



Audit and Compliance Committee Meeting

Via GoToWebinar

Thursday, 6/4/2020

2:00 - 4:30 PM ET

I. Welcome

II. Public Comment

III. Minutes of the December 12th Meeting

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IV. Matters for Discussion with the Auditor of Public Accounts

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A. Update on the 2019 Employer Assurances Review

B. Entrance on the Examination of VRS' 2020 Comprehensive Annual Financial Report

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B. Report 429: VRS Policy Conformance with VITA's Security Program

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VI. Report on Code of Ethics by Management

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VII. Quarterly Reports on the Modernization Program - Phase 4

A. Report from Management

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B. Report from Internal Audit

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VIII. FY 2020 Audit Plan Progress as of December 31, 2019

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- IX. FY 2021 - FY 2024 Long-Range Audit Plan Development Update
FY21-FY24 LR Audit Plan Development Update - Page 138
- X. Quarterly Report on Fraud, Waste and Abuse Hotline Cases
A. Report for November 1, 2019 through January 31, 2020
Quarterly Report on Fraud Waste and Abuse Cases as of 1-31-2020 - Page 140
B. Report for February 1, 2020 through April 30, 2020
Quarterly Report on Fraud Waste and Abuse Cases as of 4-30-2020 - Page 142
- XI. Management's Quarterly Travel Expenses and Per Diem Report
A. Report as of December 31, 2019
Quarterly Travel Expense and Per Diem Report as of 12-31-2019 - Page 145
B. Report as of March 31, 2020
Quarterly Travel Expense and Per Diem Report as of 3-31-2020 - Page 151
- XII. Miscellaneous Updates
A. Internal Audit's Review of the Cost of Living Adjustments
Internal Audit Cost of Living Adjustments Memorandum - Page 159
B. Next Meeting Date: Thursday, September 17, 2020 at 2:00 p.m.

Minutes

The Audit and Compliance Committee of the Board of Trustees met on December 12, 2019 at the Virginia Retirement System located in Richmond, Virginia. The following individuals were present.

Audit and Compliance Committee Members:

William H. Leighty, Committee Chair
Diana F. Cantor, Committee and Board Vice-Chair

Other Members of the Board of Trustees:

O'Kelly E. McWilliams, III

VRS Staff:

Patricia Bishop, Jennifer Schreck, Farley Beaton, Judy Bolt, Jeanne Chenault, Michael Cooper, Joshua Fox, Krystal Groff, Matthew Priestas, Denise Rasmussen, Cynthia Wilkinson, Andrea Peeks, Caitlin Pelletier, Kristy Scott, and Curt Mattson

Auditor of Public Accounts: Zach Borgerding, Justin Ferrell, and Brian Deveney

Joint Legislative Audit and Review Commission: Lauren Axselle

Other: Richard Tarr (by phone), Internal Audit Consultant

Mr. Leighty called the meeting to order at approximately 10:00 a.m.

MINUTES

Upon motion of Ms. Cantor, seconded by Mr. McWilliams, the Committee approved the minutes of the Audit and Compliance Committee meeting held on September 12, 2019.

***ANNUAL REPORT ON
INTERNAL AUDIT'S
QUALITY
ASSURANCE
IMPROVEMENT
PROGRAM***

Ms. Schreck presented the results of the annual Internal Quality Assurance and Improvement Program Review as of June 30, 2019, noting the Principal Auditor for Quality Assurance had completed the review and concluded there was reasonable assurance that the Internal Audit Department was performing in conformance with the *International Standards for the Professional Practice of Internal Auditing*.

***EXTERNAL QUALITY
ASSURANCE REVIEW
RESULTS***

Mr. Tarr presented the results of the quinquennial external quality assurance review. He concluded that the internal audit activity at VRS generally conforms with the *International Standards for the Professional Practice of Internal Auditing*, which denotes the Institute of Internal Auditor's highest rating of conformance. He noted opportunities for continuous improvement for the department to consider, with the Committee discussing these in further detail. He commended the Internal Audit Department on the professionalism and competence of its staff.

**ACCEPTANCE OF
EXTERNAL QUALITY
ASSURANCE REVIEW
REPORT**

Upon motion of Ms. Cantor, seconded by Mr. McWilliams, the Committee accepted the External Quality Assurance Review Report.

**EXIT ON THE 2019
COMPREHENSIVE
ANNUAL FINANCIAL
REPORT AUDIT**

Mr. Borgerding informed the Committee that the APA's audit work over VRS' fiscal year 2019 Comprehensive Annual Financial Report was in its final stages. Mr. Borgerding indicated the APA anticipates issuing an unmodified opinion dated December 13, 2019. Also, as a part of the audit, the APA would issue a "Report on Internal Controls and Compliance" which would not include any formal recommendations.

**ENTRANCE WITH
APA REGARDING
EMPLOYER
ASSURANCES**

Mr. Borgerding then provided the Committee with an overview of the APA's upcoming examinations designed to provide participating employers and their auditors the assurances necessary to prepare their own annual financial statements in accordance with:

- *GASB Statement No. 68*, which focuses on employer reporting over pension plans, and
- *GASB Statement No. 75*, which deals with employer reporting over other post-employment benefit plans.

Mr. Borgerding noted the examinations will cover the period July 1, 2018 through June 30, 2019 and that the APA anticipates issuing its opinions on these matters on or about June 30, 2020. He further indicated an engagement memo would be provided to the Committee at a later date.

AUDIT REPORTS

The Committee received one audit report from staff.

Audit Report 427

Mr. Fox presented audit report 427 – Credit Strategies Program. The review determined the Credit Strategies Program's due diligence and monitoring activities were sufficient and appropriate and align with the applicable Investment Policy Statement. Further, the Credit Strategies Program accounting transactions were accurate and properly recorded. There were no written recommendations resulting from the review.

**ACCEPTANCE OF
AUDIT REPORTS**

Upon motion of Ms. Cantor, seconded by Mr. McWilliams, the Committee accepted audit report 427 as presented.

**MODERNIZATION
QUARTERLY REPORT
- MANAGEMENT**

Mr. Beaton presented Management's report on the Modernization Program - Phase 4. Mr. Beaton updated the Committee on the decommissioning of RIMS and the phase progress concerning online retirements. Mr. Beaton observed quality monitoring and operational support activities continue and online retirements should be finalized by the end of the fiscal year. Lastly, budget and cost updates as of September 30, 2019 were provided.

***MODERNIZATION
QUARTERLY REPORT
– INTERNAL AUDIT***

Mr. Priestas presented Internal Audit's Quarterly Review of Modernization - Phase 4 indicating agreement with management's representations regarding the overall schedule, budget and scope of Phase 4. Mr. Priestas acknowledged management's efforts on the remaining Phase 4 functionality.

***QUARTERLY REPORT
ON FRAUD, WASTE
AND ABUSE HOTLINE
CASES***

Ms. Bolt presented the Fraud, Waste and Abuse cases investigated by Internal Audit for the period August 1, 2019 through October 31, 2019. Ms. Bolt noted there was one case reported through the Office of the State Inspector General during the period alleging abuse of long-term disability. The allegation could not be substantiated; therefore, the case was closed.

***MANAGEMENT'S
QUARTERLY TRAVEL
EXPENSE AND PER
DIEM REPORT***

Mr. Leighty noted management's quarterly travel expense and per diem report was provided for the Committee's review.

***MISCELLANEOUS
UPDATES***

Finally, Ms. Schreck indicated the next meeting of the Committee is scheduled for March 19, 2020 at 2:00 p.m.

***MEETING
ADJOURNMENT***

There being no further business, upon motion of Ms. Cantor, seconded by Mr. McWilliams, Mr. Leighty adjourned the meeting at approximately 11:20 a.m.

Committee Chair

Secretary

Matters for Discussion with the Auditor of Public Accounts

VRS 2019 CAFR

For informational purposes, you may wish to review VRS' most recent CAFR. Due to the voluminous nature, it is not included in the meeting book, but can be found on VRS' website at the following link:
<https://www.varetire.org/pdf/publications/2019-annual-report.pdf>

APA 2019 Report on Internal Control

The APA's Report on Internal Control for the 2019 CAFR Audit found the financial statements were presented fairly, in all material respects; no internal control findings requiring management's attention; and, no instances of noncompliance or other matters required to be reported under Government Auditing Standards. This report can be viewed at the following link:
<http://apa.virginia.gov/reports/VirginiaRetirementSystem2019.pdf>

MATTERS FOR DISCUSSION WITH THE APA

Update on the 2019 Employer Assurances Audit

The APA will provide an update on the status of their 2019 Employer Assurances Audit, the results of which are expected to be reported out by the end of July 2020.

Entrance on VRS' 2020 CAFR Audit

The APA will entrance with the Committee on VRS' 2020 CAFR (Comprehensive Annual Financial Report) Audit. A copy of their engagement memorandum, which highlights the staffing, timing, scope and reports, as well as the terms of the engagement, follows.

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

Typical 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?

Audit and Compliance Committee June Meeting



2020 VRS Financial Statement Audit Entrance

June 4, 2020

Zach Borgerding, Audit Director

Auditor of Public Accounts

Employer Assurances: Refresher

- Audit work continues in support of financial reporting requirements for employers
- Assurances include:
 - Opinions on pension and OPEB amounts and employer allocations for cost sharing plans
 - Opinions on changes in fiduciary net position at the employer level for agent plans
 - Opinions on census data
 - Review of employer guidance concerning journal entries and disclosures

Employer Assurances: Status

- Timing of VRS prepared schedules and resources has continued to improve
- No matters requiring the Committee's attention at this time
- Expect to issue by end of July for pensions and OPEBs
- Employers are familiar with the process and anticipate these resources

VRS Comprehensive Annual Financial Report

AUDIT ENGAGEMENT ENTRANCE

Audit Logistics

- Timing:
 - Audit Period: July 1, 2019 – June 30, 2020
 - Audit Timing: May, 2020 – December, 2020
 - Must have sufficient, appropriate audit evidence by December 15th
- Audit Team:
 - The entire audit team is returning from the prior year
 - Continued use of co-in-charge model

Our Team

Zach Borgerding



- Director
- 12 years experience
- 5 years assigned to VRS
- CPA, CGFM, and CISA
- Recent projects: GMU, RU, Governor's Office, and VRBP

Justin Ferrell



- Supervisor
- 10 years experience
- 3 years assigned to VRS
- CPA, CISA and VCCO
- Recent projects: VCU, NSU, and Center for Innovative Tech.

Brian Deveney



- Supervisor
- 6 years experience
- 2 years assigned to VRS
- CPA, CISA, and MA with focus in data analytics
- Recent projects: Treasury, HEI Debt, and VSF

Jenny Schoeller



- Manager
- 15 years experience
- 3 years assigned to VRS
- CGFM and CIA
- Recent projects: VCU, CWM, and VA Racing Comm.

Erin Rodriguez



- Auditor
- 2 years experience
- 2 years assigned to VRS
- BS in Accounting
- Recent Projects: Lottery, W&M, and UVAMC

Matt Holm



- Auditor
- 2 years experience
- 2 years assigned to VRS
- BS in Accounting
- Recent Projects: RU, VSU, and NSU

Our Team (continued)

Goran Gusavsson



- Director
- 24 years experience
- BS in Electrical Engineering and Computer Science, MA in ISS, CISM, and CISSP
- Manages all ISS audits and is primary reviewer of security work

Danese Seabourne



- Supervisor
- 5 years experience
- 4 years assigned to VRS
- BS in Computer Science and info systems cert, CISA
- Assigned exclusively to audit systems security

Aki Kim



- Associate Auditor
- 1 year experience
- 2nd year assigned to VRS
- BS in Computer Science
- Assigned exclusively to audit systems security

April Cassada



- Director
- 17 years experience
- BS in Accounting, CPA, CISA, and CITP
- Manages data analysis specialty team and reviews all data retrieval work

Audit Objectives

- **Basic Financial Statements**
 - Primary objective of audit is to provide an opinion on fair presentation in accordance with GAAP
 - We assess risk of material misstatement at the line item level and design an audit approach responsive to those risks
 - Procedures include a combination of tests of detailed transactions and balances, as well as internal control processes

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Audit Objectives

- **Virginia CAFR**
 - Objective of audit is also to ensure fair presentation of attachments and supplemental items submitted to DOA
 - Inquiries often require communication between VRS, DOA, and their respective audit teams
 - The VRS audit PM performs final review for both projects to ensure consistency
 - Team also considers internal control processes relating to the compilation of this information



Audit Objectives

- **Required Supplementary Information (RSI)**

- We review for consistency with the basic financial statements
- We perform limited procedures, including management inquiries and review of support
- We do not provide an opinion concerning RSI

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Audit Objectives

• Supplementary Information

- We provide an opinion that schedules are fairly stated 'in relation to' the basic financial statements
- We reconcile the total schedule amount to the basic financial statements and sub-amounts to the general ledger system
- We perform limited additional procedures, including management inquiry

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Audit Objectives

- **Other Information**
 - We review for inconsistency with the basic financial statements
 - We review for apparent material misstatements of fact based on our knowledge of operations
 - We do not provide an opinion or any assurance whatsoever concerning other information

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INTRODUCTORY SECTION | 3

Approach to Materiality

- We consider what is likely to affect the judgement of a financial statement user in order to:
 - Assess risk and design audit procedures
 - Evaluate misstatements in amounts and deficiencies in processes
- Includes quantitative and qualitative considerations
- Certain procedures are performed at a lower level of materiality in preparation for the employer-level opinions provided in support of GASB Statements 68 and 75

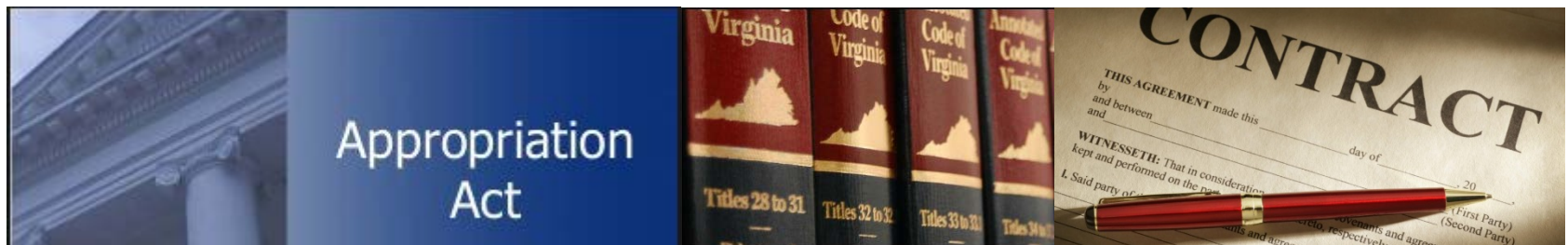
Approach to Fraud

- Team reviews operating procedures and interviews personnel as part of an assessment of the risk of fraud
- Team looks for red flags and considers the potential for fraud as it relates to exceptions identified during fieldwork
- VRS is required to notify APA when fraud is identified



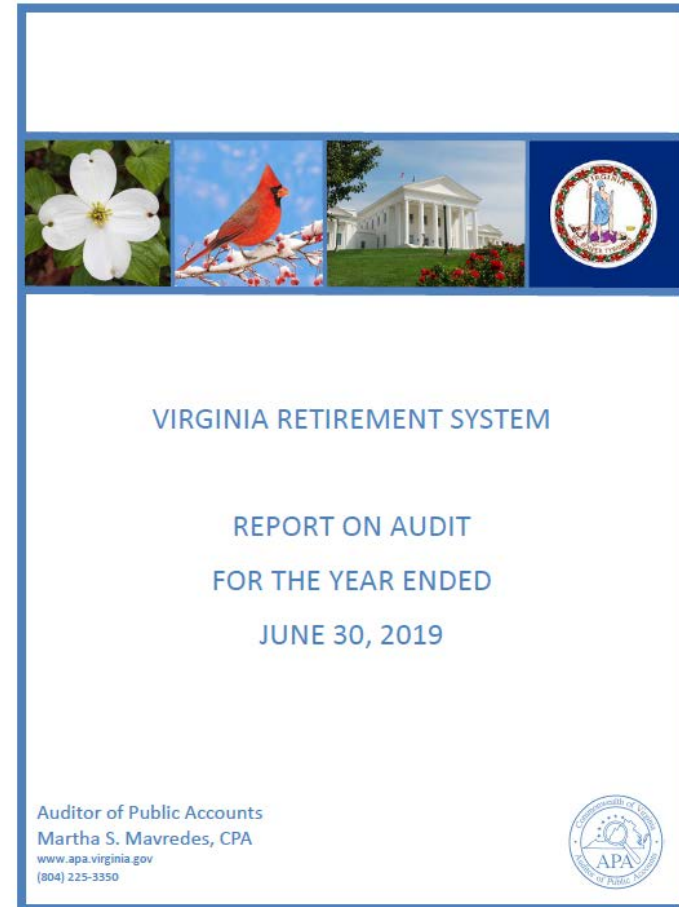
Approach to Compliance

- We consider the risk that potential non-compliance could have a material direct or indirect effect on the financial statements
- We assess management's processes
- We test compliance which we deem significant in the context of the audit objectives



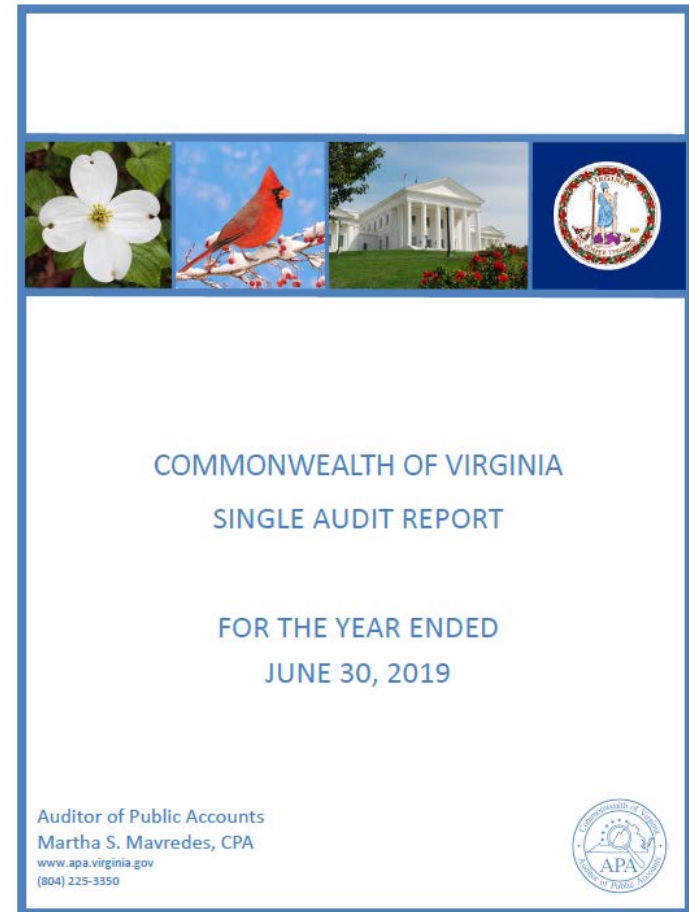
Audit Objectives

- **Report on Internal Controls and Compliance**
 - We do not provide an opinion on internal controls
 - We are required to report any findings that we deem to be significant deficiencies or material weaknesses
 - Though not required, we plan to issue this report the same week we release the audit opinion



Audit Objectives

- **Statewide Single Audit**
 - The Statewide Single Audit (SSA) report serves as the internal control report for the Commonwealth's CAFR
 - Findings included in the VRS internal controls report will be carried forward to the SSA report
 - VRS did not have any prior year findings requiring follow up





COVID-19

- We will work with management to ensure safety and to minimize disruption without sacrificing deadlines
- Inquiry access to VRS systems and secure transmission of electronic documents allows most procedures to be performed remotely
- We will gain an understanding of any changes in the business environment and VRS processes during final quarter in order to assess risk

Management Communication

- Entrance/Exit with Management
- Bi-weekly status meetings:
 - Financial
 - Investments
- When potential concerns are noted:
 - Confirm condition
 - Obtain response
 - Evaluate significance

Audit Committee Communication

- If you are aware of risks our audit should address, please share those with us
- Unless there are findings requiring your immediate attention, we will present our results to you at the conclusion of the audit
- If earlier communication is warranted, we will coordinate with internal audit to ensure the Committee is informed in a timely manner
- Terms of the engagement and representation letters

Questions?



Intended Use Statement

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.

Auditor of Public Accounts
Audit Engagement Memorandum
Virginia Retirement System
Thursday June 4, 2020

Audit Staff:

- Project Manager: Zachary Borgerding, CPA, Director
 - Auditor In-Charge: Justin Ferrell, CPA, Audit Supervisor
 - Auditor In-Charge: Brian Deveney, CPA, Audit Supervisor
 - Jenny Schoeller, Audit Manager
 - Danese Seabourne, Audit Supervisor
 - Erin Rodriquez, Auditor
 - Matt Holm, Auditor
 - Aki Kim, Associate Auditor
-
- Audit Period – July 1, 2019 through June 30, 2020
 - Planned Audit Timing – June through December 2020
 - Audit Deadline (or Anticipated Report Issuance Date) – December 15, 2020
 - Audit Objectives

Agency Specific

- The financial statements present fairly the financial position, results of operation, and changes to financial position for the period under examination in conformity with accounting principles generally accepted in the United States of America.
- Disclosures in the financial statements are adequate and fairly stated.
- Compliance with applicable laws, regulations and provisions of contracts or grant agreements.
- Adequate internal controls exist over material account balances and transactions.
- The agency has addressed deficiencies identified in the prior year audit.
- Management has appropriately reviewed the financial statements, accruals and adjustments, and disclosures.

Commonwealth CAFR Specific

- The attachments and supplemental information submitted by the Virginia Retirement System to the Department of Accounts for use in preparing the CAFR present fairly the financial activity and relevant disclosures of the agency for the audit period.
- The agency has appropriately reconciled the financial activity reported in the attachments to its individually published financial statements.
- The agency reviews the adequacy and completeness of the process for preparing the attachments submitted to the Department of Accounts.

Statewide Single Audit Specific

- Findings considered to be significant deficiencies or material weaknesses in internal control are reported in the Commonwealth's Single Audit.
- Audit Scope
 - Internal Controls, including systems security and general controls
 - Financial Statements and support for Commonwealth CAFR audit:
 - Significant financial cycles, such as Investments, Cash, Securities Lending, Contributions, Benefits, & Refunds
 - Actuarial Services
 - Administrative Expenses – qualitative review
- Audit Report
 - Auditor's Opinion on the Financial Statements
 - Report on Internal Control and Compliance
 - Financial information for which VRS is responsible will be included as part of the Commonwealth's CAFR, for which we will provide our opinion in advance of December 15, 2020
 - The Statewide Single Audit's report on internal control and compliance associated with the work performed to support the Commonwealth's CAFR, which may include any internal control deficiencies or non-compliance identified at VRS

Report Distribution: The auditor in-charge will discuss with Barry Faison and Leslie Weldon prior to the end of the audit, who should be included in the report distribution. In addition, the report will be distributed to all Board members via email.

Terms of the Engagement

Management should acknowledge that they understand and agree to the following terms of the engagement and Management's responsibilities during the audit process.

Responsibilities during the audit process:

➤ The Auditor's (APA) Responsibilities

Overall Audit Objectives

The objective of our audit is the expression of opinions as to whether your basic financial statements are fairly presented, in all material respects, in conformity with U.S. generally accepted accounting principles. We will conduct our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and standards for financial audits contained in the *Government Auditing Standards*. The audit of the financial statements does not relieve management or those charged with governance of their responsibilities.

Audit Procedures-General

An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements; therefore, our audit will involve judgment about the number of transactions to be examined and the areas to be tested. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. We will plan and perform the audit to obtain reasonable, rather than absolute assurance, about whether the financial statements are free of material misstatement whether from (1) errors, (2) fraudulent financial reporting, (3) misappropriation of assets, or (4) violations of laws or governmental regulations that are attributable to the entity or to acts by management or employees acting on behalf of the entity. Because the determination of abuse is subjective, *Government Auditing Standards* do not expect auditors to provide reasonable assurance of detecting abuse.

Because of the inherent limitations of an audit, together with the inherent limitations of internal control, an unavoidable risk that some material misstatements may not be detected exists, even though the audit is properly planned and performed in accordance with GAAS and *Government Auditing Standards*.

Audit Procedures-Internal Control and Compliance

Our audit will include obtaining an understanding of internal controls, sufficient to assess the risks of material misstatement of the financial statements and to design the nature,

timing, and extent of further audit procedures. An audit is not designed to provide assurance on internal control or to identify significant deficiencies or material weaknesses. However, we will communicate in writing to management and those charged with governance any significant deficiencies or material weaknesses in internal control relevant to the audit of the financial statements that we have identified during the audit. Also, as part of obtaining reasonable assurance about whether the financial statements are free of material misstatement, we will perform tests of compliance with the provisions of applicable laws, regulations, contracts, agreements, and grants.

Those charged with governance

We are responsible for communicating significant matters related to the financial statement audit that are, in the auditor's professional judgment, relevant to the responsibilities of those charged with governance in overseeing the financial reporting process. GAAS do not require the auditor to design procedures for the purpose of identifying other matters to communicate with those charged with governance.

➤ Management's Responsibilities –

Our audit will be conducted on the basis that Management **acknowledge and understand that they have the following responsibilities:**

- Preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America
- Design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error
- Identify and ensure compliance with applicable laws, regulations, contracts, and grant agreements
- Informing the APA about all known or suspected fraud affecting the entity involving (1) management, (2) employees who have significant roles in internal control, and (3) others where the fraud could have a material effect on the financial statements
- Informing the APA (and others as required by the Code of Virginia § 30-138) of knowledge of any allegations of fraud or suspected fraud affecting the Virginia Retirement System received in communications from employees, former employees, regulators, or others
- As received, forward copies of each federal audit performed on agency or institution programs or activities to the Auditor of Public Accounts as required by Chapter 854 § 4-8.02 a. of the 2019 Virginia Acts of Assembly. To forward these reports to the Auditor of Public Accounts, use APAFederal@apa.virginia.gov. If the federal report is only available in hardcopy or contains FOIA exempt information, DO NOT email the report, use this same email account to notify the Auditor of Public Accounts of the federal report and provide the contact information of the individual with the report.

- Informing the APA of any potential documents that are FOIA exempt
- Ensuring that financial information is reliable and properly recorded
- Making all financial records and related information available to the APA
- Providing the APA with (1) access to all information of which you are aware that is relevant to the preparation and fair presentation of the financial statements, (2) additional information that we may request for the purpose of the audit, and (3) unrestricted access to persons within the government from whom we determine it necessary to obtain audit evidence
- Responding to audit findings and recommendations, as well as providing your planned corrective actions and the timing and format for providing that information
- Providing the APA at the end of the audit with a written letter confirming certain representations made during the audit
- Adjusting the financial statements to correct material misstatements and providing the APA with a representation that the effects of any uncorrected misstatements are immaterial, both individually and in the aggregate, to the financial statements taken as a whole
- Preparation of the supplementary information in conformity with U.S. generally accepted accounting principles. You agree to include our report on the supplementary information in any document that contains and indicates that we have reported on the supplementary information. Your responsibilities include acknowledging to us in the written representation letter that (1) you are responsible for presentation of the supplementary information in accordance with GAAP; (2) that you believe the supplementary information, including its form and content, is fairly presented in accordance with GAAP; (3) that the methods of measurement or presentation have not changed from those used in the prior period (or, if they have changed, the reasons for such changes); and (4) you have disclosed to us any significant assumptions or interpretations underlying the measurement or presentation of the supplementary information.

➤ **Audit Committee**

- Communicate with APA about audit scope
- Communicate with management and internal audit regarding progress
- Receive reports and findings from management and external audit

Other Elements of the audit process:

Overall planned scope of the audit

- **Approach to internal control** – We review internal controls to identify those areas where we can replace substantive testing with transactional testing. We look for management to have written formal policies and procedures and check for the implementation of those procedures.

- **Concept of materiality** – We do not review all transactions or accounts in detail. We use materiality to focus our work on those financial statement line items and those transactions that are material or significant to the Virginia Retirement System.

Identification of potential fraud risks

- **Approach to fraud** – Most of our audit is focused on our opinion on the financial statements and materiality. Our primary interest related to fraud would be in how it may affect the financial statements and those controls that the financial statements rely upon. The audit is not designed to detect error or fraud that is immaterial to the financial statements. However, we review policies and procedures for fraud risk and may direct our testwork towards addressing fraud risk.
- **Responsibility for identifying fraud risks and fraud** – Auditing standards require us to assess fraud risk, interview management and staff about their knowledge of fraud and fraud risk, and review exceptions for indications of possible fraudulent transactions. Auditors should be looking for red flag fraud indicators. Even though government entities are not always profit oriented, the auditors remain vigilant about financial statement fraud.
- **Report fraudulent transactions as required by Code of Virginia § 30-138** – Agencies are responsible for reporting circumstances that suggest a reasonable possibility that a fraudulent transaction has occurred involving funds or property under their control, where an officer or employee of the state or local government may be involved. Items should be reported to the Auditor of Public Accounts, the State Inspector General, and the Superintendent of State Police.

Audit Reporting

We will issue a written report upon completion of our audit of the Virginia Retirement System's financial statements. Our report will be addressed to the board of directors of the Virginia Retirement System. We cannot provide assurance that an unmodified opinion will be expressed. Circumstances may arise in which it is necessary for us to modify our opinion or add an emphasis-of-matter or other-matter paragraph(s). If our opinions on the financial statements are other than unqualified (unmodified), we will discuss the reasons with you in advance. If, for any reason, we are unable to complete the audit or are unable to form or have not formed opinions, we may decline to express opinions or to issue a report as a result of this engagement.

We will also provide a report (that does not include an opinion) on internal control related to the financial statements and compliance with the provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a material effect on the financial statements as required by *Government Auditing Standards*. The report on

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

Audit Reports

Investment Manager and Master Custodian Compensation

July 1, 2018 - March 31, 2019

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

February 27, 2020

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Dear Members of the Audit and Compliance Committee,

We have completed audit number 428, "Investment Manager and Master Custodian Compensation." The main purpose of our audit was to review compensation paid to external investment managers and the master custodian for reasonableness and proper recordation. In addition, we performed a limited review of VRS' compliance with *Code of Virginia* requirements for reporting carried interest.

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 objective. 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, Chief Investment Officer, and members of management for review and comment. As our review did not result in a written recommendation, management did not provide a written response but expressed substantial agreement with our report.

We appreciate the cooperation and assistance of the Investments and Investment Accounting Departments throughout this audit.

Respectfully Submitted,

A handwritten signature in black ink that reads 'Jennifer P. Bell Schreck'.

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

Investment Manager and Master Custodian Compensation Pg. 2 of 22

EXECUTIVE SUMMARY

We conducted an examination of Investment Manager and Master Custodian Compensation for the period July 1, 2018 through March 31, 2019. Our review determined compensation paid to external investment managers and the master custodian is in accordance with contractual requirements, accurate and properly recorded. Investment manager compensation can include both management and performance fees, while compensation of the master custodian is comprised of a base annual fee, miscellaneous fees as well as compensation related to securities lending.

Our audit also incorporated a limited review of VRS' processes over the annual report of carried interest in accordance with the *Code of Virginia* requirements as of March 31, 2019.

There are no written recommendations resulting from our review.

SNAPSHOT

During the period July 1, 2018 through March 31, 2019, VRS paid its master custodian \$6.6 Million, representing a portion of the base annual fee, miscellaneous fees, and compensation related to securities lending, and provided external investment managers \$307.7 million in compensation.

As of March 31, 2019, fees paid for the audit period represent less than 1% of the VRS's total fund value of \$80.4 Billion.

AUDIT ASSESSMENT

Investment manager and master custodian compensation is in accordance with contractual requirements, accurate and properly recorded.

VRS' annual carried interest report complies with the *Code of Virginia* requirements.

Written Recommendations: 0

BACKGROUND

INTRODUCTION

VRS is ranked as the 19th largest pension system in the U.S., and the 43rd largest in the world, with the value of its investments at \$80.4 billion as of March 31, 2019. The VRS portfolio is positioned to provide diversification across a variety of asset classes, with approximately one-third of assets managed in-house and two-thirds managed by external investment managers.

A portfolio of this size and complexity requires VRS to hire and retain experienced, reputable investment professionals and financial institutions to support its mission. Investment professionals employed in-house are compensated in accordance with the *VRS Investment Professionals' Pay Plan*. External investment managers and financial institutions are compensated for their services based on their individual contracts with VRS.

Consistent with industry practices, VRS compensates its external investment managers and financial institutions through different methods, such as management, performance, and flat fees, as well as profit sharing. The establishment of individual terms and calculation of compensation are negotiated by VRS' in-house investment professionals and the Investment Department's regulatory and legal staff as part of the hiring and due diligence processes performed by VRS. Often, industry standards for certain investments dictate the type and extent of compensation, and VRS' ability to negotiate terms.

The payment of compensation associated with VRS' contractual relationships is subject to internal recalculation, review, and approval processes. The frequency and approach of these processes is determined by a variety of factors, such as the contractual terms, legal structure of the investment, and accepted valuation methodology.

BANK OF NEW YORK MELLON RELATED FEES

The Bank of New York Mellon (BNYM), serves an integral role as VRS' master custodian, by maintaining the official accounting records for all investments, and providing security settlement processing, asset custody, and income collection; as well as other investment and accounting related services. VRS compensates BNYM for these services through the payment of various fees.

VRS' **ability** to create and maintain strong **relationships** with its **external** investment **managers** and **financial institutions** is significant to the overall **health** of the **portfolio** and its ability to achieve **long-term** investment **goals**.



BNY MELLON

Domestic Trust and Custody Fees

VRS' contract with BNYM for domestic trust and custody services includes a base annual fee, billed in monthly installments during VRS' fiscal year. This flat fee covers a variety of different services provided to VRS, such as pricing, reporting, and performance and risk analytics. Additionally, this annual flat fee covers the BNYM Complex Accounting and Administration Group's (CAAG) fee accrual and calculation services for VRS' hedge fund accounts.

Oversight of Domestic Trust and Custody Fees Paid

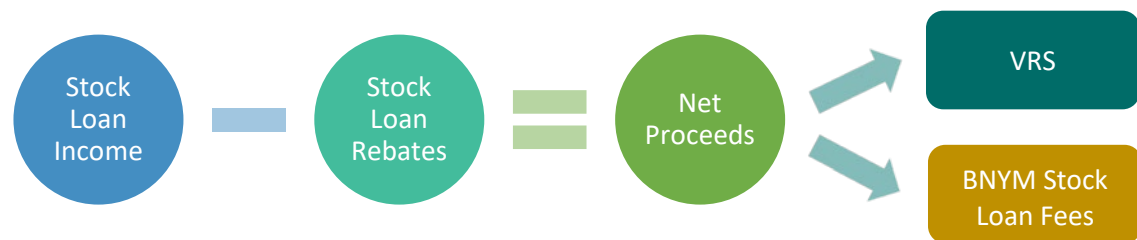
Payment to BNYM occurs automatically through a deduction from a VRS cash account, with Investment Accounting monitoring the account's activity. Further, Investment Accounting performs a limited review of the invoices to ensure consistency with contract terms.

Securities Lending Fees (Stock Loan Fees)

VRS participates in BNYM's securities lending program. As the program administrator, BNYM assumes all default risk as well as responsibility for assuring the credit worthiness of the parties borrowing VRS securities. As a participant, VRS assumes the investment risk associated with the investment of the cash collateral. VRS compensates BNYM by splitting the securities lending net proceeds in accordance with the terms specified in their contract. BNYM refers to its share of the net proceeds as stock loan fees.

Calculating Securities Lending Net Proceeds and Stock Loan Fees

When a VRS security goes out on loan, BNYM negotiates the amount of interest VRS will pay on the cash collateral received for lending out the security. The collateral received from the borrower can be cash or non-cash, typically fluctuating between 50-60% cash and 40-50% non-cash. The interest paid by VRS on cash collateral is referred to as the stock loan rebate.



As reflected on the previous page, VRS invests the securities lending collateral to earn stock loan income to pay the stock loan rebate. The difference between the stock loan income earned and the stock loan rebate paid on the collateral is referred to as the revenues, or net proceeds. VRS compensates BNYM from these net proceeds based on their contractual terms.

Oversight of Stock Loan Fees Paid

The Fixed Income Group, within VRS' Investment Department, ensures BNYM manages VRS' participation in accordance with the agreed upon guidelines. Monthly, the Fixed Income Group monitors securities lending performance, collateralization levels, the split of the program's net proceeds with BNYM, and other significant metrics used for evaluating the overall state of the program. In addition, Investment Accounting performs monthly reconciliations between the BNYM reporting system, NEXEN, and VRS' general ledger, MUNIS.

Miscellaneous Fees

BNYM assesses other fees for various ancillary services provided to VRS, such as support for: derivative investment strategies, special processing requirements, legal filings, vendor costs, and physical holdings expenses. BNYM invoices VRS as services are performed in accordance with contractual terms.

Oversight of Miscellaneous Fees Paid

Similar to the base annual fee, payment for other fees are paid automatically to BNYM through a deduction to VRS' cash account. Investment Accounting monitors the cash account's activity and performs a review of the invoices received from BNYM, along with available supporting documentation, to ensure the fees charged are consistent with the contract terms and services provided.

MANAGEMENT AND PERFORMANCE FEES

Investment Management Fees

VRS pays investment management fees, also known as advisory fees, to its external investment managers to cover the cost of resources used in the manager's day-to-day business, such as personnel, office space, and other miscellaneous administrative services. VRS' contracts with

Not all externally managed accounts **have** management or performance **fees assessed** or **paid** throughout the period VRS **holds the investment**.

This can be **attributed to** a variety of reasons such as:
the **age** of the account,
the **type** of investment, or
other contractual **terms**.

external investment managers define the calculation methodology for management fees which varies depending on the type of investment and other factors.

Investment Performance Fees

Investment performance fees, also known as incentive fees, are paid to external investment managers in exchange for meeting or exceeding returns specified in the contracts.

Oversight of Management and Performance Fees Paid

Both management and performance fees are accrued over a finite time period and paid by VRS as earned by the external investment managers. Further, management and performance fees can be paid directly after the receipt of an invoice or indirectly through a deduction to a VRS investment account. The method by which VRS pays these fees is defined in the contract with the external investment manager. Investment Accounting recalculates the fees for all investment accounts, excluding hedge funds. BNYM's CAAG performs hedge fund fee recalculations on VRS' behalf.

Direct Payment Oversight, Excluding Hedge Funds

Investment Accounting creates, with support from the Investment Department, a separate fee verification template for all new investment accounts and adjusts existing templates when modifications are made to the fee schedules for existing relationships. The template includes the pertinent contract terms and supporting reports from BNYM to assist with the recalculation process.

Using the template, Investment Accounting independently recalculates each manager's fees, incorporating and reviewing supporting documentation as applicable, and researching any variances between their recalculation and the manager's invoice which exceed VRS defined thresholds. After Investment Accounting's recalculation process is complete, the Investment Department reviews the fees for reasonableness and approves the invoice.

Once approved, Investment Accounting confirms other required documentation has been provided and prepares an instruction letter to have BNYM process a payment for the fees. Both the instruction letter and related invoice are submitted to VRS' Control Department, in General Accounting, which obtains a signature from an authorized VRS signer and submits the instruction

letter to BNYM for processing. Subsequently, Investment Accounting receives a copy of the signed instruction letter and verifies BNYM recorded the fees and associated descriptions accurately.

Indirect Payments Oversight, Excluding Hedge Funds

Consistent with the process for direct payments, Investment Accounting independently recalculates indirectly paid fees by using a fee verification template, internally created with support from the Investment Department. Additionally, for alternative investments, on an annual basis, Investment Accounting compares their recalculation to the fees in the audited financial statements provided by the investment manager, researching any variances between their recalculation and the audited financial statements that exceed VRS defined thresholds.

Of note, in some instances the audited financial statements do not provide sufficient detail. For example, VRS may not have ownership in the entire partnership, but rather only certain investments, but the fee presented in the audited financial statements is for the partnership as a whole. In other cases, the audited financial statements may not show the fee as a separate line item. In both of these instances, Investment Accounting instead will verify the fee reported using the VRS capital account statement provided by the investment manager.

After Investment Accounting's recalculation, the Investment Department validates the existence of the investment account, reviews the fees for reasonableness, and approves the fee calculation. Depending on the investment type, the frequency of the Investment Department's approval may differ. For example, alternative investments require only an annual approval, while other investment types require a more frequent approval.

Since indirect payments are deducted from VRS' account by the investment manager, Investment Accounting only provides BNYM with instructions on how to record the payment in the appropriate custodial account.

Hedge Fund Oversight

The process for fee verification and recalculation of hedge fund accounts is more complex and differs from other investment accounts. BNYM's CAAG verifies and recalculates all of VRS' hedge

HISTORICAL PERSPECTIVE OF CARRIED INTEREST

The **concept** of profit sharing (carried interest) **dates back** to **the 16th century**, when merchant **ships transported goods**.

Generally, the **captain** of the ship would **receive 20% share** of the **profit** from the **transported** (“carried”) **goods to pay** for the **transport** and the **risk** of sailing, while the **merchant retained** an **80% share** of the **profit**.

fund fees on a quarterly basis. Investment Accounting performs a review of CAAG’s work, which includes:

- Receiving an electronic file from CAAG for the fee calculations,
- Checking the formulas included against the applicable contract terms,
- Reviewing the available supporting documentation and
- Comparing the fee calculations provided by CAAG to the fees reported by the investment managers.

During the audit period, the Investment Department approved the calculation of each quarter’s management fees prior to Investment Accounting submitting the related information to BNYM for recording. However, effective with the June 2019 quarterly fees, the Investment Department’s approval will occur only annually, similar to indirect fee payment process for alternative investments.

For performances fees, the Investment Department reviews the payments for reasonableness, as the hedge fund account’s net asset value is adjusted for the fees, without the fees being recorded separately. The frequency of performance fee payments is dependent on contractual terms, and may not occur quarterly.

PROFIT SHARING (CARRIED INTEREST)

Overview

For investors today, including VRS, profit sharing, also known as carried interest, is a method for motivating and compensating high-performing, external investment managers when investing in alternative investments. Profit sharing is intended to align the interest of the investor with the investment manager to motivate increased profits in which both can share once certain contractual requirements are met. The ability to offer profit sharing in its legal agreements with investment managers allows VRS to be competitive in the market and gain entry to desirable alternative investments.

Legislatively Driven Reporting Requirements

During its 2017 session, the General Assembly enacted Chapter 639 of the Acts of the Assembly (*Code of Virginia* § 51.1-124.30:1) which required the adoption of a formal policy by VRS to regularly report on carried interest. Given its unique arrangement, the tracking and compilation of carried interest information is a complex process requiring the VRS Investment Department to devote significant resources to meet this legislative requirement. VRS completed its first report in December 2017. VRS' ongoing commitment to meeting this legislative requirement has positioned it as one of the leaders in the pension industry allowing VRS to promote additional transparency and disclosure relative to its investment management practices.

Accounting Treatment

The accounting and payment of profit sharing is distinct from other types of investment related compensation. Investment management and performance fees are recorded for specific time periods, paid as they are earned, with an individual investor's portion readily identifiable. Profit sharing, on the other hand, is accrued during the life of the investment and recorded as a part of unrealized gains in the investment's annual and quarterly financial statements, and not recognized as realized income until the investment's sale occurs and the net proceeds are distributed.

Financial Statement Reporting

Generally alternative investment manager's financial statements present the total unrealized gains, without parsing out each individual investor's share, during the life of the investment. Similarly, for the investor's financial reporting, profit sharing is a component of unrealized gains with no requirement in current accounting standards to present it separately in the financial statements.

For VRS, typically once the investment is sold, the investment manager provides the net proceeds, which is a distribution of VRS' share, less the manager's portion of profit sharing. VRS' contractual agreements with investment managers allow for the net proceeds to be distributed either in cash or securities, with cash being the most common form of payment.

Over the life of the investment, investment managers bear the responsibility for the accounting of the profit sharing arrangement. Each investment is audited annually by reputable CPA firms,

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Profit sharing is the **last step** to occur in the waterfall structure and is **contingent on** the contractually defined **preceding conditions** being **met first**.

Typically, the final **division and realization of the profit sharing** amounts between VRS and the investment manager **do not occur** until the investment is **sold**.

which generally includes a review of investor capital accounts and test work over individual distributions. As part of VRS' contract terms with its investment managers, VRS requires the delivery of annual audited financial statements.

Other Reporting Considerations

Due to the nature of alternative investments and these profit sharing arrangements, both the investor and investment manager are able to take advantage of the illiquidity of the unrealized gains while the investment is held. From the perspective of the investor, this allows for a prolonged timeframe to monitor the achievement of the conditions specified in the legal agreement before allocating any profit sharing to the investment manager. From the perspective of the investment manager, as the unrealized gains fluctuate over the holding period, it provides an extended opportunity for the investment to perform and to meet the conditions necessary for profit sharing to occur.

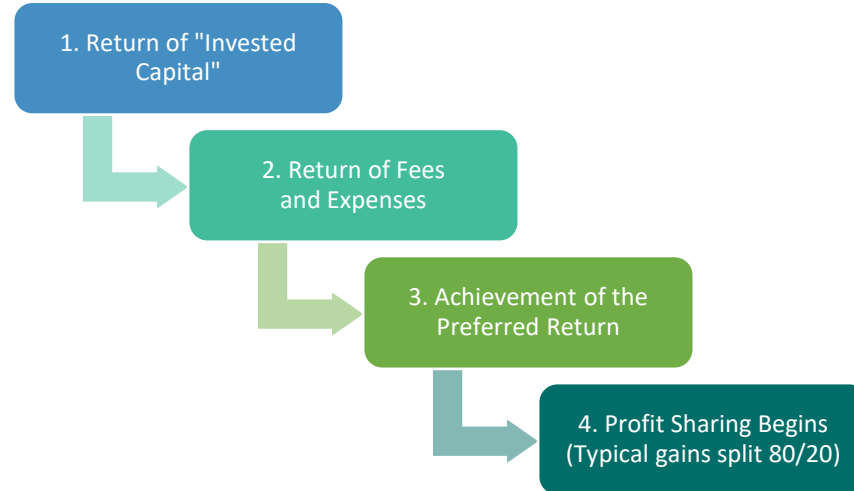
Profit Sharing Calculation Methodology

The calculation and final distribution of profit sharing is specified in the legal agreement between the investor and investment manager. It involves a series of conditions commonly known as the "waterfall."

Waterfall Methodology

The waterfall refers to the steps in which investment manager distributes cash generated from the investment's profits. For example, once cash is distributed to satisfy the first step in the waterfall, then cash will be distributed based on the next step in the specified sequence until satisfied, and so forth. Generally, but not in all cases, the waterfall will have the following structure.

The Waterfall Structure



Realizing Profit Sharing

Profit sharing is the last step to occur in the waterfall structure, realized only after satisfaction of the preceding steps. As reflected in the graphic above, profit sharing is not automatic; it is dependent on the fulfillment of multiple conditions prior to its commencement as described below.

1. “Invested Capital” can refer to a single investment or entire portfolio with an investment manager. Regardless of an investment’s geographical location, capital returned for a single investment is called the “American Waterfall”, while capital returned on an entire portfolio is called the “European Waterfall.”
2. “Return of Fees and Expenses” generally relates to the fees and expenses paid over the time the investment is held, being returned to the investor as allowed under the plan documents (typically, management fees paid over the holding period).
3. “Preferred Return” is also known as the minimum annualized rate of return or “hurdle rate”.
4. Once steps 1, 2, and 3 are met, profit sharing typically begins with 80% of the gains allocated to the investor, and 20% to the investment manager. This split reflects the investment vehicle standard; however, other arrangements may exist based on differences in the investment’s asset mix or past performance of the investment manager. Determination of the split occurs during contract negotiations.

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REPORTING PERIODS

Based on the **timing** of the **legislation**, VRS determined it would be **appropriate** to **report on** profit sharing **arrangements** **since** their **inception** in **1989** (when the Private Equity Program started) **through December 31, 2016**, with **regular reports** for each **calendar year-end** cycle **thereafter**.

COMPILATION OF THE VRS PROFIT SHARING REPORT

To meet its legislative reporting requirements, the VRS Investment Department worked collaboratively across various internal departments and with its external investment managers to compile and report profit sharing information for the VRS portfolio. Initial efforts focused on determining the appropriate reporting period for the initial report and annually thereafter.

Compilation and Report Timing

The decision to report profit sharing activity by calendar year (rather than fiscal year) provides consistency with the financial reporting of VRS investment managers with profit sharing arrangements, as their audited financial statements are generally prepared as of calendar year-end. These statements are considered to be the most reliable external source of information for the valuation, since these investments are not publicly traded.

Further impacting the compilation and report timing, the audited financial statements are often not available until the third quarter of the following calendar year. As a result and to allow time for the compilation and review process, the annual publication of profit sharing amounts on the VRS website occurs approximately one year in arrears. Therefore, activity published in December 2017 reflected activity as of December 31, 2016.

Reporting Results to Date

The profit sharing amounts (expressed in millions) reported by VRS since inception through December 31, 2016 and then by calendar year thus far are reflected below.

Profit Sharing	Since Inception*	Calendar Year 2016	Calendar Year 2017	Calendar Year 2018
VRS' Portion	\$18,116	\$1,317	\$2,835	\$712
Investment Managers' Portion	\$3,785	\$352	\$566	\$217
Total Profits	\$21,901	\$1,669	\$3,401	\$929

*Based on available data from 1989 through December 31, 2016.

ILPA REPORTING TEMPLATE

ILPA is a **member driven** organization dedicated to **promoting transparency** and **alignment of interests** between private equity **investors** (limited partners (LPs)) and the **managers** with whom they invest (general partners (GPs)).

ILPA developed its **reporting template** through extensive consultation with LPs, GPs, and technical **experts**, initially **releasing** it for use in **January 2016**.

The **goal** of using the **ILPA** reporting template is to **encourage uniformity** in the **disclosure** of fees, interest, and profit sharing for **private equity investments**.

Methodology to Compile the Initial Profit Sharing Report

Limitations in Compilation

Once the initial reporting period was defined, VRS acknowledged there would be inherent limitations in gathering the necessary data for the activity since inception (1989) as many of the early investment management firms and funds had been dissolved or sold by 2017. In these cases, VRS opted to gather external sources of information to the extent possible, incorporate data from internal records, and develop estimates of the historical profit sharing amounts to the best of its ability.

External Data Sources

As previously noted audited financial statements serve as the foundation for profit sharing reporting, dictating the period and timing of VRS' profit sharing report. However, while they are considered reliable and objective sources of information, for the purposes of the profit sharing report, their usability can be challenging. VRS is typically one of many investors within a partnership and profit sharing activity generally is not presented separately by investor, but instead aggregated with total unrealized gains and other activity attributed to all investors.

Due to these challenges, VRS used supplemental methods to collect relevant information from the relevant external investment managers to identify VRS' profit sharing amounts. This included requesting the investment managers to:

- complete a modified Institutional Limited Partners Association (ILPA) reporting template, as applicable;
- provide more detail in their quarterly account statements; and,
- work through any resulting questions with the VRS Investment Department staff as needed.

Validation of External Data

As a validation tool, VRS developed a separate calculation methodology using internal sources of information. The internal calculations were driven by the available data sources, and automated to the extent possible by the Investment Decision Support (IDS) team.

CALENDAR YEAR 2018 AND BEYOND

Even with the **efficiencies recognized** when compiling the calendar year **2017** profit sharing amounts, the Investment Department **still used considerable resources** to verify and compile the report. As a result, VRS **began to explore** the use of **external resources** to review and compile the **annual** profit sharing **report, considering** both **existing** and **new** potential third party **relationships**.

In evaluating their **options**, VRS identified an **existing relationship** with **Mercer**, from which it could benefit. In November 2018 Mercer had acquired Pavilion Financial Corporation (**Pavilion**). Pavilion **specializes** in wealth management and, like Mercer, **investment consulting**.

In June 2019, VRS **contracted** with Mercer to **review** and **compile** its profit sharing **information beginning** with the calendar year **2018** report. The 2018 report was **published** on the VRS public website in **December 2019**.

Specifically, the IDS team developed business logic integrating cash flow information from VRS' internal system, master custodian records (BNYM including its CAAG), and terms from the profit sharing agreements. The focus of the internal calculations was to use data sources other than those provided by the investment managers to validate profit sharing amounts.

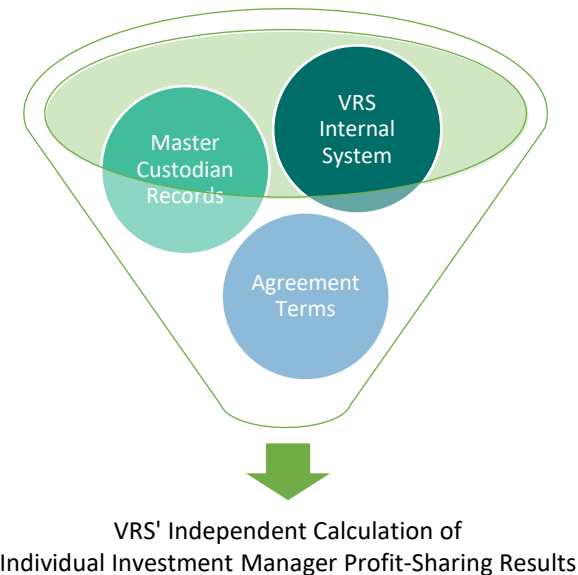
Review, Summarization and Publication

Once the Investment Department collected the available information (audited financial statements, modified ILPA templates, and quarterly statements) from the external investment managers, they performed a comparison to their internal calculations. Where variances were identified, the Investment Department determined whether to use the profit sharing amount estimated by their internal calculations or accept the amount reported by the investment manager.

Once the value for each investment relationship was determined, the Investment Department summarized the valuation information and published the compilation on VRS' public website, varetire.org, in December 2017 in their report entitled "*Virginia Retirement System Alternative Investment Manager Aggregate Profit Sharing By Year.*"

Calendar Year 2017 Profit Sharing Report Compilation

The Investment Department realized certain efficiencies by following a similar process to compile and review the calendar year 2017 profit sharing amounts and leveraging the communication tools and automated validation processes developed in the prior year. Additionally, only one year of activity (2017) needed to be summarized, as opposed to the 27 years of activity accumulated for the previous report.



SCOPE AND METHODOLOGY

The primary purpose of our examination was to determine whether compensation paid to investment managers and the master custodian is in accordance with contractual requirements, accurate and properly recorded. Due to their limited dollar value, not all categories of compensation paid to investment managers and the master custodian were reviewed.

At management's request, our examination incorporated a limited review of VRS' carried interest reporting to assess compliance with recently enacted *Code of Virginia* requirements.

GENERAL ASSESSMENT AND UNDERSTANDING

We obtained a general understanding of Investment Manager and Master Custodian Compensation, and VRS' carried interest reporting, as well as the respective controls, by meeting with key individuals and performing limited analytics. Applicable policies and procedures and other relevant documents were also reviewed.

Additionally, we examined the reasonableness of active, externally-managed investment accounts that did not have management fees assessed.

BANK OF NEW YORK MELLON RELATED FEES

Recent SOC (System and Organization Controls) 1 (Type 2) reports for BNYM relative to the audit period, along with the Investment Department's analysis of the SOC reports and the related complimentary user entity controls were obtained. The reports covered asset servicing, custody, securities lending services, centrally managed information technology services, and CAAG.

Domestic Trust and Custody Fees

All of the domestic trust and custody fees paid during the audit period of July 1, 2018 through March 31, 2019 were reviewed for compliance with VRS' contract and proper recording of the fees by BNYM and VRS.

Securities Lending Fees (Stock Loan Fees)

A random sample of 2 months from the 9-month audit period were selected for review to determine if the Fixed Income Group's monthly securities lending monitoring activities supported the payment of stock loan fees in accordance with VRS' contract with BNYM as well as proper recording of these fees by BNYM and VRS. Additionally, BNYM securities lending reports were independently obtained and used to recalculate the stock loan fees for the entire audit period.

MANAGEMENT AND PERFORMANCE FEES

Investment Accounts, Excluding Hedge Funds

All performance fees paid and verified by Investment Accounting during the audit period were selected for review. Further, a random sample of 25 from 251 investment accounts were selected for review of management fees. For each of the 25 investment accounts selected, one quarter from the audit period was randomly selected. The fees paid, whether direct or indirect, were examined to determine if they were in accordance with the contract terms, accurate and properly reviewed, approved and recorded.

Hedge Fund Accounts

A random sample of 5 from 27 hedge fund accounts were selected to review all management and performance fees paid to them during the audit period. The payments were examined to assess the adequacy of the oversight controls for CAAG's recalculations, agreement with the contract terms, as well as proper recording by BNYM and VRS.

PROFIT SHARING (CARRIED INTEREST)

Documentation supporting the calendar years 2016 through 2018 carried interest reports was reviewed to evaluate compliance with the *Code of Virginia* requirements. Specifically, for 2016 and 2017, the items reviewed included the *Virginia Retirement System Alternative Investment Manager Aggregate Profit Sharing By Year* report with carried interest totals and the supporting documentation for these totals compiled by the Investment Department. For 2018, as the actual report fell outside of the audit period, only VRS' contract with Mercer was obtained for review.

CONCLUSIONS

GENERAL ASSESSMENT AND UNDERSTANDING

Overall, VRS' Investment Manager and Master Custodian Compensation is in accordance with contractual requirements, accurate and properly recorded. Additionally, VRS' carried interest reporting complies with current *Code of Virginia* requirements.

BANK OF NEW YORK MELLON FEES

BNYM SOC reports and the Investment Department's related reviews indicated appropriate monitoring of the services provided by BNYM as VRS' master custodian. Additionally, VRS' current internal processes support the expected relevant complimentary controls included in the SOC reports as a user entity of BNYM's services.

All domestic trust, custody and stock loan fees paid during the audit period complied with the contract and were properly recorded by BNYM and VRS.

MANAGEMENT AND PERFORMANCE FEES

All management and performance fees paid selected and tested for investment accounts, including hedge funds, were supported by related documentation, complied with the contract, and underwent appropriate recalculation and review. Additionally, the fees were properly recorded by BNYM and VRS.

PROFIT SHARING (CARRIED INTEREST)

The *Virginia Retirement System Alternative Investment Manager Aggregate Profit Sharing By Year* report, the Investment Department's compilation process, and VRS' contract with Mercer supports the reporting of carried interest amounts in accordance with the *Code of Virginia* requirements.

OTHER EMERGING TOPICS AND OBSERVATIONS

PROFIT SHARING (CARRIED INTEREST)

Profit sharing has a history of prompting discussion among various stakeholder groups, including legislative parties, consulting firms, taxpayers, and the general media. VRS uses its annual reporting on carried interest as a means for communicating the nature and value of profit sharing arrangements, including their overall benefit to the growth and sustainability of its long term investment returns. There are notable emerging topics, as discussed below, which VRS will continue to monitor as part of managing its profit sharing arrangements and reporting.

Expanded Use of the ILPA Reporting Template



Since the launch of ILPA's reporting template, more than 140 organizations have endorsed it, with over 200 GPs completing it upon request. Continued and expanded use of the reporting template will lead to additional discussions on improvements to it, identification of best practices for reporting fees by the LPs, and recommendations to GP's auditors and third party service providers in ensuring compliance with LP agreements.

Expanded use of the ILPA reporting template may provide an opportunity for VRS to enhance the compilation and review of its profit sharing amounts.

Governmental Accounting Standards Board (GASB) Research Project

During August 2019, the GASB added an investment fees project to its research agenda. GASB indicated at that time the project will focus on:



- Reviewing the ways in which governments report the fees charged to them, if any, in relation to investments, including fees associated with private equity funds, hedge funds, and real estate;
- Identifying the information needs of users pertaining to those fees; and
- Evaluating the sufficiency of existing guidance to result in appropriate reporting that meets user needs.

GASB will use the research to determine whether existing guidance is sufficient or, if not, whether improvements to the relevant standards should be considered.

A key concern for GASB is a perceived inability to fully identify the costs that are associated with these investments and to separate those costs from investment income in the financial statements of state and local governments. Some observers believe the accounting and financial reporting standards currently are not sufficient to result in investment-related fees being specifically identified in the financial statements or notes to the financial statements.

Long-term outcomes from this research project could impact the level of detail required when reporting investment fees in the VRS Comprehensive Annual Financial Report (CAFR), including profit sharing amounts paid at the time of an investment's sale.

Tax Implications

At this time, upon the sale of an investment with a profit sharing arrangement, the investment manager's share of profits is taxed as capital gains rather than as ordinary income. This tax treatment results in investment managers paying lower taxes on income attributed to profit sharing arrangements compared to income generated from other sources, such as management fees.

There are conflicting views regarding this treatment. Some parties believe the investment manager's share of profits should be taxed as ordinary income, drawing analogies with investment bankers, who pay the ordinary tax rate on their wages, salaries, and bonuses. Other parties, support the current tax treatment as capital gains, citing similarities with entrepreneurs who start a new business, and under current tax law are able to classify part of their return as capital gains. Specifically, they note investment managers, like entrepreneurs, have immeasurable amounts of labor and resources contributed to their business over time, resulting in overall capital gains rather than income attributed to a specific period. If the current tax treatment changes, investment managers may explore alternative structures for their investments in lieu of partnerships, which could in turn affect future VRS investment selections and strategies.

FOLLOW-UP ON PRIOR REPORTS

There were no outstanding audit recommendations to consider.

RECOMMENDATIONS

We have no written recommendations to offer as a result of our review.

MANAGEMENT EXIT CONFERENCE

This report was distributed to Ms. Bishop, Mr. Schmitz, and other members of VRS' management and staff for review and comment. They expressed substantial agreement with this report.

As there are no written recommendations, a written response from management is not required.

REPORT DISTRIBUTION

Submitted to the Audit and Compliance Committee at its meeting held
March 19, 2020.

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Diana F. Cantor, Committee and Board Vice-Chair

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AUDITOR IN-CHARGE

Kristy M. Scott, CPA, CISA, CIA

Conformance with VITA's Security Program as of January 1, 2020

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

February 27, 2020

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Dear Members of the Audit and Compliance Committee,

We have completed audit number 429, "Conformance with Virginia Information Technology Agency's (VITA) Security Program as of January 1, 2020". The main purpose of our audit was to review VRS' Information Technology Security Policies and Procedures conformity with the mandatory information technology security policies and standards disseminated by VITA.

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. They expressed substantial agreement with our report and have issued a written response to the recommendation contained in this report.

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

Respectfully Submitted,

A handwritten signature in black ink that reads 'Jennifer P. Bell Schreck'.

Jennifer P. Bell Schreck, CPA, CISA, PMP
VRS Internal Audit Director

EXECUTIVE SUMMARY

We conducted an examination of VRS' Conformance with Virginia Information Technology Agency's (VITA) Security Program as of January 1, 2020. VRS is subject to VITA's Information Security Policy and its six Information Technology (IT) Standards which form VITA's IT Security Program. For non-judicial branch agencies, these security program requirements are laid out in the following documents.

- VITA IT Security Policy;
- VITA IT Security Standard;
- VITA IT Security Audit Standard;
- VITA IT Risk Management Standard;
- VITA IT Standard Use of Non-Commonwealth Computing Devices to Telework;
- VITA Removal of Commonwealth Data from Electronic Media Standard; and,
- VITA Hosted Environment Information Security Standard.

Conformance with this security program is mandatory for all executive branch agencies, as well as institutions of higher education, legislative branch and independent agencies unless an exemption is requested by the agency and granted by VITA. VRS has not requested an exemption from this mandatory security program.

Agencies may elect to adopt the VITA Policy and Standards for their use, or they may develop their own internal policy and standards that, at a minimum, meet the provisions of the VITA Security Program. VRS has chosen to develop its own VRS Security Policy while adopting all other VITA Standards with supplemental information to clarify specific VRS procedures and processes.

We found VRS IT Security Policies and Standards generally conform with VITA's IT Security Program. We include one formal opportunity for improvement in this report surrounding the need to modify the reporting relationship of the Information Security Officer (ISO) to the Agency Head as discussed in the Recommendations section of the report.

Our review did not address compliance with such VRS policies and procedures. Our most recent examinations of these facets were addressed in the VNAV and myVRS Application Controls, Report No. 411; Application Controls: AQM, Private i and MUNIS, Report No. 417; and IT Client-Server General Controls Audit, Report No. 425.

AUDIT SNAPSHOT

VITA's **Security Program** includes **1** IT Security Policy and **6** IT Security Standards, as of **January 1, 2020**.

VRS' **Security Program** includes **2** IT Security Policies and **2** IT Security Standards to **address** the **requirements** included in VITA's Security Program.

Annually, Internal Audit assesses **VRS' conformance** with **VITA's** Security Program.

AUDIT ASSESSMENT

VRS' IT Security Policies and Standards generally conform with the documents comprising VITA's IT Security Program.

Written Recommendations: 1

CODE OF VIRGINIA §2.2-2009

“To provide for the **security** of state government **electronic information** from unauthorized uses, intrusions or other security threats, the (VITA) **CIO** shall **direct** the **development** of **policies, standards, and guidelines** for assessing **security risks**, determining the appropriate **security measures** and performing **security audits** of government **electronic information**. Such **policies, standards, and guidelines** shall apply to the **Commonwealth's** executive, legislative, and judicial branches and **independent agencies....”**

BACKGROUND

VRS is subject to the requirements of VITA’s Information Technology (IT) Security Program. The purpose of the VITA IT Security Program is *“To protect the Commonwealth information technology assets (and the information processed) by defining the minimum information technology security program for agencies of the Commonwealth of Virginia.”* This program is comprised of the IT Security Policy, along with the six IT Security Standards which help agencies in creating and documenting their information security programs. The aforementioned mandatory security documents are as follows.

- VITA IT Security Policy;
- VITA IT Security Standard;
- VITA IT Security Audit Standard;
- VITA IT Risk Management Standard;
- VITA IT Standard Use of Non-Commonwealth Computing Devices to Telework;
- VITA Removal of Commonwealth Data from Electronic Media Standard; and,
- VITA Hosted Environment Information Security Standard.

Compliance with this program is mandatory for all executive branch agencies, as well as institutions of higher education, legislative branch and independent agencies. *(VITA’s Security Program for judicial branch agencies includes two additional standards that relate specifically to services they provide.)* All such entities must adhere to this policy and standards, unless an exemption is requested by the entity and granted by VITA. VRS has not requested an exemption from the policy or from the mandatory standards.

VITA POLICY AND STANDARDS

Periodically, VITA changes, updates or revises a particular policy or standard in an effort to incorporate emerging best practices or align particular documents with changes to the *Code of Virginia*. We last reviewed this area in Report No. 420, Conformance with VITA’s Security Program as of January 1, 2019. Therefore, to perform this review, we must determine their current status and assess the impact of any changes. This analysis confirmed no new documents had been introduced since our previous examination and of the existing seven documents comprising the VITA IT Security Program, five have changed.

Updated VITA Requirements

Since our last examination, five VITA documents were revised.

Mandatory VITA Documents	Current Version	Brief Description
VITA IT Security Standard	SEC 501-11.1	This standard establishes a minimum acceptable level of IT security and baseline for information technology security controls in accordance with applicable statutes and best practices.
VITA IT Security Audit Standard	SEC 502-03	This standard delineates the methodology for conducting an IT security audit of sensitive IT systems that contain agency information as identified and prioritized in agency's Business Impact Analysis.
VITA IT Risk Management Standard	SEC 520-01.1	This standard provides a uniform approach for assessing and managing information technology risk within the Commonwealth.
VITA Removal of Commonwealth Data from Electronic Media Standard	SEC 514-05	This standard establishes minimum procedures that must be followed by each agency and their service providers when electronic media is surplus, transferred, traded-in, disposed of, or replaced.
VITA Hosted Environment Information Security Standard	SEC525-04.01	This standard establishes minimum information security requirements for activities associated with Commonwealth data stored in a data center not owned or leased by an agency. Integration support for this standard is laid out in the VITA IT Operations Policies & Procedures: Third-Party Use (Standard remained unchanged during the audit period).

Unchanged VITA Requirements

Two of the seven VITA mandatory policy and standards are the same version as previously examined in 2019. The unchanged documents are listed below and include a hyperlink to the current version.

Mandatory VITA Documents	Current Version	Brief Description
VITA IT Security Policy	SEC 519-00	This Policy provides direction and assistance to each agency in developing and implementing agency information security programs that reduce the risk to information irrespective of the medium containing the information.
VITA IT Standard Use of Non-Commonwealth Computing Devices to Telework	SEC 511-00.01	This standard defines the minimum acceptable level of security controls necessary for eligible employees to use computers, computing devices, or related electronic equipment not owned or leased by the Commonwealth to telework.

New VITA Standards

VITA has not developed any new standards within their IT Security Program since January 1, 2019.

VRS IT POLICIES AND STANDARDS

To address these information security requirements mandated by VITA, VRS has formulated two main security documents. These documents are the VRS IT Security Policy and the VRS IT Security Standard. To supplement these documents, VRS has also created a less technical policy for its system users called the VRS User IT Security Policy. This policy allows users to understand and apply these security documents to VRS business processes. In addition, but distinct from these universal documents, VRS has created a focused VRS Cloud Services Security Standard which adopts the VITA Hosted Environment Security Standard as their own.

VRS IT Security Policy

VRS developed its IT Security Policy to establish the framework for VRS' IT Security Program to maintain system and data integrity and protect VRS' systems and data from credible threats and

SECURITY AWARENESS PROGRAMS

In addition to the minimum **security awareness standards** promulgated by VITA, **VRS routinely** incorporates security awareness into its **VRS Today meetings**, cyber **security week** activities, and **screen saver** and **hall monitor messages**.

unauthorized access or use, whether internal or external, deliberate or accidental. Within this policy, VRS fully adopts and specifically acknowledges the VITA IT Security Policy and any applicable state or federal laws. This document has not been updated or revised since our last review in 2019.

VRS IT Security Standard

VRS has chosen to adopt the VITA IT Security Standard as its own VRS IT Security Standard. With the adoption of this document, VRS has enhanced particular areas of this Standard to supplement and clarify given procedures, as such applies to VRS and its functions. Additionally, with the adoption of this VITA IT Security Standard, VRS also adopts three separate security standards which are referenced within the document. These three documents are the VITA IT Security Audit Standard (Sec. 7), VITA IT Standard Use of Non-Commonwealth Computing Devices to Telework (PL-4-COV) and the VITA Removal of Commonwealth Data from Electronic Media Standard (MP-6-COV). Since our last review in 2019, the VRS IT Security Standard has been formally revised as necessary.

VRS User IT Security Policy

Daily security and protection of VRS' information technology assets and information starts with VRS employees, along with all authorized system users. The VRS User IT Security Policy communicates technical security requirements in the VRS IT Security Standard in layman's terms while applying them to applicable VRS business processes. Along with this Policy, VRS has a few other IT and security related policies which are derived from the VRS IT Security Policy and VRS IT Security Standard. System users routinely acknowledge they have read and understand VRS Security Policies and Standard, initially when hired and annually during VRS provided security awareness training.

VRS Cloud Services Security Standard

VRS has also created and implemented an additional VRS governance security document which focuses on the area of cloud computing services. Cloud computing has grown exponentially over the last decade and VITA has put an emphasis around particular requirements associated with these services. VRS developed its own Cloud Services Security Standard to provide holistic guidance and formal adoption of VITA's Hosted Environment Information Security Standard. This document pertains to all requests for acquisition or continuance of cloud computing services.

VRS METHODOLOGY FOR UPDATING PROCEDURAL DOCUMENTATION

VRS maintains a systematic framework for recording and updating IT Security policies, procedures and guides. VRS houses all IT policies and procedural documentation within a software application which tracks and manages the update process. Each document in the application is owned by specific VRS personnel who are automatically notified through email when routine reviews for updates are necessary.

SCOPE AND METHODOLOGY

The primary purpose of our examination was to evaluate whether VRS was in conformity with the mandatory documents included in VITA's IT Security Program as of January 1, 2020. Therefore, we assessed the documented policies, standards and procedures in place, as applicable to IT security at VRS.

We focused our review on new or updated VITA standards and any revised VRS documents, since our last examination of VRS' Conformance with VITA's Security Program, as of January 1, 2019, Report No. 420. We reviewed revised or new requirements to ensure VRS policies, standards and procedures in place reflect any applicable changes.

We did not, at this time, assess VRS' compliance with such VRS policies and procedures. The sole purpose of our current examination was to evaluate the existing VRS policies and procedures in light of VITA's current requirements.

Compliance with such policies and procedures is considered separately in conjunction with our examinations of the overall effectiveness of security for the IT client-server environment utilized by VRS as well as the various reviews of application controls. These areas were most recently reviewed in VNAV and myVRS Application Controls, Report No. 411; Application Controls: AQM, Private i and MUNIS, Report No. 417; and IT Client-Server General Controls, Report No. 425.

GENERAL ASSESSMENT

The **VRS IT security policies** and **procedures** generally **conform** with the mandatory **VITA IT Security Program** as of January 1, 2020.

CONCLUSIONS

GENERAL ASSESSMENT AND UNDERSTANDING

Overall, our review found the VRS IT Security Policies and Procedures generally conform with the mandatory VITA IT Security Program. VRS' IT Security Policies and Standards continue to be in compliance with applicable VITA IT Security Program requirements, with three exceptions discussed further below. The VRS Technology Security Department has developed and continues to maintain a strong security program to protect IT systems and data from unnecessary risks.

REVISED STANDARDS

Five documents have been expanded or revised since our last examination as listed in the chart in the Background Section above. The majority of these revised documents have been accepted or adopted completely as VRS' own. However, two VITA standards have special circumstances relative to VRS which require management's attention. These two documents are the VITA IT Security Standard and the VITA IT Risk Management Standard which are discussed further below.

Security Standard Requirements

VRS has formally adopted the VITA IT Security Standard, but at the same time strengthened particular areas of this Standard to supplement and clarify given procedures as they apply to VRS and its functions. Due to this, the VRS IT Security Standard must be revised independently after each VITA Security Standard update to ensure continued conformance with mandatory VITA requirements. During our review of the VRS IT Security Standard, we identified a two instances where particular requirements need to be updated within the VRS IT Security Standard to ensure overall conformance with the revised VITA IT Security Standard.

The first item involves the inclusion of the VRS Director in mandatory role-based security training (AT-2-COV). While role-based training (AT-3) already was a requirement within the VITA and VRS IT Security Standards, the changes made by VITA added a specific requirement that the agency head receive role-based training. We discussed this item with management, who promptly responded, adding conforming language to VRS' IT Security Standard.

REPORTABLE CONDITION

Any observation included in the Recommendation 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.

The second is a change to the VITA IT Security Standard which requires the VRS ISO to report directly to the VRS Director (Sec. 2.4). Presently, this reporting relationship is not documented within the VRS IT Security Standard nor reflected in VRS’ organizational chart. Conformance with this requirement is discussed further in the “Recommendations” section of the report.

VRS’ Risk Management Standard Adoption

While VRS appropriately has streamlined its security program documentation with acceptance of the majority of the VITA IT Security Program, VRS has not formally accepted or adopted the VITA IT Risk Management Standard in writing. When discussed with management, they verbally confirmed their compliance with this Standard, while acknowledging VRS has not created any other risk management policy documents. Subsequent to this discussion, management updated the VRS IT Security Policy with new language to formalize the adoption of all current versions of the required VITA IT Security Program documents.

UNCHANGED STANDARDS

With respect to the unchanged VITA requirements, we determined two documents (IT Information Security Policy and IT Standard Use of Non-Commonwealth Computing Devices to Telework) were currently in the same form and version as our previous examination, and thus continue to be in compliance.

FOLLOW-UP ON PRIOR REPORTS

There were no outstanding audit recommendations to consider.

RECOMMENDATIONS

Address the ISO Reporting Relationship to the VRS Director

On April 1, 2019, VITA formally revised its IT Security Standard, updating certain existing requirements, incorporating new requirements and expecting conformance and compliance with all modifications by July 1, 2019. Specifically, Section 2.4, which pertains to the Agency Head’s responsibilities, was revised to state: “The ISO shall report directly to the Agency Head and must not simultaneously serve the function of a CIO.”

Conformance with VITA’S Security Program as of January 1, 2020 Pg. 10 of 12

CURRENT VRS IT ORGANIZATIONAL CHART

VRS Director

Chief Technology and
Security Officer (CTSO)*

Technology Solutions Manager

Information Security
Officer (ISO)

**For VRS, the CIO title referenced
in the VITA governance documents
is branded as the CTSO.*

By moving the ISO out of the IT department, VITA seeks to minimize potential conflicts of interest when IT department management must weigh security resource needs against other IT functions. VRS is required to be in conformance with all VITA IT Security Program requirements, unless an exception request is submitted to VITA by the Agency Head and approved by the VITA Chief Information Security Officer.

Presently, VRS' ISO reports directly to the Technology Solutions Manager who reports to the Chief Technology and Security Officer (CTSO), who reports to the VRS Director (Agency Head). As the ISO does not report directly to the VRS Director and VRS has not requested an exception from this requirement, the current reporting structure reflected in VRS' IT Organizational Chart is not in conformance with VITA's standard.

When discussed with management, VRS acknowledged the current reporting structure does not conform with VITA's standard, but stated consideration has been underway since last summer regarding VITA's requirements relative to VRS' placement of the ISO. Management discussed the complex nature of VRS technology and security operations and how significantly the risk responsibilities of the VRS ISO differ from the responsibilities of executive branch agencies impacted by the new VITA requirement. Management explained their belief that this new requirement needed to be thoughtfully approached to avoid adversely impacting VRS' security posture. As a result, management stated they planned to implement organizational structure and position responsibility changes to address their conformance only after completing appropriate analysis and planning.

We support management's thorough analysis of the ISO's placement relative to VRS' organizational needs, given the nature of its technology and security operations. Management should move forward with its efforts to achieve conformance with this requirement.

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
March 19, 2020.

MEMBERS OF THE AUDIT AND COMPLIANCE COMMITTEE

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Diana F. Cantor, Committee and Board Vice-Chair

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Kimberly A. Sarte
Jamie Bitz

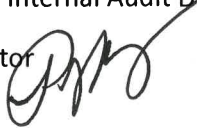
PRINCIPAL AUDITOR IN-CHARGE

Matthew Priestas, CIA, CRMA, CISA, PMP



Patricia S. Bishop
Director

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To: Jennifer P. Bell Schreck, Internal Audit Director
From: Patricia S. Bishop, Director 
Date: March 6, 2020
Subject: Management's Response to Internal Audit Report No. 429 – "Conformance with VITA's Security Program as of January 1, 2020"

We reviewed the above captioned Internal Audit Report on "Conformance with VITA's Security Program." We appreciate the Internal Auditor's thorough review and analysis of the VRS security program, specifically as it relates to the VITA security program requirements. We also appreciate the professionalism and cooperation exhibited by internal audit staff throughout the audit process.

VRS takes its obligations to adhere to security best practices very seriously, including the IT Security Standards issued by the Virginia Information Technologies Agency (VITA). We appreciate your finding that the VRS IT Security Policies and Standards generally conform to VITA's security program. As you are aware, the security-related threats we face are constantly evolving in both complexity and frequency, and our security program must continually improve in a commensurate manner.

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

1. Address the ISO Reporting Relationship to the VRS Director

On April 1, 2019, VITA formally revised its IT Security Standard, updating certain existing requirements, incorporating new requirements and expecting conformance and compliance with all modifications by July 1, 2019. Specifically, Section 2.4, which pertains to the Agency Head's responsibilities, was revised to state: *"The ISO shall report directly to the Agency Head and must not simultaneously serve the function of a CIO."*

By moving the ISO out of the IT department, VITA seeks to minimize potential conflicts of interest when IT department management must weigh security resource needs against other IT functions. VRS is required to be in conformance with all VITA IT Security Program requirements, unless an exception request is submitted to VITA by the Agency Head and approved by the VITA Chief Information Security Officer.

Presently, VRS' ISO reports directly to the Technology Solutions Manager who reports to the Chief Technology and Security Officer (CTSO), who reports to the VRS Director (Agency Head). As the ISO does not report directly to the VRS Director and VRS has not requested an exception from this requirement, the current reporting structure reflected in VRS' IT Organizational Chart is not in conformance with VITA's standard.

When discussed with management, VRS acknowledged the current reporting structure does not conform with VITA's standard, but stated consideration has been underway since last summer regarding VITA's requirements relative to VRS' placement of the ISO. Management discussed the complex nature of VRS technology and security operations and how significantly the risk responsibilities of the VRS ISO differ from the responsibilities of executive branch agencies impacted by the new VITA requirement. Management explained their belief that this new requirement needed to be thoughtfully approached to avoid adversely impacting VRS' security posture. As a result, management stated they planned to implement organizational structure and position responsibility changes to address their conformance only after completing appropriate analysis and planning.

We support management's thorough analysis of the ISO's placement relative to VRS' organizational needs, given the nature of its technology and security operations. Management should move forward with its efforts to achieve conformance with this requirement.

Management's Response:

VRS has a strong information security program that leverages best practice tools and approaches to safeguard VRS data and systems. VRS is responsible for a broad and complex set of information technology functions. Unlike most Executive branch agencies, VRS supports and secures technology services and components outside of software, including technology hardware and infrastructure, data centers, networks, mass storage, personal computers, etc. The close integration of information security and other technology professionals is central to the design of our security program and ensures that security concerns and best practices are considered early and throughout all technology services and operations (initial product selection, solution design, etc.). Having a working understanding of the technologies and solutions that VRS manages enables the security staff to be effective partners in incident management, problem resolution, and threat detection and mitigation. The close integration of staff also results in non-security technology staff being more aware of threats and risk reduction approaches and creating an environment where security is everyone's role.

Over the past months VRS considered a number approaches for addressing this new requirement. This strict reporting approach is not a requirement of the National Institute of Technology Standards (NIST), the recognized standard upon which the VITA security program is based. In complying with this new requirement, VRS needs to be thoughtful in our approach to ensure we retain the best security approaches and processes and avoid elevating the risk posture of VRS.

At this time we plan to revise our organization structure to comply with the requirement, but we will do so in a manner that we believe will create the optimal security environment for VRS. This is not a change that will happen immediately, as it is critical that we consider all of the potential impacts of moving functions, responsibilities and staff to ensure that there is no adverse impact to the protections that keep VRS systems and data safe. In addition we plan to leverage the upcoming security program maturity assessment to inform our direction and we will need to add at least one additional security employee. We are analyzing the impacts holistically, and will implement the required change once we are certain we have offset the increased risks to VRS associated with this requirement.

Reporting on Code of Ethics by Management

Internal Audit Code of Ethics

As a part of VRS, the Internal Audit Department adheres to the VRS Code of Ethics.

Due to its conformance with the *International Standards for the Professional Practice of Internal Auditing*, the Internal Audit Department also adheres to the Institute of Internal Auditors' Code of Ethics.

As such, we are expected to uphold the following principles:

Integrity
Objectivity
Confidentiality
Competency

Internal Audit members participate in VRS Code of Ethics training and certify their conformance with the IIA's Code of Ethics annually.

Members of Internal Audit also hold various other professional designations and memberships, which provide similar frameworks for ethical behavior in the practice of that profession. Those professional organizations also require annual certification.

Code of Ethics Reporting

In accordance with the Audit and Compliance Committee Charter, management provides regular reports to the Committee regarding the process for communicating the VRS Code of Conduct to agency personnel, and for monitoring compliance therewith. This includes the processes and compliance mechanisms in place for both administrative and investment department personnel.

At the Committee's March 19th meeting, the Chief Operating Officer will provide an update on the administrative department personnel, followed by an update from the Chief Administrative Officer and Investments Regulatory and Legal Officer on the investment department personnel.

Administrative Overview

The following items were provided by the Director to support her update and are included in the meeting book.

Administration 2019 Code of Ethics Presentation
Administration 2019 Code of Ethics Certification Memo
VRS Code of Ethics Amended and Approved

Investments Overview

The items below were provided by the Chief Administrative Officer to support his update and follow the Director's materials.

Investments Cover Memo –Annual Report on Code of Ethics
Investments 2019 Code of Ethics Committee Report
Investment Department Code of Ethics and Standards of Professional Conduct Policy
Investments MNPI Policy
Investments Personal Trading Policy
Investments Gifts Policy



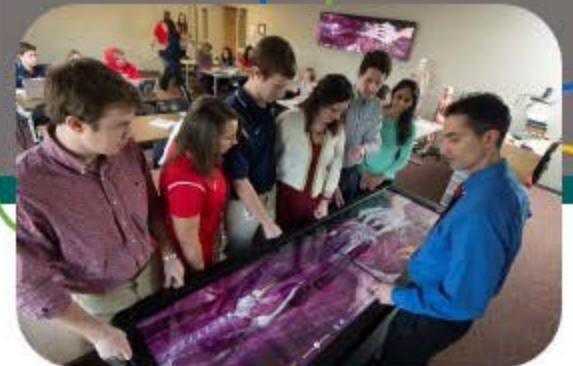
Virginia
Retirement
System

VRS Code of Ethics Report

Presented to

VRS Audit and Compliance Committee

March 19, 2020



VRS Code of Ethics

Adopted in 2015



Annual training required
for all eligible employees

Online Training Course

- Developed in 2016
- Interactive
- Incorporates real-life scenarios



358 eligible full-time and wage employees required to complete the Code of Ethics training course during the calendar year.



100% course completion




Completed by December 31, 2019



March 4, 2020

MEMORANDUM

TO: VRS Audit and Compliance Committee

FROM: Patricia S. Bishop
Director 

RE: 2019 Code of Ethics Report

Since adopting its Code of Ethics in 2015, VRS requires all eligible full-time and wage employees to complete ethics training each year. Beginning in 2016, VRS established an online 30-minute interactive Code of Ethics course to more efficiently facilitate the required training. The course details the provisions of the VRS Code of Ethics and includes related scenarios that employees could face in the workplace. Each year the Human Resources staff reviews the training course to ensure it is current.

It is the goal of the agency to have all eligible employees complete the Code of Ethics course at least once during the year. The goal was accomplished on time, with all 358 eligible employees successfully completing the online course before December 31, 2019.

A copy of the VRS Code of Ethics is attached for your information.

Attachment



Virginia Retirement System Code of Ethics

Vision

The VRS vision statement is: *"To be the trusted leader in the delivery of benefits and services to those we serve."* We, as VRS employees, share the responsibility for delivering this vision by following the VRS Code of Ethics, the agency's Core Values and applicable law, regulation and policy.

The VRS Code of Ethics provides the foundation for the VRS culture and establishes our approach for engaging with our members, employers, retirees, business partners and fellow VRS colleagues.

The Code of Ethics is built on our commitment to upholding the highest standards of integrity, ethical principles and professional conduct.

Ethical Principles

- **Integrity**
Integrity is the ability to act with honesty and be consistent in administering benefits and managing investments. Integrity serves as the foundation for building trust with the public, retirees, members and employers as we provide services.
- **Accountability**
Accountability is being responsible for decisions made, actions taken and assignments completed. Accountability reinforces our commitment to ethically perform our duties to meet the goals of the agency.
- **Confidentiality**
Confidentiality is exercising discretion and performing our ethical duty to protect the personal information of our members, retirees, beneficiaries and employers. We safeguard personal data and sensitive VRS information that is viewed, acquired or otherwise accessible during the course of VRS employment.
- **Inclusivity**
Inclusivity is embracing a diversity of thinking that helps us reach solutions that achieve excellence and meet the needs of our customers. We encourage an open work environment and an ethical culture in which colleagues are treated with respect and are free to raise issues or concerns without fear of retaliation.

Ethical Conduct

As employees of the Commonwealth of Virginia and the Virginia Retirement System, we will:

- Perform our work with integrity, competence and dignity and in an ethical manner that earns the trust of members, employers and retirees as we deliver benefits and services.
- Act solely in the best interest of the fund, its members, beneficiaries and retirees.
- Remain free from influence, or the appearance of influence, of any conflicting interests as we conduct business ethically and in compliance with applicable policies and laws.
- Maintain and protect the confidential information of our members, retirees, employers, business partners and employees.
- Deal fairly, objectively and impartially in all matters relating to VRS.
- Promote a positive and welcoming work environment, free from hostility, violence and harassment of any kind.
- Promote safety and security to minimize hazards and threats in our workplace.
- Exercise good faith, civility and professionalism in our interactions with those we serve and with each other.
- Create a climate of trust and respect that contributes to a productive work environment.
- Act as good stewards, effectively and efficiently using resources, while ensuring accountability to our members, retirees and employers that we serve.
- Refrain from having a direct or indirect interest, including financial or other interests, or engaging in a personal business activity that could conflict with the proper discharge of duties or management of VRS.
- Embrace differences in backgrounds, experiences, perspectives and talents and leverage those differences as a fundamental strength of VRS.
- Share in the responsibility to protect the reputation of VRS.

Illegal or Unethical Behavior

as we strive to maintain an ethical culture, we act in good faith in our interactions with each other, business partners and external customers. We openly discuss and disclose ethical issues.

If at any time, we believe a potential violation of our Code of Ethics has occurred, it is incumbent upon us to seek clarity through discussion with our supervisor, manager, director or human resource office.

If the issue involves information security risks or threats, we should contact the VRS Information Security Officer. If the issue involves waste, fraud or abuse, we should contact the VRS Internal Audit Director, who reports directly to the VRS Board of Trustees.



Virginia Retirement System, Investment Department
1200 East Main Street, Richmond, Virginia 23219

To: Members of the Audit and Compliance Committee

From: Curtis M. Mattson, Chief Administrative Officer *CMM*
Richard W. Brooks, Regulatory and Legal Officer *RB*

Date: March 19, 2020

Subject: Annual Report on Investment Department's Code of Ethics and Standards of Professional Conduct Policy (as of December 31, 2019)

As required in the Audit and Compliance Committee Charter, please find attached the annual report on the Investment Department's Code of Ethics and Standards of Professional Conduct Policy. This report describes the process for communicating this Policy to the Investment Department personnel and monitoring compliance with this Policy.

Attached you will also find the current Code of Ethics and Standards of Professional Conduct Policy and the respective stand-alone policies referenced in this Policy.

Let us know if you have any questions.

VRS Investment Department
Annual Report on the Code of Ethics and Standards of Professional Conduct Policy
As of December 31, 2019

Overview

The Investment Department Code of Ethics and Standards of Professional Conduct Policy (the “Code of Ethics”) is built on our commitment to upholding the highest standards of integrity, ethical principles, and professional conduct. All Investment associates (including new hires, interns, and those working part-time) are subject to this Code of Ethics.

The Investment Department first adopted its Code of Ethics in 2006. This document is periodically reviewed and updated to confirm that its contents and procedures are current. The most recent version of the Code of Ethics became effective July 1, 2015.

The Code of Ethics continues to address potential conflicts of interest in three main areas:

- The treatment of confidential and material non-public information;
- Trading of securities in personal accounts; and
- The disclosure of discussions of potential employment arrangements or other forms of consideration between Investment associates and entities conducting business with the VRS.

Incorporated by reference and made part of the Code of Ethics are the following stand-alone policies:

- Material Non-Public Information Policy;
- Personal Trading Policy; and
- Policy on Gifts.

A copy of each of these policies, as well as the Code of Ethics, is attached.

Communicating and Monitoring Procedures

The Code of Ethics and related stand-alone policies are located on the Investment Department’s network drive, which is accessible by all Investment associates.

Initial Certification Process

- As part of the Investment Department’s new employee orientation process, the Code of Ethics and related stand-alone policies are provided to the newly hired Investment associate by the Regulatory and Legal Officer.
- Completed and signed initial certification forms are received from the Investment associate.
- All initial certifications are received and reviewed by the Regulatory and Legal Officer. These certifications require the signature of the Investment associate, his or her immediate supervisor, and either the Regulatory and Legal Officer or the Chief Administrative Officer.

Quarterly Procedures

- Following the end of each fiscal quarter, the Personal Trading Policy is sent to all Investment associates by the Regulatory and Legal Officer.
- Certification of compliance with the Personal Trading Policy for the prior fiscal quarter, as well as supporting documentation for applicable personal trades made during that period, is required from each Investment associate.
- All certifications and supporting documentation are received and reviewed by the Regulatory and Legal Officer. These certifications require the signature of the Investment associate, his or her immediate supervisor, and either the Regulatory and Legal Officer or the Chief Administrative Officer.

Annual Procedures

- At the beginning of each fiscal year, the Code of Ethics and related stand-alone policies are sent to all Investment associates by the Regulatory and Legal Officer.
- Each Investment associate is required to certify their compliance with each of these policies during the prior fiscal year, which includes an acknowledgement from the Investment associate that, during the prior fiscal year, he or she had no known personal conflicts of interest related to entities conducting business with the VRS.
- All certifications are received and reviewed by the Regulatory and Legal Officer. These certifications require the signature of the Investment associate, his or her immediate supervisor, and either the Regulatory and Legal Officer or the Chief Administrative Officer.

Results

FY 2019

- Initial certifications of compliance with the Code of Ethics, which incorporates by reference the stand-alone policies, have been received from all Investment associates hired during FY 2019 and were properly reviewed.
- Annual certifications of compliance with the Code of Ethics, which incorporates by reference the stand-alone policies, have been received from all Investment associates and were properly reviewed.
- Personal trading certifications for each fiscal quarter during FY 2019 have been received from all Investment associates and were properly reviewed.

FY 2020 (through December 31, 2019)

- Initial certifications of compliance with the Code of Ethics, which incorporates by reference the stand-alone policies, have been received from all Investment associates hired during FY 2020 (to date) and were properly reviewed.
- Personal trading certifications for the first two fiscal quarters of FY 2020 have been received from all Investment associates and were properly reviewed.

Overall Conclusion

- To the best of our knowledge, all Investment associates have been and still are in compliance with the requirements of the Investment Department Code of Ethics and Standards of Professional Conduct Policy and the stand-alone policies incorporated therein by reference.



Virginia
Retirement
System

Investment Department

Code of Ethics

and

Standards of Professional Conduct Policy

Effective Date – July 1, 2015

Adopted December 2007 – Previously updated February 17, 2011

**Virginia Retirement System
Investment Department
Code of Ethics and Standards of Professional Conduct Policy**

Introduction

Investment associates (i.e., VRS Investment Department personnel), as employees of a public entity, a fiduciary, and a major market participant, should exemplify the highest standards of ethical conduct in all matters related to VRS. Investment associates owe a duty of loyalty to the Fund and should avoid conflicts that may reasonably be perceived as abusing the faith and confidence that has been placed in the VRS Investment Department.

Policy

The VRS Investment Department Code of Ethics and Standards of Professional Conduct Policy (COE or Policy) was established in an effort to ensure loyalty as well as a commitment to fairness, openness and transparency in the governance of the Fund. Furthermore, the VRS Investment Department has also incorporated the CFA Institute Code of Ethics and Standards of Professional Conduct (see pages 5 and 6 of this document) into its COE.

In addition to the incorporation of the CFA standards, this Policy specifically addresses: (i) the treatment of confidential information; (ii) the disclosure of discussions of potential employment arrangements or other forms of consideration between investment associates (or members of their immediate families) and entities conducting business, either directly or indirectly, with the VRS Investment Department where a potential for conflict of interest exists; and (iii) additional policies adopted by the Investment Department to mitigate risks associated with potential conflicts of interest between an investment associate's own interests and those of the Fund.

Any variety of activities, events or matters may cause a potential conflict of interest. The intent of this COE is to help ensure that no VRS investment associate or any member of the investment associate's immediate family seek or accept personal gain in conflict with the provisions this COE and from the investment decisions of the VRS investment programs. For the purposes of this COE, "immediate family" means a spouse and any child who lives at home and who is a dependent of the investment associate.

This Policy is not intended to address every situation or activity where a conflict of interest might exist. Investment associates are strongly encouraged to seek the advice of the Regulatory and Legal officer (RLO) whenever there is uncertainty about compliance with this Policy.

Treatment of Confidential Information

In the course of performing their duties, VRS investment associates are expected to exhibit the utmost discretion in handling and/or acting upon any confidential information that has been provided to them with the expectation (whether explicit or implicit) of confidentiality. In their handling of confidential information, VRS investment associates shall exercise reasonable care to protect and preserve the privacy of such information entrusted to them by either internal or external sources. Furthermore, all actions based on, or communications involving confidential information shall be limited to the legitimate

business purposes of the VRS. VRS investment associates shall fully comply with all applicable laws concerning public disclosure of information. Also, see the Investment Department's Material Non-Public Information Policy.

Potential Employment/Other Forms of Consideration

This Code of Ethics and Standards of Professional Conduct Policy specifically addresses the disclosure of discussions of potential employment arrangements or other forms of consideration between an investment associate (and members of their immediate family) and entities conducting business, either directly or indirectly, with the VRS Investment Department where a potential for conflict of interest exists. For purposes of this Policy, an "entity conducting business with the VRS Investment Department" includes but is not limited to: investment managers, placements agents, consultants, broker/dealers, and related vendors.

The appearance of a breach of a duty of loyalty can arise if an investment associate or a member of their immediate family is discussing prospective employment or other forms of consideration with an entity conducting business with the VRS Investment Department, which could reasonably be expected to create a conflict of interest, without first notifying the Chief Investment Officer (CIO). Therefore, all investment associates are required to provide disclosure to the CIO, or his or her designee, regarding such discussions with any entity doing business within the associate's program (such as Total Public Equity, Internal Equity Management, Fixed Income, Credit Strategies, Real Assets, Private Equity, Strategic Opportunities, etc.) or for entities doing business with other areas within the VRS Investment Department for which the associate has had significant input or participation (such as initial evaluation, ongoing due diligence, reviewing fee calculations, etc.).

These disclosures will provide the CIO an opportunity to take appropriate steps to protect the Fund, the VRS Investment Department, and the investment associate from allegations of a conflict of interest. Due to the nature of the Investment Department's Management Committee (responsible for reviewing all investment recommendations), all Program Directors and all other participants on that Committee are required to provide disclosures regarding such discussions (including those involving members of their immediate family) with any entity conducting business with the VRS Investment Department. If the CIO is required to make any such disclosures under this Policy, he or she will do so to the Chairman of the VRS Board.

In addition to these disclosure requirements, all members of the Management Committee are prohibited from accepting employment with any entity with which the VRS Investment Department has a contractual agreement for a period of one year from the most recent contract inception date with VRS.

Finally, the Virginia State and Local Government Conflict of Interests Act applies to each investment associate. A portion of this Act prohibits accepting any business or professional opportunity when the recipient knows there is a reasonable likelihood that the opportunity is being afforded for influence in the performance of the recipient's official duties. For details regarding the Virginia State and Local Government Conflict of Interests Act see Exhibit A.

Other Investment Department Policies

In addition to this Code of Ethics and Standards of Professional Conduct Policy, the Investment Department has adopted a number of policies to mitigate risks associated with potential conflicts of interest between an investment associate's own interests and those of the Fund. These additional policies include, but are not limited to, the Investment Department's Personal Trading Policy, Material Non-Public Information Policy, and the Policy on Gifts. These policies are incorporated by reference and made part of this COE.

(i) Personal Trading Policy

The VRS Investment Department has adopted a Personal Trading Policy that applies to all investment associates. This policy is intended to provide guidance and direction on the types of personal trading activities permitted or prohibited. See the separate Personal Trading Policy.

(ii) Material Non-Public Information Policy

In the course of employment and potentially from other sources, VRS investment associates may come into possession of material non-public information relating to publically traded securities. The VRS Investment Department has adopted a Material Non-Public Information Policy to protect against misuse of material non-public information and to comply with Federal securities laws. See the separate Material Non-Public Information Policy.

(iii) Policy on Gifts

The Investment Department has adopted a Policy on Gifts that sets forth specific guidelines and restrictions governing the acceptance of gifts and entertainment by investment associates. It is also the intent of the VRS Investment Department to treat the sections of the State and Local Government Conflict of Interests Act ("COIA") relating to gifts as the minimum acceptable standard - see Exhibit A. Also, see the separate Policy on Gifts.

Reporting and Certification Procedures

Upon implementation of this updated Policy, all current and prospective investment associates (including new hires and interns) will be required to sign an Initial Certification form that they: have read the VRS Investment Department Code of Ethics and Standards of Professional Conduct Policy; understand these documents; acknowledge there are penalties for non-compliance; and, agree to comply with this Policy – see Exhibit B. All VRS investment associates will also be required to annually certify that they have complied with this COE and all aforementioned policies incorporated by reference - see Exhibit C. The RLO will maintain a file of completed forms.

This COE will be updated and revised as necessary. The RLO will provide a copy of this Policy to all investment associates no less frequently than annually or when substantive changes are made to this Policy.

Reserve the Right to Request Information from Investment Associates

If the need arises, the RLO and the Chief Administrative Officer (CAO) reserve the right to request and review Statement of Economic Interests forms, personal brokerage statements and other relevant information from any investment associate or members of their respective immediate households. Investment associates agree to make a reasonable effort to obtain requested information from members of their immediate households if such is requested.

Non-Compliance

Every investment associate is expected to adhere to the requirements of this COE. Failure to comply could result in sanctions, the level of which will depend on the severity of the infraction. Sanctions may include, but not be limited to: a written reprimand; demotion of job duties; disgorgement of profits; and/or, termination of employment. Additionally, improper or illegal actions could result in criminal penalties and/or civil liabilities. All persons subject to this Code of Ethics and Standards of Professional Conduct Policy should report any known violations to the RLO.



CODE OF ETHICS AND STANDARDS OF PROFESSIONAL CONDUCT

PREAMBLE

The CFA Institute Code of Ethics and Standards of Professional Conduct are fundamental to the values of CFA Institute and essential to achieving its mission to lead the investment profession globally by promoting the highest standards of ethics, education, and professional excellence for the ultimate benefit of society. High ethical standards are critical to maintaining the public's trust in financial markets and in the investment profession. Since their creation in the 1960s, the Code and Standards have promoted the integrity of CFA Institute members and served as a model for measuring the ethics of investment professionals globally, regardless of job function, cultural differences, or local laws and regulations. All CFA Institute members (including holders of the Chartered Financial Analyst® [CFA®] designation) and CFA candidates must abide by the Code and Standards and are encouraged to notify their employer of this responsibility. Violations may result in disciplinary sanctions by CFA Institute. Sanctions can include revocation of membership, revocation of candidacy in the CFA Program, and revocation of the right to use the CFA designation.

THE CODE OF ETHICS

Members of CFA Institute (including CFA charterholders) and candidates for the CFA designation ("Members and Candidates") must:

- Act with integrity, competence, diligence, respect and in an ethical manner with the public, clients, prospective clients, employers, employees, colleagues in the investment profession, and other participants in the global capital markets.
- Place the integrity of the investment profession and the interests of clients above their own personal interests.
- Use reasonable care and exercise independent professional judgment when conducting investment analysis, making investment recommendations, taking investment actions, and engaging in other professional activities.
- Practice and encourage others to practice in a professional and ethical manner that will reflect credit on themselves and the profession.
- Promote the integrity and viability of the global capital markets for the ultimate benefit of society.
- Maintain and improve their professional competence and strive to maintain and improve the competence of other investment professionals.

STANDARDS OF PROFESSIONAL CONDUCT

I. PROFESSIONALISM

- A. Knowledge of the Law.** Members and Candidates must understand and comply with all applicable laws, rules, and regulations (including the CFA Institute Code of Ethics and Standards of Professional Conduct) of any government, regulatory organization, licensing agency, or professional association governing their professional activities. In the event of conflict, Members and Candidates must comply with the more strict law, rule, or regulation. Members and Candidates must not knowingly participate or assist in and must dissociate from any violation of such laws, rules, or regulations.
- B. Independence and Objectivity.** Members and Candidates must use reasonable care and judgment to achieve and maintain independence and objectivity in their professional activities. Members and Candidates must not offer, solicit, or accept any gift, benefit, compensation, or consideration that reasonably could be expected to compromise their own or another's independence and objectivity.

- C. Misrepresentation.** Members and Candidates must not knowingly make any misrepresentations relating to investment analysis, recommendations, actions, or other professional activities.
- D. Misconduct.** Members and Candidates must not engage in any professional conduct involving dishonesty, fraud, or deceit or commit any act that reflects adversely on their professional reputation, integrity, or competence.

II. INTEGRITY OF CAPITAL MARKETS

- A. Material Nonpublic Information.** Members and Candidates who possess material nonpublic information that could affect the value of an investment must not act or cause others to act on the information.
- B. Market Manipulation.** Members and Candidates must not engage in practices that distort prices or artificially inflate trading volume with the intent to mislead market participants.

CFA Code of Ethics and Standards of Professional Conduct (page 2 of 2)

III. DUTIES TO CLIENTS

- A. Loyalty, Prudence, and Care.** Members and Candidates have a duty of loyalty to their clients and must act with reasonable care and exercise prudent judgment. Members and Candidates must act for the benefit of their clients and place their clients' interests before their employer's or their own interests.
- B. Fair Dealing.** Members and Candidates must deal fairly and objectively with all clients when providing investment analysis, making investment recommendations, taking investment action, or engaging in other professional activities.
- C. Suitability.**
- When Members and Candidates are in an advisory relationship with a client, they must:
 - Make a reasonable inquiry into a client's or prospective client's investment experience, risk and return objectives, and financial constraints prior to making any investment recommendation or taking investment action and must reassess and update this information regularly.
 - Determine that an investment is suitable to the client's financial situation and consistent with the client's written objectives, mandates, and constraints before making an investment recommendation or taking investment action.
 - Judge the suitability of investments in the context of the client's total portfolio.
 - When Members and Candidates are responsible for managing a portfolio to a specific mandate, strategy, or style, they must make only investment recommendations or take only investment actions that are consistent with the stated objectives and constraints of the portfolio.
- D. Performance Presentation.** When communicating investment performance information, Members and Candidates must make reasonable efforts to ensure that it is fair, accurate, and complete.
- E. Preservation of Confidentiality.** Members and Candidates must keep information about current, former, and prospective clients confidential unless:
- The information concerns illegal activities on the part of the client or prospective client,
 - Disclosure is required by law, or
 - The client or prospective client permits disclosure of the information.

IV. DUTIES TO EMPLOYERS

- A. Loyalty.** In matters related to their employment, Members and Candidates must act for the benefit of their employer and not deprive their employer of the advantage of their skills and abilities, divulge confidential information, or otherwise cause harm to their employer.
- B. Additional Compensation Arrangements.** Members and Candidates must not accept gifts, benefits, compensation, or consideration that competes with or might reasonably be expected to create a conflict of interest with their employer's interest unless they obtain written consent from all parties involved.
- C. Responsibilities of Supervisors.** Members and Candidates must make reasonable efforts to ensure that anyone subject to their supervision or authority complies with applicable laws, rules, regulations, and the Code and Standards.

V. INVESTMENT ANALYSIS, RECOMMENDATIONS, AND ACTIONS

- A. Diligence and Reasonable Basis.** Members and Candidates must:
- Exercise diligence, independence, and thoroughness in analyzing investments, making investment recommendations, and taking investment actions.
 - Have a reasonable and adequate basis, supported by appropriate research and investigation, for any investment analysis, recommendation, or action.
- B. Communication with Clients and Prospective Clients.** Members and Candidates must:
- Disclose to clients and prospective clients the basic format and general principles of the investment processes they use to analyze investments, select securities, and construct portfolios and must promptly disclose any changes that might materially affect those processes.
 - Disclose to clients and prospective clients significant limitations and risks associated with the investment process.
 - Use reasonable judgment in identifying which factors are important to their investment analyses, recommendations, or actions and include those factors in communications with clients and prospective clients.
 - Distinguish between fact and opinion in the presentation of investment analysis and recommendations.
- C. Record Retention.** Members and Candidates must develop and maintain appropriate records to support their investment analyses, recommendations, actions, and other investment-related communications with clients and prospective clients.

VI. CONFLICTS OF INTEREST

- A. Disclosure of Conflicts.** Members and Candidates must make full and fair disclosure of all matters that could reasonably be expected to impair their independence and objectivity or interfere with respective duties to their clients, prospective clients, and employer. Members and Candidates must ensure that such disclosures are prominent, are delivered in plain language, and communicate the relevant information effectively.
- B. Priority of Transactions.** Investment transactions for clients and employers must have priority over investment transactions in which a Member or Candidate is the beneficial owner.
- C. Referral Fees.** Members and Candidates must disclose to their employer, clients, and prospective clients, as appropriate, any compensation, consideration, or benefit received from or paid to others for the recommendation of products or services.

VII. RESPONSIBILITIES AS A CFA INSTITUTE MEMBER OR CFA CANDIDATE

- A. Conduct as Participants in CFA Institute Programs.** Members and Candidates must not engage in any conduct that compromises the reputation or integrity of CFA Institute or the CFA designation or the integrity, validity, or security of the CFA Institute programs.
- B. Reference to CFA Institute, the CFA Designation, and the CFA Program.** When referring to CFA Institute, CFA Institute membership, the CFA designation, or candidacy in the CFA Program, Members and Candidates must not misrepresent or exaggerate the meaning or implications of membership in CFA Institute, holding the CFA designation, or candidacy in the CFA program.



www.cfainstitute.org

EXHIBIT A

VRS Investment Department Code of Ethics and Standards of Professional Conduct Policy

Summary of Virginia State and Local Government Conflict of Interests Act Virginia Code § 2.2-3100 et seq.

Certain sections of the Act directly applicable to investment associates include, but are not limited to:

Use of confidential information and accepting gifts that could influence decisions: Officers and employees may not use confidential state information, not available to the public, for their own or for anyone else's economic benefit. Officers or employees may not accept any money, loan, gift, favor, or any other thing of value that could tend to influence their work and the decisions that would influence them in the performance of their official duties. [CITE: Virginia Code § 2.2-3103(4), (5).]

Business or professional opportunity: Furthermore, officers and employees cannot accept a business or professional opportunity when they know that there is a reasonable likelihood that the opportunity is being offered to influence them in the performance of their official duties. [CITE: Virginia Code § 2.2-3103(6).]

See Virginia Code § 2.2-3100 et seq. for the entire Virginia State and Local Government Conflict of Interests Act.

EXHIBIT B

VRS Investment Department Code of Ethics and Standards of Professional Conduct Policy

INITIAL CERTIFICATION FORM

I have read the VRS Investment Department Code of Ethics and Standards of Professional Conduct Policy. I understand the requirements of this document, recognize that I am subject to this Policy, understand the penalties for non-compliance and agree to comply with this Policy.

Investment Associate Signature: _____

Name: _____
(Please Print)

Title: _____

Date: _____

Reviewed by RLO or CAO: _____

Date: _____

Reviewed by Supervisor: _____

Date: _____

Return this completed form to the RLO

EXHIBIT C

VRS Investment Department Code of Ethics and Standards of Professional Conduct Policy

ANNUAL CERTIFICATION FORM

For the Period _____

I certify that to the best of my knowledge for the period stated above:

1. I was in compliance with the requirements of the VRS Investment Department Code of Ethics and Standards of Professional Conduct Policy.
2. I was in compliance with the requirements of the VRS Investment Department Personal Trading Policy.
3. I was in compliance with the requirements of the VRS Investment Department Material Non-Public Information Policy.
4. I was in compliance with the requirements of the VRS Investment Department Policy on Gifts.
5. I am not aware of any conflict of interest between myself (or members of my immediate family) and entities conducting business, either directly or indirectly, with the VRS Investment Department. These entities include, but are not limited to: investment managers, placement agents, consultants, broker/dealers, and related vendors.

Investment Associate

Signature: _____

Print Name: _____

Title: _____

Date: _____

Reviewed by RLO

or CAO: _____

Date: _____

Reviewed by Supervisor:

Signature: _____

Date: _____

Return this completed form to the RLO

VRS Investment Department
Material Non-Public Information Policy
Effective Date – July 1, 2015

Introduction

Investment associates (i.e., VRS Investment Department personnel), as employees of a public entity, a fiduciary, and a major market participant, should exemplify the highest standards of ethical conduct in all matters related to VRS. While public pension funds are exempt from many of the federal securities laws governing money managers, VRS and investment associates are not exempt from important anti-fraud provisions under federal securities laws that prohibit insider trading and other manipulative and dishonest behavior that threatens the integrity of the market.

This Policy applies to all VRS investment associates. This Policy cannot and is not intended to address all insider trading issues that may arise in connection with an investment associate's duties. Investment associates are strongly encouraged to seek the advice of the VRS Investments Regulatory and Legal Officer (RLO) if they have questions related to this Policy or issues it addresses.

Policy

Material, Non-Public Information

In the course of employment and potentially from other sources, VRS investment associates may come into possession of non-public information relating to publically traded securities. Trading on inside information is not a basis for legal liability unless the information is material. Both positive and negative information can be material. The underlying factor is whether the information could have a market impact.

Federal insider trading laws and regulations generally prohibit those who possess material, non-public information from buying or selling securities or passing on such information to others who may be induced to buy or sell securities on the basis of such information. Such information is of special importance under the anti-fraud sections of the federal and state securities laws, and misuse of that information can lead to civil and criminal penalties for VRS and investment associates. Whether information is material and non-public is not always obvious. This Policy section, therefore, starts with a short discussion of what might constitute material, non-public information.

Material Information

Information is deemed material if it would be considered important by a reasonable investor in deciding whether to buy, sell or refrain from any activity regarding that security. In addition, such information would be material if it were likely to have a significant impact on the market price or value of that company's securities. Whether information is material is established by reviewing all the facts and circumstances.

Information provided by a company could be material because of its expected effect on a particular class of securities, all of a company's securities, the securities of another company, or the securities of several companies. The prohibition against misusing material, non-public information applies to all types of financial instruments including, but not limited to, stocks, bonds, warrants, options, futures, forwards, swaps, and commercial paper.

Those covered under this Policy who are aware of material, non-public information regarding a company are prohibited from, directly or indirectly, making investment decisions on behalf of VRS or any other transactions, related to that company. If an investment associate is uncertain whether the information is material, the safest course of action is for the employee to treat the information as material. In such a situation, the investment associate should consult the RLO before initiating any transactions with respect to the subject security.

The following partial list illustrates types of information that would generally be considered material:

- Projections of future earnings or losses or other financial results;
- A gain or loss of a material contract, customer or supplier or material changes in the profitability status of a current contract;
- Merger, acquisitions, tender offers, or joint ventures;
- A significant sale of assets, write-downs or write offs or disposition of a subsidiary;
- Expansion or curtailment of company or major division operations;
- Innovative products, processes, or discoveries;
- New licenses, patents, or other intellectual property milestones;
- Regulatory approval or rejection of a product;
- Changes in management;
- Events regarding the issuer's securities (i.e. defaults on senior securities, changes in dividends, or stock repurchases);
- Debt service or liquidity problems or unannounced plans to file for a bankruptcy;
- Criminal, civil and government investigations and indictments;
- Undisclosed regulatory or law enforcement proceedings;
- Pending labor disputes;
- Undisclosed plans to issue restatement of financial statements; and
- Undisclosed order for large trades before they are executed.

This list of examples is not intended to be exhaustive, and other types of information may also be material. As discussed further below, after information such as that listed above becomes public, it generally no longer creates a risk of insider trading.

Non-Public Information

Non-public information is information that is not generally known or available to the general public. Once information has been effectively communicated in the marketplace, it is no longer considered non-public. However, the distribution of material, non-public information must occur through commonly recognized channels for the classification to change. One must be able to point to some fact to show that the information is generally public. For example, information found in a report filed with the SEC, or appearing in Dow Jones, Reuters Economic Services, The Wall Street Journal, Bloomberg or other publications of general circulation would be considered public. In addition, there must be adequate time for the public to receive and evaluate the information. When material information has been publicly disclosed, you should continue to refrain from buying or selling securities in question until the information has been adequately disseminated to the public so that investors have had the opportunity to evaluate the information. Adequate dissemination requires allowing enough time after the announcement for the market to react to the information.

Non-public information does not change to public information solely by selective dissemination. Corporations that disclose information on a limited basis create the potential for insider-trading violations. Information concerning a public company's financial statements or regulatory filings prior to completion is non-public. Similarly, disclosure to a room full of analysts does not necessarily make the disclosed information public until it is made available to investors in general. The confirmation by an insider of unconfirmed rumors, even if the information in question was reported as rumors in a public form, may be non-public information.

Examples of the ways in which non-public information might be transmitted include, but are not limited to:

- In person;
- In writing;
- By telephone;
- During a presentation;
- By email, instant messaging, or Bloomberg messaging;
- By text message or through Twitter; or
- On a social networking site such as Facebook or LinkedIn.

Definition of an Insider

The term insider trading is not specifically defined under the federal securities laws (most guidance in this area can be found under case law and related judicial decisions). The term insider is generally used to refer to trading in securities on the basis of material, non-public information. Insiders are not limited to officers, directors and employees (corporate officials) of a company and major shareholders. A person can be a “temporary insider” if he or she enters into a special confidential relationship in the conduct of a company’s affairs and as a result is given access to information solely for the company’s purpose.

A person could be liable for insider information simply by possessing inside information regarding a given security, breaching a fiduciary duty to the source of the information, and then trading it with a self-serving intent, even if he or she would have made the trade anyway. The Securities and Exchange Commission (“SEC”), which is the primary U.S. regulator under the federal securities laws, takes the view that the mere fact that a person knows the information is enough to bar him or her from trading, even if the reasons for the potential trade are not based on that information.

This duty may be imputed to others. For example in cases where an insider “tips” another person about material, non-public information likely to have an effect on the company’s share price, the duty the insider owes is now imputed to the recipient of the information. This person would be in violation if he/she trades on the basis of this information. A restricted person, who tips information to a person who then trades, is subject to the same penalties, even if the restricted person did not trade and did not profit from the trading.

Prohibition/Penalties

Each investment associate is required to adhere to this Policy. Failure to comply could result in VRS sanctions, the level of which will depend on the severity of the infraction. Sanctions may include, but not be limited to: a written reprimand; demotion of job duties; disgorgement of profits; and/or, termination of employment.

In addition to VRS penalties, the consequences of insider trading violations can be severe under U.S. law. The SEC takes the position that these laws apply to all transactions in shares or options of companies listed for trading in the U.S., whether or not the actual trades take place in the U.S. For individuals who trade on inside information (or tip information to others), possible penalties include:

- A civil penalty of disgorgement, or return, of profit gained or loss avoided, plus a fine of up to three times the profit gained or loss avoided.
- Criminal fine (no matter how small the profit) of up to \$1 million; and
- A jail term of up to ten years for felony convictions.

An entity that knowingly and recklessly disregards the fact that an employee is likely to engage in illegal trading and fails to take appropriate steps to prevent the illegal activity is currently subject to possible penalties which may include:

- A civil penalty of the greater of \$1 million or three times the profit gained or the loss avoided as a result of the employee's violation; and/or
- A criminal penalty of up to \$2.5 million.

External Managers

As part of the normal course of business, VRS investment staff employs outside third-party managers to invest a portion of VRS assets. VRS may receive information about these managers' investment strategies and trading activities. Some of this information could be considered material non-public information and limit VRS's ability to trade in that issuer's public securities.

If a VRS investment associate expects that discussions with an outsider might involve the transmission of material, non-public information, the investment associate should inquire whether or not this information would make VRS an insider and should seek a representation regarding the counterparty's status as a potential insider. When practicable, this disclosure and representation should be communicated by email. It is recognized that VRS may enter into confidentiality agreements with third-parties through which investment associates of VRS may receive non-public information. In these instances, appropriate controls must be implemented through the use of information barriers.

Information Barriers/Chinese Walls

Federal and state securities laws generally prohibit VRS from trading in a security while in possession of material, non-public information related to the traded security or issuer. The federal securities laws, however, permit institutional investors to trade while one or more of its employees possess material, non-public information if the individual or group of individuals making the investment decision on behalf of the institutional investor is not aware of that information. Furthermore, the institutional investor must have implemented reasonable policies and procedures that ensure that the individual or group of individuals making an investment decision on behalf of the institutional investor is not aware of material, non-public information related to that investment decision.

All investment associates must consider material, non-public information as highly confidential and use information barriers to protect the confidentiality of such information. Furthermore, such information should be disclosed only to employees on a need to know basis to carry-out their job responsibilities.

Investment associates must safeguard non-public information whether generated internally or acquired from outside sources. Investment associates must use this information only for VRS related matters and not share this investment related information or resources with other VRS investment programs. In order to control access to this non-public information, business related communications

between VRS investment staff and other VRS employees should be kept to a minimum. Investment associates should be highly sensitive to the potential for disclosure of any non-public information.

Other VRS investment programs not privy to material, non-public information may still be permitted to trade in securities of an issuer so long as appropriate informational barriers exist and the guidelines in the Procedures for Protection of Material, Non-Public Information section of this document are followed.

Procedures for Protection of Material, Non-Public Information

Investment associates who may be in possession of material, non-public information should take protective steps to preserve the confidentiality of that information and prevent its intentional or inadvertent disclosure. These steps may include, but are not limited to, the following:

- Immediately report the potential receipt of material, non-public information to the RLO and immediate Supervisor;
- Not discuss any potentially material, non-public information with colleagues, except as specifically required by their position;
- Not trade the securities of any company about which they may possess material, non-public information;
- Refrain from discussing any potentially material, non-public information with any person who is outside of the barrier/Chinese wall;
- Refrain from, directly or indirectly, participating in, recommending or supervising any decisions to buy, sell or hold the securities of the issuer; and
- Safeguard all files, file cabinets and other storage areas that contain information concerning material non-public information.

Review and Determination

It is the responsibility of every VRS investment associate to notify his/her immediate supervisor and the RLO when in receipt of material, non-public information or whenever he/she has questions as to whether they are in possession of material, non-public information. The RLO will conduct research to determine if the information is likely to be considered material, and whether the information has been publicly disseminated. The RLO will keep a file describing the information, its source, and the date that the information was received.

After the RLO has reviewed the matter, a determination will be made as to whether the information is material and non-public. If a determination is made that the information is material and non-public, the security in question will be placed on a restricted list for the particular investment program that came into possession of such information. The RLO will provide notice of such determination in written format via e-mail to all employees known to have access to such information

and to the employees within the specific investment program. These employees are prohibited from placing any trades in such security and must adhere to the Procedures for Protection of Material, Non-Public Information previously covered.

Investment associates with such information have the responsibility to notify the RLO when they believe the security should be considered for removal from the restricted list. The RLO has the ultimate responsibility for maintaining a restricted list and no person, other than the RLO and the Chief Administrative Officer, can make a determination to exclude an issuer from VRS's restricted list. The restricted list shall be distributed to a limited number of investment associates on a need to know basis only.

Trading in affected securities may resume when the RLO or Chief Administrative Officer determines that the information has become public and/or immaterial. At such time, the RLO will notify in writing via e-mail the applicable investment associates that the restriction has been removed.

Initial Certification Form

Upon implementation of this Policy, all current and prospective investment associates (including new hires and interns) will be required to sign an Initial Certification form that they: have read the VRS Investment Department Material Non-Public Information Policy; understand this document; acknowledge there are penalties for non-compliance; and, agree to comply with this Policy – see Exhibit A. In addition, an annual certification of compliance with this Policy is required as part of the Investment Department Code of Ethics and Standards of Professional Conduct Policy.

Exhibit A

**VRS Investment Department
Material Non-Public Information Policy**

INITIAL CERTIFICATION FORM

I have read the VRS Investment Department Material Non-Public Information Policy. I understand the requirements of this document, recognize that I am subject to this Policy, understand the penalties for non-compliance and agree to comply with this Policy.

Investment Associate Signature: _____

Print Name: _____

Title: _____

Date: _____

Reviewed by RLO or CAO: _____

Date: _____

Reviewed by Supervisor: _____

Date: _____

Return this completed form to the Regulatory and Legal Officer

**VRS Investment Department
Personal Trading Policy
Effective Date – July 1, 2015**

Purpose

Investment associates (i.e. VRS Investment Department personnel), as employees of a public entity, a fiduciary, and a major market participant, should exemplify the highest standards of ethical conduct in all matters related to VRS. The interests of assets managed by VRS (“VRS Fund”) are of paramount importance and all investment associates must exercise care and caution always to place the interests of VRS before their own. It is integral to the culture of the VRS Investment Department to prohibit investment associates from undertaking personal transactions that may give rise to a conflict of interest, insider dealing or breach of confidentiality by virtue of an activity carried out on behalf of VRS.

This Personal Trading Policy applies to all VRS Investment Department personnel. This Policy is put forth to guard against improprieties or conflicts of interest involving an investment associate’s personal trading activities that could harm or adversely affect the credibility or reputation of VRS. This Policy is designed to provide guidance and direction to investment associates on the types of personal trading activities permitted or prohibited.

With the adoption and implementation of this updated Policy, investment associates will no longer be permitted to conduct personal securities transactions in covered securities for their own personal accounts. For purposes of this Policy, a personal security transaction is defined as any transaction in individual securities for an investment associate’s own account or for an account in which the associate has beneficial ownership and decision making authority for the account.

At the date of implementation of this Policy, any investment associates holding covered securities may continue to hold these securities indefinitely or may sell such securities with pre-clearance (as described below), from the Regulatory and Legal Officer (RLO) or the Chief Administrative Officer (CAO). This process is also applicable to new hires within the Investment Department.

Covered Securities

VRS investment associates are strictly prohibited from the purchase of individually traded equities or debt instruments of corporate issuers for their own personal accounts, including but not limited to the following:

- Stocks;
- Corporate bonds;
- Preferred stock;
- IPOs;
- Private Placements;
- Master Limited Partnerships;

- Short Sales;
- Convertible securities;
- Derivatives based on non-permitted securities; and
- Options, warrants, puts, calls and rights relating to publicly traded equity or debt securities.

Transactions where the investment associate has no decision making authority involving a covered security are permissible. Neither pre-clearance nor the reporting requirements (discussed further below) apply to these transactions. Examples include, but are not limited to, the following:

- Automatic dividend reinvestment plans;
- Acquisition of a covered security through a gift or bequest;
- Purchase, sale or other acquisition of a covered security in a trust in which the VRS investment associate holds beneficial ownership, but holds no decision making authority with respect to selection of investments (i.e. blind trust); and
- Discretionary management of personal account(s) by a portfolio manager (PM) or registered investment advisor (RIA). A discretionary account is defined as an account giving power of attorney to the PM or RIA to buy and sell securities with no prior communication with the account owner with respect to purchases or sales.

This Policy cannot address every situation that might confront VRS investment associates and as such, investment associates are strongly encouraged to seek advice of the RLO should there be a question as to the status of the potential transaction or a related situation.

Administration of the Policy

The RLO will be responsible for the administration of this Policy. The RLO will receive and review all reports required to be submitted pursuant to this Policy (reporting requirements are detailed below). The RLO will review the reports to determine that investment associates' trades are consistent with the requirements and restrictions set forth in this Policy and do not otherwise indicate improper trading activities. The RLO will also ensure that all books and records relating to this Policy are properly maintained.

Pre-Clearance for Selling Covered Securities

Pre-clearance is required for any sale involving a previously held covered security where an investment associate has decision making authority to conduct a sale. Immediate family members of VRS investment associates are not required to formally apply for pre-clearance unless the investment associate has beneficial ownership and decision making authority for the account. For the purposes of this Policy, "immediate family" means a spouse and any child who lives at home and who is a dependent of the investment associate. VRS investment associates will exercise reasonable care to protect and preserve confidential or sensitive information related to VRS matters. Communications involving such

confidential or sensitive information will not be shared with immediate family members or others and must only be used for legitimate business purposes. All VRS investment associates are also subject to the requirements of the Investment Department's separate policy on material non-public information.

An investment associate with an existing holding in a covered security must get pre-clearance in writing from either the RLO or the CAO prior to selling such security. The RLO or CAO may under certain temporary situations delegate the pre-approval process to another individual within the Compliance Department as appropriate (i.e. both out of the office). This temporary approval must be in writing and identify the compliance person prior to the approval or denial of any covered security transaction(s). No individual authorized to pre-clear transactions may pre-clear a transaction for a covered security in which he or she has beneficial ownership. The RLO will obtain pre-clearance from the CAO, if necessary.

Prior consent must be sought using the Personal Trading Pre-Clearance Form - see Exhibit D. This form must be signed by the employee seeking approval, the immediate supervisor, and the RLO or CAO. **No trading is permitted until approval is received.** Transactions that appear upon reasonable inquiry and investigation to present no likelihood of harm to VRS will be entitled to pre-clearance. Pre-clearance approval is valid for a period of five business days following the day approval is granted. After such time, pre-clearance approval will no longer be valid. The VRS investment associate will provide the RLO or CAO with a trade confirmation (or equivalent and acceptable documentation) within ten days of completion of such transaction. If no transaction occurs, the investment associate will provide written notification to the RLO or CAO as soon as reasonably practical upon expiration of the approval period.

Policy Distribution and Certifications

The RLO will provide a copy of this updated Policy to all investment associates no less frequently than annually or when substantive changes are made to this Policy. Investment associates will attest to compliance with this Policy through initial and quarterly certifications as described below.

Initial Certification Form

Upon implementation of this updated Policy, all current investment associates will certify that they have received, read and will comply with this Policy. All new hires to the Investment Department will receive a current copy of this Policy promptly after being employed. The RLO will meet with new investment associates to provide an overview of this Policy. All new investment associates will be required to acknowledge they are subject to this Policy and have read and understand this Policy as evidenced by the Initial Certification Form - see Exhibit A.

Quarterly Certification Form

Every investment associate must submit a Quarterly Certification Form (see Exhibit B) to the RLO following each quarter-end. The certification requires investment associates to indicate whether or not transactions in covered securities occurred during the previous quarter for an investment associate's

own account or for an account in which the associate has beneficial ownership and decision making authority for the account. **In the event an investment associate has no reportable trades to disclose, he or she will still be required to submit the report to the RLO certifying that no reportable trades occurred during the previous quarter.** A fully completed Transaction Report for Covered Securities (see Exhibit C) along with the Personal Trading Pre-Clearance Form (see Exhibit D) must be completed if trades occurred in covered securities during the previous quarter.

Violations

Investment associates must immediately report any known violation of this Policy to the RLO. All reports will be treated confidentially and investigated promptly and appropriately. VRS will not retaliate against any investment associate that reports a violation in good faith and any retaliation constitutes a further violation of this Policy.

Each investment associate is required to adhere to this Policy. Failure to comply could result in sanctions, the level of which will depend on the severity of the infraction. Sanctions may include, but not be limited to: a written reprimand; demotion of job duties; disgorgement of profits; and/or, termination of employment. Additionally, improper or illegal actions could result in criminal penalties and/or civil liabilities.

Training

The RLO will provide an overview related to this Policy to all employees at the time they begin employment at VRS and to VRS investment associates periodically thereafter. However, failure to provide this training or the failure of an employee to attend training will not excuse noncompliance with this Policy. The provisions of this Policy are intended to be read in conjunction with other VRS policies.

Exhibit A

**VRS Investment Department
Personal Trading Policy**

INITIAL CERTIFICATION FORM

I have read the VRS Investment Department Personal Trading Policy. I understand the requirements of this document, recognize that I am subject to this Policy, understand the penalties for non-compliance and agree to comply with this Policy.

Investment Associate Signature: _____

Print Name: _____

Title: _____

Date: _____

Reviewed by RLO or CAO: _____

Date: _____

Reviewed by Supervisor: _____

Date: _____

Return this completed form to the Regulatory and Legal Officer

Exhibit B

**VRS Investment Department
Personal Trading Policy**

Quarterly Certification Form – Quarter Ending _____

☐ By checking this box, I certify that I have attached the Transaction Report for Covered Securities (see Exhibit C) for applicable trades done in my personal accounts and/or accounts whereby I exercise investment discretion for the time period indicated. To the best of my knowledge, the execution of this/these trade(s) does not violate the VRS Investment Department's Personal Trading Policy.

OR

☐ By checking this box, I certify that no trades of such covered securities were executed for the time period indicated.

AND

☐ By checking this box, I certify that to the best of my knowledge I was in compliance with all requirements of the Personal Trading Policy.

Investment Associate Signature: _____

Print Name: _____

Title: _____

Date: _____

Reviewed by RLO or CAO: _____

Date: _____

Reviewed by Supervisor: _____

Date: _____

Return this completed form to the Regulatory and Legal Officer

Exhibit C

VRS Investment Department
Transaction Report for Covered Securities

Quarter Ended _____

During the quarter referred to above, the following transactions were effected in covered securities which are required to be reported pursuant to the VRS Investment Department Personal Trading Policy.

Date of Transaction	Security Name	Security Symbol	Nature of Transaction (i.e. Sale)	Number of Shares	Share Price	Dollar Amount of Transaction

This Transaction Report excludes transactions not required to be reported by the Personal Trading Policy (i.e. non-covered securities).
I hereby certify that the information contained in this Transaction Report is accurate and complete to the best of my knowledge.

Investment Associate
Signature: _____

Print Name: _____

Title: _____

Date: _____

Reviewed by RLO
or CAO: _____

Date: _____

Reviewed By Supervisor: _____

Date: _____

Exhibit D

VRS Investment Department
Personal Trading Pre-Clearance Form

Before trading (selling) in any covered security prior approval must be obtained from either the Regulatory and Legal Officer (RLO) or the Chief Administrative Officer (CAO) as evidenced by completion of this form.

Security Name	Security Symbol	Nature of Transaction (i.e. Sale)	Description of Requested Transaction Dollar Value or Quantity to be Sold

I hereby certify that the information contained in this Pre-Clearance Form is accurate and complete to the best of my knowledge.

I agree to provide a brokerage statement or trade confirmation for the transaction(s) listed above within ten business days of completion of the trade(s).

I will notify the RLO promptly if the approved transaction(s) does not occur.

Investment Associate

Signature: _____

Print Name: _____

Title : _____

Date: _____

Reviewed by

Supervisor: _____

Date: _____

Reviewed by RLO

or CAO: _____

Date: _____

Approval:

☐ Granted

☐ Denied

☐ Trade did not occur

If Granted, this pre-clearance approval is good through close of business on _____.

VRS INVESTMENT DEPARTMENT
POLICY ON GIFTS
Effective July 1, 2015

I. PURPOSE

It is the intent of the VRS Investment Department to be a national leader in the area of internal governance and to display a high level of ethical conduct. The Department will strive to remain above reproach as it discharges the duties related to investments that have been assigned by the VRS Board of Trustees.

It is also the intent of the VRS Investment Department to treat the sections of the State and Local Government Conflict of Interests Act (“COIA”) relating to gifts as the minimum acceptable standard. Therefore, the policy on gifts that will govern the Department will strive to meet or exceed this standard.

In furtherance of these intents, this policy is established to define the behavioral guidelines within which all members of the VRS Investment staff are expected to conduct themselves.

II. PROHIBITED CONDUCT UNDER COIA

Generally, COIA prohibits the following conduct relating to gifts:

- A. Soliciting or accepting money or other thing of value for services performed within the scope of one’s official duties, except the compensation, expenses or other remuneration paid by the agency of which one is an officer or employee.
- B. Accepting any money, loan, gift, favor, service, or business or professional opportunity that reasonably tends to influence one in the performance of his official duties.
- C. Accepting a gift from a person who has interests that may be substantially affected by the performance of the officer's or employee's official duties under circumstances where the timing and nature of the gift would cause a reasonable person to question the officer's or employee's impartiality in the matter affecting the donor.
- D. Accepting gifts from sources on a basis so frequent as to raise an appearance of the use of one’s public office for personal gain.

III. GIFT-RELATED DISCLOSURE REQUIREMENTS UNDER COIA

A “required filer” under COIA must make the following annual disclosures:

- A. Lodging, transportation, money, or any other thing of value (excluding meals or drinks coincident with a meeting) with a combined value exceeding \$200 for the presentation of

a single talk, participation in one meeting, or publication of a work in his or her capacity as an officer or employee of the agency.

- B. Payments under (III. A) must be listed even if they are donated to charity.
- C. Generally, payments under (III. A) need not be listed if they are returned within 60 days after receipt.
- D. Any gift or entertainment at a single event where the value received by you from any business, governmental entity, or individual exceeds \$50 and for which you neither paid nor rendered services in exchange.
- E. Any gift or entertainment in any combination where the value received by you from any business, governmental entity, or individual exceeds \$100 and for which you neither paid nor rendered services in exchange.
- F. When completing the VRS Travel Expense Reimbursement Request form, VRS Investment staff must complete that portion of the form titled Detailed Record of Items for Conflict of Interest Reporting, if applicable.

IV. VRS INVESTMENT DEPARTMENT POLICY ON GIFTS

In light of the standard of conduct enunciated under COIA and the desire of the VRS Investment Department to strive to meet or exceed this standard, the VRS Investment Department Policy on Gifts will be as follows (for purposes of this policy the term “gift” includes entertainment):

- A. No member of the VRS Investment staff, while acting in his or her official capacity, will solicit or arrange a gift for him or herself or for any other person from any current, prospective, or potential external investment manager, placement agent, consultant, broker/dealer, or related vendor, or any affiliate thereof.
- B. No member of the VRS Investment staff will accept any unsolicited gift from any current, prospective, or potential external investment manager, placement agent, consultant, broker/dealer, or related vendor, or any affiliate thereof, unless it is a token, educational, promotional or advertising item of nominal value (i.e., estimated market value of less than \$50), and does not compromise, or appear to compromise, the independence or judgment of the VRS Investment staff member. Examples of token, educational, promotional or advertising items of nominal value include, but are not limited to: a hat, coffee mug, pen, tin of popcorn, nylon duffle bag, etc.
- C. No member of the VRS Investment staff will accept any gift through an intermediary, if he or she knows, or has reason to know, that the gift has originated from a source that would make the gift prohibited under this policy.
- D. In no event will a member of the VRS Investment staff accept a gift if the source of the gift is not identified. If the source of any gift cannot be ascertained, the gift will be donated to a suitable charitable organization.

- E. No member of the VRS Investment staff will accept any complimentary work or analysis offered or performed by a current, prospective, or potential external investment manager, placement agent, consultant, broker/dealer, or related vendor, or any affiliate thereof, that is intended to benefit personally the involved VRS Investment staff member if such work or analysis is offered to or performed for such VRS Investment staff member because of his or her official capacity.
- F. No cash, cash equivalents or securities of any value may ever be accepted.
- G. Any gift, the receipt of which is prohibited by this policy, will either be returned to its source immediately or donated to a suitable charitable organization.
- H. Meals and drinks that are coincident with a meeting are not considered to be items of value that implicate this policy.
- I. Sponsored paid travel is permitted under this policy where the VRS Investment staff member serves in an advisory capacity (i.e. Advisory Board) for current investments where these travel expense have been effectively paid by VRS through the management fees.

Where considered appropriate, the VRS Investment staff will inform current, prospective, or potential external investment managers, placement agents, consultants, broker/dealers, and related vendors, or any affiliate thereof, of the existence of this policy and request, wherever possible, that such entities refrain from placing VRS Investment staff in situations that would implicate this policy and its enforcement.

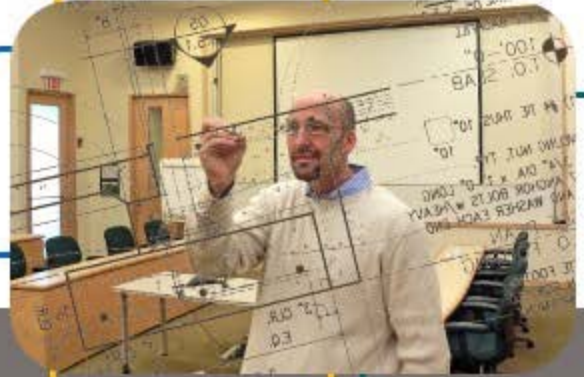
Quarterly Reports on the Modernization Program - Phase 4



Virginia
Retirement
System

Modernization Phase 4

Audit Committee
June 4, 2020



- Final updates to RIMS were made on April 18, 2019
 - RIMS data (as of April 18, 2019) is available in the new report repository
 - All RIMS accounts have been disabled
 - Jobs are in progress to remove RIMS files at VITA
- Final mainframe environment decommission
 - We will continue to utilize a mainframe connection to access DMV information
 - We will continue to utilize a mainframe connection for the System Request System (SRS) until the new Resource Management and Access System (RAMS) is fully implemented

- The project was restarted in December, but impacted by anticipated new legislation which was finalized in March
- December 2019
 - Several factors impacted the restart of online retirements, including Phase 4 stabilization, July/August processing, and our private partner left sooner than we anticipated
 - Udig and CGI provided experienced staff to supplement the VRS team using existing staff augmentation contracts
- March 2020
 - Technology and business staff shifted from myVRS to new legislation in March
 - The myVRS schedule was impacted - all software build activities are proceeding but at a slower pace than planned

Revised Project Plan

	2019				2020												
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Security Upgrades																	
Development Template																	
Confirm Designs																	
VNAV Integration																	
Online Retirement					Build and Test												
Beneficiaries Mgmt					Build and Test												
Survivor Access											Build and Test						
Retiree Payment Maint						Build and Test											
Retiree HIC Maint										Build and Test							
Readiness Planning																	
Final Test/ Pen Test																	
Soft Launch/Roll Out															TBD		
Secure Messaging						Research Buy/Build											

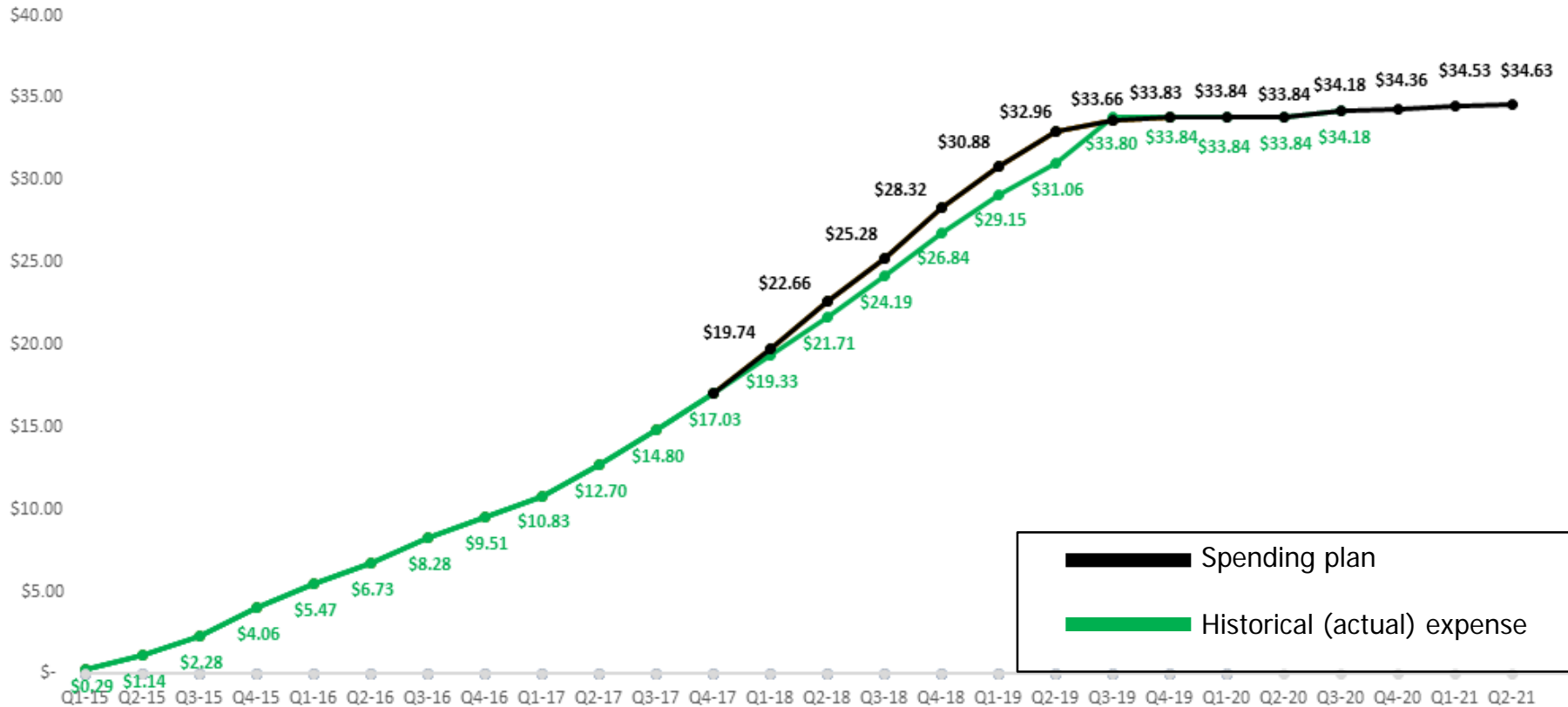
- Software build is expected to complete for the final component in October
- Rollout will likely occur feature by feature and must be done in a manner that does not impact year end processing. Dates are to be determined.

- Security upgrades
 - New IP geolocation analytics capability is in place
 - Procuring software to allow cell phone number and email address ownership review and authentication
- Development template
 - Newer version of development language and technical integration with VNAV
 - Prototype using new version of development language was created using beneficiary management functionality
 - All developers have been trained and are using the template

Progress To Date (continued)

- Software build
 - Completed windows (without backend software) for online retirements and beneficiary management have been presented to the Executive Steering Committee (ESC – T. Bishop, M. Cooper, R. Irving, B. Faison, F. Beaton) for approval
 - Window build is in progress for Survivor Maintenance, Payment Maintenance, and HIC Maintenance
 - Backend development is in progress for Online Retirement, Beneficiary Management, and Payment Maintenance
- Secure Messaging
 - Build/buy decision brief due by end of May
- Communication, employer outreach and training
 - Development of videos that will be embedded in the online retirement experience is in progress
 - Outreach/feedback sessions with employers will restart as their operations and circumstances allow

Budget as of 3/31/2020

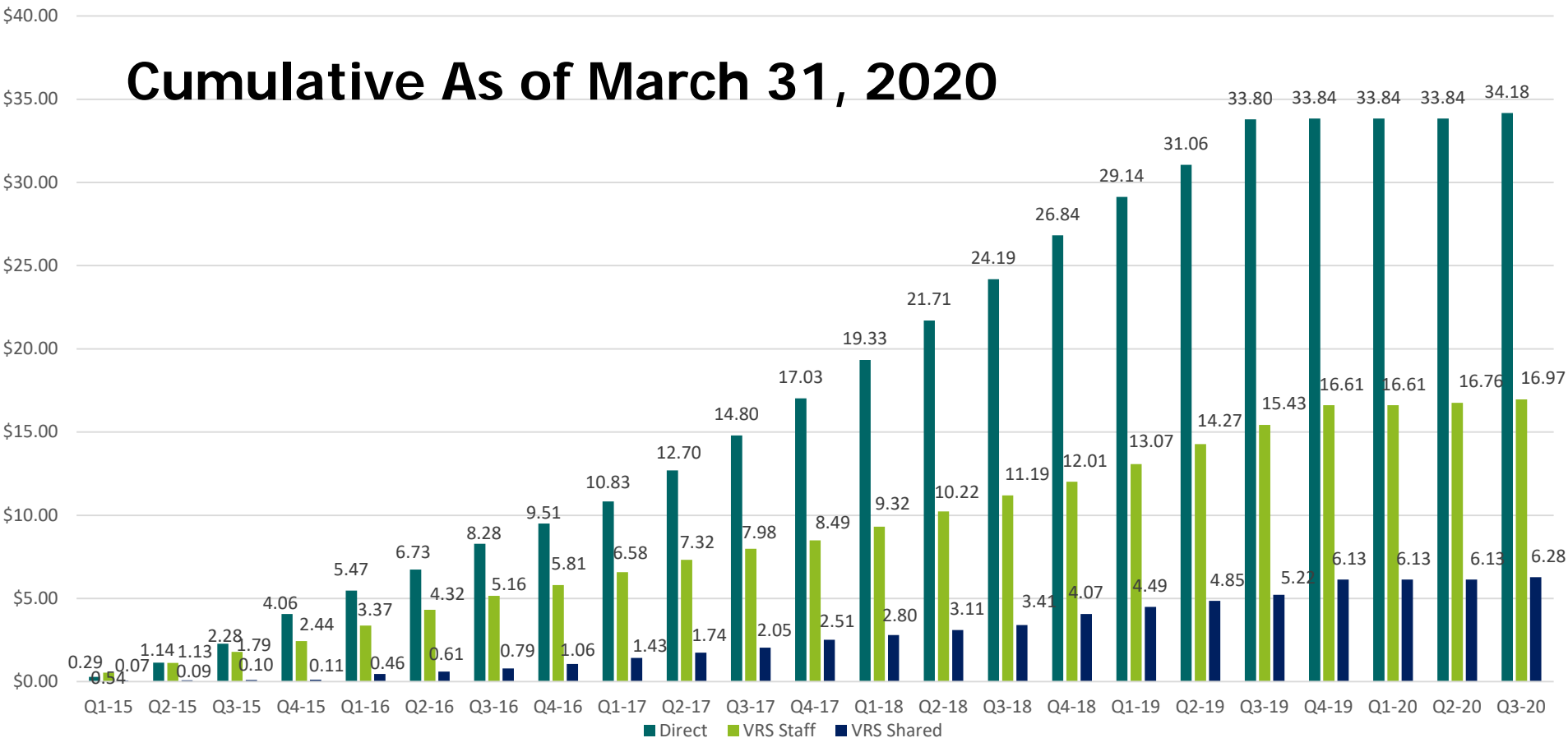


Note: planned spending has been adjusted to reflect reduced staffing and revised schedule

Total (Direct and Indirect) Cost



Cumulative As of March 31, 2020





Modernization Program Phase Four

*Internal Audit's Quarterly Review
As of May 25, 2020*

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.

Phase 4's Scope



- To decommission the Retirement Information Management System (RIMS) by converting business functionality in RIMS over into VNAV.
- To implement an online customer portal for members and retirees.



Phase Scope Changes



This Quarter

- *None.*

Previous Scope Changes

- *Quarterly Report as August 27, 2018 (reduction)*
 - Interactive Voice Response (IVR) Self-Service Replacement removal from phase scope.
- *Quarterly Report as of May 1, 2018 (reduction)*
 - Removal of Disability Retirement Case Management Functions. Case Management Functions will be handled by the new Medical Board vendor
- *Quarterly Report as of August 1, 2017 (increase)*
 - Incorporation of 3 individual projects under Phase Four scope for resource efficiencies.
 - ORPHE/ORPPA
 - Financial Education Resources within myVRS Portal
 - Retiree Portal Payment and Health Insurance Maintenance
- *Quarterly Report as of February 1, 2016 (increase)*
 - Addition of Online Assistance Tool for the Customer Contact Center within CSS #1 (Member Portal)

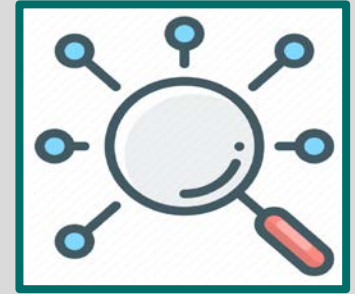
Observations



RIMS Decommissioning

- VRS is approaching the final stages of the decommissioning of the legacy mainframe environment.
- VRS's approach has been thoughtful and deliberate to ensure the retention of all relevant data and information.
- Per management's request, Internal Audit provided consultation in regard to retention of data and backups for this system.

Observations



Information Gathering

- Internal Audit facilitated a conference call between VRS and the only other public pension retirement system identified to have online retirements functionality.
- The two funds discussed planned and applied security and fraud programs, including any lessons learned revealed during the time the other fund has been live with this leading edge functionality.

Phase Schedule



- Online Retirements is progressing; however, resource constraints resulting from proposed legislation have impacted the Online Retirements go-live schedule.
- These impacts have delayed the go-live schedule until at least the winter, possibly longer.
- Specific launch dates will be solidified and presented to the Committee at a future date.
- At this time, we are in agreement with management's representation of current Phase 4 status and progress.

Phase Budget

- We are in agreement with Phase Four expenditures to date represented in management's presentation.
- At this time, we believe Phase Four is on budget to complete the outstanding functionality and close out Phase 4.



Methodology

Purpose

- To provide an objective assessment of the Modernization Program Phase Four's progress, free from influence, guidance and control of the development effort.
- To provide validation of the accuracy of management's quarterly status presentation.

Methodology continued...

Process

Gain an understanding of the purpose and progress of Phase Four through:

- Review of the Phase Four Microsoft SharePoint site or document management repository (applicable release documents)
- Interview of the Modernization Program Manager and other relevant personnel
- Attendance at ESC and other relevant meetings

Approach and Timing

- Focus on specific areas active during the period of review
- Performed quarterly through the end of Phase Four

Questions



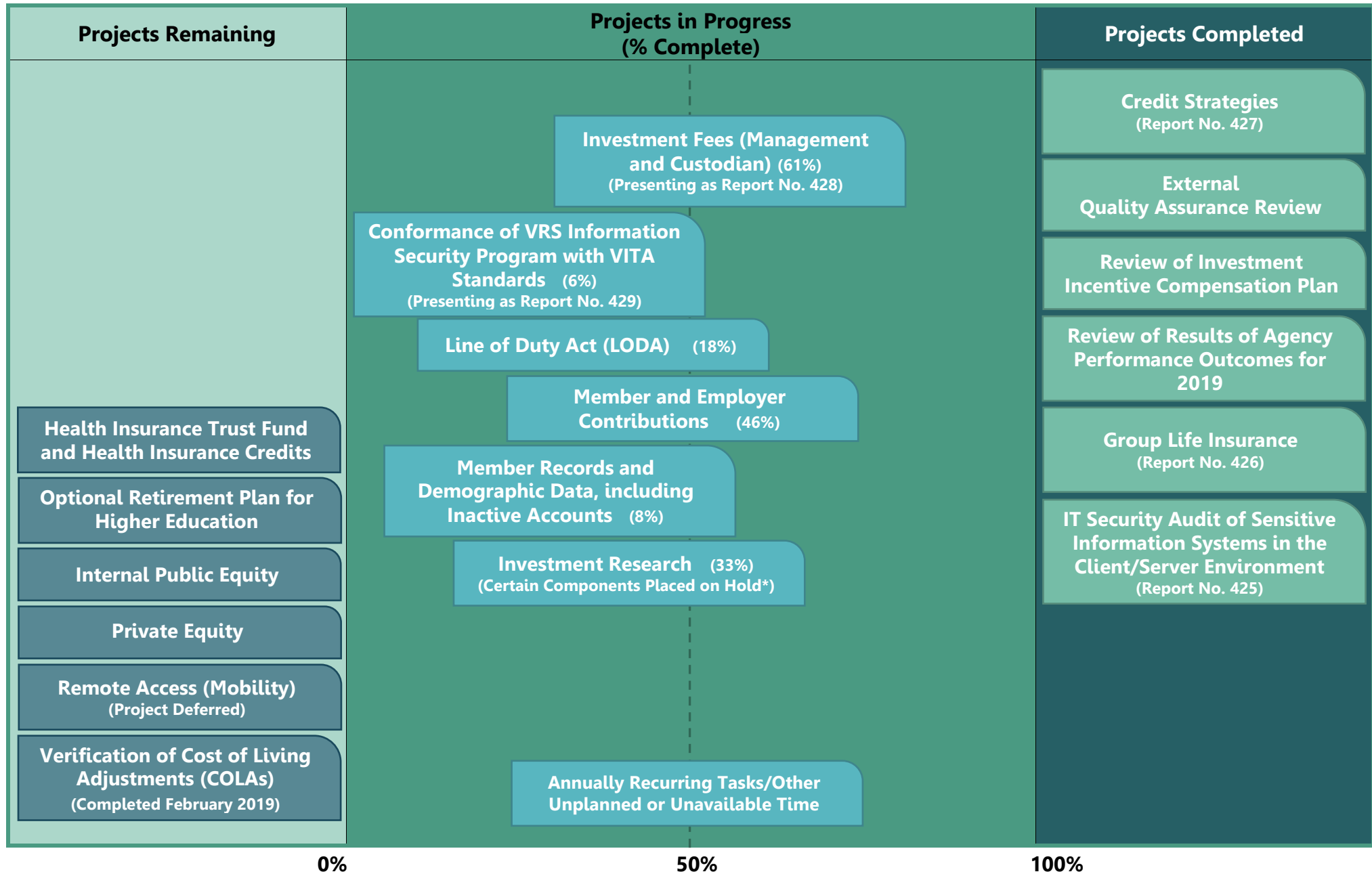
Audit Plan Progress and Long-Range Plan Development

Internal Audit FY 2020 Annual Audit Plan Progress Report

As of December 31, 2019



Fiscal Year 2020 Annual Audit Plan Progress Summary – as of December 31, 2019



As of December 31, 2019, we were on track to complete the Annual Audit Plan, as modified.

*Given the state of emergency, certain adjustments were made at the request of and in coordination with Management which will impact the remaining planned work. The impact of such adjustments are being considered within the development of the proposed LR Plan.

FY 2021 – FY 2024 Long-Range Audit Plan Development Update



Quarterly Reports on Fraud, Waste and Abuse

Report of Alleged Fraud, Waste and Abuse Hotline Cases

**For Complaints Received During the Period
November 1, 2019 through January 31, 2020**

SUMMARY OF CASES REVIEWED AND CLOSED

During the period November 1, 2019 through January 31, 2020, we did not receive any cases of potential Fraud, Waste and Abuse from the Office of the State Inspector General. Nor did we have any other potential cases reported through other avenues. As all previously reported cases have been closed, we provide no further update at this time.

Report of Alleged Fraud, Waste and Abuse Hotline Cases

**For Complaints Received During the Period
February 1, 2020 through April 30, 2020**

SUMMARY OF CASES REVIEWED AND CLOSED

During the period February 1, 2020 through April 30, 2020, we did not receive any cases of potential Fraud, Waste and Abuse from the Office of the State Inspector General. Nor did we have any other potential cases reported through other avenues. As all previously reported cases have been closed, we provide no further update at this time.

Management's Quarterly Travel Expenses and Per Diem Reports



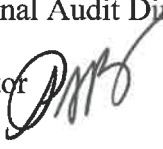
Virginia
Retirement
System

Patricia S. Bishop
Director

1200 East Main Street
P.O. Box 2500
Richmond, VA 23218-2500
Toll-free: 1-888-VARETIR (827-3847)
Website: www.varetire.org
Email: vrs@varetire.org
Fax: 804-786-1541

MEMORANDUM

To: Jennifer P. Schreck, Internal Audit Director

From: Patricia S. Bishop, Director 

Date: February 26, 2020

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 December 31, 2019.
2. Summary of Other Sponsored Travel Related Expenses Paid During the Quarter of and Fiscal Year-to-Date Through December 31, 2019.
3. Schedule of Selected Travel Related Expenses Paid During the Quarter of and Fiscal Year-to-Date Through December 31, 2019.
4. Record of Attendance and Per Diems for the Quarter Ended December 31, 2019.

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

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

PSB/lbk

Attachments

Schedule of Selected Travel Related Expenses
(Board and Committee Members, VRS Executive Staff, and VRS Professional Investment Staff)
Paid During the Quarter Ended December 2019
Fiscal Year-To-Date Through December 2019

Name of Traveler	Current Quarter Costs					Fiscal Year-To-Date Prior Report										Fiscal Year-To-Date					
	Total Travel Expenses			Out of State Travel		Total Travel Expenses			Out of State Travel		Total Travel Expenses			Out of State Travel							
	Sponsor Provided	VRS Provided	Total	Number of Trips	Cost	Purpose						Sponsor Provided	VRS Provided	Total	Number of Trips	Cost	Sponsor Provided	VRS Provided	Total	No. of Trips	Cost
						Out of State	Domestic	Adm/Inv/Spec Mtg	Meet Mtg	Site Visit	Training										
Board of Trustees & Committee Members																					
Beasley, Michael	-	859.00	859.00	-	-							-	1,082.25	1,082.25	-	-	-	1,921.94	1,921.94	-	-
Bell II, J. Brandon	-	1,364.16	1,364.16	-	-							-	454.72	454.72	-	-	-	1,818.88	1,818.88	-	-
Deo, Ravindra	-	274.25	274.25	-	-							-	-	-	-	-	-	274.25	274.25	-	-
Economou, Theodore	-	-	-	-	-							-	985.87	985.87	-	-	-	985.87	985.87	-	-
Harris, Wallace G.	-	15.00	15.00	-	-							-	2,285.36	2,285.36	-	-	-	2,300.36	2,300.36	-	-
Irvin, Shannon	-	141.52	141.52	-	-							-	141.52	141.52	-	-	-	283.04	283.04	-	-
Lewis, Wilbert Bryan	-	574.27	574.27	-	-							-	-	-	-	-	-	574.27	574.27	-	-
McWilliams III, O'Kelly	-	1,233.57	1,233.57	-	-							-	1,441.44	1,441.44	-	-	-	2,675.01	2,675.01	-	-
Montgomery, Joseph	-	324.80	324.80	-	-							-	64.96	64.96	-	-	-	389.76	389.76	-	-
Nason, Mitchell L.	-	640.32	640.32	-	-							-	320.16	320.16	-	-	-	960.48	960.48	-	-
Seward, Troilen	-	2,915.77	2,915.77	1	2,498.17	X						-	2,303.68	2,303.68	-	-	-	5,219.45	5,219.45	1	2,498.17
Staff	-	-	-	-	-							-	-	-	-	-	-	-	-	-	-
Adelaar, Stephen F.	-	11,989.36	11,989.36	1	11,989.36		X		X			-	3,055.67	3,055.67	1	666.51	-	15,045.03	15,045.03	2	12,645.87
Alouf, John	12,839.30	10,661.49	23,500.79	5	10,661.49	X		X				-	2,076.47	2,076.47	2	2,076.47	12,839.30	12,737.96	25,577.26	7	12,737.96
Apte, Advait	-	1,143.15	1,143.15	1	1,143.15		X					-	543.32	543.32	1	543.32	-	1,686.47	1,686.47	2	1,686.47
Baskind, Katherine	5,140.10	2,633.24	7,773.34	7	2,633.24	X		X				-	-	-	-	5,140.10	2,633.24	7,773.34	7	2,633.24	
Behrooz, Parham	-	-	-	-	-							-	2,480.96	2,480.96	-	-	-	2,480.96	2,480.96	-	-
Bennett, Matthew	-	1,074.91	1,074.91	1	1,074.91			X				-	861.51	861.51	1	861.51	-	1,936.42	1,936.42	2	1,936.42
Billingslea, Erica	-	3,023.24	3,023.24	3	3,023.24	X		X	X			-	-	-	-	-	3,023.24	3,023.24	3	3,023.24	
Bishop, Patricia S.	-	3,465.00	3,465.00	2	3,460.00		X	X				-	2,506.34	2,506.34	-	-	-	5,971.34	5,971.34	2	3,460.00
Brooks, Richard	-	715.86	715.86	-	-							-	7,756.53	7,756.53	1	3,185.47	-	8,472.39	8,472.39	1	3,185.47
Chang, Warren	12,265.03	1,318.53	13,583.56	4	1,318.53		X	X				996.93	10.00	1,006.93	1	10.00	13,261.96	13,261.96	14,590.49	5	1,328.53
Coleman, Thomas J.	17,864.52	1,858.95	19,723.47	5	1,734.56	X	X	X				136.54	2,304.46	2,441.00	1	2,253.43	18,001.06	4,163.41	22,164.47	6	3,987.99
Corseello, Perry	1,174.55	2,655.09	3,829.64	3	2,655.09	X	X	X				-	1,071.48	1,071.48	1	1,071.48	1,174.55	3,726.57	4,901.12	4	3,726.57
Faison, Barry	-	4,671.99	4,671.99	2	4,671.99		X					-	-	-	-	-	4,671.99	4,671.99	2	4,671.99	
Gentry, William H.	2,561.65	12,272.53	14,834.18	5	12,272.53	X	X	X				745.63	2,878.60	3,624.23	3	2,878.60	3,307.28	15,151.13	18,458.41	8	15,151.13
Hines, Gregory	-	4,037.71	4,037.71	3	4,037.71		X	X				-	462.52	462.52	1	462.52	-	4,500.23	4,500.23	4	4,500.23
Honrado, Cordell	-	1,177.25	1,177.25	1	1,177.25		X					-	-	-	-	-	1,177.25	1,177.25	1	1,177.25	
Kasarda, Ross	-	-	-	1	984.58		X					-	984.58	984.58	1	984.58	-	984.58	984.58	2	1,969.16
Koutrakos, Kristina	-	1,267.03	1,267.03	2	1,267.03		X	X				-	9,200.34	9,200.34	3	9,200.34	-	10,467.37	10,467.37	5	10,467.37
Le, Vu	-	2,337.85	2,337.85	1	2,337.85		X					-	-	-	-	-	2,337.85	2,337.85	1	2,337.85	
Ma, Chung	-	2,412.80	2,412.80	2	2,412.80		X	X				-	6,246.15	6,246.15	1	986.70	-	8,658.95	8,658.95	3	3,399.50
Macknight, Jennifer	-	-	-	-	-							-	766.35	766.35	1	766.35	-	766.35	766.35	1	766.35
Matoua, Katherine	-	8,745.11	8,745.11	1	8,745.11		X					-	-	-	-	-	8,745.11	8,745.11	1	8,745.11	
Mattson, Curtis M.	-	1,187.70	1,187.70	1	1,187.70			X	X			-	-	-	-	-	1,187.70	1,187.70	1	1,187.70	
Maxfield, Moses	-	-	-	-	-							-	601.85	601.85	1	601.85	-	601.85	601.85	1	601.85
McClelland, Stephen	-	2,240.78	2,240.78	2	2,101.23				X			-	5,060.06	5,060.06	2	3,879.72	-	7,300.84	7,300.84	4	5,980.95
Mootz, Scott M.	-	-	-	-	-							-	11,339.14	11,339.14	2	11,339.14	-	11,339.14	11,339.14	2	11,339.14
Mulvin, Thomas C.	11,710.78	2,391.13	14,101.91	3	1,151.51		X	X		X		-	1,747.30	1,747.30	1	1,568.06	11,710.78	4,138.43	15,849.21	4	2,719.57
Muniz, Alex R.	-	1,978.89	1,978.89	1	1,978.89		X					-	1,411.51	1,411.51	1	1,411.51	-	3,390.40	3,390.40	2	3,390.40
Murphy, James P.	30,863.79	258.00	31,121.79	5	258.00	X	X	X				-	1,417.89	1,417.89	1	1,417.89	30,863.79	1,675.89	32,539.68	6	1,675.89
Nelson, Laurie	-	503.04	503.04	1	503.04					X		-	-	-	-	-	503.04	503.04	1	503.04	
Nguyen, Teresa	-	2,401.39	2,401.39	1	2,401.39		X					-	747.46	747.46	1	747.46	-	3,148.85	3,148.85	2	3,148.85
Noland, Walker	3,353.99	1,373.54	4,727.53	2	117.49			X				-	617.33	617.33	1	617.33	3,353.99	1,990.87	5,344.86	3	734.82
Oliff, Bryan Greg	-	2,888.76	2,888.76	1	1,884.30				X			-	-	-	-	-	2,888.76	2,888.76	1	1,884.30	
Pugliese, Laura	-	-	-	-	-							-	2,370.76	2,370.76	2	2,370.76	-	2,370.76	2,370.76	2	2,370.76
Riley, Edward	-	-	-	-	-							-	1,913.51	1,913.51	1	1,913.51	-	1,913.51	1,913.51	1	1,913.51
Sarki-Hurd, Jummai	11,119.15	2,210.78	13,329.93	2	2,210.78			X		X		3,626.56	1,452.39	5,078.95	3	1,400.52	14,745.71	3,663.17	18,408.88	5	3,611.30
Schlusler, Daniel C.	-	2,545.35	2,545.35	-	-							-	-	-	-	-	-	2,545.35	2,545.35	-	-
Schmitz, Ronald	-	-	-	-	-							-	278.78	278.78	-	-	-	278.78	278.78	-	-
Schreck, Jennifer	-	2,269.79	2,269.79	1	2,269.79		X					-	-	-	-	-	-	2,269.79	2,269.79	1	2,269.79
Tentor, Larry	-	1,128.02	1,128.02	2	1,128.02		X					-	-	-	-	-	-	1,128.02	1,128.02	2	1,128.02
Voeks, Rob	12,372.78	1,959.11	14,331.89	6	1,908.07	X	X	X				326.04	54.57	380.61	1	54.57	12,698.82	2,013.68	14,712.50	7	1,962.64
Whitlock, Daniel	-	2,191.90	2,191.90	1	2,053.47			X	X			-	1,559.80	1,559.80	2	1,559.80	-	3,751.70	3,751.70	3	3,613.27
Wilkinson, Cynthia	-	-	-	-	-							-	2,014.28	2,014.28	-	-	-	2,014.28	2,014.28	-	-
Woodall, Steven	-	3,290.56	3,290.56	2	3,290.56	X			X			-	743.03	743.03	1	743.03	-	4,033.59	4,033.59	3	4,033.59
Zizzo, Nicholas	-	2,683.46	2,683.46	3	2,683.46	X						-	5,568.71	5,568.71	5	5,568.71	-	8,252.17	8,252.17	8	8,252.17
Zozulya, Olga	-	3,132.08	3,132.08	2	3,132.08		X	X				-	874.14	874.14	2	874.14	-	4,006.22	4,006.22	4	4,006.22
Totals	121,265.64	122,438.72	243,704.36	87	110,358.37							5,831.70	92,037.75	97,869.45	46	62,005.28	127,097.34	214,476.47	341,573.81	133	172,363.65

Virginia Retirement System
Summary of Other Sponsored Travel Related Expenses
(Staff Not Otherwise Includable in Quarterly Reporting)
Fiscal Year-To-Date Through December 2019

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

**VRS BOARD OF TRUSTEES AND COMMITTEES
RECORD OF ATTENDANCE & PER DIEMS
FOR 4Q2019**

Month Paid:		Oct-19			Nov-19						Dec-19		Total Days Attended	Per Diem Rate	Per Diem Payments			Total
Member	Area	10/10/19	10/16/19	10/17/19	11/7/19	11/13/19	11/19/19	11/20/19	11/20/19	11/20/19	12/12/19	12/12/19			OCT	NOV	DEC	
J BRANDON BELL, II	BOT	X	-	X	X	X	-	X	-	-	-	X	5	\$ 300.00	\$ 600.00	\$ 900.00	\$ 300.00	\$ 1,800.00
DIANA F. CANTOR	BOT	X	-	X	-	-	-	X	X	X	X	X	3	300.00	600.00	300.00	300.00	1,200.00
WALLACE G. HARRIS	BOT	X	X	X	-	X	X	X	X	X	-	X	6	300.00	900.00	900.00	300.00	2,100.00
W. BRETT HAYES	BOT	X	-	X	X	-	-	X	-	-	-	X	4	300.00	600.00	600.00	300.00	1,500.00
WILLIAM H. LEIGHTY	BOT	X	X	X	-	X	X	X	X	X	X	X	6	300.00	900.00	900.00	300.00	2,100.00
O'KELLY E. MCWILLIAMS, III	BOT	X	X	X	X	X	X	X	X	X	X	X	7	300.00	900.00	1,200.00	300.00	2,400.00
JOSEPH W. MONTGOMERY	BOT	X	-	X	-	X	-	X	X	X	-	X	4	300.00	600.00	600.00	300.00	1,500.00
MITCHELL NASON, Chairman	BOT	X	X	X	-	X	X	X	X	X	-	X	6	300.00	900.00	900.00	300.00	2,100.00
TROILEN G. SEWARD	BOT	X	X	X	-	X	X	X	X	X	-	X	6	300.00	900.00	900.00	300.00	2,100.00
ROBERT C. CARLSON	DCPAC	-	-	-	-	-	-	-	-	-	-	-	-	300.00	-	-	-	-
ALLAN CARMODY (2)	DCPAC	-	-	-	X	-	-	-	-	-	-	-	1	-	-	-	-	-
RIVINDRA DEO	DCPAC	-	-	-	X	-	-	-	-	-	-	-	1	300.00	-	300.00	-	300.00
SHANNON T. IRVIN	DCPAC	-	-	-	X	-	-	-	-	-	-	-	1	300.00	-	300.00	-	300.00
RICK LARSON	DCPAC	-	-	-	X	-	-	-	-	-	-	-	1	300.00	-	300.00	-	300.00
MARGARET MASLAK	DCPAC	-	-	-	X	-	-	-	-	-	-	-	1	300.00	-	300.00	-	300.00
DAVID A. WINTER	DCPAC	-	-	-	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 (1)	IAC	-	-	-	-	X	-	-	-	-	-	-	1	-	-	-	-	-
THOMAS S. GAYNER	IAC	-	-	-	-	X	-	-	-	-	-	-	1	300.00	-	300.00	-	300.00
LAWRENCE E KOCHARD	IAC	X	-	-	-	X	-	-	-	-	-	-	2	300.00	300.00	300.00	-	600.00
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	-	-	-	-
															\$7,200.00	\$10,500.00	\$ 2,700.00	\$ 20,400.00

Number Attending	10	5	9	9	14	5	9	7	7	3	9			
Total Days per Diem Paid (Control Total)	10	5	9	8	13	5	9	0	0	3	6	68	x \$300	= 20,400.00

(1) This individual waived the payment of stipend and per diem payments for meetings attended effective 8/2/15.

(2) This individual waived the payment of per diem payments for meetings attended.

X = Present




Virginia
Retirement
System

P.O. Box 2500, Richmond, VA 23218-2500
Toll-free: 888-827-3847
Website: varetire.org
Email: vrs@varetire.org

Patricia S. Bishop
Director

MEMORANDUM

To: Jennifer P. Schreck, Internal Audit Director
From: Patricia S. Bishop, Director 
Date: May 20, 2020
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 March 31, 2020.
2. Summary of Other Sponsored Travel Related Expenses Paid During the Quarter of and Fiscal Year-to-Date Through March 31, 2020.
3. Schedule of Selected Travel Related Expenses Paid During the Quarter of and Fiscal Year-to-Date Through March 31, 2020.
4. Record of Attendance and Per Diems for the Quarter Ended March 31, 2020.

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

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

PSB/lbk

Attachments

Pugliese, Laura	-	-	-	-	-						-	2,370.76	2,370.76	2	2,370.76	-	2,370.76	2,370.76	2	2,370.76
Riley, Edward	-	1,771.28	1,771.28	1	1,771.28			X			-	1,913.51	1,913.51	1	1,913.51	-	3,684.79	3,684.79	2	3,684.79
Sarki-Hurd, Jummai	-	1,029.51	1,029.51	1	1,029.51	X					14,745.71	3,663.17	18,408.88	5	3,611.30	14,745.71	4,692.68	19,438.39	6	4,640.81
Schlussler, Daniel C.	-	-	-	-	-						-	2,545.35	2,545.35	-	-	-	2,545.35	2,545.35	-	-
Schmitz, Ronald	-	-	-	-	-						-	278.78	278.78	-	-	-	278.78	278.78	-	-
Schreck, Jennifer	-	-	-	-	-						-	2,269.79	2,269.79	1	2,269.79	-	2,269.79	2,269.79	1	2,269.79
Tentor, Larry	-	-	-	-	-						-	1,128.02	1,128.02	2	1,128.02	-	1,128.02	1,128.02	2	1,128.02
Toporkov, Mykyta	-	513.75	513.75	1	513.75	X					-	-	-	-	-	-	513.75	513.75	1	513.75
Voeks, Rob	203.87	62.49	266.36	1	62.49			X	X		12,698.82	2,013.68	14,712.50	7	1,962.64	12,902.69	2,076.17	14,978.86	8	2,025.13
Whitlock, Daniel	-	-	-	-	-						-	3,751.70	3,751.70	3	3,613.27	-	3,751.70	3,751.70	3	3,613.27
Wilkinson, Cynthia	-	-	-	-	-						-	2,014.28	2,014.28	-	-	-	2,014.28	2,014.28	-	-
Woodall, Steven	10,167.53	603.02	10,770.55	1	603.02		X	X			-	4,033.59	4,033.59	3	4,033.59	10,167.53	4,636.61	14,804.14	4	4,636.61
Zizzo, Nicholas	-	990.88	990.88	2	990.88	X					-	8,252.17	8,252.17	8	8,252.17	-	9,243.05	9,243.05	10	9,243.05
Zozulya, Olga	-	732.07	732.07	1	732.07	X					-	4,006.22	4,006.22	4	4,006.22	-	4,738.29	4,738.29	5	4,738.29
Totals	13,268.79	90,565.43	103,834.22	36	81,492.67						127,097.34	214,476.47	341,573.81	133	172,363.65	140,366.13	305,041.90	445,408.03	169	253,856.32

Virginia Retirement System
Summary of Other Sponsored Travel Related Expenses
(Staff Not Otherwise Includable in Quarterly Reporting)
Fiscal Year-To-Date Through March 2020

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

Schedule of Selected Travel Related Expenses
(Board and Committee Members, VRS Executive Staff, and VRS Professional Investment Staff)
Paid During the Quarter Ended March 2020

Name of Traveler	Voucher Number	Date(s) of Travel	Location	Sponsor	Purpose	Sponsor Provided	VRS Provided	Total
Board and Committee Members								
Bell II, J. Brandon	97113	2/12-13/20	Richmond, VA		Attended the VRS Board/ Committee meetings & Benefits/ Actuarial Committee meeting	-	397.98	397.98
Economou, Theodore	96565	11/12-13/19	Richmond, VA		Attended the IAC Meeting	-	1,589.77	1,589.77
Harris, Wallace G.	97147	2/12/20	Richmond, VA		Attended the Benefits and Actuarial Committee meeting	-	15.00	15.00
McWilliams III, O'Kelly	96606	12/17/19	Richmond, VA		Attended VRS Annual Agency meeting	-	243.06	243.06
McWilliams III, O'Kelly	97115	2/12-13/20	Richmond, VA		Attended the VRS Board/ Committee meetings & Benefits/ Actuarial Committee meeting	-	392.94	392.94
Montgomery, Joseph	97119	2/13/20	Richmond, VA		Attended VRS Board/ Committee meetings	-	64.40	64.40
Nason, Mitchell L.	97117	2/12-13/20	Richmond, VA		Attended the VRS Board/ Committee meetings & Benefits/ Actuarial Committee meetings	-	158.70	158.70
Staff								
Alouf, John	96777	1/14-15/20	New York, NY		KKR Asia onsite due diligence	-	725.94	725.94
Alouf, John	97068	2/3-7/20	Staunton, VA		Commonwealth Management Institute	-	2,411.47	2,411.47
Alouf, John	97204	2/12-14/20	San Francisco, CA		Thoma Bravo onsite due diligence and TSG ongoing due diligence	-	1,793.60	1,793.60
Alouf, John	97481	3/1-3/20	San Francisco, CA		Apax Conference in London was cancelled due to coronavirus	-	11,901.77	11,901.77
Apte, Advait	96603	1/2-6/20	San Diego, CA		Attend Allied Social Science Association Annual Meeting	-	2,037.83	2,037.83
Beaton, Farley	97502	2/27-28/20	Reston, VA		Training at Microsoft Technology Center	-	218.50	218.50
Bishop, Patricia S.	97431	3/1-2/20	Washington, DC		Attended the 2020 National Association of State Retirement Administrators winter meeting	-	1,122.61	1,122.61
Chang, Warren	96767	1/8-10/20	London, United Kingdom		ICON Infrastructure - Due Diligence	-	7,171.48	7,171.48
Chang, Warren	97012	1/27-2/2/20	Dana Point, CA		VIP Americas - Institutional Real Estate Conference	-	1,515.31	1,515.31
Chang, Warren	97426	2/13-14/20	New York, NY		Stonepeak Infrastructure - Due Diligence	-	868.87	868.87
Chang, Warren	97535	3/4-5/20	Miami, FL	Morgan Stanley Prime Property	Morgan Stanley Prime Property Fund	987.30	113.13	1,100.43
Corsello, Perry	97485	3/2-4/2020	Orange County, CA	Ares Asset Management	Sponsored Travel for the Ares SOF LPAC/Annual Meetings	1,910.09	21.80	1,931.89
Gentry, William H.	97148	2/11-14/20	Chicago, IL & San Francisco, CA		Attended GTCR's Advisory Board meeting and conducted due diligence on Thoma Bravo XIV	-	2,615.96	2,615.96
Gentry, William H.	97496	3/2-4/20	San Francisco, CA		Attended the Thoma Bravo annual meeting and visited TPG	-	2,246.37	2,246.37
Glass, Holly R.	96806	11/18-23/19	Tokyo, Japan		Taiyo Conference, CEO Roundtable and met with Taiyo portfolio companies	-	11,856.84	11,856.84
Grier, John T.	96563	10/21-23/19	Scottsdale, AZ		Attended TPG annual client conference	-	1,504.25	1,504.25
Grier, John T.	96562	10/28-30/19	San Francisco, CA		Attended Farrallon's annual client conference	-	1,922.97	1,922.97
Honrado, Cordell	97427	2/26/20	Reston, VA		On-site vendor meeting with Microsoft MTC - Demo Surface Hub	-	145.20	145.20
Kennebeck, Joseph	97011	1/27-2/2/20	Miami, FL		Attended Institutional Investors Trader Forum - Equity Trading & FX Trading Summits	-	2,171.79	2,171.79
Koutrakos, Kristina	97122	2/3-7/20	Staunton, VA		Attended VCU Performance Management Group Winter 2020, Commonwealth Management Institute	-	2,371.03	2,371.03
Lazar, Aaron	96605	1/2/20	San Diego, CA		Revised ASSA meeting	-	1,837.60	1,837.60
Ma, Chung	97030	1/11-16/20	Shanghai, China		UBS Greater China Conference 2020 and on-site visits	-	8,143.46	8,143.46
Matoua, Katherine	97231	2/9-12/20	San Diego, CA		Attend Pension Bridge ESG Summit 2020	-	1,829.63	1,829.63
McClelland, Stephen	97203	2/8-13/20	Abu Dhabi		Attended the Milken Institute MEA Summit and GCMAC meeting	-	6,880.83	6,880.83
Mulvin, Thomas C.	97010	1/27-31/20	Dana Point, CA		VIP Americas - Institutional Real Estate Conference	-	1,431.63	1,431.63
Muniz, Alex R.	96604	1/2/20	San Diego, CA		ASSA 2020 Annual Meeting	-	1,503.72	1,503.72
Muniz, Alex R.	97032	2/3-4/20	Boston, MA		Man Group Numeric - Due Diligence	-	499.23	499.23
Murphy, James P.	96776	7/29/19	Boston, MA		On-site due diligence in Boston with TA Select Ops Fund	-	328.20	328.20
Murphy, James P.	96807	1/13-15/20	New York, NY		On-site due diligence in NYC re KKR Asian Fund IV	-	688.35	688.35
Murphy, James P.	97699	3/1-3/20	San Francisco, CA		On-site due diligence in SF Asia Alternative	-	1,410.64	1,410.64
Noland, Walker	97008	1/23-24/20	Toronto, Ontario		ICON Fund V Due Diligence	-	1,067.25	1,067.25
Oliif, Bryan Greg	96651	1/7-8/20	Dallas, TX		Elkind Economics Inc - Emerging Markets Forum	-	1,160.18	1,160.18
Oliif, Bryan Greg	97033	2/3-4/20	Boston, MA		Man Group Numeric - Due Diligence	-	483.14	483.14
Riley, Edward	97069	11/4-6/19	Los Angeles & Newport Beach, CA		Meetings with Payden, Rygel and PIMCO	-	1,771.28	1,771.28
Sarki-Hurd, Jummai	97582	2/12-13/20	Chicago, IL		Harrison Street Due Diligence	-	1,029.51	1,029.51
Toporkov, Mykyta	97031	2/3-4/20	Boston, MA		Man Group - Numeric Due Diligence	-	513.75	513.75
Voeks, Rob	97067	2/4/20	Boston, MA	Arby	Arby Advisory Board Meeting	203.87	62.49	266.36
Woodall, Steven	96778	1/12-18/20	Singapore	SSG	Meetings with BlackRock Asia, Varde Partners, KKR, Farallon, Avenue Capital. Annual LPAC meeting with	10,167.53	603.02	10,770.55
Zizzo, Nicholas	97066	2/4/20	Boston, MA		Operational due diligence meetings	-	291.96	291.96
Zizzo, Nicholas	97230	2/18-19/20	Miami, FL		Operational due diligence meetings	-	698.92	698.92
Zozulya, Olga	96541	12/17-18/19	Boston, MA		On-site property due diligence for Theleme	-	732.07	732.07
Totals						13,268.79	90,565.43	103,834.22

**VRS BOARD OF TRUSTEES AND COMMITTEES
RECORD OF ATTENDANCE & PER DIEMS
FOR 1Q2020**

Month Paid:		Feb-20				Total Days Attended	Per Diem Rate	Per Diem Payments			Total
		2/12/20	2/13/20	2/13/20	2/13/20			Jan	Feb	Mar	
Member	Area	B&A	BOT	A&P	IPC						
J BRANDON BELL, II	BOT	X	X	-	X	2	\$ 300.00	\$ -	\$ 600.00	\$ -	\$ 600.00
DIANA F. CANTOR	BOT	-	X	X	X	1	300.00	-	300.00	-	300.00
WILLIAM A. GARRETT	BOT	-	-	-	-	-	300.00	-	-	-	-
WALLACE G. HARRIS	BOT	X	X	X	X	2	300.00	-	600.00	-	600.00
W. BRETT HAYES	BOT	-	X	-	-	1	300.00	-	300.00	-	300.00
WILLIAM H. LEIGHTY	BOT	-	X	X	X	1	300.00	-	300.00	-	300.00
O'KELLY E. MCWILLIAMS, III	BOT	X	X	X	X	2	300.00	-	600.00	-	600.00
JOSEPH W. MONTGOMERY	BOT	-	X	X	X	1	300.00	-	300.00	-	300.00
MITCHELL NASON, Chairman	BOT	X	X	X	X	2	300.00	-	600.00	-	600.00
TROILEN G. SEWARD	BOT	X	X	-	X	2	300.00	-	600.00	-	600.00
ROBERT C. CARLSON	DCPAC	-	-	-	-	-	300.00	-	-	-	-
ALLAN CARMODY (2)	DCPAC	-	-	-	-	-	-	-	-	-	-
RIVINDRA DEO	DCPAC	-	-	-	-	-	300.00	-	-	-	-
SHANNON T. IRVIN	DCPAC	-	-	-	-	-	300.00	-	-	-	-
RICK LARSON	DCPAC	-	-	-	-	-	300.00	-	-	-	-
MARGARET MASLAK	DCPAC	-	-	-	-	-	300.00	-	-	-	-
KATHERINE T. SEAY	DCPAC	-	-	-	-	-	300.00	-	-	-	-
DAVID A. WINTER	DCPAC	-	-	-	-	-	300.00	-	-	-	-
DEBORAH ALLEN-HEWITT	IAC	-	-	-	-	-	300.00	-	-	-	-
MICHAEL R. BEASLEY	IAC	-	-	-	-	-	300.00	-	-	-	-
THEODORE ECONOMOU (1)	IAC	-	-	-	-	-	-	-	-	-	-
THOMAS S.GAYNER	IAC	-	-	-	-	-	300.00	-	-	-	-
LAWRENCE E KOCHARD	IAC	-	-	-	-	-	300.00	-	-	-	-
NANCY G. LEAKE	IAC	-	-	-	-	-	300.00	-	-	-	-
WILBERT BRYAN LEWIS	IAC	-	-	-	-	-	300.00	-	-	-	-
ROD SMYTH	IAC	-	-	-	-	-	300.00	-	-	-	-
WILLIAM H. WEST	IAC	-	-	-	-	-	300.00	-	-	-	-
								\$ -	\$ 4,200.00	\$ -	\$ 4,200.00

Number Attending	5	9	6	8					
Total Days per Diem Paid (Control Total)	5	9	0	0	14	x \$300	=	4,200.00	

(1) This individual waived the payment of stipend and per diem payments for meetings attended effective 8/2/15.

(2) This individual waived the payment of per diem payments for meetings attended.

X = Present

Miscellaneous Updates



P.O. Box 2500, Richmond, Virginia 23218-2500
Toll-free: 1-888-VARETIR (827-3847)
Website: www.varetire.org

MEMORANDUM

TO: Patricia S. Bishop, VRS Director

FROM: Jennifer P. Bell Schreck, VRS Internal Audit Director

DATE: January 29, 2020

RE: Cost of Living Adjustments (COLAs)

Internal Audit has reviewed the amounts referred to as "Cost of Living Adjustments" as set forth in the attached letter and supporting table from VRS' actuary, Cavanaugh Macdonald Consulting, LLC, dated January 21, 2020.

In conducting our review, we independently recalculated the "Cost of Living Adjustments" using data and procedures provided by management and the actuary, while confirming certain external components associated with such calculations. We also examined the Code of Virginia sections referred to in the actuary's letter and supporting table.

Based upon our review, we found the "Cost of Living Adjustments" in the above referenced letter and table to be valid and accurate, based on the data provided, subject to the assumptions included therein with respect to increases in both VSDP LTD benefits and VSDP and VLDP creditable compensation, where the amounts are not specified by statute, but instead are to be recommended by the actuary and approved by the Board.

Please let me know if you have any questions. I ask that you share this information with the Benefits and Actuarial Committee.

Attachment



Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

January 21, 2020

Mr. Rory Badura, ASA, EA, MAAA
Senior Staff Actuary
Virginia Retirement System
1200 E. Main Street
Richmond, VA 23219

2020 Cost of Living Adjustments

Dear Rory:

As requested, we have calculated the Cost of Living Adjustments (COLAs) called for under Virginia Statutes for VRS, VSDP, and VLDP.

In the table enclosed we present the COLAs to be effective July 1, 2020.

By statute, the VRS COLA is based on the ratio of the average of the monthly CPI-U for the 2019 calendar year (255.657) to the average of the monthly CPI-U for the most recent calendar year used in the determination of a COLA, 2018 calendar year (251.107). The result is 1.81%. The VRS COLA formula is applied to the CPI increase to produce COLAs effective July 1, 2020 of 1.81% for Plan 1 members vested as of January 1, 2013 and 1.81% for Plan 1 members not vested as of January 1, 2013 and all Plan 2 and Hybrid Plan members.

Statute also provides a COLA under the Group Life Insurance program in the minimum \$8,000 life insurance amount for members with at least 30 years of creditable service. The increase is the same percentage as the VRS COLA of 1.81% used for Plan 1 members not vested as of January 1, 2013 and all Plan 2 and Hybrid Plan members. Applying this increase to the prior year minimum of \$8,463, the minimum effective life insurance amount for members with at least 30 years of creditable service will increase to \$8,616 effective July 1, 2020.

The VSDP and VLDP COLAs are required by statute but the actual amounts are set by Board resolution. We have calculated the VSDP increase in creditable compensation for VRS pension benefit purposes based on the approach adopted in 2011. As recommended in 2011, the VSDP creditable compensation COLA is based on the increase in the pay rate for State, SPORS and VaLORS VSDP members active at the beginning and the end of the most recent plan year before the date of determination of the COLA. For 2020, it would be the ratio of the annual pays as of June 30, 2019 to the annual pays as of June 30, 2018 for VSDP members who were active in the State, SPORS and VaLORS plans as of both dates. The COLA calculated in this manner may be modified to reflect extraordinary pay adjustments during a given year. On this basis we have determined a VSDP creditable compensation COLA of 6.85% effective July 1, 2020. Our calculation is based on the data provided by VRS for the June 30, 2018 and 2019 actuarial valuations. Finally, under the current approach the VSDP creditable compensation COLA would be capped at 4.00% per year.

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144

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Mr. Rory Badura
January 21, 2020
Page 2

We used a similar approach to determine the VLDP creditable compensation COLA. That is, we have based the VLDP creditable compensation COLA on the increase in the pay rate for Teachers and non-hazardous Political Subdivision Hybrid plan members active at the beginning and the end of the most recent plan year before the date of determination of the COLA. For 2020, it would be the ratio of the annual pays as of June 30, 2019 to the annual pays as of June 30, 2018 for non-hazardous members who were active in the Teachers and Political Subdivision Hybrid plans as of both dates. The COLA calculated in this manner may be modified to reflect extraordinary pay adjustments during a given year. On this basis we have determined a VLDP creditable compensation COLA of 6.52% effective July 1, 2020. Our calculation is based on the data provided by VRS for the June 30, 2018 and 2019 actuarial valuations. However, as with the current approach with VSDP, we have assumed the VLDP creditable compensation COLA would be capped at 4.00% per year.

We have enclosed a table showing the calculations of the COLAs in detail.

Please let us know if you have any questions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'LL' with a stylized flourish at the end.

Larry Langer, ASA, FCA, EA, MAAA
Principal and Consulting Actuary

Enc.

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**Virginia Retirement System (VRS), Virginia Sickness and Disability Program (VSDP), Virginia Local Disability Program (VLDP)
and Group Life Insurance Program**

Cost of Living Adjustments (COLAs) Recommendations Effective July 1, 2020

Item	Code Section(s)	CPI-U		CPI Increase	COLA Calculation		
		2018	2019		100% of First 3%	50% of Next 4%	COLA (maximum 5%)
VRS COLA - Plan 1 vested as of 1/1/2013 - (100% of the increase in the CPI-U up to 3%, plus 50% of the next 4%, with a maximum COLA of 5%)	51.1-166	251.107	255.657	1.81% *	1.81%	0.00%	1.81%
Item	Code Section(s)	CPI-U		CPI Increase	COLA Calculation		
		2018	2019		100% of First 2%	50% of Next 2%	COLA (maximum 3%)
VRS COLA - Plan 1 non-vested as of 1/1/2013, Plan 2 and Hybrid Plan - (100% of the increase in the CPI-U up to 2%, plus 50% of the next 2%, with a maximum COLA of 3%)	51.1-166	251.107	255.657	1.81%	1.81%	0.00%	1.81%
Item	Code Section(s)	Creditable Compensation		Increase in Pay	COLA Calculation		
		2018	2019		100% of First 4%		COLA (maximum 4%)
VSDP increase in creditable compensation for VRS pension benefit purposes (100% of the increase in the pay over the previous plan year for continuing active VSDP members in the State, SPORS and VaLORS plans, with a maximum COLA of 4%)	51.1-1117 51.1-1123 51.1-1128	\$3,546,691,674	\$3,789,688,338	6.85%	4.00%		4.00%
Item	Code Section(s)	Creditable Compensation		Increase in Pay	COLA Calculation		
		2018	2019		100% of First 4%		COLA (maximum 4%)
VLDP increase in creditable compensation for VRS pension benefit purposes (100% of the increase in the pay over the previous plan year for non-hazardous continuing active members in the Teachers and Political Subdivision Hybrid plans, with a maximum COLA of 4%)	51.1-1161 51.1-1169	\$2,177,450,001	\$2,319,357,590	6.52%	4.00%		4.00%
Item	Code Section(s)				COLA Calculation		
							COLA
VSDP increase in net LTD benefit - Plan 1 vested as of 1/1/2013 - (100% of the VRS COLA for Plan 1 vested as of 1/1/2013)	51.1-1112						1.81%
Item	Code Section(s)				COLA Calculation		
							COLA
VSDP increase in net LTD benefit - Plan 1 non-vested as of 1/1/2013, Plan 2 and Hybrid Plan - (100% of the VRS COLA for Plan 1 non-vested as of 1/1/2013, Plan 2 and Hybrid Plan)	51.1-1112						1.81%
Item	Code Section(s)						COLA
Increase in minimum \$8,000 life insurance amount for members with at least 30 years of creditable service - (100% of the VRS COLA for Plan 1 non-vested as of 1/1/2013, Plan 2 and Hybrid Plan)	51.1-505.B.						1.81%

* CPI-U increase is ratio or percentage increase of CPI-U indices year over year (255.657/251.107 - 1 = 1.81%)