated December 7, 2022
- Anticipate issuing our report on internal controls and compliance in January, 2023

# Report on Internal Controls

- **Results of Internal Control and Compliance Testing as of Dec. 1<sup>st</sup>**
  - Recommendations involving information system security subject to FOIA Section 2.2-3705.2
  - No current year material weaknesses identified
  - No other material instances of non-compliance identified



## Fraud and Illegal Acts

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- Audit team assessed the risk of fraud through collaborative brainstorming process
- Audit team conducted interviews of employees throughout the agency asking about known or suspected fraud and fraud opportunities
- Audit team exercised professional skepticism throughout engagement
- **No fraud or illegal acts were identified as a result of the audit**

## Significant Accounting Policies and Estimates

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- No significant changes in accounting policies (See Note 1 in the Annual Report)
- Significant estimates include:
  - Fair value measurements
  - Actuarially determined amounts
- Audit team evaluated estimates and found them to be reasonable and fairly presented

# Substantive Audit Approach to Fair Value

Evaluation of pricing methodologies used by master custodian (BNY Mellon)

Fair Value Levels 1 & 2

Fair Value Level 3 & NAV

Analytical procedures

Comparisons of pricing to market quotes or secondary pricing vendors

Reviewed audited financials and manager statements

Reperformed roll-forward procedures as applicable

- See Note 5 in the VRS Annual Report for detailed information relating to fair value



# Opinion Letter: Emphasis of Matter Paragraph

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- Market volatility increased uncertainty of year-end valuations for alternative investments
- Paragraph emphasizes the uncertainty and points reader to relevant disclosures of the roll-forward estimation process
- **Our opinion is not modified with respect to this matter**

## *Emphasis of Matters*

### Relationship to the Commonwealth of Virginia

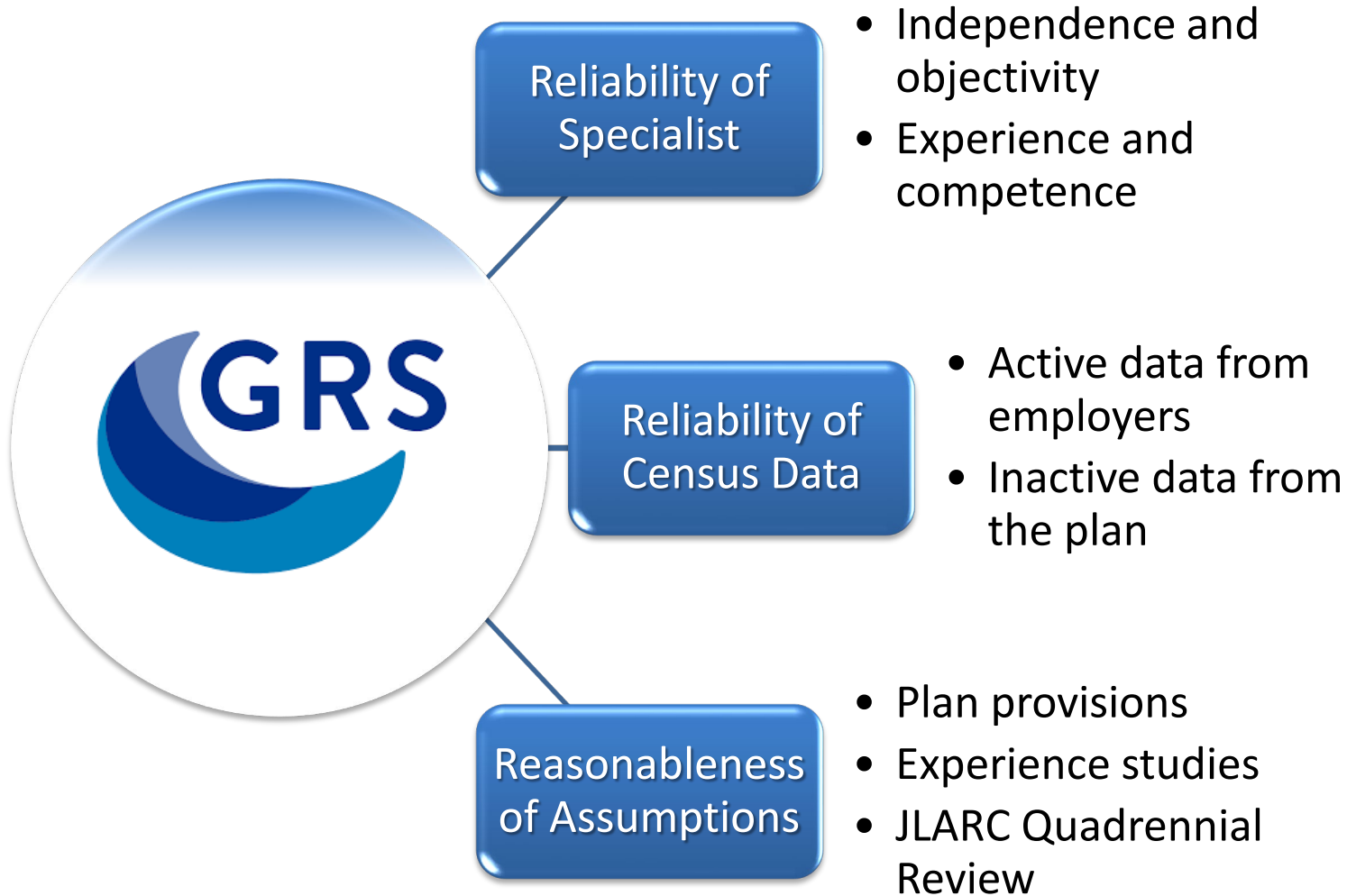
As discussed in Note 1, the basic financial statements of the System are intended to present the financial position, and the changes in financial position of only that portion of the aggregate remaining fund information of the Commonwealth of Virginia that is attributable to the transactions of the System. They do not purport to, and do not, present fairly the Commonwealth of Virginia's overall financial position as of June 30, 2022, and the changes in its financial position and its cash flows, where applicable, for the year then ended in conformity with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

### Investments with Values that are not Readily Determined

As discussed in Note 5 on page 97, the basic financial statements include real estate and private equity investments valued at approximately \$13.7 billion and \$32.5 billion, respectively, as of June 30, 2022, whose fair values have been estimated by management using a roll-forward process in the absence of readily determinable fair values. Our opinion is not modified with respect to this matter.

# Audit Approach to Actuarial Amounts

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# Census Data Responsibilities

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## Employers

- Responsible for accuracy of active member data
- CPA firms examine census data for local government



- Responsible for accuracy of inactive member data
- Ensures confidentiality, integrity, and availability of all census data in its custody
- Ensures accurate accumulation of data to the actuary



- Audits active member data for state employers
- Reviews active member data results for local government
- Audits inactive member data at the plan
- Audits plan's accumulation of data to the actuary

# Employer Audit Results - Active Member Data

## Local Government

- 336 examination reports on local government data received as of Nov. 30<sup>th</sup>
- 100% include a clean opinion over the accuracy of the data
- 18 (5%) reporting mostly minor errors in the data

## State Employers

- 9 audits have reported results as of Nov. 30<sup>th</sup>
- 2 exceptions out of at least 1,000 data elements tested for 239 members
- No internal control deficiencies reported

- See Notes 2 and 3 and Actuarial Section in VRS Annual Report for additional information on actuarial amounts and assumptions

# Additional Audit Results

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- Our audit identified:
  - Proper treatment of accounting principles
  - No material alternative accounting treatments
  - No significant disagreements with management



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# **Employer Audit Assurances**

*Employer Resources to Comply with GASB 68 and 75*

## **AUDIT ENGAGEMENT ENTRANCE**

# Audit Logistics

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- Timing:
  - Audit Period: July 1, 2021 – June 30, 2022
  - Audit Timing: February, 2023 – June, 2023
- Audit Team:
  - Zach Borgerding (Project Manager)
  - Erin Rodriguez (In-Charge)
  - Gary Gammon (Co-In-Charge)
  - Audit Staff
- Timing of staff auditors anticipated to align with planned availability of actuarial schedules

# Our Team

Zach Borgerding

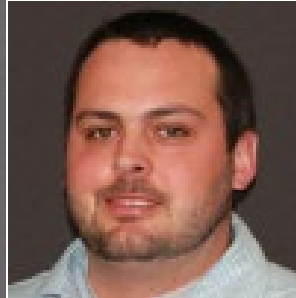
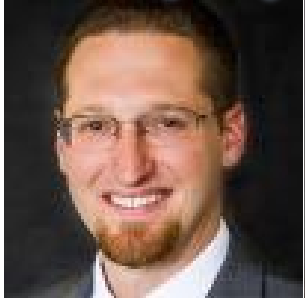
Erin Rodriguez

Gary Gammon

Danielle Tolford

Ben Rubert

Bill Clymer



- Director
- 13 years experience
- 6 years experience with VRS
- CPA, CISA and CGFM
- Specialty Focus: Reporting and Standards

- Senior
- 4 years experience
- 4 years experience with VRS
- MBA
- Specialty Focus: Data Analysis

- Supervisor
- 5 years experience
- 6 months experience with VRS
- CFE, MBA
- Specialty Focus: Strategic Risk and Project Management

- Auditor
- 2 years experience
- 1 year experience with VRS
- Specialty Focus: Data Analysis

- Associate Auditor
- 1.5 years experience
- 6 months experience with VRS
- Specialty Focus: Data Analysis

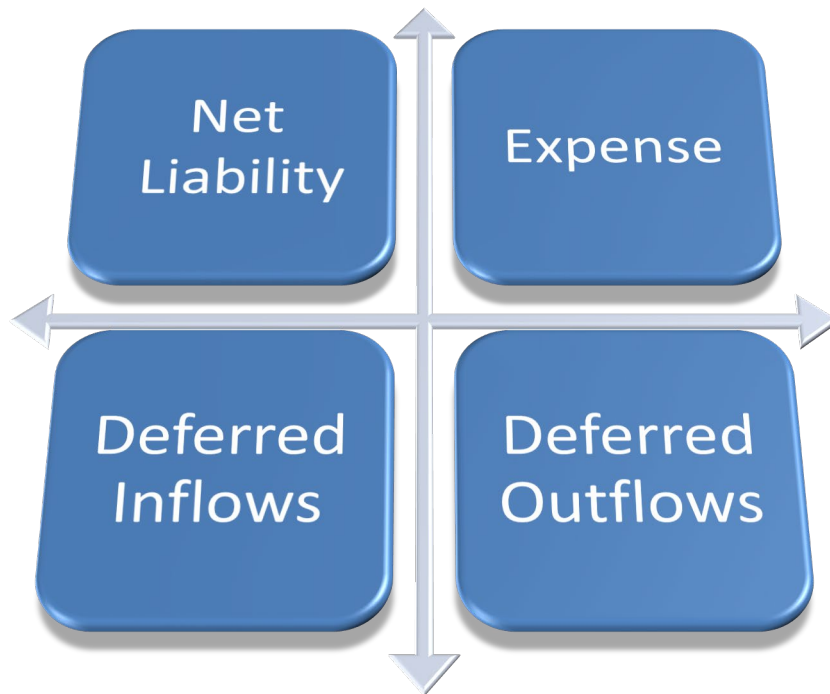
- Associate Auditor
- 1.5 years experience
- 1 year experience with VRS
- Specialty Focus: Reporting and Standards



# Cost Sharing APA Audit Assurances

- Provide opinion on Pension/OPEB amounts at plan level

- Provide opinion on employer allocation percentages



Employer Code	Employer	Employer Contributions	Employer Allocation Percentage
40100	ACCOMACK COUNTY SCHOOL BOARD	\$ 3,023,764	0.35461%
40101	ALBEMARLE COUNTY SCHOOLS	9,491,479	1.11311%
40102	ALLEGHANY COUNTY SCHOOL BOARD	1,435,188	0.16831%
40103	AMELIA COUNTY SCHOOL BOARD	903,338	0.10594%
40104	AMHERST COUNTY SCHOOL BOARD	2,704,879	0.31721%
40105	APPOMATTOX COUNTY SCHOOL BOARD	1,176,909	0.13802%
40106	ARLINGTON PUBLIC SCHOOLS	29,095,514	3.41217%
40107	AUGUSTA COUNTY SCHOOL BOARD	6,291,642	0.73785%
40108	BATH COUNTY SCHOOL BOARD	498,809	0.05850%
40109	BEDFORD COUNTY SCHOOL BOARD	5,682,514	0.66642%
40110	BLAND COUNTY SCHOOL BOARD	483,108	0.05666%
40111	BOTETOURT COUNTY SCHOOLS	3,106,162	0.36427%
40112	BRUNSWICK COUNTY PUBLIC SCHOOLS	1,137,210	0.13337%
40113	BUCHANAN COUNTY SCHOOL BOARD	1,757,633	0.20613%
40114	BUCKINGHAM COUNTY SCHOOL BOARD	1,213,826	0.14235%

## Cost Sharing Plans under Audit

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- Teacher's Pension Plan
- State Pension Plan
- Teacher's Retiree Health Insurance Credit
- State Retiree Health Insurance Credit
- Group Life Insurance (GLI)
- Virginia Sickness and Disability Program (VSDP)
- Line of Duty Act (LODA)
- Virginia Local Disability Program (VLDP) will not be audited due to immateriality

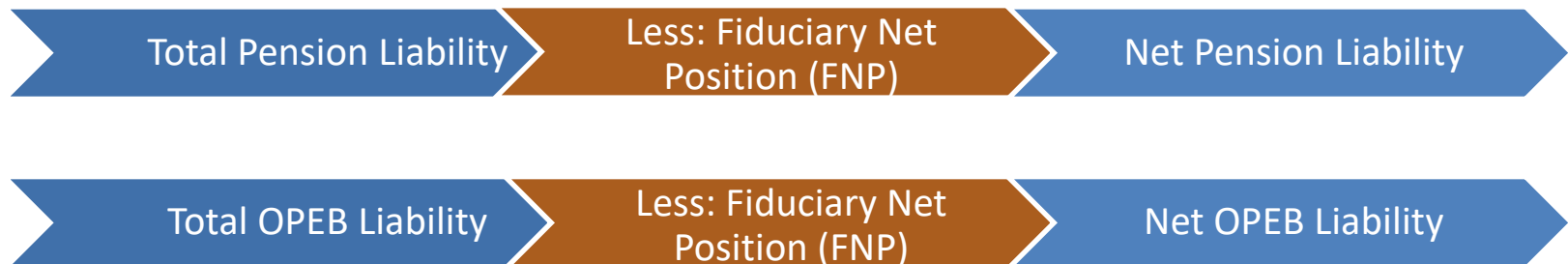
# Agent Multiple Plan APA Assurances

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Provide opinion on proper accumulation of census data by the plan

Provide opinion on fair presentation of changes in fiduciary net position by employer

Net liabilities are the residual balance of total liabilities and fiduciary net position



## Agent Multiple Plans under Audit

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- Political Sub-division Pension Plans
- Political Sub-division Retiree Health Insurance Credit
- The following Retiree Health Insurance Credit Plans will not be audited due to immateriality:
  - Constitutional Officers
  - Registrars
  - Social Services Local Employees

## Examination Opinion – Census Data

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- Examination reports will include management assertions defining significant census data fields accumulated to the actuary
- Two separate reports and opinions will be issued for pension and OPEB census data
- Examination opinions will attest to management's assertion
- Employer information may be provided in two batches – pensions then OPEBs

## Internal Controls Report

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- We will not issue an internal controls report for this engagement
- Any significant internal control deficiencies will be reported to the Committee in a timely manner and included in the internal controls report for the FY 2023 financial statement audit

## Audit Billing for Employer Assurances

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- APA will bill VRS for work performed in accordance with existing memorandum of understanding (MOU)
- MOU instructs APA to bill for actual hours worked not to exceed \$259,500 unless mutually agreed to in advance
- APA has not previously exceeded the maximum and does not anticipate excesses for fiscal year 2022

## Terms of the Engagement

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A more detailed document defining the terms of the audit engagement will be discussed with management and provided to members of the Committee at a later date.



## Intended Use Statement

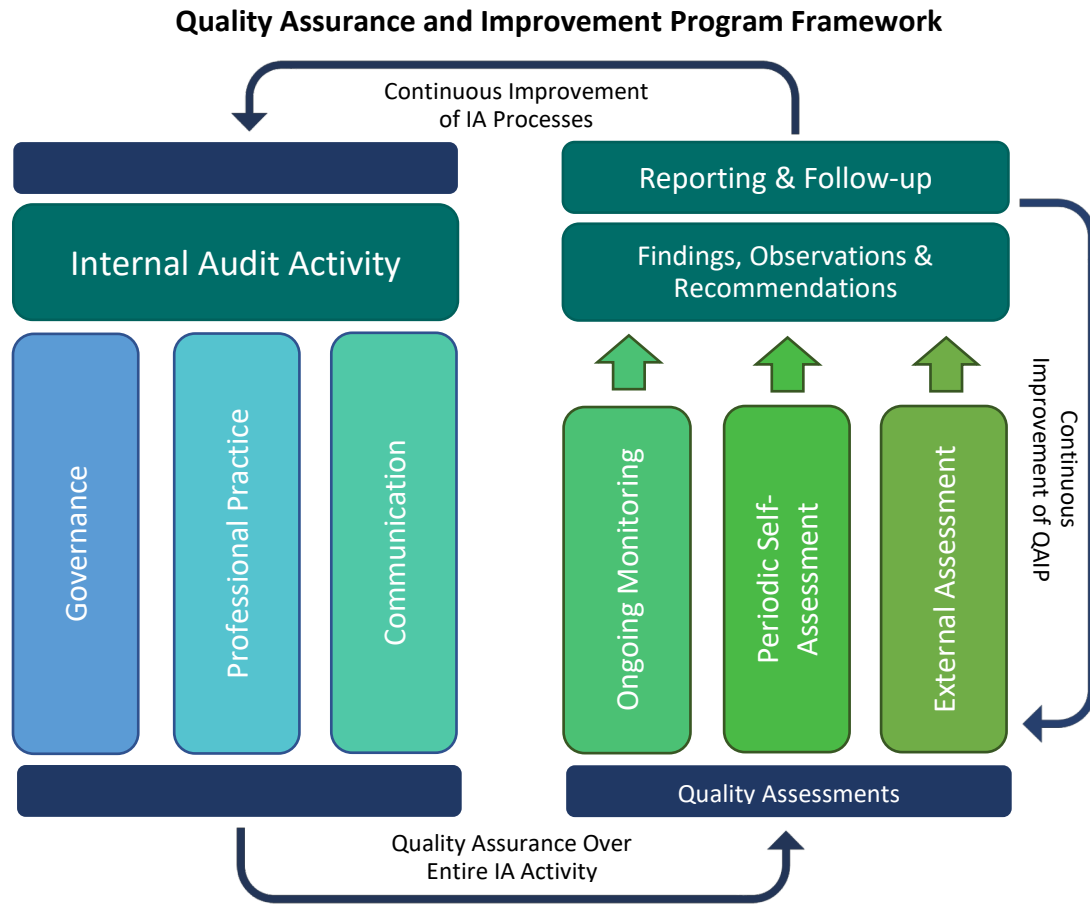
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***This presentation is intended solely for the information and use of those charged with governance and management, and is not intended to be, and should not be, used by anyone other than these specified parties.***

# Internal Audit Quality Assurance Review

# Quality Assurance and Improvement Program

In compliance with the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing*, the VRS Internal Audit Department implemented a continuous Quality Assurance and Improvement Program (QAIP).



As a part of this program, the Department performs on-going monitoring and conducts a self-assessment on an annual basis. The self-assessment is managed and executed by the principal auditor charged with responsibility for this program. A formal external assessment is performed once every five years. The next external assessment will cover FY 2024, the results of which will be reported out in the fall of FY 2025.

*Quality Assurance Improvement Program*



The requirements and characteristics of quality in an internal audit activity are defined by the IPPF which consists of mandatory and recommended guidance, all provided within the context of the Mission of Internal Audit as defined in the IPPF.

## Overall Conclusion

Our review of the internal audit process and activity for FY 2022 concluded there is reasonable assurance that the VRS Internal Audit Department continues to generally conform with the *International Standards for the Professional Practice of Internal Auditing*.

# Annual QAIP Review Highlights for FY 2022



# Quarterly Report on Fraud, Waste and Abuse

# Report of Alleged Fraud, Waste and Abuse Hotline Cases

**For Complaints Received During the Period  
August 1, 2022 through October 31, 2022**

## **SUMMARY OF CASES REVIEWED AND CLOSED**

During the period August 1, 2022 through October 31, 2022, we did not receive any cases of potential Fraud, Waste and Abuse from the Office of the State Inspector General or other sources.

## Background

Fraud, Waste and Abuse relating to VRS can be comprised of any number of concerns. Such items can be reported to VRS' Internal Audit Department directly or through the Office of the State Inspector General (OSIG) State Employee Fraud, Waste and Abuse Hotline. (A majority of complaints are received through OSIG.)

All matters that relate to Fraud, Waste and/or Abuse reported are reviewed to determine the proper protocol for investigation.

## Committee Reporting

Cases of a serious and/or significant nature will be reported to the VRS Audit and Compliance Committee immediately. At a minimum, a summary of all Hotline cases will be reported to the Audit and Compliance Committee on a quarterly basis.

## Retention

Hardcopy documents, including handwritten notes, are stored in a secure location until the case is closed, upon which they are shredded. Electronic files are stored on Internal Audit's secured drive. Documentation containing case details are labeled "**CONFIDENTIAL – STATE FRAUD, WASTE AND ABUSE HOTLINE DOCUMENTS**" and sensitive items are labeled FOIA Exempt. As appropriate, files are disposed of in accordance with the Library of Virginia's retention policy.

# FRAUD, WASTE AND ABUSE CASE MANAGEMENT

## PROCESSING OF COMPLAINTS

When received, the Audit Director and Hotline Auditor perform a preliminary review of the complaint. After initial discussion, the Hotline Auditor determines whether a formal response is required by OSIG (cases referred by OSIG may or may not require a formal response, depending on the nature of the complaint) and adds the case to Internal Audit's Hotline Tracking System.

The Hotline Auditor sets up a case file on Internal Audit's secured and restricted drive to maintain confidentiality. The Hotline Auditor then evaluates the case details and may review information available in VRS' systems to obtain further details about the subject of the complaint. Additionally, the Hotline Auditor may forward the details of the case to other VRS personnel for review. The Hotline Auditor also notifies the VRS Director of the case.

Complaints regarding disability benefits constitute the large majority of the Hotline cases received by VRS. The Hotline Auditor will meet with appropriate VRS staff, as necessary, to discuss details of the case in order for all parties to proceed forward with their portion of the investigation. Complaints forwarded to others are monitored for resolution. Actions and determinations for cases are reviewed for reasonableness by the Hotline Auditor. Once a determination of appropriate action has occurred, such action is documented in the Internal Audit case file and on the Hotline Tracking System. The Internal Audit Director is apprised of all actions and determinations.

For other complaints, such as internal fraud, waste or abuse (examples could include abuses of various types of leave, teleworking policies, employee theft, etc.), the Hotline Auditor investigates the allegation and obtains supporting documentation from management, as needed. If a determination is made that there is a reasonable possibility of fraud, waste or abuse, management is notified of the allegation by the Audit Director and given a reasonable timeframe in which to report back to the Audit Director any actions taken regarding the allegation. The Audit Director determines the reasonableness of such action, reports the actions and resolution of the complaint to the Hotline Auditor who documents the results in the case file and on the Hotline Tracking System.

All investigation results are reported to the VRS Director and members of the VRS Audit and Compliance Committee once a case is resolved, regardless of the outcome.




# Management's Quarterly Travel Expenses and Per Diem Report



P.O. Box 2500, Richmond, VA 23218-2500  
Toll-free: 888-827-3847  
Website: [varetire.org](http://varetire.org)  
Email: [vrs@varetire.org](mailto:vrs@varetire.org)

Patricia S. Bishop  
*Director*

## MEMORANDUM

**To:** Jennifer P. Schreck, Internal Audit Director  
**From:** Patricia S. Bishop, Director   
**Date:** November 29, 2022  
**Subject:** Summary of Travel Related Expenses

I am attaching the following:

1. Summary of Travel Related Expenses Paid During the Quarter of and Fiscal Year-to-Date Through September 30, 2022.
2. Summary of Other Sponsored Travel Related Expenses Paid During the Quarter of and Fiscal Year-to-Date Through September 30, 2022. **There was no reportable Other Sponsored Travel Related Expenses for the period.**
3. Detail of Travel Related Expenses Paid During the Quarter of and Fiscal Year-to-Date Through September 30, 2022.
4. Record of Attendance and Per Diems for the Quarter Ended September 30, 2022.

This information should be shared with the Audit & Compliance Committee.

If you have any questions, please do not hesitate to ask.

PSB/lbk

Attachments

**Summary of Travel Related Expenses**  
**Virginia Retirement System**  
**Board/Committee Members and Selected VRS Staff**

Fiscal Year-To-Date **Q1 2023**

Traveler	Current Quarter Expenses											Fiscal Year-To-Date Expenses					
	Total Travel			Out-of-State-Travel								Total Travel			Out-of-State-Travel		
	Sponsor Paid	VRS Paid	Total	# Trips	Cost	Travel reasons							Sponsor Paid	VRS Paid	Total	# Trips	Cost
AM						BD	CF	DD	MM	SV	TR						
Andrews, Allen	-	\$674.06	\$674.06	-	-	-	-	-	-	-	-	-	-	\$674.06	\$674.06	-	-
Beasley, Michael	-	\$1,262.19	\$1,262.19	-	-	-	-	-	-	-	-	-	-	\$1,262.19	\$1,262.19	-	-
Bell II, John	-	\$490.00	\$490.00	-	-	-	-	-	-	-	-	-	-	\$490.00	\$490.00	-	-
Deo, Ravindra	-	\$144.94	\$144.94	-	-	-	-	-	-	-	-	-	-	\$144.94	\$144.94	-	-
Disharoon, Michael	-	\$300.00	\$300.00	-	-	-	-	-	-	-	-	-	-	\$300.00	\$300.00	-	-
Garrett, William	-	\$128.75	\$128.75	-	-	-	-	-	-	-	-	-	-	\$128.75	\$128.75	-	-
Irvin, Shannon	-	\$153.75	\$153.75	-	-	-	-	-	-	-	-	-	-	\$153.75	\$153.75	-	-
Lewis, Wilbert	-	\$441.11	\$441.11	-	-	-	-	-	-	-	-	-	-	\$441.11	\$441.11	-	-
Montgomery, Joseph	-	\$210.00	\$210.00	-	-	-	-	-	-	-	-	-	-	\$210.00	\$210.00	-	-
Muralidhar, Arun	-	\$302.84	\$302.84	-	-	-	-	-	-	-	-	-	-	\$302.84	\$302.84	-	-
Seward, Troilen	-	\$168.75	\$168.75	-	-	-	-	-	-	-	-	-	-	\$168.75	\$168.75	-	-
Bishop, Patricia	-	\$4,741.39	\$4,741.39	1	\$4,741.39	-	-	1	-	-	-	-	-	\$4,741.39	\$4,741.39	1	\$4,741.39
Chenault, Jeanne	-	\$3,009.94	\$3,009.94	1	\$2,865.08	-	-	1	-	-	-	-	-	\$3,009.94	\$3,009.94	1	\$2,865.08
Adelaar, Stephen	-	\$1,291.60	\$1,291.60	1	\$1,121.66	-	-	-	-	1	-	-	-	\$1,291.60	\$1,291.60	1	\$1,121.66
Alouf, John	-	\$797.46	\$797.46	1	\$797.46	-	-	1	-	-	-	-	-	\$797.46	\$797.46	1	\$797.46
Apte, Advait	-	\$1,459.97	\$1,459.97	1	\$1,459.97	-	-	1	-	-	-	-	-	\$1,459.97	\$1,459.97	1	\$1,459.97

Travel Reasons Legend			
AM	Advisory/Assoc. Meeting	MM	Manager Meeting
BD	Board Related	SV	Site Visit
CF	Conference	TR	Training
DD	Due Diligence		

**Summary of Travel Related Expenses**  
**Virginia Retirement System**  
**Board/Committee Members and Selected VRS Staff**

Fiscal Year-To-Date **Q1 2023**

Traveler	Current Quarter Expenses												Fiscal Year-To-Date Expenses				
	Total Travel			Out-of-State-Travel									Total Travel			Out-of-State-Travel	
	Sponsor Paid	VRS Paid	Total	# Trips	Cost	Travel reasons								Sponsor Paid	VRS Paid	Total	# Trips
AM						BD	CF	DD	MM	SV	TR						
Billingslea, Erica	\$2,652.86	\$1,436.18	\$4,089.04	2	\$4,089.04	-	-	-	-	2	-	-	\$2,652.86	\$1,436.18	\$4,089.04	2	\$4,089.04
Chang, Warren	-	\$858.56	\$858.56	1	\$858.56	-	-	-	1	-	-	-	-	\$858.56	\$858.56	1	\$858.56
Coleman, Thomas	-	\$981.06	\$981.06	1	\$981.06	-	-	-	1	1	-	-	-	\$981.06	\$981.06	1	\$981.06
Corsello, Perry	\$1,576.53	\$22.50	\$1,599.03	1	\$1,599.03	1	-	-	-	-	-	-	\$1,576.53	\$22.50	\$1,599.03	1	\$1,599.03
Gentry III, William	\$1,263.10	\$6.00	\$1,269.10	1	\$1,269.10	1	-	-	-	1	-	-	\$1,263.10	\$6.00	\$1,269.10	1	\$1,269.10
Jones, De'Von	\$2,476.17	\$665.57	\$3,141.74	2	\$3,141.74	1	-	-	1	1	-	-	\$2,476.17	\$665.57	\$3,141.74	2	\$3,141.74
Koutrakos, Kristina	-	\$2,696.69	\$2,696.69	2	\$2,696.69	-	-	1	-	1	-	-	-	\$2,696.69	\$2,696.69	2	\$2,696.69
Lacy, Matthew	-	\$767.86	\$767.86	1	\$767.86	-	-	-	1	-	-	-	-	\$767.86	\$767.86	1	\$767.86
Le, Vu	-	\$6,321.61	\$6,321.61	2	\$6,321.61	-	-	2	-	-	-	-	-	\$6,321.61	\$6,321.61	2	\$6,321.61
Macknight, Jennifer	-	\$152.50	\$152.50	1	\$152.50	-	-	-	1	-	-	-	-	\$152.50	\$152.50	1	\$152.50
Matoua, Katherine	-	\$2,159.85	\$2,159.85	2	\$2,159.85	-	-	1	-	1	-	-	-	\$2,159.85	\$2,159.85	2	\$2,159.85
Muniz, Alex	-	\$4,434.48	\$4,434.48	1	\$4,434.48	-	-	1	-	-	-	-	-	\$4,434.48	\$4,434.48	1	\$4,434.48
Murphy, James	\$10,873.84	\$575.80	\$11,449.64	3	\$11,449.64	2	-	-	-	3	-	-	\$10,873.84	\$575.80	\$11,449.64	3	\$11,449.64
Sarki-Hurd, Hajara	\$3,616.88	\$48.82	\$3,665.70	2	\$3,665.70	2	-	-	-	2	-	-	\$3,616.88	\$48.82	\$3,665.70	2	\$3,665.70
Schoeller, Jennifer	-	\$180.51	\$180.51	1	\$180.51	-	-	-	1	-	-	-	-	\$180.51	\$180.51	1	\$180.51
Turner, Korey	-	\$1,148.84	\$1,148.84	1	\$1,148.84	-	-	-	-	1	-	-	-	\$1,148.84	\$1,148.84	1	\$1,148.84
Voeks III, Robert	\$436.60	\$15.00	\$451.60	1	\$451.60	1	-	-	-	-	-	-	\$436.60	\$15.00	\$451.60	1	\$451.60
Woodall, Steven	-	\$1,177.78	\$1,177.78	1	\$1,177.78	-	-	1	-	-	-	-	-	\$1,177.78	\$1,177.78	1	\$1,177.78

Travel Reasons Legend			
AM	Advisory/Assoc. Meeting	MM	Manager Meeting
BD	Board Related	SV	Site Visit
CF	Conference	TR	Training
DD	Due Diligence		

Summary of Travel Related Expenses  
 Virginia Retirement System  
 Board/Committee Members and Selected VRS Staff

Fiscal Year-To-Date **Q1 2023**

Traveler	Current Quarter Expenses											Fiscal Year-To-Date Expenses					
	Total Travel			Out-of-State-Travel								Total Travel			Out-of-State-Travel		
	Sponsor Paid	VRS Paid	Total	# Trips	Cost	Travel reasons							Sponsor Paid	VRS Paid	Total	# Trips	Cost
AM						BD	CF	DD	MM	SV	TR						
Zizzo, Nicholas	-	\$1,099.20	\$1,099.20	1	\$1,099.20	-	-	-	1	-	-	-	-	\$1,099.20	\$1,099.20	1	\$1,099.20
<b>Total</b>	<b>\$22,895.98</b>	<b>\$40,325.56</b>	<b>\$63,221.54</b>	<b>32</b>	<b>\$58,630.35</b>	<b>8</b>	<b>-</b>	<b>10</b>	<b>7</b>	<b>14</b>	<b>-</b>	<b>-</b>	<b>\$22,895.98</b>	<b>\$40,325.56</b>	<b>\$63,221.54</b>	<b>32</b>	<b>\$58,630.35</b>

Travel Reasons Legend			
AM	Advisory/Assoc. Meeting	MM	Manager Meeting
BD	Board Related	SV	Site Visit
CF	Conference	TR	Training
DD	Due Diligence		

**Virginia Retirement System**  
**Summary of Other Sponsored Travel Related Expenses**  
**(Staff Not Otherwise Includable in Quarterly Reporting)**  
**Fiscal Year-To-Date Through September 2022**

Name of Traveler	Current Quarter		Fiscal Year-To-Date	
	Value Provided	Sponsor	Value Provided	Sponsor
	-		-	
	-		-	
	-		-	
	-		-	
	-		-	
	-		-	
	-		-	
Totals	-		-	

**Detail of Travel Related Expenses**

**Virginia Retirement System**

**Board/Committee Members and Selected VRS Staff**

**Paid in Q1 2023**

<b>Traveler</b>	<b>Travel Start</b>	<b>Travel End</b>	<b>Destination</b>	<b>Sponsor</b>	<b>Purpose</b>	<b>Sponsor Paid</b>	<b>VRS Paid</b>	<b>Total</b>
Andrews, Allen	08/18/2022	08/18/2022	Richmond, VA		Attended an Investment Advisory Committee meeting.	-	\$140.00	\$140.00
Andrews, Allen	09/13/2022	09/14/2022	Richmond, VA		Attended an Audit and Compliance Committee meeting and a Administration and Personnel Committee meeting.	-	\$394.06	\$394.06
Andrews, Allen	09/22/2022	09/22/2022	Richmond, VA		Attended a Board of Trustees meeting.	-	\$140.00	\$140.00
Beasley, Michael	08/17/2022	08/18/2022	Richmond, VA		Attend the August 18, 2022 IAC Meeting.	-	\$1,262.19	\$1,262.19
Bell II, John	09/08/2022	09/08/2022	Richmond, VA		Attended a Defined Contribution Plans Advisory Committee meeting.	-	\$245.00	\$245.00
Bell II, John	09/22/2022	09/22/2022	Richmond, VA		Attended a Board of Trustees meeting.	-	\$245.00	\$245.00
Deo, Ravindra	09/08/2022	09/08/2022	Richmond, VA			-	\$144.94	\$144.94
Disharoon, Michael	08/18/2022	08/18/2022	Richmond, VA		Attended an Investment Advisory Committee meeting.	-	\$137.50	\$137.50
Disharoon, Michael	09/22/2022	09/22/2022	Richmond, VA		Attended a Board of Trustees meeting.	-	\$162.50	\$162.50
Garrett, William	09/22/2022	09/22/2022	Richmond, VA		Attended a Board of Trustees meeting.	-	\$128.75	\$128.75
Irvin, Shannon	09/08/2022	09/08/2022	Richmond, VA			-	\$153.75	\$153.75
Lewis, Wilbert	08/17/2022	08/18/2022	Richmond, VA		Attend the Augusts 18, 2022 IAC Meeting	-	\$441.11	\$441.11
Montgomery, Joseph	09/13/2022	09/13/2022	Richmond, VA		Attended an Audit and Compliance Committee meeting.	-	\$70.00	\$70.00
Montgomery, Joseph	09/14/2022	09/14/2022	Richmond, VA		Attended an Administration and Personnel Committee meeting.	-	\$70.00	\$70.00
Montgomery, Joseph	09/22/2022	09/22/2022	Richmond, VA		Attended a Board of Trustees meeting.	-	\$70.00	\$70.00
Muralidhar, Arun	09/07/2022	09/08/2022	Richmond, VA			-	\$302.84	\$302.84
Seward, Troilen	08/18/2022	08/18/2022	Richmond, VA		Attended an Investment Advisory Committee meeting.	-	\$56.25	\$56.25
Seward, Troilen	09/13/2022	09/13/2022	Richmond, VA		Attended an Audit and Compliance Committee meeting.	-	\$56.25	\$56.25
Seward, Troilen	09/14/2022	09/14/2022	Richmond, VA		Attended an Administration and Personnel Committee meeting.	-	\$56.25	\$56.25

**Detail of Travel Related Expenses**

**Virginia Retirement System**

**Board/Committee Members and Selected VRS Staff**

**Paid in Q1 2023**

Traveler	Travel Start	Travel End	Destination	Sponsor	Purpose	Sponsor Paid	VRS Paid	Total
Bishop, Patricia	08/04/2022	08/11/2022	Long Beach, CA		Attended the National Association of State Retirement Administrators (NASRA) conference in addition to the NASRA Executive Committee meeting held prior to the start of the conference.	-	\$4,741.39	\$4,741.39
Chenault, Jeanne	08/05/2022	08/10/2022	LongBeach CA		Attended NASRA Conference	-	\$2,865.08	\$2,865.08
Chenault, Jeanne	08/22/2022	08/23/2022	Galax, VA		Presentation to the retired teachers of Galax/Grayson Count	-	\$144.86	\$144.86
Adelaar, Stephen	07/20/2022	07/21/2022	Chicago, IL		Manager meetings with Select Cooper Square and Ariel. Due diligence meeting with LSV.	-	\$1,121.66	\$1,121.66
Adelaar, Stephen	09/12/2022	09/14/2022	Middleburg, VA		Drive to Middleburg, VA to attend the Baillie Gifford Client Forum. Annual due diligence with Baillie Gifford.	-	\$169.94	\$169.94
Alouf, John	07/13/2022	07/14/2022	New York, NY		Travel to New York to attend NAIC Conference - National Association of Investment Companies	-	\$797.46	\$797.46
Apte, Advait	09/20/2022	09/23/2022	Boston, Ma.		CII 2022 Fall Conference ~ Sep 20, 2022 - Sep 23, 2022. Boston, MA, Advait Apte will be lodging at the conference location.	-	\$1,459.97	\$1,459.97
Billingslea, Erica	06/26/2022	06/30/2022	Los Angeles, CA	KKR	Attend the KKR Global Investors' Annual Meetings. Attend the KKR Real Estate Credit Opps Partners Funds' Advisory Board meeting. **Sponsor Travel - inadvertently did not report on requisition.	\$2,652.86	\$14.04	\$2,666.90
Billingslea, Erica	09/14/2022	09/16/2022	Chicago, IL		Attended the PGIM Annual Investor Meeting. Met with existing manager, Magnetar.	-	\$1,422.14	\$1,422.14
Chang, Warren	08/29/2022	08/29/2022	New York, NY		Travel to NYC for due diligence with Antin Infrastructure	-	\$858.56	\$858.56
Coleman, Thomas	09/01/2022	09/02/2022	Boston, MA		Travel to Boston for site visit with Pritzker	-	\$981.06	\$981.06
Corsello, Perry	09/14/2022	09/15/2022	Chicago, IL	PGIM	Travel to Chicago, IL for the PGIM Annual Meeting and Advisory Board Meeting for Funds V And VI. **Sponsor Travel	\$1,576.53	\$22.50	\$1,599.03



**Detail of Travel Related Expenses**

**Virginia Retirement System**

**Board/Committee Members and Selected VRS Staff**

**Paid in Q1 2023**

Traveler	Travel Start	Travel End	Destination	Sponsor	Purpose	Sponsor Paid	VRS Paid	Total
Gentry III, William	07/26/2022	07/27/2022	Chicago, IL	GTCR	Travel to Chicago to attend GTCR Annual Meeting and LPAC - sponsored travel	\$1,263.10	\$6.00	\$1,269.10
Jones, De'Von	09/13/2022	09/15/2022	Santa Ana, CA	Clearlake	Travel to Dana Point, CA to attend Clearlake's AGM and LPAC meetings / sponsored travel	\$2,476.17	\$64.13	\$2,540.30
Jones, De'Von	09/20/2022	09/21/2022	Washington, DC		Vista Manager Meeting	-	\$601.44	\$601.44
Koutrakos, Kristina	06/19/2022	06/22/2022	Toronto, Canada		Attend the ICPM Spring Discussion, Forum in Toronto, June 19-22, 2022	-	\$1,937.31	\$1,937.31
Koutrakos, Kristina	08/10/2022	08/11/2022	Boston, MA.		Manager Meetings with Wellington Management in Boston, Ma. August 10-11, 2022.	-	\$759.38	\$759.38
Lacy, Matthew	09/12/2022	09/13/2022	Boston, Ma.		Matt Lacy Meetings with Man Numeric in Boston, MA. September 12-13, 2022.	-	\$767.86	\$767.86
Le, Vu	08/22/2022	08/28/2022	Barcelona, Spain		EFA Annual Meeting - IESE Business School	-	\$4,382.01	\$4,382.01
Le, Vu	09/18/2022	09/20/2022	New York, NY		Attend Wolfe Research 6th Annual Global Quantitative and Macro Investor Conference	-	\$1,939.60	\$1,939.60
Macknight, Jennifer	08/16/2022	08/16/2022	Chevy Chase, MD		Operational due diligence meeting with investment manager	-	\$152.50	\$152.50
Matoua, Katherine	08/09/2022	08/11/2022	Boston, MA.		Manager Meetings with Wellington Management in Boston, Ma. August 9-11, 2022. Traveler will be near Boston for personal reasons, but will attend a work related manager meeting while there.	-	\$825.83	\$825.83
Matoua, Katherine	09/21/2022	09/23/2022	Boston, Ma.		CII 2022 Fall Conference ~ Sep 21, 2022 - Sep 23, 2022. Boston, MA	-	\$1,334.02	\$1,334.02
Muniz, Alex	08/22/2022	08/28/2022	Barcelona, Spain		Attending the IESE Conference in Barcelona	-	\$4,434.48	\$4,434.48
Murphy, James	05/16/2022	05/18/2022	Boston, MA	Harbourvest	Travel to Boston, MA to attend AGM for Harbourvest Partners	\$690.00	\$474.19	\$1,164.19
Murphy, James	05/24/2022	05/26/2022	San Francisco, CA	Hellman and Friedman	Hellman and Friedman Annual Meeting and LPAC - sponsored travel	\$1,392.96	\$36.86	\$1,429.82
Murphy, James	09/05/2022	09/08/2022	London, England	CVC	Travel to London to attend the CVC Europe/Americas Advisory Board Meeting / Sponsored travel	\$8,790.88	\$64.75	\$8,855.63

**Detail of Travel Related Expenses**

**Virginia Retirement System**

**Board/Committee Members and Selected VRS Staff**

**Paid in Q1 2023**

<b>Traveler</b>	<b>Travel Start</b>	<b>Travel End</b>	<b>Destination</b>	<b>Sponsor</b>	<b>Purpose</b>	<b>Sponsor Paid</b>	<b>VRS Paid</b>	<b>Total</b>
Sarki-Hurd, Hajara	09/14/2022	09/16/2022	San Diego, CA	LaSalle	Travel to San Diego to attend Lasalle Property's LPAC meeting. This is sponsored travel.	\$2,278.17	\$22.84	\$2,301.01
Sarki-Hurd, Hajara	09/21/2022	09/23/2022	Paul Smiths, NY	Crow Holdings	Travel to Camp Topridge in Paul Smiths, NY to attend Crow Holdings LPAC meeting. This was sponsored travel.	\$1,338.71	\$25.98	\$1,364.69
Schoeller, Jennifer	08/16/2022	08/16/2022	Washington, D.C.		Operational due diligence meeting with investment manager	-	\$180.51	\$180.51
Turner, Korey	07/20/2022	07/21/2022	Chicago, IL		Manager meetings with Select Cooper Square and Ariel. Annual due diligence meeting with LSV.	-	\$1,148.84	\$1,148.84
Voeks III, Robert	08/04/2022	08/04/2022	Boston, MA	Abry Partners	Travel to Boston, MA for Abry LPAC meeting	\$436.60	\$15.00	\$451.60
Woodall, Steven	09/13/2022	09/15/2022	New York		Attended the Carlyle Investor Conference. Various 1-on-1 Carlyle meetings. Meeting with Aksia. Met with KKR for the 2Q22 portfolio review.	-	\$1,177.78	\$1,177.78
Zizzo, Nicholas	08/10/2022	08/11/2022	New York, NY		Operational Due Diligence Meetings with investment managers.	-	\$1,099.20	\$1,099.20
<b>Total</b>						<b>\$22,895.98</b>	<b>\$40,325.56</b>	<b>\$63,221.54</b>

VRS BOARD OF TRUSTEES AND COMMITTEES  
 RECORD OF ATTENDANCE & PER DIEMS  
 FOR 3Q2022

Month Paid:		Aug-22				Sep-22		Total Days Attended	Per Diem Rate	Per Diem Payments			Total
Member	Area	8/18/22	9/8/22	9/13/22	9/14/22	Jul	Aug			Sep			
A. SCOTT ANDREWS, CHAIR	BOT	X	-	X	X	3	\$ 300.00	\$ -	\$ 300.00	\$ 600.00	\$ 900.00		
J BRANDON BELL, II	BOT	X	X	X	-	3	300.00	-	300.00	600.00	900.00		
JOHN M. BENNETT	BOT	X	X	X	X	4	300.00	-	300.00	900.00	1,200.00		
MICHAEL P. DISHARON	BOT	X	-	-	-	1	300.00	-	300.00	-	300.00		
WILLIAM A. GARRETT	BOT	-	-	-	-	-	300.00	-	-	-	-		
SUSAN GOODEN	BOT	-	X	-	-	1	300.00	-	-	300.00	300.00		
W. BRETT HAYES	BOT	X	-	X	X	3	300.00	-	300.00	600.00	900.00		
JOSEPH W. MONTGOMERY	BOT	-	-	X	X	2	300.00	-	-	600.00	600.00		
TROILEN G. SEWARD	BOT	X	-	X	X	3	300.00	-	300.00	600.00	900.00		
RIVINDRA DEO	DPCAC	-	X	-	-	1	300.00	-	-	300.00	300.00		
SHANNON T. IRVIN	DPCAC	-	X	-	-	1	300.00	-	-	300.00	300.00		
RICK LARSON	DPCAC	-	-	-	-	-	300.00	-	-	-	-		
BRENDA O. MADDEN	DPCAC	-	X	-	-	1	300.00	-	-	300.00	300.00		
ARUN MURALIDHAR	DPCAC	-	X	-	-	1	300.00	-	-	300.00	300.00		
EDWARD N. SMITHER	DPCAC	-	-	-	-	-	300.00	-	-	-	-		
DAVID A. WINTER	DPCAC	-	X	-	-	1	300.00	-	-	300.00	300.00		
DEBORAH ALLEN-HEWITT	IAC	X	-	-	-	1	300.00	-	300.00	-	300.00		
MICHAEL R. BEASLEY	IAC	X	-	-	-	1	300.00	-	300.00	-	300.00		
THEODORE ECONOMOU	IAC	X	-	-	-	1	300.00	-	300.00	-	300.00		
THOMAS S.GAYNER	IAC	-	-	-	-	-	300.00	-	-	-	-		
LAWRENCE E KOCHARD	IAC	X	-	-	-	1	300.00	-	300.00	-	300.00		
NANCY G. LEAKE	IAC	X	-	-	-	1	300.00	-	300.00	-	300.00		
WILBERT BRYAN LEWIS	IAC	X	-	-	-	1	300.00	-	300.00	-	300.00		
ROD SMYTH	IAC	X	-	-	-	1	300.00	-	300.00	-	300.00		
WILLIAM H. WEST	IAC	-	-	-	-	-	300.00	-	-	-	-		
								\$ -	\$ 3,900.00	\$ 5,700.00	\$ 9,600.00		

Number Attending	13	8	6	5	32				
Total Days per Diem Paid (Control Total)	13	8	6	5	32	x \$300	=	9,600.00	

X = Present

# 2023 Board and Committee Meeting Schedule

# 2023 Confirmed VRS Board and Committee Meeting Dates

	Board of Trustees	Audit and Compliance Committee	Administration Finance and Talent Management Committee	Benefits and Actuarial Committee	Defined Contribution Plans Advisory Committee	Investment Advisory Committee
February	Thursday Feb 9 <sup>th</sup> @ 1 pm			Tuesday Feb 7 <sup>th</sup> @ 1 pm		
March	Tuesday and Wednesday March 21 <sup>st</sup> & 22 <sup>nd</sup> (Retreat)	<b>Wednesday Mar 29<sup>th</sup> @ 1 pm</b>	Wednesday Mar 29 <sup>th</sup> @ 11 am		Thursday Mar 30 <sup>th</sup> @ 1 pm	
April	Thursday Apr 20 <sup>th</sup> @ 1 pm				Wednesday April 19 <sup>th</sup> @ 1 pm	Wednesday April 12 <sup>th</sup> @ 9 am
May						
June	Thursday Jun 15 <sup>th</sup> @ 1 pm	<b>Wednesday Jun 7<sup>th</sup> @ 1 pm</b>	Wednesday Jun 7 <sup>th</sup> @ 10:30 am	Wednesday Jun 14 <sup>th</sup> @ 1 pm	Thursday June 1 <sup>st</sup> @ 1 pm	
July	Thursday Jul 13 <sup>th</sup> @ 1 pm					
August						Wednesday Aug 23 <sup>rd</sup> @ 9 am
September	Thursday Sept 21 <sup>st</sup> @ 1 pm	<b>Wednesday Sept 20<sup>th</sup> @ 10 am</b>	Wednesday Sept 20 <sup>th</sup> @ 1 pm		Thursday Sept 7 <sup>th</sup> @ 1 pm	
October	Thursday Oct 19 <sup>th</sup> @ 1 pm			Wednesday Oct 18 <sup>th</sup> @ 1 pm		
November	Thursday Nov 16 <sup>th</sup> @ 1 pm			Thursday Nov 16 <sup>th</sup> @ 1 am	Thursday Nov 30 <sup>th</sup> @ 1 pm	Wednesday Nov 15 <sup>th</sup> @ 9 am
December	Thursday Dec 7 <sup>th</sup> @ 1 pm	<b>Thursday Dec 7<sup>th</sup> @ 10 am</b>				

# Audit Reports



**INTERNAL AUDIT**

**Report No. 447**

# General Ledger System

**As of August 15, 2022**

Highlighting VRS Core Values: *Integrity, Teamwork, Accountability* and *Agility* in Action

**THIS REPORT IS INTENDED SOLELY FOR THE USE OF THE VRS BOARD OF TRUSTEES AND THE MANAGEMENT OF VRS AND IS NOT INTENDED FOR OTHER PURPOSES.**

## TRANSMITTAL LETTER

October 26, 2022

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Dear Members of the Audit and Compliance Committee,

We have completed audit number 447, "General Ledger System." The main purpose of our audit was to review the controls in place to protect the confidentiality, integrity and availability of the general ledger system.

We conducted our audit in accordance with the *International Standards for the Professional Practice of Internal Auditing*. These standards require that we plan and perform the audit to obtain sufficient and appropriate evidence to provide a reasonable basis for the conclusions based upon our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

This report was distributed to the VRS Director and members of management for review and comment. Management expressed substantial agreement with our report and will issue a written response to the recommendation contained in this report.

We appreciate the cooperation and assistance of the Finance and Information Technology departments throughout this audit.

Respectfully Submitted,



**Jennifer P. Bell Schreck, CPA, CISA, PMP**  
Audit Director



## EXECUTIVE SUMMARY

We conducted an examination of key information technology related controls over VRS' General Ledger System as of August 15, 2022.

The current general ledger system was implemented July 1, 2021. When selecting this system, VRS acknowledged the need for enhanced skills and resource bandwidth to effectively administer it. Therefore, from the beginning VRS has partnered with various service providers to support the general ledger system management activities. VRS initiated a new managed service provider partnership in June 2022 to ensure the unique risks presented by the general ledger system and its operating environment were addressed to VRS' standards. We commend the management team for their proactive stance.

As a result, our review focused exclusively on VRS vendor management activities over its current partners and VRS-managed general and application controls for the general ledger system and its underlying environment.

VRS processes for managing vendor information technology risks for hosted systems and certain general controls supporting this application were considered previously in Report No. 439 (Vendor Hosted Systems in Administrative Operations) and Report No. 444 (Review of IT General Controls) or are planned for coverage in future engagements scheduled for the fiscal year 2023 annual audit plan. These areas were excluded from the scope of this project.

Additional consideration was given to work being performed by the APA in their review of VRS' annual comprehensive financial report underway at the same time of this audit to acknowledge areas for review in their audit and to minimize the duplication of efforts by all parties (the APA, Information Technology and Internal Audit).

Our review determined VRS has processes in place for monitoring general ledger system vendors for compliance with the VRS Cloud Services Information Security Standard. In addition, our review evaluated IT processes performed by VRS to protect the confidentiality, integrity and availability of the system. Several opportunities to enhance VRS' administration of the general ledger system were identified and discussed with management and are highlighted in the Conclusions and Recommendations sections below.

### SNAPSHOT

On **July 1, 2021**, VRS officially **deployed** its **new** finance and operations **enterprise resource planning system, replacing** MUNIS, its **former general ledger** system.

VRS is **leveraging** additional **capabilities** provided by the new **vendor hosted** general ledger system to **enhance** the **administration** of its **operational activities**.

### AUDIT ASSESSMENT

Overall management has worked diligently to support its transition to the new general ledger system. Management acknowledged opportunities to improve the resource bandwidth needed to effectively administer the system and has partnered with service providers to enhance its system management efforts. Refinement of these partnerships and the services provided are in progress.

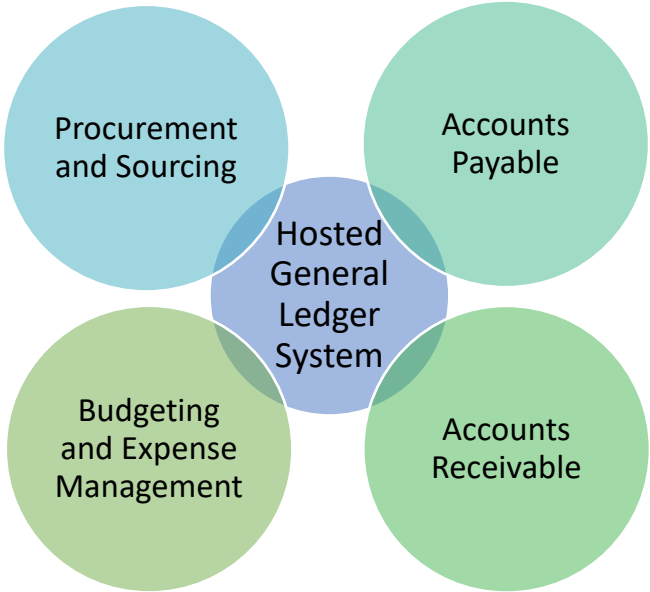
**Written Recommendations: 1**

# BACKGROUND

## INTRODUCTION

On July 1, 2021, VRS officially deployed its new finance and operations enterprise resource planning system, replacing MUNIS, its former general ledger system which had reached end-of-life. VRS personnel have acted with *agility* as they transitioned to using the new general ledger system and *integrity* as they partnered with external parties to support the implementation and ongoing management of the system and its environment.

VRS implemented multiple modules offered by the new general ledger system to meet its business needs, expanding the purpose of replacement beyond just the general ledger. Further, the deployment of the new general ledger system shifted the environment from being hosted on-premise to the cloud and resulted in the automation of multiple manual and semi-manual processes in other areas that feed into VRS' general ledger function. These other areas include procurement and sourcing, accounts receivable, accounts payable and budgeting and expense management.



## OPERATING ENVIRONMENT

Multiple cloud service models support VRS' new general ledger system's information technology (IT) environment including software as a service (SaaS), platform as a service (PaaS) and infrastructure as a service (IaaS). These cloud service models are described in the graphic on the following page.

## Cloud Service Models

### Software as a Service

SaaS provides consumers with the capability to use a vendor's applications running on a cloud infrastructure.

Consumers do not manage or control the underlying cloud infrastructure or the application, with the possible exception of limited user-specific application configuration and access settings.

### Platform as a Service

PaaS provides consumers with the capability to deploy onto a vendor cloud infrastructure, consumer-created or acquired applications.

Consumers do not manage or control the underlying cloud infrastructure, but do manage or control the deployed applications and possibly configuration settings.

### Infrastructure as a Service

IaaS provides consumers with the capability to use vendor processing, storage, networks and other fundamental computing resources, where the consumers can deploy and run software, including operating systems and applications.

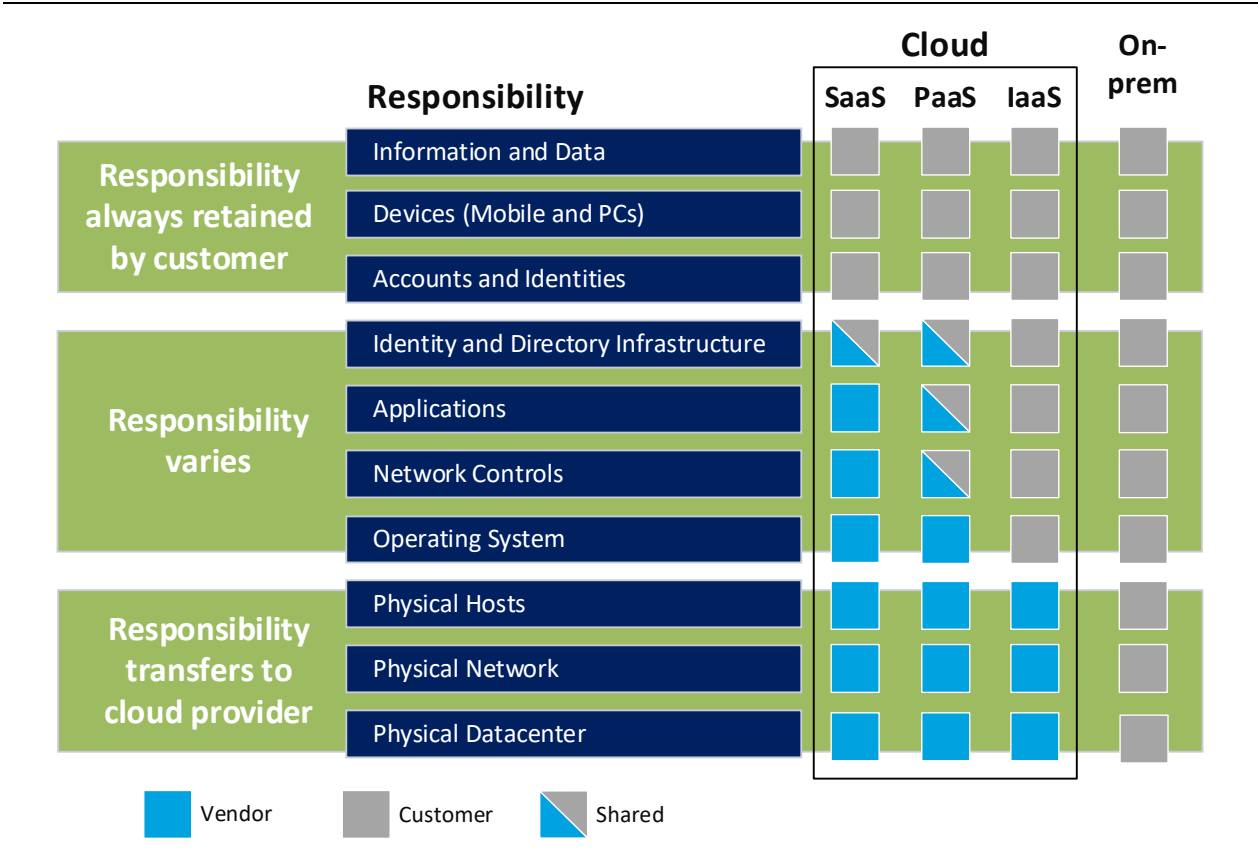
Consumers do not manage or control the underlying cloud infrastructure, but do have control over the operating systems, storage and deployed applications and possibly limited control of select networking components.

Collectively, components within these cloud service models interact with one another and VRS resources located on-premise to support and protect the new general ledger system's production and development environments. The design of VRS' new general ledger system environment allows VRS to build and deploy customizations to the SaaS and manage internal and external interfaces with other systems.

## DIVISION OF RESPONSIBILITIES

The transition of the general ledger system from being on-premise to the cloud has shifted the associated responsibilities and risks for the application and its environment from belonging solely to VRS to now being shared by VRS, a managed service provider (MSP) and other vendors. These risks include data security, reliability and availability of services, integration with VRS' network and existing systems and delegation of certain responsibilities to the managed service provider and other vendors. VRS has demonstrated its *agility* by adapting its processes accordingly to address these risks. The diagram on the following page summarizes the typical alignment of responsibilities for on-premise services, where VRS owns all responsibilities, versus the various types of cloud services, where some responsibilities transfer outside of VRS.

VITA's Information Security Standard for Hosted Environments (also known as SEC 525) became effective in June 2017. In response, VRS created its Cloud Services Information Security Standard in 2017 and finalized it in 2018. VRS' standard adopts the VITA standard by reference.



While VRS may delegate certain responsibilities to its vendors and MSP as reflected above, VRS retains ultimate *accountability* for protecting its assets, including its data.

**VRS Information Technology Department**

VRS is *accountable* for creating and adhering to its own policies and procedures to assess and manage risks for its cloud vendors and to maintain compliance with its VRS Cloud Services Information Security Standard. VRS' Information Technology department serves an integral role by providing insights and expertise in analyzing vendor information technology security and data management practices for compliance with applicable information technology security requirements throughout the vendor's entire contract term.

## SENSITIVITY CONSIDERATIONS

### **Confidentiality:**

Addresses sensitivity to unauthorized disclosure

### **Integrity:**

Addresses sensitivity to unauthorized modification

### **Availability:**

Addresses sensitivity to outages

Based on input from business owners, including an understanding of the related data, technical components and how it is used operationally, Information Technology classified the new general ledger system as a sensitive system when completing the information technology system and data sensitivity classification process. "Sensitive" systems or data are any for which compromise with respect to confidentiality, integrity and/or availability could have a material adverse effect on VRS operations. The classification and risk assessment for the new general ledger system are reviewed annually and updated as needed in support of security plans and VRS' continuity of operations plan (COOP).

### *Compliance Monitoring*

To monitor compliance with the VRS Cloud Services Information Security Standard for the duration of vendor relationships, VRS has developed vendor security agreement review procedures. As a result, VRS added the new general ledger system to the tracking spreadsheet used by VRS' security analysts to plan for and manage the ongoing annual risk monitoring activities.

### *Delegated Responsibilities*

Information Technology Security's annual monitoring of VRS' vendors also involves reviewing the most recent third-party assurance reports. SSAE 18 Statement of Control (SOC) reports or other third-party assurance reports help to demonstrate the new general ledger system's ongoing compliance with the VRS Cloud Services Information Security Standard. Information Technology Security's identification of control gaps or deviations in respect to the VRS Cloud Services Information Security Standard may result in a more detailed review of the new general ledger system's controls, and as needed, updating other VRS security documentation for the system. Ultimately, additional documentation for the new general ledger system may be required to provide VRS with sufficient evidence of the system's compliance with the VRS Cloud Services Information Security Standard.

### **New General Ledger System Vendor**

For the new hosted general ledger system, third party assurance over key controls provided and maintained by the vendor is provided through multiple SOC 2, Type 2 reports. These reports provide the vendor, user entities of the general ledger system (i.e. potential and existing customers, such as VRS) and other intended recipients information about the effectiveness of

the vendor’s controls throughout a specified time period related to the security, availability or processing integrity of the general ledger system and its components and the confidentiality and privacy of the data managed.

*VRS Delegated Responsibilities*

Additionally, the SOC 2, Type 2 reports identify controls the vendor expects VRS to perform as the customer and user of the services, commonly known as complementary user entity controls or user responsibilities.

**Managed Service Provider**

Organizations can engage MSPs to handle complex, time-consuming or repetitive work related to the management of IT infrastructure or end user systems. There is not one standard setup for an organization using an MSP, as the services provided depend on the customer organization’s needs. Benefits to an organization using an MSP can include supplementing staffing resources, providing technical expertise and supporting business continuity, network monitoring and other security management activities.

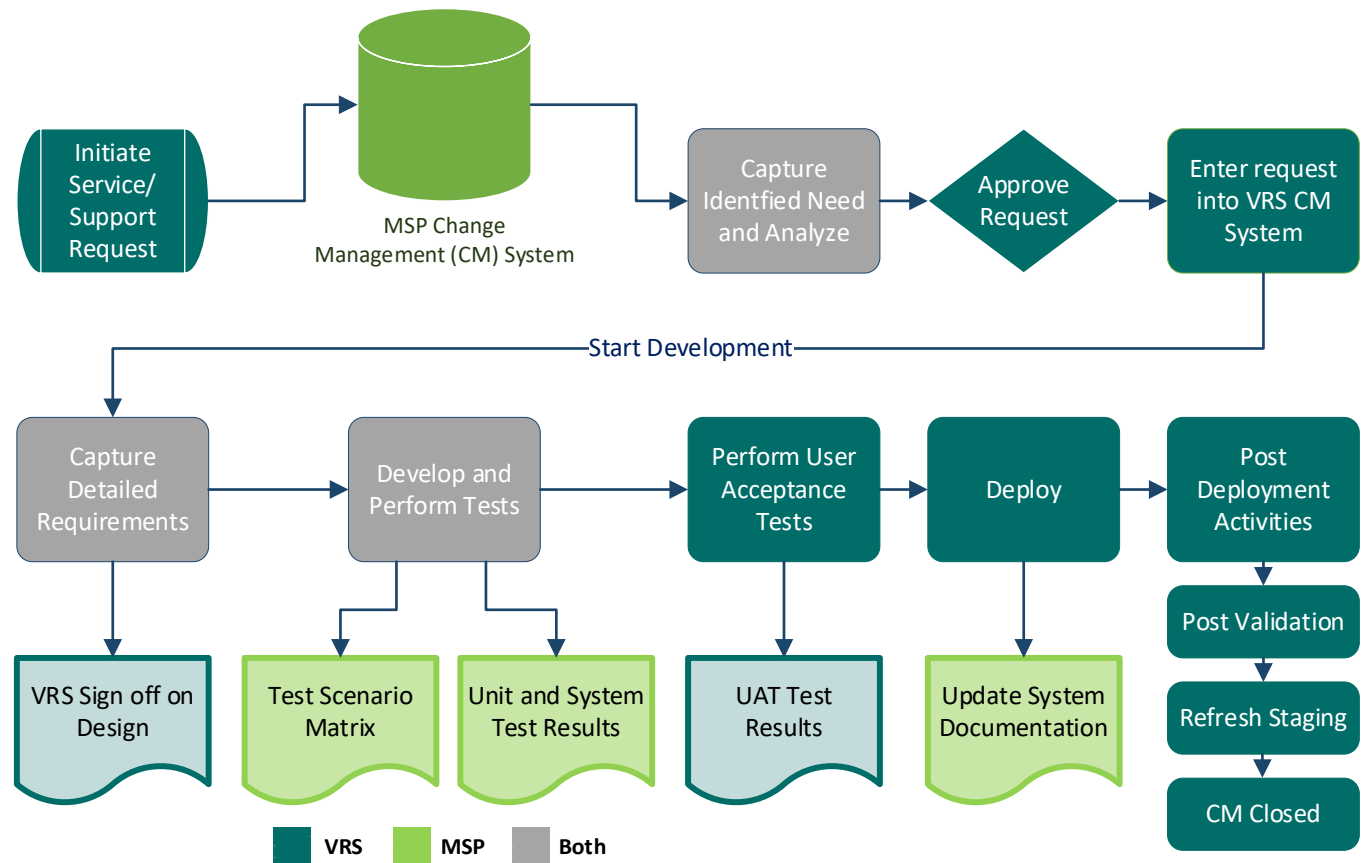
*General Ledger System Support*

For the new general ledger system and its components, VRS has contracted with a MSP for assistance in performing certain complementary user entity controls identified in the SOC 2, Type 2 reports along with other responsibilities VRS has elected to share with the MSP, like those referenced in the table to the right.

Perform system upgrades and maintenance	Address data fixes and corrections	Support user access design and security administration
Design, develop, test and complete customizations and configurations	Assess and enhance reporting capabilities	Direct technical and end-user trainings

Currently, through *teamwork* VRS is working with its MSP to methodically transition the provision of a broad scope of services related to troubleshooting and resolving system issues, system maintenance and completing customizations to address business needs. The MSP has established a shared request process for creating and managing tickets and work orders related to providing these services, as depicted on the following page, which is consistent with typical system development life cycle practices.

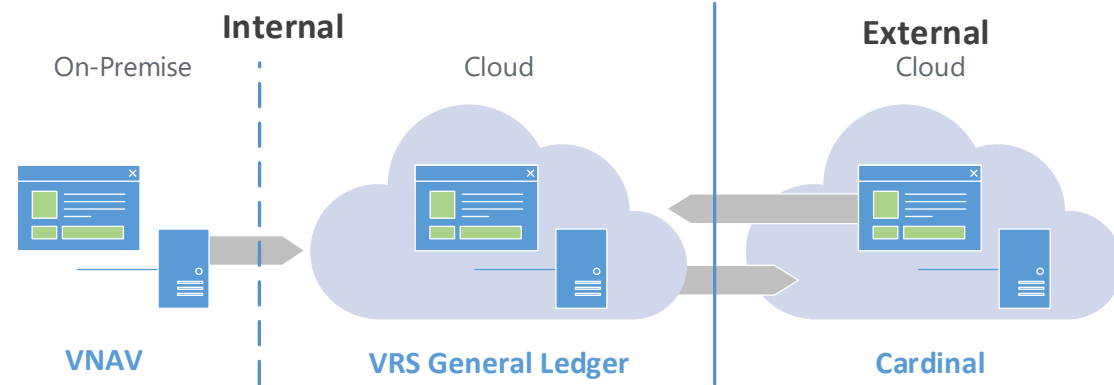
### Service/Support Request Process



### INTERFACES WITH THE GENERAL LEDGER SYSTEM

An interface represents the place at which independent and typically unrelated systems meet and communicate with each other, primarily to routinely exchange data. Interfaced systems could be located within VRS' network or outside of the VRS network for systems managed by external parties. An interface may or may not require a dedicated connection between systems. As reflected on the following page, VRS' general ledger system has automated tasks to routinely exchange data with VNAV and the Commonwealth's general ledger system, Cardinal.

## ROUTINE DATA INTERFACES



## MANAGEMENT INITIATED ENHANCEMENTS

Management works diligently to ensure they have sufficient and appropriate resources and tools to support their administration of operational activities. Management recently initiated several changes to support and enhance VRS' ongoing use and administration of its general ledger system:

After careful analysis of performance and consideration of ongoing operational needs, in June 2022, VRS initiated a partnership with a new MSP, to leverage the new partner's broader application support skill set, enhance VRS employee training and expand and revise system documentation.

Further, VRS is in the process of transitioning to a new third party solution for back-up and recovery services.

Finally, to automate the authorization and assignment of user access, VRS, with contractor assistance, is working to define and map the new general ledger's access roles within VRS' logical access management system. VRS anticipates finalizing this work before the end of the calendar year.



## SCOPE AND METHODOLOGY

The purpose of our examination was to:

- Determine if VRS has processes in place for monitoring general ledger system vendors for compliance with the VRS Cloud Services Information Security Standard; and
- Evaluate if IT processes performed by VRS protect the confidentiality, integrity and availability of the system.

This examination focused on vendor management activities and VRS-managed controls for the general ledger system.

Certain scope adjustments were made under these broad objectives to acknowledge previously performed work (see Reports No. 439 and 444) as well as planned work for future engagements which aligned with this review.

### Collaboration in Action

The performance of this review coincided with the Auditor of Public Accounts' (APA) fiscal year 2022 audit of VRS' annual comprehensive financial report. Through ongoing coordination, we planned for certain additional scope exemptions to acknowledge areas included for review in the financial statement audit and minimize the duplication of efforts. Significant scope exemptions include: logical access to the production environment and business processes performed by Finance related to the general ledger system and its use in the creation of VRS' financial statements.

## GENERAL ASSESSMENT AND UNDERSTANDING

We obtained a general understanding of vendor management activities and VRS-managed controls for the general ledger system by reviewing SOC 2, Type 2 reports, diagrams and other system documentation. We also met with key individuals from the Finance and Information Technology departments and MSP staff to discuss and observe relevant processes and gain an understanding of VRS processes and responsibilities delegated to the MSP. In addition, we reviewed the current drafts of the functional and technical assessment reports issued by the MSP to gain an understanding of the nature of their review of the system, its environment and recommended enhancements.

*General Ledger System Pg. 11 of 21*

## **VENDOR MONITORING AND PROCUREMENT**

### **Information Technology System and Data Classification**

The general ledger system information technology system and data sensitivity classification was reviewed to confirm it was completed and evaluated in respect to the system's confidentiality, integrity and availability.

### **Risk Assessment**

Based on the system's classification, its annual risk assessment was reviewed for compliance with the VRS Cloud Services Information Security Standard.

### **Annual Review of SOC 2, Type 2 Reports**

Evidence of Information Technology Security's receipt and review of the SOC 2, Type 2 reports was reviewed to evaluate timeliness and consideration of vendor services applicable to VRS. Further, we met with members of Information Technology to gain an understanding of complementary user entity controls applicable to VRS and their associated processes.

### **Procurement of MSP Services**

The information technology procurement request for the MSP services was reviewed to determine if it was submitted and approved prior to engagement of the third party. Additional security requirements included in VRS procurement and onboarding processes were reviewed to determine if they were completed.

## **SERVICE LEVEL AGREEMENT**

The service level agreement was obtained and reviewed to gain an understanding of the vendor's responsibilities and accepted processes for submitting claims regarding operational performance and availability issues for the general ledger system environment. VRS processes for identifying and reporting these issues to the vendor were discussed with the contract administrator to determine if they support VRS submitting claims to the vendor when needed. Any claims submitted to the vendor were requested for review to determine their status and application of relevant account credits were consistent with the terms of the service level agreement.

## **PERSONNEL TRAINING**

Training, system documentation, standard operating procedures and other reference materials for the system were discussed with members of the Information Technology and Finance departments to determine if the available resources support educating VRS personnel on using and maintaining the general ledger system environment. The MSP's current initiatives related to these items were discussed with management to gain an understanding of any enhancements in progress.

## **DATA QUALITY**

Business processes were discussed with members of Finance to determine if they adequately support maintaining the general ledger system's data quality. Data changes currently logged in the system were discussed with members of the Information Technology and Finance departments to gain an understanding of related VRS monitoring processes and if they sufficiently address any identified risks.

## **MANUAL DATA INPUTS**

As a vendor hosted system, the general ledger system has built-in controls to validate manual data input which can be customized by VRS. Data validations, such as workflows, derived dimensions and account structures, were discussed and observed with members of Finance to assess if they support data input accuracy and consistency.

## **INTERFACES**

Automated tasks routinely exchanging data with or between the new general ledger system, VNAV and the Commonwealth's general ledger system, Cardinal, were discussed with members of Information Technology and Finance to gain an understanding of the transfer methods. Shared responsibilities between VRS and the vendor, processes and controls related to these transfer methods were reviewed to evaluate their protection of the confidentiality, integrity and availability of these data exchanges. This included a review of encryption methods, notifications and other tools to protect these data transfers.

## **CHANGE MANAGEMENT**

VRS personnel authorized to request and approve changes to the system were reviewed for reasonableness in relation to assigned job responsibilities. Steps in the change management process were evaluated for consistency with system development life cycle practices through a walk-through of a recent system change with Finance, Information Technology and the MSP, along with a review of the related documentation.

## **LOGICAL ACCESS**

Logical access to the general ledger system's hosted environment and data files exchanged with other systems was evaluated for proper authorization, reasonableness in relation to assigned job responsibilities and support of the principle of least privilege, as applicable. Role-based privileges granted in VRS' Resource Access Management System (RAMS) were evaluated in relation to current access to the general ledger system hosted environment and data files exchanged with other systems. Request forms for general ledger system service accounts and managed identities, used by operating systems or applications to manage processes, functionality or backend data access by applications in the hosted environment, which are governed outside of RAMS, were reviewed for proper approval. In addition, the respective processes for monitoring privileges granted through RAMS and outside of RAMS to ensure continued reasonableness were discussed with Information Technology.

## CONCLUSIONS

### GENERAL ASSESSMENT AND UNDERSTANDING

Our review found VRS has processes in place to monitor the general ledger system vendors' compliance with the VRS Cloud Services Information Security Standard. VRS' engagement of its current MSP and its direction of the MSP to perform various assessments of the general ledger system reflect its commitment to ensure the *integrity* of its operations and administrative responsibilities.

Certain opportunities to enhance VRS' overall processes for information technology system and data sensitivity classifications, risk assessments and review of SOC 2, Type 2 reports were observed and discussed with management. Components of the corrective action plans provided in response to recommendations presented in report no. 439 (Review of the Vendor Hosted Systems in Administrative Operations), which management is currently working to implement, will help address these opportunities.

Our evaluation of selected areas used by VRS to protect the confidentiality, integrity and availability of the system confirmed those processes were in place. Enhancements to VRS' administration of logical access management practices to support these processes are shared below.

As a part of initiating the relationship with its new MSP in June 2022, VRS directed the MSP to perform various assessments of the general ledger system and its underlying cloud-based environment.

The scope of these assessments was broader, in some cases different, and generally more technical in scope than this review.

In those instances where the scope of the MSP's assessments coincided with the scope of this review, the resulting observations aligned with each other.

### VENDOR MONITORING AND PROCUREMENT

#### Information Technology System and Data Classification

An information technology system and data sensitivity classification for the general ledger system was completed and evaluated with respect to confidentiality, integrity and availability. As the

IaaS included in this assessment supports more than just the general ledger system, we discussed with management the appropriateness of completing a separate classification for the IaaS component of the system. Management agreed with this observation and indicated steps would be taken to complete a separate assessment and are also considering applications of this enhancement for other systems.

### **Risk Assessment**

As a sensitive system, an annual risk assessment for the general ledger system was completed in compliance with the VRS Cloud Services Information Security Standard. As with the information technology system and data classification, we discussed with management the completion of a separate risk assessment for the IaaS. Management agreed and indicated it would be initiated and are also considering applications of this enhancement for other systems.

### **Annual Review of SOC 2, Type 2 Reports**

Evidence of Information Technology Security's receipt and review of the general ledger system's related SOC 2, Type 2 reports indicated timely review. The reports applicable to the general ledger system's environment cover a range of vendor services, all of which are not used by VRS. Opportunities to enhance the review documentation were identified to capture the vendor services applicable to VRS. This would provide efficiencies in and enhance the quality of the vendor risk assessment and monitoring processes.

### **Procurement of MSP Services**

Our review indicated the IT procurement request for MSP services was submitted and approved prior to the engagement of the third party. Additional requirements included in VRS' procurement process were completed, as applicable.

## **SERVICE LEVEL AGREEMENT**

The service level agreement provided information on the vendor's responsibilities and accepted processes for submitting claims regarding operational performance and availability issues for the general ledger system's environment. There were no claims available for review, as none have been submitted to the vendor since VRS' implementation of the new general ledger system. However, VRS' processes for identifying and reporting such claims or issues would support VRS submitting claims to the vendor when necessary.

## **PERSONNEL TRAINING**

Our discussion with members of the Information Technology and Finance departments indicated training, system documentation, standard operating procedures and other reference materials for the system support educating VRS personnel on using and maintaining the general ledger system's environment; however, these activities and documentation are not finalized and opportunities to continue to update and expand these items were identified and acknowledged. As part of its initial assessments, the MSP acknowledged opportunities to enhance existing training and documentation and as a part of its statement of work moving forward will provide training and supporting documentation on significant system changes it implements. In discussing these opportunities with management, they indicated a purchase order has been initiated to bring in an additional resource to address these opportunities as well.

## **DATA QUALITY**

Our discussion with members of Finance determined its business processes support high quality data within the general ledger system. Opportunities to enhance logging of data changes and the use of this information to support other operational needs were discussed with management.

## **MANUAL DATA INPUTS**

Our discussion and observation of system data validations with members of Finance indicated the validations support data input accuracy and consistency.

## **INTERFACES**

Through our discussions with members of the Information Technology and Finance departments we gained an understanding of the transfer methods with VNAV and Cardinal applicable to the general ledger system's automated tasks. Overall, our evaluation of the processes and controls for these transfer methods determined they protect the confidentiality, integrity and availability of these data exchanges; however, consistent with the MSP's assessment, we found there were opportunities to enhance notifications and tasks surrounding the movement of files within the hosted environment.

## **CHANGE MANAGEMENT**

Our review indicated VRS personnel authorized to request and approve changes to the system are reasonable in relation to assigned job responsibilities. Our discussion of a recent system change with Finance, Information Technology and the MSP, along with a review of the related documentation, indicated the change management process is consistent with system development life cycle practices. The MSP's technical assessment regarding this process indicated the opportunity for automation of certain change management steps which could enhance this process and possibly mitigate certain risks. We support their assessment and recommendation.

## **LOGICAL ACCESS**

### **User Access**

VRS uses RAMS to manage the authorization of logical access in its environment. As of the audit date, RAMS had not been fully updated to support the administration of the general ledger system roles. Rather, the MUNIS operational roles remained in RAMS and assigned to users and only limited roles related to the IaaS and PaaS components of the general ledger system's environment had been defined and assigned. Recently, management hired a contractor to assist with the transition from MUNIS roles to the roles required to support users of the new general ledger system. We encouraged management to work with the contractor to ensure the contractor's scope of work is broad enough to address both operational and technical security roles.

Further, in reviewing access to the general ledger system's hosted environment, we identified two resources where access had been granted but the corresponding roles in RAMS had not been created. The lack of roles being defined in RAMS impacts management's ability to review and assess the ongoing reasonableness of access to these resources. This observation is consistent with the MSP's recommendation for a review of users who have access, their access levels, and confirm if current assignment of access complies with security policies based on the user roles and responsibilities.

Finally, we identified one user with administrative access to the data files exchanged with the general ledger system's with no corresponding assignment of the appropriate role granting such access in RAMS. While the access appears reasonable, based on our understanding, staff did not



follow VRS' designated processes for the granting or termination of access. Management should follow their logical access processes to ensure granted access continues to be appropriate and follows the principle of least privilege. Once brought to their attention, management determined this access was no longer needed and immediately removed it.

### **Service Account and Managed Identity Access**

Service accounts and managed identities supporting the general ledger system and its environment are managed outside of RAMS. We identified five general ledger system's hosted environment managed identities without associated or approved request forms. Based on discussions with management, the general ledger system service account/application identity request form process was implemented after the creation of these identities. Management is working to ensure the necessary request forms capturing approval and accountability for these five identities are completed. No issues were noted for the service accounts or managed identities approved since implementation of this process. However, two approved application identities noted as temporary and not needed after the implementation of the new general ledger system remain enabled.

Based on discussion with the Information Technology, these accounts have not been subject to annual monitoring practices. Opportunities to enhance processes related to the monitoring of service accounts and application identities managed outside of RAMS are discussed in further detail within the Recommendations section of this report.

## **FOLLOW-UP ON PRIOR REPORTS**

There were no outstanding audit recommendations to consider.

## REPORTABLE CONDITION

**Any observation** included in the **Recommendations** section of the report is considered a “**Reportable Condition.**” The **resolution** of a “Reportable Condition” merits **monitoring** in the Audit Recommendation Follow-Up System (**ARFUS**).

## MATERIAL ISSUE

**Certain recommendations** may address a matter that poses such **significant risk** to VRS whereby **immediate measures** should be taken to mitigate the exposure. Other **long-term solutions** may also be appropriate for the permanent resolution of the matter. These recommendations are considered a “**Material Issue.**”

All recommendations require a formal response from management.

## RECOMMENDATIONS

We offer one recommendation as a result of our review, which is not considered a material issue.

### Monitor Service Accounts and Application Identities

Due to staffing resource constraints, VRS has not performed annual monitoring of organizational service accounts, including the general ledger related service accounts and managed identities as required by AC-2 Account Management in VITA Information Security Standard (SEC 501-12.0). Monitoring would have revealed for the general ledger five accounts missing appropriate authorizations and two accounts which had been designated for temporary use but were not promptly disabled. Not complying with this practice of monitoring potentially weakens VRS’ ability to protect accounts that provide privileged access to resources critical to its systems, services and environment.

As noted above, in recognition of resource constraints and concerns for incomplete documentation from the initial support vendor, management contracted with its new MSP to conduct a full health and security check of its general ledger and underlying operations platform. With the assessments in hand VRS has initiated steps to address this observation relative to the general ledger.

While this review focused on accounts specific to the general ledger, VRS should review all service accounts and application identities for reasonableness annually or more frequently if required to address environmental changes, in accordance with its policies.

## MANAGEMENT EXIT CONFERENCE

This report was distributed to Ms. Bishop and other members of VRS' management and staff for review and comment. They expressed substantial agreement with this report and will issue a written response to the recommendation contained in this report.

## REPORT DISTRIBUTION

Submitted to the Audit and Compliance Committee at its meeting held  
December 8, 2022.

### MEMBERS OF THE AUDIT AND COMPLIANCE COMMITTEE

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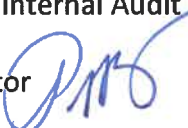
### AUDIT SUPERVISOR

Matthew Priestas, CIA, CRMA, CISA, PMP

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To: Jennifer P. Bell Schreck, Internal Audit Director

From: Patricia S. Bishop, Director 

Date: November 30, 2022

Subject: Management's Response to Internal Audit Report No. 447 – "General Ledger System"

We reviewed the above captioned Internal Audit Report on "General Ledger System". We appreciate the Internal Auditor's analysis of the agency's new general ledger system and recognition of VRS' commitment to ensuring the integrity of the system. We also appreciate the thorough background provided in the report as well as the professionalism and cooperation exhibited by internal audit staff.

As noted in the report, and as is the case for most industries, VRS faces staffing resource challenges, particularly in the Information Technology department. These challenges impact the agency's ability to optimally review its service accounts and managed identities. In light of finite resources, the agency continues to put its primary focus on cybersecurity and fraud prevention. In addition, VRS continues to proactively recruit qualified employees for its vacant positions, including those responsible for the review of service accounts and managed identities. Further, VRS has taken steps to identify and deploy additional contract resources to augment staff where appropriate and support these efforts.

Management looks forward to continuing its partnership with Internal Audit, identifying and addressing challenges to information security on an ongoing basis, even beyond the regular audit cycle, to ensure the compliance of our technology systems with VRS and VITA standards.

The Audit Report identified one recommendation that requires follow-up. Below is the recommendation and management's response.

**1. Monitor Service Accounts and Application Identities.**

Due to staffing resource constraints, VRS has not performed annual monitoring of the general ledger related service accounts and managed identities as required by AC-2 Account

Management in VITA Information Security Standard (SEC 501-12.0). Monitoring of these accounts would have revealed five accounts missing appropriate authorizations and two accounts which had been designated for temporary use during the data migration to the new general ledger but were not promptly disabled.

Not complying with this practice potentially weakens VRS' ability to protect accounts that provide privileged access to other applications and services connecting to the general ledger and its environment. While this review focused on accounts specific to the general ledger, VRS should review all service accounts and application identities for reasonableness annually or more frequently if required to address environmental changes, in accordance with its policies.

***Management's Response:***

***Technology Services has obtained authorization for the five general ledger system service accounts. In addition, a support ticket has been opened with the general ledger system managed services provider (MSP) to analyze and take appropriate action on the two temporary service accounts.***

***Further, Technology Services has identified steps to review all service accounts and application identities. The review entails validation of assigned and documented permissions by the account owner and removing access, where appropriate, to align with the principle of least privilege. This review will be complete by June 30, 2023. In addition, Technology Services will continue to review service accounts at least annually thereafter.***

# Closed Session myVRS and the Fraud System Audit Report