



STATE TEACHERS  
RETIREMENT SYSTEM  
OF OHIO

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March 24, 2017

Ms. Bethany Rhodes, Director  
Ohio Retirement Study Council  
30 E. Broad St.  
2nd Floor  
Columbus, OH 43215

RETIREMENT BOARD CHAIR  
ROBERT STEIN  
RETIREMENT BOARD VICE CHAIR  
MARK HILL  
EXECUTIVE DIRECTOR  
MICHAEL J. NEHF

Dear Bethany:

Pursuant to Substitute Senate Bill 133 and as required by Section 3307.044 of the Ohio Revised Code, enclosed is a report of the actions of the Audit Committee of the State Teachers Retirement Board for calendar year 2016.

Please don't hesitate to contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Michael J. Nehf', written in a cursive style.

Michael J. Nehf  
Executive Director

Enclosure

To: Ohio Retirement Study Council (ORSC)

Subject: STRS Ohio Audit Committee Report – 2016

Date: March 21, 2017

As required by Section 3307.044 of the Ohio Revised Code, the following report outlines the activities of the STRS Ohio Audit Committee and the STRS Ohio Internal Audit Department for the year ending Dec. 31, 2016. This report outlines the following: audit reviews completed during 2016; STRS Ohio Audit Committee meetings and actions; special reviews completed during 2016; and the 2017 Internal Audit Plan. Audit Committee members during 2016 were Robert Stein (Chair/Liaison), Tim Myers (Vice Chair/Liaison), Craig Brooks, Wade Steen, Mark Hill (non-voting observer).

### **Audit Reviews Completed During 2016**

The attached 2016 Internal Audit Summary lists the audits performed, the scope for each audit, the recommendations to management, management's response and expected implementation dates. The Internal Audit Summaries were provided to all State Teachers Retirement Board Members in March, August and December 2016.

### **STRS Ohio Audit Committee Meetings and Actions**

*The Audit Committee met on Aug. 18, 2016, at 8:00 a.m.* Committee members present were Ms. Correthers, Mr. Myers, Mr. Brooks, Mr. Hill, and Mr. McGreevy. Board member Mr. Stein was also in attendance. Staff present included Mr. Nehf, Mr. Snyder, Ms. Hoover, Mr. Tackett, Mr. Vance and Mr. Licata.

Mr. Snyder informed the committee that the contract with CliftonLarsonAllen has been renewed for four years. He introduced Kevin Rohrs of CliftonLarsonAllen, to present the summary of their plan for the 2015-16 financial statement audit and tentative schedule for issuing an audit report and management letter. Their overall risk assessment on this engagement is moderate, and CliftonLarsonAllen identified investments, contributions, benefit payments and actuarial assumptions as critical audit areas. The final audit report, including management letter, will be presented to the Audit Committee in December.

Mr. Tackett informed the committee that there were no material findings and that there was full cooperation from management. Management has accepted all recommendations and is in various stages of action planning or implementation. The committee reviewed and discussed the Quarterly Internal Audit Summary. The next update will be presented to the Audit Committee at the December meeting. All 2016 audit activity will be summarized and the 2017 Internal Audit Plan will be presented at that time.

The meeting adjourned at approximately 8:50 a.m.

Upon roll call, the vote was as follows: Mr. Stein, yes; Mr. Price, yes; Mr. Brooks, yes; Ms. Correthers, yes; Ms. Hayden, yes; Mr. Hill, yes; Mr. Mayerfeld, yes; Mr. McGreevy, yes; Mr. Myers, yes; Mr. Sheppard, yes; Mr. Steen, yes. Motion carried.

*The Audit Committee met on Dec. 15, 2016, at 8:00 a.m.* Committee members present were Mr. Stein, Mr. Myers, Mr. Brooks and Mr. Steen. Board member Mr. Hill was also in attendance. Staff present included Mr. Nehf, Mr. Snyder, Ms. Hoover, Mr. Tackett, Mr. Vance and Mr. Licata.

The chair recognized Mr. Tackett to begin the report. Mr. Tackett informed the committee that the recommendations listed on the 2016 Internal Audit Summary have been implemented by management and staff or are in process of completion.

Mr. Tackett reviewed the Executive Summary of the 2017 Internal Audit Schedule, risk factors and risk assessment scale.

Mr. Vance explained that a new audit, where no previous audit was performed, is assigned a risk factor score of 5. Additionally, Mr. Vance provided updated audit detail for several audits from the 2016 Internal Audit Summary.

Mr. Snyder introduced Kevin Rohrs from CliftonLarsonAllen.

Mr. Brooks moved, seconded by Mr. Myers, to enter executive session under authority of Division (G)(5) of Section 121.22 of the Revised Code for the purpose of discussing matters required to be kept confidential by federal law or state statutes.

Upon roll call, the vote was as follows: Mr. Brooks, yes; Mr. Myers, yes; Mr. Steen, yes; Mr. Stein, yes. Motion carried.

Public session resumed and the Audit Committee meeting was adjourned at 9:15 a.m.

Upon roll call, the vote was as follows: Mr. Stein, yes; Mr. Brooks, yes; Ms. Hayden, yes; Mr. Hill, yes; Mr. McGreevy, yes; Mr. Myers, yes; Mr. Price, yes; Mr. Steen, yes; Ms. Wickham, yes. Motion carried.

### **Special Reviews/Projects**

See 2016 Internal Audit Summary: "Building Services Special Review"

### **2017 Internal Audit Plan**

The 2017 Internal Audit Plan was approved by the STRS Ohio Board on December 15, 2016. A copy of the 2017 Plan is enclosed.

If you have any questions or need further information, please feel free to call me at (614) 227-2821.

Respectfully submitted,



David S. Tackett, CFA, CPA, CIA  
Chief Audit Executive

## 2016 Internal Audit Summary

### Closed Audits: Recommendations

Audit Area	Risk Rating	Scope	Recommendations	Management's Response	Implemented	Implementation or Target Implementation
Alternative Investments*	Medium	Private Equity: Due Diligence  Monitoring  Valuations	Develop a formal process to monitor private equity fees as soon as possible.	Agree	No	12/31/2016
Building Services Special Review	Medium	Project Planning  Cost/Benefit Consideration  RFP and Bid Process - Policy Compliance  Time to Completion	Finance Dept. provide secondary review and signoff on cost/benefit analyses performed by Building Services Dept.  Determine type and cost threshold that would warrant cost/benefit analysis.  Revisit the topic of contract review requirements and expectations with STRS Ohio associates.  Require that each bid reviewer sign and date sealed bids received by STRS Ohio.	Agree  Agree  Agree  Agree	In Progress	Being coordinated by the Executive Director. Completion date to be determined.
Comments: Non-scheduled audit - Sidewalk Project						
Business Continuity Plan (BCP)*	Medium	Compliance  Monitoring & Testing	Continue to implement the recommendations of the Gartner Group.  Conduct enterprise BCP drill on a periodic basis.	Agree  Agree	No <sup>1</sup>  No <sup>2</sup>	Multiple Dates  Under Mgmt. Review
Comments: For reporting purposes, the audit will be listed as "Closed". Internal Audit will follow-up and report on phased implementation progress. <sup>1</sup> Numerous Gartner recommendations have phased implementation dates. <sup>2</sup> Recommendation under management review (cost/benefit analysis of larger-scale testing impact on operations).						
Domestic Equities*	Medium	Compliance with Investment Policy  Monitoring of External Portfolio Managers  Investment Management Fees  Reporting/Accounting  Research Costs  Approved Brokers  Custodian	Have an associate, independent of the STRS Ohio traders, review the initial transaction cost analysis.  Document the transaction cost analysis process and train other associates as backups.  Formally adopt departmental policies and procedures and share with all necessary associates.  Conduct testing of external manager fees to provide reasonable assurance of contract compliance.	Agree  Agree  Agree  Agree	Yes  Yes  Yes  Yes	12/31/2015  12/31/2015  12/31/2015  01/15/2016
Comments: *Active as of the time of the last Annual Audit Committee Meeting.						
Fixed Income Investments*	Low	Due Diligence  Approved Brokers/Commissions  Accuracy of Pricing  Interest Income  Monitoring of External Managers  Compliance with Investments Policies	Fixed Income and ITS departments work together to determine where beneficial changes can be made to the current file system.	Agree	In Progress	12/31/2016
I.T. Security: Access Review	Medium	Password Settings  User Access  Physical Access  Logical Access  Privileged Access	Change initial passwords after first-time use to comply with the STRS Ohio Information Security Handbook and industry best practices.  Document current security/password policies and procedures for applications, data, and systems to include members, benefit recipients, employers and property managers access requirements.	Agree  Agree	Yes  Yes	07/15/2016  07/15/2016
Real Estate*	Medium	Compliance  Monitoring & Testing	Establish clear guidelines on the process for resolving issues identified in the Site - Inspection Reports.	Agree	Yes	7/1/2016

Closed Audits: No Recommendations

Audit Area	Risk Rating	Scope	Management's Response
Accounts Payable*	N/A	Vendor Approval Process Vendor Payment History Compliance with Policy Segregation of Duties	
Attendance Reporting*	N/A	Accuracy Compliance with Policy	
Board Expenses 2015*	N/A	Preapproval of Travel Accuracy of Reimbursements General Compliance with Rules/Policies	
Board Expenses 2016	N/A	Preapproval of Travel Accuracy of Reimbursements General Compliance with Rules/Policies	
Benefit Payment Process	N/A	Accuracy of Monthly Forecast Reconciliations G/L Postings Segregation of Duties	
Building Maintenance*	N/A	Purchase of Goods and Services Preventative Maintenance Associate Training	
Fixed Assets - Computer Equipment*	N/A	Purchasing Accuracy of Inventory Records Disposition	
Flexible Spending	N/A	Withholdings Disbursements Comments: No official recommendation but Internal Audit did suggest consideration of electronic document management.	
IT Security: B.Y.O.D. (Bring Your Own Device)*	N/A	Compliance	
OEC Reporting*	N/A	Compliance	
Performance/PBI Review	N/A	Associate Eligibility Compliance with PBI Policy	
Postage*	N/A	Compliance with Policies and Procedures Disbursements	
Unused Sick & Vacation Leave	N/A	Compliance with Rules/Policies Accuracy of Payments Disposition	

## Active Audits

Audit Area	Risk Rating	Scope	Target Completion
Alternative Investments	N/A	Opportunistic Diversified: Due Diligence  Proper Notification and Approval  Monitoring  Valuations	February-17
Associate Payroll	N/A	State and Federal Tax Regulations  Access to Payroll Database  Accuracy of Associate Net Pay  Immigration Guidelines/Compliance	December-16
Contribution Reporting	N/A	Foundation Management  Employee Contribution Management  Segregation of Duties  Annual Report Management  G/L Postings	January-17
Defined Contribution Plan	N/A	Processing of Retirement Plan Selection Forms  NRS Contract Compliance  Accuracy of Member Statements  Segregation of Duties	January-17
Derivatives	N/A	Semi-Annual Derivative Exp. Report  Currency Forward Settlements  Equity Swap Settlements  Counterpart Risk  Equity SWAP Collateral  Segregation of Duties	August-16
Domestic Equities 2016	N/A	Compliance with Investment Policy  Monitoring of External Portfolio Managers  Investment Management Fees  Reporting/Accounting  Research Costs  Approved Brokers	March-17
Educational Assistance	N/A	Compliance with Established Policies/Procedures	December-16
International Investing	N/A	External Manager Fees  Monitoring of External Managers  Foreign Tax Reclamations  Sub-Custodian Controls	December-16
IT Security: Change Control	N/A	Authorized Changes  Change Validation  Change Approval Process  Change Monitoring Process  Segregation of Duties	October-16
Member Records Mgmt.	N/A	Compliance with Policies/Procedures  Imaging - Quality Control  Off-Site Storage Facility Inspections  Disaster Recovery Consideration	December-16
Purchasing Practices	N/A	Compliance with Policies and Procedures  Receipt of Goods and Services	December-16

Purchasing Service Credit	N/A	STaRS Access Certifications and Cost Calculations Member Applications Compliance with the Ohio Revised Code Posting of Purchased Service Credit Payments Free Military Service Credits	December-16
Purchase Service Credit: Payroll Deduction	N/A	Member Applications Processing of Payroll Deduction Segregation of Duties Payroll Deduction Refunds	January-17
Reemployed Retirees	N/A	Compliance with Ohio Revised Code Violations/ Collections Calculation Input Controls (STaRS)	January-17
STRS Ohio Self-Insurance Plan	N/A	Stop-Loss Coverage Administrative Services Fee Shared Savings Segregation of Duties Monitoring of Health Insurance Costs	January-17

### Postponed Audits

Member Service Center	N/A	Associate Training Scheduling for Call Coverage Associate Mentoring Key Performance Indicators <i>Comment:</i> Reprioritized higher risk reviews resulting in the placement of this audit in the 2017 Internal Audit Plan	N/A
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### Other Audit Related Activity

Area	Risk Rating	Subject/Project	Description
I.T.S.	N/A	STaRS Upgrade	Consult with ITS and the user community on the security functionality and needs of the system.
Multi-departmental	N/A	DLP (Data Loss Prevention)	Participate on the DLP Committee to implement, monitor and evaluate the data loss prevention as it should function at STRS Ohio.
Multi-departmental	N/A	STRS Ohio Disaster Recovery	Participate in disaster recovery testing review. Strategize on business and human resource needs.

\* Audits were listed as "Under Mgmt. Review", "In Progress", "Audit Initiated", or had not implemented recommendation(s) at the time of the last Annual Audit Summary presentation.

**Risk Rating Level:** (Refers to rating assigned to findings/recommendations)

High: Requires Immediate attention and remediation.

Medium (Med.): Requires near-term attention.

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

**Composition of Current Audit Committee:**

Robert Stein, Chair/Liaison - Retired Member

Tim Myers, Vice Chair/Asst. Liaison - Active Member

Craig Brooks, Appointee

Wade Steen, Appointee

Mark Hill, Appointee/Non-Voting Observer



# 2017 Internal Audit Plan



# INTERNAL AUDIT DEPARTMENT

## **Mission Statement**

To work in partnership with associates to conduct value-added independent appraisals of policies and procedures to contribute to the continuous improvement of STRS Ohio.

## **Vision Statement**

To be recognized as an innovative department that, through independent appraisals and partnered solutions, strives for quality enhancements and the elimination of non-value-added processes.

To create an environment that encourages teamwork, innovation, open communication, empowerment and personal and professional growth.

## **Guiding Principles**

To achieve our mission and vision, we will:

- Prepare a comprehensive, practical, planned program of audit coverage consistent with STRS Ohio's mission, vision and guiding principles.
- Perform audits in compliance with the International Standards for the Professional Practice of Internal Auditing.
- Verify the adequacy and effectiveness of STRS Ohio's systems of administrative, operating and financial controls.
- Understand the associates' business from their perspective.
- Produce objective, clear, concise, constructive and timely reports.
- Maintain contemporary professional proficiency through continuing education and training.
- Seek to continuously improve our team, tools and processes.
- Develop professional expertise for potential career opportunities within STRS Ohio.

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# 2017 INTERNAL AUDIT SCHEDULE

Audit Area	Description of Audit Area	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
<b>Securities Lending</b>	Policies and Procedures	■											
	Compliance												
	Reinvestment of Cash Collateral												
	Accuracy of Income												
	Approved Borrowers												
	Reconciliation of Monthly Earnings Report												
<b>Service Retirement Benefits</b>	Department Process Documentation		■										
	Benefit Calculations												
	Management of Overpayments												
	Segregation of Duties												
<b>I.T. Operations</b>	Data Backup		■										
	Scheduling												
	Incident Management												
<b>Annual Statements</b>	Accuracy of Member Information		■										
	Accuracy and Security of Statements												
	External Contracts												
	Segregation of Duties												
<b>Insurance/Risk Management</b>	Compliance with the STRS Ohio Insurance and Risk Management Manual			■									
	Adequacy of Existing Insurance Policies												
	Adequacy of Carrier's Ratings												
	Accuracy of Premium Payments												
	Segregation of Duties												
<b>Other Staff Expenses</b>	Compliance with Policies			■									
	Accuracy of Board Reporting												
<b>Petty Cash/Café Operations</b>	Compliance with Policies/Procedures				■								
	Segregation of Duties												
	Proper Cash Handling												
	Physical Security												
	Sufficiency of the Audit Trail												
<b>Associate Travel Expenses</b>	Prior Authorization to Travel				■								
	Compliance with STRS Ohio Travel Policy												
	Approval/Payment of Travel Expenses												
<b>Member Withdrawals</b>	Compliance with the Ohio Revised Code					■							
	Refund Estimates												
	Refund Payments												
	1099R's												
	Non-Zero Accounts												
	Segregation of Duties												

# 2017 INTERNAL AUDIT SCHEDULE

Audit Area	Description of Audit Area	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
<b>I.T. PeopleSoft Security</b>	Password/Access Controls				■								
	Configuration Controls				■								
	Application Level Security				■								
<b>Personal Investment Disclosure</b>	Compliance with Policies					■							
	Accuracy/Completeness					■							
<b>Liquidity Reserves</b>	Compliance with Policies						■						
	Income						■						
	Purchases/Sales						■						
<b>Survivor Benefits</b>	Benefit Calculations						■						
	Student Benefits						■						
	Segregation of Duties						■						
<b>Real Estate</b>	Property Manager Fees						■						
	Property-Level Expenses						■						
	External Compliance Reviews						■						
	Site Inspections						■						
	Tenant Surveys						■						
	Valuations						■						
	Due Diligence						■						
	Compliance with Policies and Procedures						■						
<b>I.T.S. Previous Audit Follow-up</b>	BYOD: Compliance with Audit Recommendation						■						
	AIX Windows: Compliance with Audit Recommendation						■						
	BCP: Compliance with Audit Recommendation						■						
<b>Member Income Taxes</b>	Withholding Change Reconciliations								■				
	Tax Interface Reconciliations								■				
	Segregation of Duties								■				
<b>Performance/PBI Review</b>	Associate Eligibility								■				
	Compliance with PBI Policy								■				
<b>Board Expenses</b>	Preapproval of Travel									■			
	Accuracy of Reimbursement									■			
	Compliance with Rules/Policies									■			
<b>Alternative Investments: Private Equity</b>	Due Diligence										■		
	Monitoring										■		
	General Partner Fees										■		
	Valuations										■		
<b>Member Services Center</b>	Associate Training												■
	Scheduling												■
	Performance Monitoring												■
	Key Performance Indicators												■

# RISK FACTORS

<b>RISK FACTOR</b>	<b>RISK FACTOR DESCRIPTION</b>	<b>WEIGHTING</b>
A	Adequacy and Effectiveness of the System of Internal Controls	9
B	Major Changes in Technology, Operations, the Organization or the Economy	8
C	Dates and Results of Previous Audits	7
D	Recent or Relevant Changes in Key Personnel	6
E	Complexity or Volatility of Activities	5
F	Asset Size or Transaction Volume	4

# RISK ASSESSMENT SCALE

The risk assessment scale is a 9-point system with graduations of risk as follows:

<b>RISK FACTOR DESCRIPTION</b>	<b>SCORE</b>
Extremely Risky	9
Very Risky	7
Risky	5*
Slightly Risky	3
Not Risky	1

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\* If no previous audit was performed, the auditable area was assessed a 5 — Risky.

# ASSIGNMENT OF RISK RATING

Audit Area	Risk Factors*						Total
	A	B	C	D	E	F	
<b>ADMINISTRATION</b>							
Associate Payroll	2	2	2	2	2	2	12
Associate Travel Expenses	2	1	1	2	2	2	10
Attendance Reporting	2	2	2	2	2	3	13
Benefit Payment Process	3	4	3	3	3	3	19
Board Expenses	1	1	1	2	1	1	7
Building Maintenance	2	2	2	2	2	4	14
Business Continuity Plan	3	3	3	3	4	3	19
Child Care Center	2	2	2	2	2	1	11
Educational Assistance Program	2	2	2	2	2	2	12
Fixed Assets — Computer Equip.	3	4	2	3	3	4	19
Flexible Spending Plans	2	2	2	2	3	2	13
Insurance/Risk Management	2	2	1	2	2	2	11
OEC Reporting	1	2	1	2	2	1	9
Other Staff Expenses	2	2	2	1	1	1	9
Personal Investment Disclosure	3	2	4	2	3	2	16
Postage	3	2	2	1	2	3	13
Purchasing Practices	3	2	3	2	2	3	15
STRS Ohio Self Insurance Plan	3	3	3	2	3	3	17
Unused Sick and Vacation Leave	2	1	2	2	2	1	10

\* See Page 3 for description of risk factors.

# ASSIGNMENT OF RISK RATING

Audit Area	Risk Factors*						Total
	A	B	C	D	E	F	
<b>FINANCE</b>							
Accounts Payable	2	1	2	1	2	2	10
Annual Reporting	2	3	2	2	2	2	13
Contribution Reporting	2	3	2	2	2	3	14
Financial Reporting (STRS Ohio)	3	3	2	2	4	4	18
Fixed Assets	3	2	3	4	2	2	16
Member Income Taxes	4	4	2	2	3	4	19
Member Withdrawals	2	2	2	2	2	2	12
Petty Cash/Café Operations	2	2	2	3	1	1	11
Purchasing Service Credit by Payroll Deduction	2	4	2	2	3	2	15

Audit Area	Risk Factors*						Total
	A	B	C	D	E	F	
<b>INFORMATION TECHNOLOGY SERVICES</b>							
AIX/ Windows Security	5	3	5	1	5	5	24
Compliance: B.Y.O.D.	5	3	5	1	5	5	24
Database Security	5	3	5	1	5	5	24
I.T. Operations	5	3	5	1	5	5	24
I.T. Security: Change Control	5	3	3	3	5	5	24
I.T. Security: Logical/Physical Access	5	3	3	1	5	5	22
I.T. Security: HIPAA	5	3	5	1	5	5	24
I.T. Security: PeopleSoft Security	5	5	5	5	5	5	30

\* See Page 3 for description of risk factors.



# ASSIGNMENT OF RISK RATING

Audit Area	Risk Factors*						Total
	A	B	C	D	E	F	
<b>INVESTMENTS</b>							
Alternative Investments	4	3	3	2	4	4	20
Derivatives	3	4	2	3	4	3	19
Domestic Equities	3	4	2	2	4	5	20
Fixed Income	2	4	2	3	3	3	17
International Investing	5	5	2	1	4	4	21
Investment Performance	2	2	2	2	3	2	13
Liquidity Reserves	1	2	1	1	2	4	11
Proxy Voting	2	1	1	1	2	2	9
Real Estate	3	4	3	3	3	3	19
Securities Lending	2	4	2	2	3	4	17

Audit Area	Risk Factors*						Total
	A	B	C	D	E	F	
<b>MEMBER BENEFITS</b>							
Annual Statements	3	4	2	2	2	2	15
Benefit Services	3	4	2	2	2	2	15
Defined Contribution Plan	2	2	2	2	2	2	12
Disability Benefits	3	2	2	4	2	3	16
Health Care	3	2	2	2	3	4	16
Member Data Management	3	4	4	2	2	2	17
Member Records Management	2	2	2	2	2	2	12
Member Services Center	2	2	2	1	2	2	11
Purchasing Service Credit	2	3	2	2	3	2	14
Reemployed Retirees	3	4	3	3	2	2	17
Service Retirement Benefits	2	4	2	3	3	4	18
Survivor Benefits	3	2	2	3	2	3	15

\* See Page 3 for description of risk factors.

# RISK FACTORS WEIGHTED

Audit Area	Risk Factors*						Total
	A	B	C	D	E	F	
<b>ADMINISTRATION</b>							
Associate Payroll	18	16	14	12	10	8	78
Associate Travel Expenses	18	8	7	12	10	8	63
Attendance Reporting	18	16	14	12	10	12	82
Benefit Payment Process	27	32	21	18	15	12	125
Board Expenses	9	8	7	12	5	4	45
Building Maintenance	18	16	14	12	10	16	86
Business Continuity Plan	27	24	21	18	20	12	122
Child Care Center	18	16	14	12	10	4	74
Educational Assistance Program	18	16	14	12	10	8	78
Fixed Assets-Computer Equip.	27	32	14	18	15	16	122
Flexible Spending Plans	18	16	14	12	15	8	83
Insurance/Risk Management	18	16	7	12	10	8	71
OEC Reporting	9	16	7	12	10	4	58
Other Staff Expenses	18	16	14	6	5	4	63
Personal Investment Disclosure	27	16	28	12	15	8	106
Postage	27	16	14	6	10	12	85
Purchasing Practices	27	16	21	12	10	12	98
STRS Ohio Self Insurance Plan	27	24	21	12	15	12	111
Unused Sick and Vacation Leave	18	8	14	12	10	4	66

\* See Page 4 for description of risk factors.

# RISK FACTORS WEIGHTED

Audit Area	Risk Factors*						Total
	A	B	C	D	E	F	
<b>FINANCE</b>							
Accounts Payable	18	8	14	6	10	8	64
Annual Reporting	18	24	14	12	10	8	86
Contribution Reporting	18	24	14	12	10	12	90
Financial Reporting (STRS Ohio)	27	24	14	12	20	16	113
Fixed Assets	27	16	21	24	10	8	106
Member Income Taxes	36	32	14	12	15	16	125
Member Withdrawals	18	16	14	12	10	8	78
Petty Cash/Café Operations	18	16	14	18	5	4	75
Purchasing Service Credit by Payroll Deduction	18	32	14	12	15	8	99

Audit Area	Risk Factors*						Total
	A	B	C	D	E	F	
<b>INFORMATION TECHNOLOGY SERVICES</b>							
AIX/ Windows Security	45	24	35	6	25	20	155
Compliance: B.Y.O.D.	45	24	35	6	25	20	155
Database Security	45	24	35	6	25	20	155
I.T. Operations	45	24	35	6	25	20	155
I.T. Security: Change Control	45	24	21	18	25	20	153
I.T. Security: Logical/Physical Access	45	24	21	6	25	20	141
I.T. Security: HIPAA	45	24	35	6	25	20	155
I.T. Security: PeopleSoft Security	45	40	35	30	25	20	195

\* See Page 4 for description of risk factors.

# RISK FACTORS WEIGHTED

Audit Area	Risk Factors*						Total
	A	B	C	D	E	F	
<b>INVESTMENTS</b>							
Alternative Investments	36	24	21	12	20	16	129
Derivatives	27	32	14	18	20	12	123
Domestic Equities	27	32	14	12	20	20	125
Fixed Income	18	32	14	18	15	12	109
International Investing	45	40	14	6	20	16	141
Investment Performance	18	16	14	12	15	8	83
Liquidity Reserves	9	16	7	6	10	16	64
Proxy Voting	18	8	7	6	10	8	57
Real Estate	27	32	21	18	15	12	125
Securities Lending	18	32	14	12	15	16	107

Audit Area	Risk Factors*						Total
	A	B	C	D	E	F	
<b>MEMBER BENEFITS</b>							
Annual Statements	27	32	14	12	10	8	103
Benefit Services	27	32	14	12	10	8	103
Defined Contribution Plan	18	16	14	12	10	8	78
Disability Benefits	27	16	14	24	10	12	103
Health Care	27	16	14	12	15	16	100
Member Data Management	27	32	28	12	10	8	117
Member Records Management	18	16	14	12	10	8	78
Member Services Center	18	16	14	6	10	8	72
Purchasing Service Credit	18	24	14	12	15	8	91
Reemployed Retirees	27	32	21	18	10	8	116
Service Retirement Benefits	18	32	14	18	15	16	113
Survivor Benefits	27	16	14	18	10	12	97

\* See Page 4 for description of risk factors.

# 2017 INTERNAL AUDIT WORK PLAN

Audit Area	Priority	Dept.	Risk Score	Last Audit	Estimated Audit Date	Risk Codes
I.T. Security: PeopleSoft Security	HIGH	ITS	195	N/A	2017	F, I, C, O, PS
International Investing	HIGH	I	141	2016		F, I, C, O
Alternative Investments	HIGH	I	129	2016	2017	F, I, C, O
Domestic Equities	HIGH	I	125	2016		F, I, C, O
Real Estate	HIGH	I	125	2015	2017	F, I, C, O
Derivatives	HIGH	I	123	2015		F, I, C, O
Fixed Income	HIGH	I	109	2015		F, I, C, O
Liquidity Reserves	HIGH	I	64	2014	2017	F, I, C, O
Board Expenses	HIGH	A	45	2015	2017	I, C, O, PS
AIX/ Windows Security	MED.	ITS	155	2014	2017	F, I, C, O, PS
Compliance: B.Y.O.D.	MED.	ITS	155	2015	2017	F, I, C, O, PS
Database Security	MED.	ITS	155	2014		F, I, C, O, PS
I.T. Security: HIPAA	MED.	ITS	155	2015		F, I, C, O, PS
I.T. Operations	MED.	ITS	155	2013	2017	F, I, C, O, PS
I.T. Security: Change Control	MED.	ITS	153	2016		F, I, C, O, PS
I.T. Security: Logical/ Physical Access	MED.	ITS	141	2016		F, I, C, O, PS
Business Continuity Plan	MED.	A	122	2015	2017	F, I, C, O
Member Data Management	MED.	MB	117	2013		C, PS
Financial Reporting (STRS Ohio)	MED.	F	113	2014		I, C, O
Service Retirement Benefits	MED.	MB	113	2013	2017	I, C, O
Annual Statements	MED.	MB	103	2013	2017	I, C, O
Health Care	MED.	MB	100	2014		I, C, O
Contribution Reporting	MED.	F	90	2016		I, C, O
Annual Reporting	MED.	F	86	2013		I, C, O

**Risk Codes:**

- F: Financial = Risk related to financial impact
- I: Integrity = Risk related to accuracy of data or asset managed/presented
- C: Compliance = Risk related to non-compliance with laws/regulations/internal policies
- O: Operational = Risk related to operational efficiencies/inefficiencies
- PS: Public Sensitivity = No material financial impact but high public sensitivity

# 2017 INTERNAL AUDIT WORK PLAN

Audit Area	Priority	Dept.	Risk Score	Last Audit	Estimated Audit Date	Risk Codes
Defined Contribution Plan	MED.	MB	78	2016		I, C, O
Risk Management/ Insurance	MED.	A	71	2013	2017	F, I, C, O
Accounts Payable	MED.	F	64	2015		I, C, O
Benefit Payment Process	LOW	A	125	2015		I, C, O
Member Income Taxes	LOW	F	125	2014	2017	I, C, O
Fixed Assets — Computer Equip.	LOW	A	122	2015		I, C, O
Reemployed Retirees	LOW	MB	116	2016		I, C, O
STRS Ohio Self Insurance Plan	LOW	A	111	2016		I, C, O
Securities Lending	LOW	I	107	2013	2017	I, C, O
Fixed Assets	LOW	F	106	2015		I, C, O
Personal Investment Disclosure	LOW	A	106	2014	2017	I, C
Disability Benefits	LOW	MB	103	2014		I, C, O
Member Services Center	LOW	MB	103	2016	2017	C, O
Purchasing Service Credit by Payroll Deduction	LOW	F	99	2016		I, C, O
Purchasing Practices	LOW	A	98	2016		I, C, O, PS
Survivor Benefits	LOW	MB	97	2014	2017	I, C, O
Member Records Management	LOW	MB	91	2016		C, O
Building Maintenance	LOW	A	86	2015		I, C, O
Postage	LOW	A	85	2015		I, C, O
Flexible Spending Programs	LOW	A	83	2016		I, C, O
Investment Performance	LOW	I	83	2016	2017	I, C, O
Attendance Reporting	LOW	A	82	2015		I, C, O

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# 2017 INTERNAL AUDIT WORK PLAN

Audit Area	Priority	Dept.	Risk Score	Last Audit	Estimated Audit Date	Risk Codes
Associate Payroll	LOW	A	78	2016		I, C, O
Benefit Services (Post Retirement)	LOW	MB	78	2014		I, C, O
Member Withdrawals	LOW	F	78	2014	2017	I, C, O
Educational Assistance Program	LOW	A	78	2016		I, C, O
Petty Cash/Café Operations	LOW	F	75	2014	2017	I, C, O, PS
Child Care Center	LOW	A	74	2015		I, C, O
Purchasing Service Credit	LOW	MB	72	2016		I, C, O
Unused Sick and Vacation Leave	LOW	A	66	2016		I, C, O
Associate Travel Expenses	LOW	A	63	2014	2017	I, C, O, PS
Other Staff Expenses	LOW	A	63	2014	2017	I, C, O, PS
OEC Reporting	LOW	A	58	2015		I, C, O, PS
Proxy Voting	LOW	I	57	2015		I, C, PS

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PS: Public Sensitivity = No material financial impact but high public sensitivity