



Ohio Public Employees Retirement System

January 13, 2017

Ms. Bethany Rhodes
Executive Director
Ohio Retirement Study Council
88 East Broad Street, Suite 1175
Columbus, OH 43215

Dear Director Rhodes:

Pursuant to R.C. 145.095, please find enclosed the 2016 Annual Audit Committee Report of the OPERS Retirement Board. This report was reviewed with the OPERS Audit Committee during its meeting on December 20, 2016 and approved by the OPERS Retirement Board on December 21, 2016. The report documents the activities of the OPERS Internal Audit Department for 2016 including:

- Closed Audits with Recommendations
- Closed Audits with No Recommendations
- Active Audits
- Other Audit Related Activity

Also, the OPERS Audit Committee held three (3) meetings during 2016. Following is a summary of the meetings and actions taken:

Meeting Date	Meeting Summary & Action Taken
May 18, 2016	<ul style="list-style-type: none">• Action: The Audit Committee reviewed and approved the Audit Committee and Internal Audit Department charters.• Staff from CliftonLarsonAllen LLP, OPERS' external auditor, discussed the results of the 2015 financial statement audit including the report of management letter comments on internal controls.• An executive summary of internal audit initiatives and activities occurring since December 2015 along with the status of outstanding audit recommendations was presented.
September 27, 2016	<ul style="list-style-type: none">• Action: The Audit Committee reviewed, discussed


Meeting Date	Meeting Summary & Action Taken
	and approved the 2017 Audit Plan. <ul style="list-style-type: none"> • The proposed 2017 operating budget for Internal Audit was presented. • Staff from the Investment Training and Consulting Institute discussed the results of a co-sourced internal audit of Enterprise Risk Management, Investment Compliance and Investments Risk Management.
December 20, 2016	<ul style="list-style-type: none"> • Action: The Audit Committee reviewed and approved the 2016 Annual Audit Committee Report to be provided to the ORSC. • An executive summary of internal audit initiatives and activities occurring since May 2016 along with the status of outstanding audit recommendations was presented.

Please let us know if you need additional information.

Sincerely,



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Ohio Public Employees Retirement System 2016 Annual Audit Committee Report

Closed Audits: Recommendations

Audit Area	Risk Rating ¹	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
Qualified Excess Benefit Arrangements (Jan. 2016)	Mod.	Procedures	A secure network folder should be created with appropriate employees granted read and/or write access to review the worksheets for QEBA participants.	Management agreed and implemented.	Yes	January 2016
		Segregation of Duties	An annual QEBA report/analysis should be completed and provided to senior management and the Board for review and approval. The report should include information regarding participants, contributions, expenses, benefit payments and an analysis of the contribution percentage allocated to the QEBA Plan.	Management agreed and implemented.	Yes	May 2016
Access						
Eligibility						
Benefit Calculations						
Tax Reporting						
Comments: None.						
Disability Benefits (Feb. 2016)	Mod.	Procedures	The rehabilitative services billing should be enhanced to reduce the manual reconciliation process. The automated	Management agreed and will implement.	No	June 2017
Segregation of						

¹ Risk Rating Levels:

High: Requires immediate attention and remediation.

Moderate (Mod.): Requires near-term attention.

Low: Improvements possible but does not require attention in immediate or near-term.

Audit Area	Risk Rating ¹	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
		Duties Access Eligibility Benefit Calculations	validation of all required documents existing in the appropriate case folder should be performed prior to generating the billing report. Management should periodically review the system accesses/user roles for the Disability Benefit Information Tracking (DBIT) system.	Management agreed and implemented.	Yes	February 2016
Comments: None.						
Database Management (Mar. 2016)	Mod.	Procedures Access Change Management Configuration Settings Password Policies Patches & Upgrades	Management should document and implement procedures to verify database schema changes made were authorized, document monitoring controls in place to detect unauthorized changes to DB2 and SQL server. Management should document the personnel that share system administrator (SA) passwords and update such documentation as necessary. In addition, Management should define password parameters to either manually or systematically require SA account password changes. Management should document secure build configuration baselines for VMware, SQL and the windows operating system and perform periodic assessments to match documented secure build configuration baselines to verify that platform configurations	Management agreed and implemented. Management agreed and implemented. Management agreed and implemented.	Yes Yes Yes	February 2016 February 2016 June 2016

Audit Area	Risk Rating ¹	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
			<p>comply with build requirements.</p> <p>Management should complete a baseline review of permissions granted to various technology support teams managing database tables, which allow updates/changes to account level data and should revise current procedures to detect unauthorized changes against the permissions documented in the baseline review.</p> <p>Management should consider creation of a systematic report (or modification of current monitoring reports) to identify changes to DB2 and SQL server and perform a reconciliation of this report to planned and authorized changes.</p> <p>Management should document applications in place that do not allow the use of a service account in the administration group to provide visibility of where the SA account is used.</p>	<p>Management agreed and implemented.</p> <p>Management agreed and implemented.</p> <p>Management agreed and implemented.</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>June 2016</p> <p>June 2016</p> <p>October 2016</p>
Comments: None.						
Change Management (Apr. 2016)	Low	<p>Procedures Authorization</p> <p>Back-Out Plans</p>	Management should complete discussions with stakeholders and update the Change Management Policy.	Management agreed and implemented.	Yes	September 2016

Audit Area	Risk Rating ¹	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
		Comments: None.				
Document Shredding and Recycling (Apr. 2016)	Mod.	Procedures Confidentiality Record Retention	To reduce the risk of sensitive data exposure, Management should provide every floor with locked security containers for document storage until picked up for shredding/recycling. Management should establish a quality assurance process and periodically review the recycling collection locations and shipping/receiving area to ensure that paper scrap was collected as scheduled and sensitive documentation was not left unattended prior to being shredded.	Management agreed and implemented. Management agreed and implemented.	Yes Yes	April 2016 April 2016
		Comments: None.				
Benefit Estimator and Pension Preparation System (Jul. 2016)	Low	Access Benefit Calculations Input Controls Processing Controls Segregation of	Business rules documents should be updated to provide a central, accurate record of current business rules.	Management agreed and will implement.	No	December 2016

Audit Area	Risk Rating ¹	Scope		Recommendations	Management's Response	Implemented	Implementation or Target Implementation
		Duties					
		Comments: None.					
Investment Compliance, Risk Management & Enterprise Investment Risk (Sept. 2016)	Mod.	Procedures	Policies and portfolio guidelines should be reviewed for inconsistencies and updated where appropriate.	Management agreed and will implement.	No	December 2016	
		Risk Management	Investments should create guidelines for Account 1610 in order to ensure the investment of the collateral is appropriate. In addition, Investment Compliance should be ensuring the ratings of the collateral posted are consistent with the agreed upon ratings.	Management agreed and will implement.	No	December 2016	
		Reporting	By policy requirement, all public market separate account portfolios need to have guidelines and be monitored for compliance to the guidelines. Therefore, Investments should create guidelines for the two (9100-DB Cash & 9700-HC Cash) accounts to ensure Investment Compliance can monitor in the future. In addition, Investment Compliance should develop a process to detect new accounts that do not have approved guidelines.	Management agreed and will implement.	No	December 2016	
		Compliance	An automated method should be created to test the leverage limits. If this is not possible, Investment Compliance or Enterprise Investment Risk should develop a method to validate Investment Risk Management's data and calculations	Management agreed and will implement.	No	December 2016	
		Access					
		Data Integrity					

Audit Area	Risk Rating ¹	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
			<p>to ensure they are accurate.</p> <p>Investment Compliance should consider increasing the number of compliance rules that are randomly sampled and verified on a quarterly basis.</p> <p>Investment Compliance should perform and document a periodic review of broker-dealer activity to ensure critical requirements of the Broker-Dealer Policy are being followed. As a part of the 28e approval, Investment Compliance should detail specific steps in their procedures (including documentation requirements) when approving a new Broker for 28e eligibility and/or approving an expenditure to ensure the research being paid for with soft dollars is 28e compliant.</p> <p>Investment Compliance should create a quarterly process to review appropriate access and unauthorized rule changes in all compliance systems.</p> <p>Investment Compliance should develop a random review of the eFront information and the manual adjustments completed by the Investment Division to independently validate compliance with policy and guideline limits.</p> <p>Investment Compliance should receive periodic certifications from Private Equity and Real Estate managers or leverage existing questionnaires to establish a critical due diligence review over external</p>	<p>Management agreed and will implement.</p> <p>Management agreed and will implement.</p>	<p>No</p> <p>No</p>	<p>December 2016</p> <p>December 2016</p>
			<p>Investment Compliance should create a quarterly process to review appropriate access and unauthorized rule changes in all compliance systems.</p>	<p>Management agreed and will implement.</p>	<p>No</p>	<p>March 2017</p>
			<p>Investment Compliance should develop a random review of the eFront information and the manual adjustments completed by the Investment Division to independently validate compliance with policy and guideline limits.</p>	<p>Management agreed and will implement.</p>	<p>No</p>	<p>June 2017</p>
			<p>Investment Compliance should receive periodic certifications from Private Equity and Real Estate managers or leverage existing questionnaires to establish a critical due diligence review over external</p>	<p>Management agreed and will implement.</p>	<p>No</p>	<p>June 2017</p>

Audit Area	Risk Rating ¹	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
			<p>manager compliance with regulations, contract terms and side-letter agreements.</p> <p>Board Compliance Reports, which would include violations to the limits, should be discussed with the Board during the quarterly Enterprise Risk Committee meetings.</p> <p>Enterprise Investment Risk (EIR) should be present at the quarterly internal Investment Risk Committee meetings. EIR and Investment Risk Management (IRM) should plan the Investment Risk Committee agendas together to ensure concerns and critical information from both areas are discussed. In addition, EIR should attend the Investment and Enterprise Risk Committee meetings of the Board. Finally, there should be a coordination and periodic reconciliation of the risk numbers that are reported from both sources (IRM and EIR).</p> <p>OPERS should consider revoking IT staff's write access to eFront and other system's production environment unless it is for legitimate business purposes.</p> <p>A three-system daily reconciliation for positions and market value data between BNY, Bloomberg, and Eagle should be established to ensure completeness and accuracy of data used to determine compliance with regulation, policies and guidelines.</p> <p>Management should consider inputting</p>	<p>Management agreed and will implement.</p> <p>Management agreed and will implement.</p> <p>Management agreed and will implement.</p> <p>Management agreed and will implement.</p> <p>Management agreed and will implement.</p>	<p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p>	<p>June 2017</p> <p>June 2017</p> <p>June 2017</p> <p>September 2017</p> <p>TBD</p>

Audit Area	Risk Rating ¹	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
			<p>manual adjustments and maintaining data for the private equity accounts into the eFront system for adequate support of reported results.</p> <p>Investment Compliance should consider updating the monthly BNY Mellon MNPI post-trade compliance rule to a daily post-trade-check.</p> <p>Investment Compliance should save the daily OFAC compliance screening emails/results as required by procedures.</p> <p>OFAC rules should be an area that all private accounts certify compliance with. Investment Compliance and Legal should modify the current contractual language to ensure this certification is included for Private Equity and Real Estate.</p> <p>Management should consider locking down or password protecting key Excel spreadsheets to prevent unauthorized access and allow information to be reproduced when necessary.</p> <p>Investment Compliance should upload required securities to eCustoms on a quarterly basis to ensure securities held did not violate OPERS' OFAC Policy. OFAC violations could expose OPERS to civil and criminal penalties.</p>	<p>Management agreed and implemented.</p> <p>Management agreed and implemented.</p> <p>Management agreed and implemented.</p> <p>Management agreed and implemented.</p> <p>Management agreed and implemented.</p> <p>Management agreed and implemented.</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>September 2016</p> <p>September 2016</p> <p>September 2016</p> <p>October 2016</p> <p>November 2016</p>
Comments: None.						

Audit Area	Risk Rating ¹	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
Managed Medical Review Organization (Oct. 2016)	Mod.	Procedures Security Business Continuity Access Segregation of Duties Contractual Compliance Performance Standards	Standards should be developed for reporting the use of subcontractors to OPERS. A firewall appliance and obsolete server operating system should be upgraded to limit the risk of sensitive data exposure.	Management agreed and implemented. Management agreed and will implement.	Yes No	November 2016 April 2017
Comments: None.						
Voya Financial (Oct. 2016)	Low	Procedures Security Business Continuity Access Segregation of Duties Contractual Compliance	OPERS should consider creating formal policies and procedures regarding errors and omissions, correction thresholds, details and length of time that member transactions are kept, and initiating a statute of limitations. Voya and OPERS should consider reevaluating the processes and procedures for outstanding checks once they become stale dated, including how often the notices would be sent to members.	Management did not agree and will continue to review exceptions on a case by case basis. Management agreed and will implement.	No No	N/A TBD

Audit Area	Risk Rating ¹	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
		Performance Standards	<p>OPERS should consider reviewing the Voya invoices for accuracy of fees assessed including all performance standards being met.</p> <p>Voya should consider submitting the Participant Services Representative (PSR) reports to OPERS monthly for review with the invoices.</p> <p>Voya should consider including all of the performance standards and measurements listed in the BRD in the monthly Participant Services Representative (PSR) reports or provide a quarterly look-back to ensure all criteria were met.</p> <p>Voya and OPERS should consider additional reporting requirements for checks that are issued, outstanding, presented for payment, cancelled and reissued, as well as associated taxes, in an effort for OPERS to reconcile refunded amounts and outgoing wires.</p> <p>Voya and OPERS should consider utilizing Electronic Fund Transfers or ACHs with appropriate controls to authorize and authenticate recipients, versus physical checks for refunds/retirements, in an effort to eliminate the outstanding checks and the costs associated with follow-up letters and address searches.</p> <p>OPERS should consider reviewing accounts for members aged 70 ½ (i.e. A-4 flags) to ensure communications to the</p>	<p>Management agreed and will implement.</p> <p>Management agreed and will implement.</p> <p>Management agreed and will implement.</p> <p>Management agreed and will implement.</p> <p>Management agreed and will implement.</p> <p>Management agreed and will implement.</p>	<p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p>	<p>December 2016</p> <p>February 2017</p> <p>February 2017</p> <p>September 2017</p> <p>December 2017</p> <p>September 2016</p>

Audit Area	Risk Rating ¹	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
			members and the required minimum distributions and/or refund/pension is processed in an accurate and timely manner.	Management agreed and implemented.	Yes	October 2016
			Voya and OPERS should document who incorporates changes to the Business Requirements Document (BRD) and other DC documents/websites when processes and procedures are changed to ensure contracts and communication materials remain current.	Management agreed and implemented.	Yes	October 2016
			Voya and OPERS should document who incorporates changes to the Business Requirements Document (BRD) and other DC documents/websites when processes and procedures are changed to ensure contracts and communication materials remain current.	Management agreed and implemented.	Yes	October 2016
			Voya and OPERS should consider additional controls to detect share differences on the Daily Activity/EARS report to ensure all transactions (including loss of earnings activity) are traded and NAVs are accurate, unless an exception is noted.	Management agreed and implemented.	Yes	October 2016
			Voya should consider uploading the outstanding check reports to Sponsor Web on a monthly basis versus quarterly as per the business requirement document.	Management agreed and implemented.	Yes	October 2016
			Voya and OPERS should consider creating a calendar for critical and special processes.	Management agreed and implemented.	Yes	December 2016

Audit Area	Risk Rating ¹	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
		Comments: None.				
Health Care Medicare Connector (Nov. 2016)	Mod.	Procedures Security Business Continuity Access Segregation of Duties Contractual Compliance Performance Standards	Management should provide processors with additional guidance on business rules applicable to re-employed retirees and periodically review manual changes for compliance.	Management agreed and implemented.	Yes	November 2016
		Comments: None.				

Closed Audits: No Recommendations

Audit Area	Risk Rating	Scope	Management's Response
Charles River Development Upgrade	Low	Project Governance Internal Control Requirements	Not applicable.

Audit Area	Risk Rating	Scope	Management's Response
(Feb. 2016)		<p>User Acceptance Testing</p> <p>Training</p> <p>Comments: The audit determined: responsibility for the project was assigned to senior management; the steering committee/project team monitored and provided reports on the progress of the project; adequate time was devoted to testing and remediation of issues prior to implementation; training was provided to impacted departments/staff prior to implementation.</p>	
<p>Disaster Recovery & Business Continuity Test (Mar. 2016)</p>	Low	<p>Procedures</p> <p>Recovery Point Objectives</p> <p>Recovery Time Objectives</p> <p>Communication</p> <p>Comments: The disaster recovery and business continuity exercise/test was successful.</p>	Not applicable.
<p>Investment Performance & Incentive Compensation Award Calculations for 2015 (Apr. 2016)</p>	Low	<p>Investment Performance Returns</p> <p>Incentive Compensation Award Calculations</p> <p>Comments: All incentive compensation awards for 2015 were calculated and paid in accordance with the policies and procedures.</p>	Not applicable.
<p>Personal Trading Policy (Apr. 2016)</p>	Low	<p>Policies</p> <p>Procedures</p> <p>Compliance</p>	Not applicable.

Audit Area	Risk Rating	Scope	Management's Response
		Comments: The audit determined that the policies/procedures regarding personal trading activity were being adhered to.	

Active Audits

Audit Area	Risk Rating	Scope	Target Completion
Member Assessment	Mod.	Procedures; Benefit Calculations; Member Enrollment; Segregation of Duties; Plan Selection; Redeposits	January 2017
Defined Contribution – Rebalancing and Pricing	Mod.	Procedures; Error Resolution; Price Recalculation	January 2017
Retiree Medical Account	Mod.	Procedures; Processing Controls; Financial Reporting/Accounting; Segregation of Duties; Security; Business Continuity; Data Transfer/Conversion; Claims Processing; Vesting; Eligibility	February 2017
Pension System	Mod.	Access; Segregation of Duties; Security; Processing Controls	February 2017
Reconciliation System	Mod.	Access; Procedures; Financial Reporting; Accuracy	March 2017
Paperless Accounts Payable System	Mod.	Project Governance; Internal Control Requirements; User Acceptance Testing; Training	March 2017
Budgeting System	Mod.	Project Governance; Internal Control Requirements; User Acceptance Testing; Training	May 2017

Other Audit Related Activity

Area	Risk Rating	Subject/Project	Description
External Quality Assessment (QA)	Low	Standards	The principal objective of the QA was to assess OPERS Internal Audit's conformance to The Institute of Internal Auditors' <i>International Standards for the Professional Practice of Internal Auditing</i> .
Expenses, Benefits & Investments	Low	Continuous Auditing	Monthly review of various processes/indicators to identify exceptions and trends that may prompt a more detailed review.
Information Technology Security	Mod.	Information Systems Security Assessment	The scope of the engagement included an assessment of the internet-facing and internal networks, web-applications and mainframe security.
Health Care Claims Review	Mod.	Health Care Vendor(s)	The scope of the engagement included an assessment of claims paid and an operational review.

Composition of Audit Committee at end of reporting year (R.C. 145.095)

John Maurer, Representative for Retirees
 Cinthia Sledz, Representative for Miscellaneous Employees
 Chris Mabe, Representative for State Employees
 Robert Blair, Department of Administrative Services
 C.J. Latsa, Representative for Non-Teaching College/University Employees