

Audit Committee Meeting

June 2012



Teacher Retirement System of Texas
1000 Red River Street, Austin, Texas 78701-2698

**TEACHER RETIREMENT SYSTEM OF TEXAS
BOARD OF TRUSTEES
AUDIT COMMITTEE**

MEETING AGENDA

**June 8, 2012 – 8:00 a.m.
TRS East Building, 5th Floor, Boardroom**

- 1. Approve Minutes of April 20, 2012 Audit Committee Meeting**
– Mr. Christopher Moss, Chair

- 2. Receive Report from the State Auditor’s Office on the Audit of Incentive Compensation** – Ms. Angelica Ramirez, Audit Manager, and Mr. Amadou Ngaide, Project Manager, State Auditor’s Office

- 3. Receive Reports on Completed Internal Audit Projects**
 - A. Audit of Employee Compensation, Payroll, and Position Control – Ms. Dinah Arce and Ms. Jamie Michels
 - B. Audit of Investment Risk Management – Mr. Hugh Ohn and Mr. Jase Auby; Mr. Rene Hernandez, and Mr. Joe Wojkowski, Protiviti
 - C. Quarterly Testing of Compliance with the Investment Policy Statement (Agreed-Upon Procedures) – Mr. Hugh Ohn and Ms. Dinah Arce
 - D. Quarterly Testing of Information Security (Agreed-Upon Procedures) – Ms. Lih-Jen Lan

- 4. Receive Status Report of Prior Audit and Consulting Recommendations**
– Ms. Amy Barrett

- 5. Receive Reports and Obtain Input on Internal Audit Projects In Progress**
 - A. Survey of Public Pension Funds – Employer Audits – Ms. Karen Morris
 - B. Audit Plan for 2013 – Ms. Amy Barrett

- 6. Receive Reports on Internal Audit Administrative Activities** – Ms. Amy Barrett
 - Audit Project Map to Enterprise Risks
 - Status of Fiscal Year 2012 Audit Plan
 - Performance Measures
 - Hotline Usage Report
 - Staff Accomplishments

TAB 1



**TEACHER RETIREMENT SYSTEM OF TEXAS
AUDIT COMMITTEE MEETING
April 20, 2012**

The Audit Committee of the Teacher Retirement System of Texas met on Friday, April 20, 2012 in room 345-E. The following persons were present:

TRS Board Members

Christopher Moss, Audit Committee Chair
Eric C. McDonald, Audit Committee Member
Nanette Sissney, Audit Committee Member
Todd Barth, Audit Committee Member
Anita Smith Palmer, Audit Committee Member
R. David Kelly, Board Chair
Charlotte Clifton, Board Vice Chair
T. Karen Charleston, Board Member

TRS Staff

Brian Guthrie, Executive Director
Ken Welch, Deputy Director
Amy Barrett, Chief Audit Executive
Karen Morris, Senior Manager, Internal Audit
Hugh Ohn, Director, Investment Audit & Compliance
Jan Engler, Manager, Internal Audit
Lih-Jen Lan, Information Technology Manager, Internal Audit
Dinah Arce, Senior Auditor, Internal Audit
Dorvin Handrick, Senior Information Technology Auditor, Internal Audit
Brian Gomolski, Senior Investment Auditor, Internal Audit
Toma Miller, Risk, Control, & Compliance Specialist, Internal Audit
Amy Morgan, Chief Information Officer
Betsey Jones, Director, Health Care Policy and Administration
Bob Jordan, Director, TRS Health & Insurance Benefits
Edward Esquivel, Assistant Director, TRS Health & Insurance Benefits
Yimei Zhao, Finance Team Lead, TRS Health & Insurance Benefits
Adrea Bridgeman, Contract Monitor & Reporting Specialist, TRS Health & Insurance Benefits
Jerry Albright, Deputy Chief Investment Officer
Sylvia Bell, Director, Administrative Center, Investments
Marianne Woods Wiley, Chief Benefit Officer
Bob Jordan, Director, TRS Health & Insurance Benefits
Jimmie Savage, Manager, Member Data Services
Tom Guerin, Manager, Benefit Counseling
Conni Brennan, General Counsel
Dan Junell, Assistant General Counsel

TRS Staff (cont'd)

Tim Wei, Assistant General Counsel
Mary Chang, Assistant General Counsel
Don Green, Chief Financial Officer
Jamie Michels, Manager, General Accounting
Cindy Haley, Team Leader, Financial Reporting, General Accounting
Scot Leith, Manager, Investment Accounting
Vicki Garcia, Investment Accountant, Investment Accounting
Roberto Vasquez, Senior Investment Accountant, Investment Accounting
Beverly Grass, Financial Analyst, Investment Accounting
Jim Smith, Manager, Staff Services
Jay LeBlanc, Director, Risk Management & Strategic Planning
Michelle Pagan, ERM Specialist, Risk Management & Strategic Planning
Minerva Evans, Risk Management Specialist, Risk Management & Strategic Planning

Other Attendees

Leroy DeHaven, Texas Retired Teachers Association
Tom Rogers, Austin Retired Teachers Association
John Keel, State Auditor's Office
Kelly Linker, State Auditor's Office
Greg Adams, State Auditor's Office
Bob Wheeler, State Street Bank
Sally Reaves, Sagebrush Solutions, LLC
Deb Ford, Aetna
Pat Del Rio, Aetna
Scott Wingo, Student, University of Texas at Austin

Audit Committee Chair Christopher Moss called the meeting to order at 8:00 a.m. with a quorum of committee members present.

1. APPROVE MINUTES OF DECEMBER 9, 2011 AUDIT COMMITTEE MEETING

Ms. Anita Smith Palmer moved that the proposed minutes of the December 9, 2011 Audit Committee meeting be approved. Mr. Todd Barth seconded the motion, and the minutes were unanimously approved as presented.

2. RECEIVE REPORT ON ROLES AND PRIORITIES OF THE STATE AUDITOR

Mr. John Keel, State Auditor for the State of Texas, gave a brief overview and comparison of the roles and priorities of the State Auditor's Office and those of the TRS Internal Audit Department. Mr. Keel discussed the common elements shared by both as well as the significant differences between external and internal auditors.

3. RECEIVE INDEPENDENT AUDIT REPORT ON TRS-CARE SERVICE PROVIDERS

Ms. Sally Reaves, Sagebrush Solutions, LLC, discussed the findings of an audit conducted on behalf of TRS-Care. The audit focused on Aetna and Caremark, vendors for TRS-Care, for the period September 2009 through August 2011. Ms. Reaves stated that the results showed that Caremark and Aetna did a good job for TRS-Care. Ms. Reaves stated that the significant findings from the Aetna audit pertained to opportunities to improve efficiency in coordinating TRS-Care benefits with other insurance companies in those events where members are insured by more than one carrier.

4. RECEIVE INTERNAL AUDIT REPORTS

A. Quarterly Testing of Benefit Payments (Agreed-Upon Procedures)

Mr. Bob Jordan gave an overview of the organizational structure within the TRS Health and Insurance Benefits Department. He stated that all team members have been cross-trained and the department has gained some significant efficiency since combining the internal administration of TRS-Care with TRS-ActiveCare.

Mr. Dorvin Handrick discussed the results of the quarterly benefit payments testing. He stated that of the six tests performed this quarter, five resulted in no exceptions. The testing of TRS-Care premium refunds found three exceptions.

Ms. Yimei Zhao discussed the actions that the TRS Health and Insurance Benefits Department have taken in response to the audit findings including the implementation of additional controls.

B. Audit of Building Security

Mr. Jim Smith briefly described the security team and the recent upgrade to TRS' security system.

Ms. Dinah Arce discussed the results of the building security audit that included two reportable findings. She stated that management is working on updating and formalizing specific procedures to implement the recommendations.

C. Audit of Investment Accounting

Mr. Scott Leith provided a general overview of the Investment Accounting Department, including the history of the department and its current roles and responsibilities.

Mr. Brian Gomolski discussed the results of the investment accounting audit that resulted in a recommendation for Investment Accounting to improve monitoring and reporting activities related to securities lending. Management has agreed to the recommendation.

D. Quarterly Testing of Compliance with the Investment Policy Statement (Agreed-Upon Procedures)

Mr. Hugh Ohn presented the results of the compliance testing of the Investment Policy Statement. He stated that three exceptions were found this quarter and that management has taken immediate action on these exceptions and implemented procedures to mitigate these risks going forward.

5. RECEIVE STATUS OF PRIOR AUDIT AND CONSULTING RECOMMENDATIONS

Ms. Amy Barrett gave a brief overview of the outstanding audit recommendations. She stated that the remaining significant recommendations are very close to implementation. Internal Audit staff has met with the executives in charge of implementation on each item and feels that appropriate progress is being made.

6. RECEIVE INTERNAL AUDIT ADMINISTRATIVE REPORTS

Ms. Karen Morris discussed the project plan for the Reporting Entity Study. She explained that the study is a significant initiative in Internal Audit's strategic plan and its purpose is to explore the possibility of employer audits. She explained that two surveys of public pension funds are underway: one survey of those funds performing employer audits and another survey of those funds not performing employer audits. The survey results will be presented at the June Audit Committee meeting.

Ms. Barrett reviewed several standard administrative reports that mapped audit projects to agency risks and gave an overview of Internal Audit's advisory projects this quarter. She also provided an update on the status of the Audit Plan, performance measures and recent staff accomplishments. She also noted that one call was received on the TRS Internal Fraud and Ethics Hotline, but that the item was determined to be a management action item and not a fraud or ethics related issue and has been resolved.

The meeting adjourned at 9:35 a.m.

Approved by:

Christopher Moss
Chair, Audit Committee
Board of Trustees
Teacher Retirement System of Texas

TAB 2



John Keel, CPA
State Auditor

An Audit Report on

**Incentive Compensation at the
Teacher Retirement System, the
Employees Retirement System,
and the Permanent School Fund**

May 2012

Report No. 12-030



An Audit Report on
***Incentive Compensation at the
Teacher Retirement System, the
Employees Retirement System, and the
Permanent School Fund***

SAO Report No. 12-030
May 2012

Overall Conclusion

Through their incentive compensation plans for fiscal year 2011, the Teacher Retirement System (TRS), the Employees Retirement System (ERS), and the Permanent School Fund (PSF) of the Texas Education Agency made incentive compensation awards to employees in accordance with their policies and procedures.

Those three entities awarded a total of \$9,022,838 in incentive compensation to 180 employees for fiscal year 2011. Those employees worked in each entity's investment division.

Summary of Management's Response

TRS, ERS, and the PSF agreed with the respective recommendations addressed to them in this report.

Summary of Information Technology Review

Auditors tested access controls over spreadsheets containing incentive compensation calculations. Additionally, at ERS, auditors tested access controls over the system that ERS used to track employee performance; ERS did not protect the data from unauthorized changes, but auditors did not find any evidence that unauthorized changes had been made to the data in that system (see Chapter 2 for additional details).

Summary of Objective, Scope, and Methodology

The objective of this audit was to determine whether incentive compensation at TRS, ERS, and the PSF was calculated and paid in accordance with policies and procedures.

The scope of this audit covered incentive compensation plan years ending September 30, 2011, at TRS; August 31, 2011, at ERS; and July 31, 2011, at the PSF.

The audit methodology included collecting information and documentation from the audited entities; reviewing incentive compensation plans, policies and procedures, and other guidance related to incentive compensation; and analyzing

This audit was conducted in accordance with Texas Government Code, Section 321.013.

For more information regarding this report, please contact Angelica Ramirez, Audit Manager, or John Keel, State Auditor, at (512) 936-9500.

and evaluating data and the results of tests. As noted above, auditors also tested access controls at the audited entities.

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Detailed Results

Chapter 1

TRS Calculated and Awarded Incentive Compensation in Accordance With Its Policies and Procedures

TRS Financial Highlights

TRS's annual rate of return on investments for fiscal year 2011 was 15.5 percent.

The Teacher Retirement System (TRS) calculated and awarded incentive compensation for the year ended September 30, 2011, in accordance with its policies and procedures. TRS awarded a total of \$6,144,354 in incentive compensation to 112 employees of its investment division.¹ TRS awarded the most incentive compensation to the chief investment officer in the amount of \$396,950 payable over a two-year period. The \$396,950 represented 6 percent of the \$6,144,354 in total incentive compensation that TRS awarded.

The TRS incentive compensation plan is based on a combination of investment performance and qualitative performance. The investment performance component compares investment performance with benchmarks and the performance of other large public funds. The qualitative performance component assesses performance in a variety of areas such as ethics, decision making/judgment, and analytical skills.

The TRS incentive compensation plan measures investment performance on both a one-year basis and a three-year basis. For the year ended September 30, 2011, TRS investments generated a positive return of 1.04 percent (104 basis points) when compared to the benchmark for all investments over the preceding three-year period and a negative return of 1.36 percent (136 basis points) when compared to the benchmark for all investments over the preceding one-year period. Because TRS's incentive compensation plan weights the three-year return twice as much as the one-year return, this triggered the awarding of incentive compensation.

To determine incentive compensation amounts, TRS followed the incentive compensation plan its board of trustees approved. However, the incentive compensation plan did not establish a performance target for the trade management group (one of six TRS profit centers) for the peer group performance component for the year ended September 30, 2011. TRS's investment accounting unit requested and obtained approval from the TRS executive director to use 0.08 percent (or 8 basis points) as the performance target. The executive director's decision was consistent with TRS's incentive compensation plan, which states that the executive director (1) has the sole

¹ As of February 1, 2012, TRS paid employees \$3,072,177 of the \$6,144,354 it awarded; \$3,072,177 is due to be paid in 2013.

discretion to administer and interpret the incentive compensation plan and (2) may adopt such procedures and practices as deemed advisable to carry out the incentive compensation plan.

Recommendation

TRS should establish a performance target for its trade management group and update its incentive compensation plan to reflect that target.

Management's Response

TRS agrees with the recommendation to establish a performance target for the trade management group for inclusion in the incentive compensation plan. Our incentive compensation plan is a collaborative effort between the Investment Management Division, Human Resources, Financial Services, and Legal Services. Once the plan is finalized, it will be presented to our Executive Committee and then to the Board of Trustees for approval.

TRS will ensure that the established performance target for the trade management group is clearly documented in the incentive compensation plan. Further, TRS will ensure that any new organizational units added to an incentive compensation plan in the future will have specific targets clearly documented within the plan.

ERS Calculated and Awarded Incentive Compensation in Accordance With Its Policies and Procedures

ERS Financial Highlights

ERS's annual rate of return on investments for fiscal year 2011 was 12.58 percent.

The Employees Retirement System (ERS) calculated and awarded incentive compensation for the year ended August 31, 2011, in accordance its policies and procedures. ERS awarded a total of \$1,947,512 in incentive compensation to 42 employees of its investment division.² ERS awarded the most incentive compensation to the deputy executive director of investments in the amount of \$140,454 payable over a three-year period. The \$140,454 represented 7 percent of the \$1,947,512 in total incentive compensation that ERS awarded.

The ERS incentive compensation plan is based on a combination of investment performance and qualitative performance. The investment performance component compares investment performance to industry benchmarks. The qualitative performance component assesses items such as an employee's development of hedge fund strategy(ies) and implementation of an emerging markets program. The incentive compensation plan specifies that employees will be evaluated on five-year performance goals and/or annual performance goals, depending on their specific positions within the investment division.

Because investment performance exceeded the benchmark for overall performance by 0.42 percent (42 basis points), this triggered the awarding of incentive compensation.

Auditors identified opportunities to strengthen ERS's review of incentive compensation calculations and provided information on those opportunities to ERS; however, the weaknesses identified did not have a significant effect on the amount of incentive compensation ERS awarded.

ERS did not protect the data in one system it uses to track employee performance from unauthorized changes. Therefore, auditors could not verify the accuracy of the data in that system for this audit. ERS used the data in that system to support \$271,533 (14 percent) of the \$1,947,512 in incentive compensation it awarded. Auditors did not find any evidence that unauthorized changes had been made to that data.

² As of March 7, 2012, ERS paid employees \$973,756 of the \$1,947,512 it awarded; \$474,262 is due to be paid in 2013, \$474,262 is due to be paid in 2014, and \$25,232 will not be paid because an employee resigned before that amount was due to be paid.

Recommendations

ERS should:

- Improve its review process to help ensure the accuracy of its incentive compensation calculations.
- Protect the data it uses to track employee performance from unauthorized changes.

Management's Response

- *ERS management agrees the review process could be improved and will take further steps to ensure the accuracy of the incentive compensation calculations. The Human Resources Director will verify all participants' start dates at the beginning of the plan year and again after the end of the plan year. Investments staff will use the Excel "formulas paste" option when supervisors' spreadsheets are merged into the master spreadsheet so that calculations can be easily verified and will thoroughly review the spreadsheet for accuracy and compliance with the approved incentive compensation plan before it is submitted to Internal Audit for review. Internal Audit will clearly document the final assessment by highlighting all cells reviewed.*
- *ERS management agrees. The system noted is used by portfolio managers and analysts to monitor projected tracking error and performance for individual companies. On February 13, 2012, ERS implemented system controls to limit the ability to reassign covered securities among the analysts. Rights to make changes are now limited to two Investment Operations staff.*

The PSF Calculated and Awarded Incentive Compensation in Accordance With Its Policies and Procedures

PSF Financial Highlights

The PSF's annual rate of return on investments for fiscal year 2011 was 13.64 percent.

The Permanent School Fund (PSF) of the Texas Education Agency calculated and awarded incentive compensation for the year ended July 31, 2011, in accordance with its policies and procedures. The PSF awarded a total of \$930,972 to 26 employees.³ PSF awarded the most incentive compensation to the director of private market alternatives in the amount of \$103,659 payable over a two-year period. The \$103,659 represented 11 percent of the \$930,972 in total incentive compensation that the PSF awarded.

The PSF incentive compensation plan compares investment performance with a target benchmark on a three-year rolling basis. The PSF calculates incentive compensation based on an employee's achievement of goals in fund performance, asset class performance, and portfolio performance.

Because investment performance exceeded the benchmark, this triggered the awarding of incentive compensation. Specifically, the total fund investment performance:

- Exceeded the target benchmark by 0.41 percent (41 basis points) for the three-year period from August 1, 2008, to July 31, 2011.
- Exceeded the target benchmark by 0.79 percent (79 basis points) for the two-year period from August 1, 2009, to July 31, 2011.
- Exceeded the target benchmark by 0.51 percent (51 basis points) for the one-year period from August 1, 2010, to July 31, 2011.

Auditors identified opportunities to strengthen the PSF's review of incentive compensation calculations and provided information on those opportunities to the PSF; however, the weaknesses identified did not have a significant effect on the amount of incentive compensation the PSF awarded.

Recommendation

The PSF should improve its review process to help ensure the accuracy of its incentive compensation calculations.

³ As of November 1, 2011, the PSF paid employees \$465,486 of the \$930,972 it awarded; \$465,486 is due to be paid in November 2012.

Management's Response

Management is in agreement that the incentive compensation calculations should be reviewed by individuals external to the department who have expertise in the use of MS Excel spreadsheets. Management is also in agreement that implementing automated data loads, when appropriate, will reduce and/or eliminate typing and transference errors.

Appendix

Objective, Scope, and Methodology

Objective

The objective of this audit was to determine whether incentive compensation at the Teacher Retirement System (TRS), the Employees Retirement System (ERS), and the Permanent School Fund (PSF) of the Texas Education Agency was calculated and paid in accordance with policies and procedures.

Scope

The scope of this audit covered incentive compensation plan years ending September 30, 2011, at TRS; August 31, 2011, at ERS; and July 31, 2011, at the PSF.

Methodology

The audit methodology included collecting information and documentation from the audited entities; reviewing incentive compensation plans, policies and procedures, and other guidance related to incentive compensation; and analyzing and evaluating data and the results of tests.

Auditors reviewed calculations, personnel files, payroll data, and externally reported fund performance results to determine whether the audited entities calculated and paid incentive compensation in accordance with policies and procedures. Auditors also tested access controls over the spreadsheets and applicable systems that the audited entities used in calculating incentive compensation for authorized personnel.

Information collected and reviewed included the following:

- Policies and procedures for incentive compensation at TRS, ERS, and the PSF.
- Incentive compensation payment calculation spreadsheets for incentive compensation plan years ending September 30, 2011, at TRS; August 31, 2011, at ERS; and July 31, 2011, at the PSF.
- Incentive compensation recipients' personnel files.
- Payroll data related to incentive compensation recipients.
- Investment performance reports from investment custodian banks.

Procedures and tests conducted included the following:

- Interviewed management and key personnel at ERS, TRS, and the PSF.
- Analyzed and recalculated incentive compensation payments for incentive compensation plan years ending September 30, 2011, at TRS; August 31, 2011, at ERS; and July 31, 2011, at the PSF.
- Reviewed and tested compliance with the audited entities' policies and procedures.

Criteria used included the following:

- *Teacher Retirement System of Texas Performance Incentive Pay Plan.*
- *Employees Retirement System of Texas Incentive Compensation Plan.*
- *Texas Permanent School Fund Performance Incentive Pay Plan.*

Project Information

Audit fieldwork was conducted from January 2012 through March 2012. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The following members of the State Auditor's staff performed the audit:

- Amadou N'gaide, MBA, CFE, CIDA (Project Manager)
- Adam Wright, CFE, CGAP, CIA (Assistant Project Manager)
- Monte McComb
- Dennis Ray Bushnell, CPA (Quality Control Reviewer)
- Angelica M. Ramirez, CPA (Audit Manager)

Copies of this report have been distributed to the following:

Legislative Audit Committee

The Honorable David Dewhurst, Lieutenant Governor, Joint Chair
The Honorable Joe Straus III, Speaker of the House, Joint Chair
The Honorable Steve Ogden, Senate Finance Committee
The Honorable Thomas “Tommy” Williams, Member, Texas Senate
The Honorable Jim Pitts, House Appropriations Committee
The Honorable Harvey Hilderbran, House Ways and Means Committee

Office of the Governor

The Honorable Rick Perry, Governor

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TAB 3

TAB 3A

AUDIT OF COMPENSATION, PAYROLL AND POSITION CONTROL

May 23, 2012

TRS Internal Audit Department

Business Objectives	Payroll submitted to the Comptroller is accurate, complete, and paid only to eligible employees	Payroll is within budget and recorded correctly in the general ledger
Business Risks	<ul style="list-style-type: none"> • Salary changes not processed • Deductions not authorized or not supported • System access not limited/reviewed • Key entry errors made • Fictitious employees added • Timesheets do not reflect work performed 	<ul style="list-style-type: none"> • Payroll data not reconciled to general ledger • Salary budget not reviewed • Full time employees (FTEs) not tracked or reported
Management Controls	<ul style="list-style-type: none"> • Written procedures for Payroll Department • Segregation of duties/reconciliations/data entry verification • Trial run reports/exception reports • Review/approval prior to releasing payroll • Backup staff 	<ul style="list-style-type: none"> • Written procedures for Payroll Department • Segregation of duties • Reconciliations • Reconciliations of actual to budget full-time employees (FTEs) • Board approval of FTEs • Allocation/monitoring of salary budget
Controls Tested	<p>Sample payees and verify:</p> <ul style="list-style-type: none"> • Evidence of system access review • Only eligible employees paid • Gross pay is authorized • Payroll deductions authorized • Job descriptions match state classifications 	<ul style="list-style-type: none"> • Obtain evidence of payroll and general ledger reconciliations and supervisory review • Compare payroll reports of calculations for full-time employees (FTEs) to budgeted position report
Results	<p>Positive Findings:</p> <ul style="list-style-type: none"> • Payroll records well organized • Cross-training performed for all payroll tasks • General Accounting has process to review team members' data entries 	
	<p>Findings (Other Reportable):</p> <p>Controls are generally working to ensure payroll submitted to Comptroller is accurate, complete, and paid only to eligible employees; however, we found:</p> <ul style="list-style-type: none"> • Human Resources (HR) does not have written procedures related to payroll • No guidance exists for when payment of compensatory time for exempt employees may be requested 	<p>Controls are generally working to ensure that payroll is within budget and recorded correctly in the general ledger.</p>
Recommended Actions	<ul style="list-style-type: none"> • Develop HR written procedures that incorporate processes for payroll and ensuring job descriptions are updated and personnel action forms are accurate • Develop guidance for managers for requesting payment of compensatory time 	None
Management Responses	<ul style="list-style-type: none"> • HR will create a procedures manual • Executive Management will review the current policy and incorporate guidance 	None

Legend of Results:



Red - Significant to TRS
Yellow - Other Reportable Issue



Orange - Significant to Business Objectives
Green - Positive Finding or No Issue



May 23, 2012

Audit Committee, Board of Trustees
Mr. Brian Guthrie, Executive Director

EXECUTIVE SUMMARY

We have completed the audit of **Compensation, Payroll, and Position Control**, as included in the *Fiscal Year 2012 Audit Plan*. Business objectives related to the payroll process are as follows:

- Payroll submitted to the Comptroller¹ is accurate, complete, and paid only to eligible employees
- Payroll is within budget and recorded correctly in the general ledger

Based on our audit results, we determined that management controls are operating effectively to achieve the business objectives. We did not identify any significant issues. However, we identified two opportunities to improve business processes:

- Develop a Human Resources written procedures manual for payroll tasks that would include procedures to update job descriptions and ensure completeness and accuracy of personnel action forms
- Develop guidance to managers regarding payment of compensatory time for exempt employees

Results of our procedures are presented in more detail in the **Results and Recommendations** section (pages 4-6). The audit objective, scope, methodology and conclusion are described in **Appendix A** (pages 7-8).

¹ Texas Comptroller of Public Accounts

BACKGROUND

The General Accounting payroll team consists of a team leader and three staff members that process the regular monthly payroll run as well as up to five or six supplemental payroll runs throughout the month. Weekly timesheets are submitted by each business unit manager to Payroll where a team member then enters the payroll data into the Uniform State Payroll System (USPS). A high-level flowchart appears at **Appendix B** (page 9).

Supplemental payroll runs are required for special instances such as new hires for their first paycheck, one-time merits, incentive compensation payments, banked compensatory (comp) time payments, overtime payroll, lump sum payroll for TRS retirees or terminations, and part-time hourly employees who work less than 20 hours per week.

Each payroll is submitted to and released by the Comptroller. More than 500 TRS employees are paid each month through both the regular and supplemental payroll runs. Most employees are paid via direct deposit; however, a new hire's first paycheck will always be physical warrant.

Initial new hire information and all subsequent pay change actions are entered by a Human Resource (HR) team member into the USPS via the PER 45 (personnel action form completed by the business unit manager). All entries are not only verified by another HR team member but entries are also audited by a General Accounting Payroll team member. Recently, the budget process has been included in the payroll system in several ways. First, every personnel action related to payroll must be reviewed by the budgeting department to ensure that there are adequate funds. Also, the budgeting department reconciles the budget to actual salary expense.

BUSINESS OBJECTIVES, RISKS, AND CONTROLS

For the audit of Compensation, Payroll, and Position Control, we obtained information about the following two business objectives, as well as the related risks and the controls management established to mitigate these risks:

Business Objectives	Payroll submitted to Comptroller is accurate, complete, and paid only to eligible employees	Payroll is within budget and recorded correctly in the general ledger
Business Risks	<ul style="list-style-type: none"> • Salary changes not processed timely (lack of communication, data lost) • Deductions not authorized or not supported • System access not limited to authorized users • Key entry errors made • Fictitious employees added • Timesheets do not reflect work performed 	<ul style="list-style-type: none"> • Payroll data not reconciled to general ledger • Salary increases not reviewed for budget limitations • Full time employees (FTEs) not tracked or reported
Management Controls	<ul style="list-style-type: none"> • Written procedures for Payroll Department • Segregation of duties • Reconciliations • Verification of data entry • Trial run reports • Review and approval prior to releasing payroll in system • Backup staff • Exception reports 	<ul style="list-style-type: none"> • Written procedures for Payroll Department • Segregation of duties • Reconciliations • Monthly and biennial reconciliations of actual to budget full time employees (FTEs) • Board approval of FTEs • Allocation and monitoring of budget by department
Controls Tested	<p>Obtain sample of payees from payroll register and verify:</p> <ul style="list-style-type: none"> • Evidence of managements' review of access controls to systems • Only eligible employees paid • Gross pay is authorized • Payroll deductions authorized • TRS employee job descriptions match state classification guidelines 	<ul style="list-style-type: none"> • Obtain evidence of payroll and general ledger reconciliations and supervisory review • Compare payroll reports of calculations for full-time employees (FTEs) to budgeted position report

RESULTS AND RECOMMENDATIONS

OVERALL RESULTS

Based on our audit results, we determined that management controls are operating effectively to achieve the business objectives. We did not identify any significant issues. However, we identified two opportunities to improve business processes:

- Develop a Human Resources written procedures manual for payroll tasks that would include procedures to update job descriptions and ensure completeness and accuracy of personnel action forms
- Develop guidance to managers regarding payment of compensatory time for exempt employees

The positive test results as well as opportunities for management to improve the payroll process controls are described below.

POSITIVE RESULTS

Controls for Processing Payroll

- Within both Human Resources and General Accounting Payroll, records are maintained in a well organized manner.
- Within both Human Resources and General Accounting Payroll, team members have been cross-trained to perform all payroll tasks.
- General Accounting Payroll has a process in place whereby team members' review each others' data entries into the payroll system. Human Resources has more recently implemented this process.

SIGNIFICANT RESULTS²

No significant issues and recommendations were identified.

OTHER REPORTABLE RESULTS

1. No written procedures manual in Human Resources for payroll process

As a result of testing we noted the following:

- Human Resources has not yet developed a written procedures manual for payroll. Without formal written procedures, business operations can be performed inconsistently, or in some cases not at all. Also, accountability for tasks can be unclear without written procedures that specifically state the roles and responsibilities of staff.

² A significant result is defined as a control weakness that is likely to create a high risk of not meeting business objectives if not corrected.

- In the sample of 58 payees selected, we noted that in one instance there were date discrepancies on a PER 45 (employee action form) reflecting three different years. The dates noted on the form were as follows:
 - PER 45 received by HR on January 11, 2007
 - Effective date of action, February 1, 2008
 - Manager and chief officer signatures on 1/8/09 and 1/10/09, respectively

Without the responsibility to review pertinent information such as dates it is difficult to determine the valid effective date for authorized actions.

- In two instances, out of the sample of 58 payees selected, TRS job descriptions had not yet been updated to match the state salary group codes. TRS' practice has been to update job descriptions when positions are posted or when requested by management. Without up-to-date job descriptions management does not have the most current information with which to perform annual employee appraisals and staff could have difficulty in meeting job expectations.

Recommendation

Human Resources should develop and implement a written procedures manual for payroll and identify Human Resource staff responsible for carrying out each function. The procedures manual should include:

- All tasks required to carry out the payroll and personnel action processes including ensuring completeness of the personnel action form
- Processes and criteria to ensure accurate data entry to the payroll system
- Process to ensure job descriptions are up-to-date and reflect current responsibility

Management Responses

Human Resources management agrees that a written procedures manual for payroll should be created. The manual should also identify which positions have responsibility for the specific functions involved. The current agency-wide TEAM project will most likely impact the way payroll is administered at TRS. It would be beneficial to know how the process will ultimately be changed before finalizing the procedures. However, the uncertainty of the final implementation timeline precludes a definitive timeline. In the alternative, we can capture the current process in a procedures manual and any known changes to the process by April 30, 2013.

Human Resources will update the agencies job description form and develop procedures for maintaining current job descriptions by September 1, 2012. Maintaining the job descriptions requires HR staff and cooperation of agency-wide management staff.

2. No guidance for payment of compensatory time for exempt employees

During testing, we identified one exempt employee who was paid compensatory (comp) time as authorized under Texas Government Code 825.208, "Compensation of Employees; Payment of Expenses." Appropriate documentation was in place and payroll procedures in General

Accounting address the payment of comp time in special circumstances. However, guidance has not been provided to managers on when it is appropriate to request payment of comp time for existing employees. With the ongoing TRS Enterprise Application Modernization (TEAM) project over the next several years, the payment of comp time may become more necessary, as staff may not be able to take time off due to their work demands. Guidance to managers would be helpful to ensure the process is fair and equitable to all staff.

Recommendation

Executive management should develop and issue guidance to managers regarding when payment of comp time for exempt employees may be requested.

Management Responses

Though the payment of comp time is not typical at TRS, executive management recognizes that there may be special circumstances where it is appropriate to pay employees. Management agrees with the recommendation that a policy be developed. Executive management will review the current Overtime and Compensatory Time Policy and incorporate guidance within the policy on the types of circumstances where payout may be considered. We plan to complete the review and make revisions, as necessary, by August 1, 2012.

* * * * *

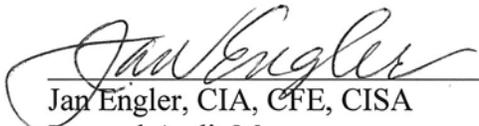
We appreciate Human Resources and General Accounting management and staff for their cooperation, courtesy, and professionalism extended to us during this audit.



Amy Barrett, CIA, CPA
Chief Audit Executive



Dinah G. Arce, CIA, CPA, CFE, CIDA
Senior Auditor



Jan Engler, CIA, CFE, CISA
Internal Audit Manager

APPENDIX A

AUDIT OBJECTIVE, SCOPE, METHODOLOGY, AND CONCLUSION

We conducted this performance audit in accordance with generally accepted government auditing standards contained in the *Government Auditing Standards* issued by the Comptroller General of the United States and the *International Standards for the Professional Practice of Internal Auditing* issued by the Institute of Internal Auditors, Inc.

These standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our audit findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

AUDIT OBJECTIVE

The audit objective was to determine whether internal controls are in place and are working effectively to achieve the business objectives stated below and mitigate significant risks to meeting those objectives.

- Payroll submitted to the Comptroller is accurate, complete, and paid only to eligible employees
- Payroll is within budget and recorded correctly in the general ledger

SCOPE

The scope of the audit included:

- Payroll periods for months April, July, and November 2011, for the payments occurring on May 1, August 1, and December 1, 2011
- Regular and supplemental payrolls

The audit scope did not include:

- Retiree annuity payments
- Payrolls for employees who retired
- Incentive compensation payments
- Tests of Information Technology systems, except for the following
 - Management conducts periodic review of systems access
 - Team members cross-check each other's data entry to systems
 - Data between Comptroller and general ledger are reconciled after each payroll and once a month.

METHODOLOGY

Our methodology included obtaining information on management's business objectives and risks, and focused on key processes and monitoring controls that management has established to address significant risks. To meet the audit objectives, we specifically performed the following procedures:

- Test validity of payroll (employee and authorized pay) - Verified data from Uniform State Payroll System (USPS) 189 to Human Resource budgeted position report and timecards; confirm full-time employee quarterly reports submitted to SAO;
- Verify authorized deductions - Verified data from USPS 189 report to supporting documentation (charitable contributions, loans, etc.); randomly recalculated tax and withholding; confirmed eligibility of benefits (part-time workers)
- Test job classifications – obtained TRS job description and compared to state classification description
- Test payroll to general ledger (GL) - confirmed each pay period in test sample was reconciled to GL

Controls tested included reviewing evidence of monitoring and approval of the reports and reconciliations mentioned above. A high-level analysis of data was performed to isolate and follow up on possible anomalies. Sampling was on a judgmental basis

CONCLUSION

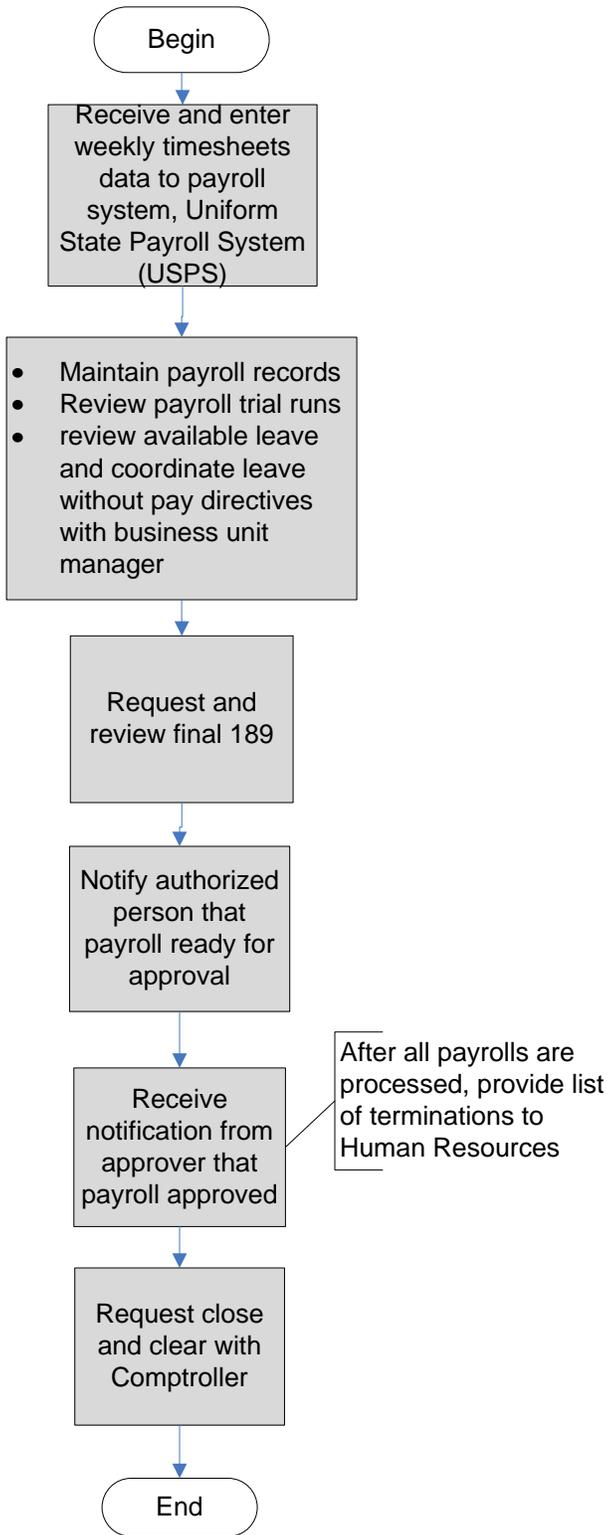
Based on our audit results, we determined that management controls are operating effectively to achieve the business objectives. We did not identify any significant issues. However, we identified two opportunities to improve business processes:

- Develop a human resources written procedures manual for payroll tasks that would include procedures to update job descriptions and ensure completeness and accuracy of personnel action forms
- Develop guidance to managers regarding payment of compensatory time for exempt employees

GENERAL ACCOUNTING PAYROLL PROCESS

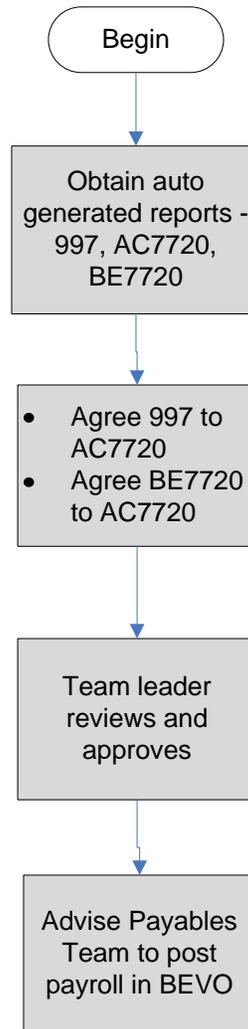
Process Payroll

Regular and each supplemental payroll throughout month

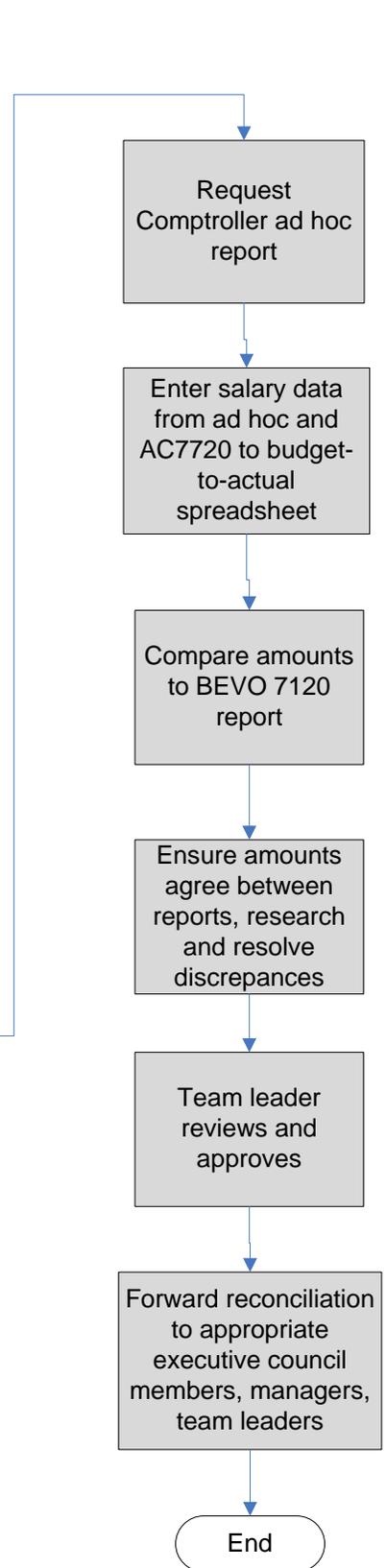


Reconcile Payroll

Reconcile after each payroll run



Reconcile at end of month



LEGEND OF ACRONYMS:

- USPS – Uniform State Payroll System
- USAS – Uniform State Accounting System
- BEVO – Budget, Expenditure, Voucher System

TAB 3B

AUDIT OF INVESTMENT RISK MANAGEMENT

May 23, 2012

TRS Internal Audit Department

Business Objectives	Identify all investment risks and risk measures relevant to the Trust	Accurately measure and report the risk profile of the Trust to management and the Board	Monitor external manager's investment performance and risk relative to expectations
Business Risks	<ul style="list-style-type: none"> Not capturing key risks Risk measures inappropriate for the related risks Monitor insignificant or irrelevant risks 	<ul style="list-style-type: none"> Risks not measured or reported Risks incorrectly or incompletely measured Model risk External provider's risk data contains error 	<ul style="list-style-type: none"> No evaluation of risk before hiring manager No or lack of monitoring of external managers No follow-up on risk signals generated
Management Controls	<ul style="list-style-type: none"> Use of investment consultants Investment policy includes risk types and risk limits Risk Group's involvement in industry groups 	<ul style="list-style-type: none"> Reporting to the Risk Committee of the Board Risk data provided by independent third-party service provider Risk Group staff's review of data provided 	<ul style="list-style-type: none"> Risk certification Risk signals Policy requiring follow-ups on risk signals generated Information technology system general controls
Controls Tested	<ul style="list-style-type: none"> Existence of investment consultants' inputs Risk Group's benchmarking activities Survey of other pension funds 	<ul style="list-style-type: none"> Existence and accuracy of risk measures reported Recalculation of risk measures reported Controls over service provider's risk systems 	<ul style="list-style-type: none"> Risk certification Calculation accuracy of risk signals generated Follow-up action on risk signals generated IT general controls on risk data
Results	<ul style="list-style-type: none"> Liquidity information not reported to the Board 	<ul style="list-style-type: none"> Incomplete documentation of Value at Risk (VaR) methodology Inadequate disclosure and coverage related to independent reviews of State Street's risk data system 	<ul style="list-style-type: none"> Status on manager follow-up based on risk signals not consistently reported
Recommended Actions	<ul style="list-style-type: none"> Include liquidity risk information as part of normal risk reporting to the Board 	<ul style="list-style-type: none"> Document VaR methodology Request model validation and inclusion of risk data system in control reviews 	<ul style="list-style-type: none"> Include status update in monthly report to the Internal Investment Committee (IIC)
Management Responses	Liquidity report to be provided to the Risk Committee beginning September 1, 2012	<ul style="list-style-type: none"> VaR methodology to be documented Request will be sent to State Street 	Status report to be included in IIC material

Legend of Results:



Red - Significant to TRS
Yellow - Other Reportable Issue



Orange - Significant to Business Objectives
Green - Positive Finding or No Issue



May 23, 2012

Audit Committee, Board of Trustees
Mr. Brian Guthrie, Executive Director

EXECUTIVE SUMMARY

We have completed the audit of **Investment Risk Management**, as included in the *Fiscal Year 2012 Audit Plan*. As part of this project, Internal Audit engaged an external service provider (Protiviti) to obtain additional expertise. The scope of this audit includes Investment Risk Management activities performed by the TRS Risk Group (i.e., risk measurement and reporting) and not those performed by portfolio managers. Those risk management activities will be included as part of future audits.

Business objectives related to investment risk management activities performed by the TRS Risk Group include:

- Identify all investment risks and risk measures relevant to the Trust
- Accurately measure and report the risk profile of the Trust to management and the Board
- Monitor external manager's investment performance and risk relative to expectations

Results of Internal Audit and Protiviti's tests indicated that management controls are operating effectively to achieve the above business objectives. However, we identified opportunities to improve controls related to investment risk measuring and reporting activities. We found that: liquidity risk information was not reported to the Board; documentation of Value at Risk (VaR) methodology was incomplete; disclosure and coverage related to independent reviews of an external service provider's (State Street) data system were inadequate; and status of manager follow-up activities on risk signals was not consistently reported to the Internal Investment Committee. Therefore, we recommend that: (a) enhancements be made to investment risk reporting to the Board to include liquidity risk, (b) enhancements be made to the documentation related to the methodologies used to calculate certain risk measures, including VaR, (c) enhancements be made to the controls associated with State Street's systems that calculate risk measures, and (d) status updates on re-underwriting based on risk signals triggered be included in the report to the Internal Investment Committee.

Results of our procedures are presented in more detail in the **Results and Recommendations** section (pages 7 - 11). The audit objective, scope methodology and conclusion are described in **Appendix A** (pages 12 - 14).

BACKGROUND

Investment Risk Management

Investment risk management is the process of detecting, assessing, and managing risks related to investment portfolios. Managing investment risk requires making the tactical and strategic decisions to control those risks that should be controlled and to exploit those opportunities that should be exploited. According to Modern Portfolio Theory, investment decisions are the results of trading off return versus risk and therefore, managing risk is an essential part of managing returns and profits. In other words, portfolio managers are engaged in risk-controlling activities when they are making investment decisions. Since managing investment risk involves managing investment portfolios, investment risk management at TRS is the responsibility of portfolio managers of all investment portfolios within the Investment Management Division.

At the organization level, the most significant risk management tool is the strategic asset allocation established by the Board of Trustees (Board), with assistance from investment consultants. By establishing the long-term, strategic asset allocation, the Board attempts to balance risk versus return by adjusting the percentage of each asset class in an investment portfolio according to the investment return objectives and risk tolerance. Asset allocation is based on the principle that different assets perform differently in different market and economic conditions. A fundamental justification for asset allocation is the notion that different asset classes offer returns that are not perfectly correlated; hence diversification reduces the overall risk in term of the variability of returns for a given level of expected return. In addition to creating the diversification of assets, asset allocation also controls risks by setting the targets and acceptable ranges for each asset class. For example, higher asset allocation targets and wider acceptable ranges typically mean that the organization is willing to accept higher risks related to that particular asset class.

Difference between Risk Management and Risk Measurement

Managing investment risk involves quantitative tools and activities but also it is as much the art of managing people, processes, and institutions as it is the science of measuring and quantifying risk. In other words, risk management is not the same as risk measurement. Risk measurement is necessary to support the management of risk as it provides the necessary data to make decisions. Risk management is the process of making decisions based on the data to alter the risk profile of the investments.

Investment Risk Monitoring at TRS

Within the Investment Management Division (IMD), the Risk Group is responsible for monitoring and reporting TRS' portfolio risk exposure and ascertaining that the exposures are authorized and consistent with the risk limits established. This group's responsibility also includes providing risk certifications of prospective asset managers before hiring them as well as monitoring their compliance with the risk limits established as part of the Investment Management Agreement (IMA) after the hire. As part of external manager monitoring, the Risk Group prepares a risk signal report (i.e., CuSum, Cumulative Sum Control Chart) to detect a change in a manager's investment returns. This signal is used by investment staff of the External Public Markets as a supplementary tool to their own processes to follow up with the external

manager to find out the reasons for the change in investment returns and ultimately, could lead to a termination of the manager. See **Appendix B.1** (page 15) for various investment risk processes and activities performed by the Risk Group.

The Risk Group consists of six Full Time Equivalent (FTEs) and is headed by the Chief Risk Officer who reports to the Chief Investment Officer. One FTE from State Street’s International Fund Services is also providing Risk Group members with risk-related data support. Members of the Risk Group are shown in the organization chart included in **Appendix B.2** (page 16).

Different Types of Investment Risks

Article 9 of the Investment Policy Statement (IPS) adopted by the Board includes different types of investment-related risks relevant to TRS. Some of these risks, as well as how they are managed and monitored are summarized in the following table:

Risk	Description	Management Tools	Monitoring Activities¹
Market Risk	The risk that declining prices or volatility of prices in the financial markets will result in a loss to the investment portfolio	<ul style="list-style-type: none"> • Maintains market risk exposure consistent with investment objectives • Stays within the asset allocation limits • Reports regularly on asset allocation limits and risk limits 	<ul style="list-style-type: none"> • Tracking Error thresholds limit deviation from benchmark • Value at Risk (VaR) tolerance level is set to control downside risk • Financial “Bubble” Monitor used to reduce exposures as needed
Currency Risk	The risk that investment values will be affected by the changes in the price of one currency against another	<ul style="list-style-type: none"> • The Policy Hedge Ratio is currently set at zero • Currency forward exposure is reported in semi-annual Risk Management Committee report 	<ul style="list-style-type: none"> • Currency deviation from fair value is monitored in Valuation Monitor • Review weekly under and overweight currency positions to identify any concerns
Credit Risk	The possibility of default or credit quality deterioration by a counterparty in a financial transaction	<ul style="list-style-type: none"> • Established ISDA (International Swaps and Derivatives Association) contract with each counterparty that TRS could trade • Established threshold for counterparty exposure 	<ul style="list-style-type: none"> • Review counterparty report to monitor Credit Default Swap spreads, equity returns, and credit ratings to assess counterparty strength • Ongoing assessment of counterparty risk to

¹ Although the Risk Group is involved in most of these risks, many of these risks are also managed and/or monitored by other groups. For example, changes to the business operations of external managers are monitored by External Public Markets staff. As part of this audit, Internal Audit and Protiviti reviewed risk monitoring activities performed by the TRS Risk Group. Risk monitoring by other groups will be assessed as part of future audits.

Risk	Description	Management Tools	Monitoring Activities ¹
		and required collateral <ul style="list-style-type: none"> ● Established threshold for credit rating of each counterparty ● Reports regularly on counterparty exposure 	determine if TRS needs to proactively reduce exposure
Liquidity Risk	The possibility of sustaining significant losses due to the inability to sufficiently liquidate a position at a fair price. Liquidity risk also includes inability to fund current obligations	<ul style="list-style-type: none"> ● Maintains levels of liquidity appropriate for the support of fund disbursements, anticipated investment funding needs ● Forecasts cash flow needs ● Projects capital calls and distributions for illiquid Private Markets investments 	<ul style="list-style-type: none"> ● Daily liquidity thresholds established and monitored ● Long-term liquidity stress analysis updated monthly to assess ability to make pension benefit payments
Operational Risk	The risk of loss due to inadequate monitoring systems, management failure, defective controls, fraud, and/or human errors	<ul style="list-style-type: none"> ● Maintains accurate transaction settlement and position management processes ● Monitors the integrity of investment information, including holdings and valuation 	<ul style="list-style-type: none"> ● Function is primarily performed by the Investment Operations ● Assessment of operational expertise of external managers is reviewed as part of risk certification process

BUSINESS OBJECTIVES, RISKS, AND CONTROLS

For the **Investment Risk Management** audit, we obtained information about the following three business objectives as well as related risks and the controls management established to mitigate these risks:

Business Objective	Identify all investment risks and risk measures relevant to the Trust	Accurately measure and report the risk profile of the Trust to management and the Board	Monitor external manager's investment performance and risk relative to expectations	
Inherent Risks (without considering controls)	(1) Significant investment risks are not captured.	(6) Key risks identified are neither measured nor reported.	(16) Prospective external manager is not certified or incorrectly certified regarding risk elements.	
	(2) Insignificant or irrelevant risks are monitored (and thus using limited resources).	(7) Risks identified are incorrectly or incompletely measured, calculated, or reported.	(17) Manager returns deviate from expectations.	
	(3) Risk measures identified may be inappropriate or incomplete for the related risks.	(8) Risks identified are inconsistently measured or reported from one period to another.	(18) Manager takes more risks than permitted by TRS.	
	(4) Risk measures or monitoring tools may not consider both quantitative and qualitative aspects.	(9) Inaccurate models are used to measure risks, which include inappropriate or unrealistic assumptions.	(19) Individual managers create undesired risk exposure for TRS.	
	(5) Risk parameters/tolerances established may be too wide or too narrow compared to the investment return objectives.	(10) Portfolio manager's undue influence in risk measurement or reporting.	(20) TRS does not monitor external manager's investment performance or risk profiles.	
		(11) Data provided by external service provider is incorrect or incomplete.	(21) TRS fails to detect external manager's violations of risk parameters established in the investment management agreement (IMA).	
		(12) Calculations performed by external service provider contain errors or mistakes.	(22) TRS fails to take timely corrective action on managers who violate return expectations or risk parameters.	
		(13) Data capture error during transmission from external service provider to TRS.		
		(14) Unauthorized access to risk data or reports.		
		(15) Fraud risk - intentionally manipulating risk data or reports to make them look better.		
	Controls Established	(All) Use of investment consultants.	(6a), (8a) Report to the Risk Management Committee of the Board.	(16a) Risk certification performed by Risk Group.
		(1a), (5a) Investment policies approved by the Board of Trustees include different types of risks and risk limits.	(7b), (9b) Review of risk reports by other Investment Management Division (IMD) groups and Internal Investment Committee (IIC).	(17b), (18b) Reports on risk signals (i.e., alarms).
		(3b), (4b) Investment staff's knowledge about industry practices on investment risk measurement and monitoring.	(7c), (8c), (9c), (11d), (13d) Risk Group's review of data or reports prepared by external service provider.	(17c), (18c) IMA specifies investment benchmarks and risk parameters.
		(All) Chief Risk Officer's participation in public pension fund risk manager conferences and discussions.	(10d), (14d) Organizational separation of risk measuring/reporting from risk taking.	(19d) Periodic reports on risk exposures.
			(10e), (14e), (15e) Use of an independent third-party risk service provider.	(17e), (18e), (19e) Policy requires monitoring of external managers. (BO3-C05)
		(11f), (12f), (15f) independent review of service provider's internal controls.	(20f) External service provider reports investment performance on external managers.	
		(14g) TRS managed Databases and Spreadsheets containing risk data have appropriate IT general controls, including restricted access, change control, and backup/restoration.	(21g) Third-party service provider monitors external manager's compliance with IMA requirements.	
		(14h) TRS and State Street have established interface controls to help ensure the complete and accurate transfer of data from State Street's truView system to TRS's managed Databases and Spreadsheets.	(22h) Policy requires portfolio manager's follow-up on risk signals generated on external manager, including written memo and appropriate action.	
		(All) Written policies and procedures.	(17b), (18b) TRS managed Databases and Spreadsheets containing risk data have built-in application controls to help ensure the reported risk alarms (e.g., CUSUM signals) are accurate and complete.	
			(All) Written policies and procedures.	

BUSINESS OBJECTIVES, RISKS, AND CONTROLS (Continued)

Business Objective	Identify all investment risks and risk measures relevant to the Trust	Accurately measure and report the risk profile of the Trust to management and the Board	Monitor external manager's investment performance and risk relative to expectations
Control Tests (performed)	(All) Verify existence of consultants' inputs into investment risks included in the investment policy.	(6a), (8a) Verify existence of reporting of risk measures in reports to management and the Board, including specific risks specified in the investment policy (e.g., market risk, credit risk, and liquidity risk).	(16a) Verify existence of risk certification and validate completeness and consistency of the conclusion reached with the analysis performed for sample investments.
	(1a), (3a), (5a) Inquire of investment consultants regarding potential improvements in risk monitoring, including risk measures, risk limits, monitoring tools, or additional analysis (including stress tests).	(6a), (8a), (14h) Validate the completeness and accuracy of system data interfaces and other inputs used to develop Risk Management reports by comparing data received from service provider with data used to prepare risk reports.	(17b), (18b) Validate calculation accuracy of risk signal reports (i.e., CuSum) on sample external managers.
	(1a), (3a), (3b) (4b) Obtain evidence of Risk Group staff's activities to keep up with industry practices on risk monitoring, including Chief Risk Officer's participation in risk management conferences.	(10e), (14e), (15f) Recalculate key risk measures reported in sample management or Board reports (including Tracking Error and Value at Risk) to determine whether they are accurately calculated and reported.	(22h) Verify existence and appropriateness of follow-up action on risk signals generated, such as portfolio manager's written memo, recertification, or manager termination.
	(1a), (3a), (5a) Survey other pension or endowment funds to obtain information about additional types of risks, risk measures, risk limits, or risk monitoring practices that might be appropriate or beneficial for TRS.	(11f), (12f), (15f) Obtain understanding of controls over the risk reporting system maintained at external service provider, including evidence of external review.	(17b), (18b) Validate the effectiveness of IT general controls (e.g., access, change control, backups) in place for TRS managed Databases and Spreadsheets containing risk data.
		(14g), (14h) Validate the effectiveness of IT general controls (e.g., access, change control, backups) in place for TRS managed Databases and Spreadsheets containing risk data.	

RESULTS AND RECOMMENDATIONS

OVERALL RESULTS

Based on the work performed by Internal Audit and the external service provider, we determined that management controls are operating effectively within the TRS Risk Group and the external risk services provider (i.e., State Street) to achieve business objectives related to the investment risk monitoring processes, specifically risk measuring and reporting. However, we identified various areas that management should consider performing corrective action to further strengthen internal controls.

POSITIVE RESULTS

A. Controls for Identifying Risks and Risk Measures Relevant to the Trust

- Investment Consultants' inputs are included in the investment policy
- Investment Consultants categorize TRS's risk management policy and activities as best practice when compared to other public pension funds and on par with the leading practices of other investment funds in general.
- The Chief Risk Officer regularly participates in industry group meetings and discussions.
- Investment staff increases knowledge of industry practices on investment risk measurement and monitoring through in-house training and through knowledge sharing with other pension funds.
- Other pension funds are reporting similar risks and risk measures as TRS to their respective boards.

B. Controls for Accurately Measuring and Reporting Risk Profiles of the Trust to Management and the Board

- Risks defined by the Investment Policy Statement (IPS) are included in a semi-annual investment risk report to the Board and in other regular reports to management.
- Risk reports are reviewed by other Investment Management Division groups.
- Validation checks are in place to verify the accuracy of the system data interfaces with the external service provider used to develop Risk Management reports and risk alarms
- Risk measures (e.g., Value at Risk and Tracking Error) are reviewed by management and reported to the Internal Investment Committee (IIC) and the Board
- Service Provider had an independent model validation performed and has general IT controls in place around its risk reporting system
- Access to TRS managed databases and spreadsheets containing risk data is restricted

C. Controls to Monitor External Manager's Investment Performance and Risk Relative to Expectations

- Risk certifications including required evaluation criteria and approvals are submitted to the IIC for new managers prior to initial funding

- Investment Consultants submit an evaluation report and recommendation to the IIC for new managers prior to initial funding
- Risk Group monitors a metric called CuSum that generates a risk signal when a statistical threshold is reached by an external manager. This leads to a re-underwriting of the external manager by the External Public Markets Group, who reports the results of the re-underwriting to the Investment Committee.
- Follow up action for external managers triggered by CuSum risk signals is present and consistent with documented policy and procedures

SIGNIFICANT RESULTS²

No significant issues and recommendations were identified.

OTHER REPORTABLE RESULTS

Although internal and external controls are operating effectively to achieve business objectives, we identified the following areas of improvement and make the following recommendations to help ensure TRS's Investment Risk Management practices are continually improving and advancing.

1. Liquidity risk reporting should be included in the semi-annual Investment Risk Report to the Risk Management Committee of the Board of Trustees.

The Risk Group periodically produces liquidity reports for various IMD groups. Since liquidity risk is identified in the Investment Policy Statement and more Trust assets are allocated to illiquid Private Markets investments, such as private equity, real assets, and even hedge funds, monitoring liquidity of the Trust funds has become more important. In addition, through interviews with Investment Consultants and other Pension Funds, we found that including liquidity risk measures in the report to the Board would be a best practice for TRS.

Recommendation

We recommend that the Risk Group work with Board investment consultants to incorporate liquidity risk into the semi-annual Investment Risk Report to the Board.

Management's Action Plan

Management agrees with the recommendation. With assistance from investment consultants as well as obtaining information from other public pension funds or endowments, the Risk Group will add a liquidity analysis to the semi-annual report to the Risk Management Committee of the Board of Trustees. This analysis will be added to the next Board report in September, 2012.

² A significant result is defined as a control weakness that is likely to create a high risk of not meeting business objectives if not corrected.

2. Develop documentation detailing the TRS Value at Risk (VaR) methodology and reporting choices.

Upon our request, State Street provided a methodology document for how the TruView risk services application calculates VaR. The methodology document sufficiently describes the process at a high level including assumptions and their justifications. The methodology for the tracking error, scenario analysis, and beta analysis are also described.

We also requested that State Street provide a model validation report on the TruView risk services application. State Street provided a one-page letter from FTI Consulting indicating that a model validation was performed in accordance with State Street Model Governance Policy and the Model Validation Group's Operating Procedures. Per the letter, the model validation report is for State Street's sole use and cannot be shared with outside parties. Given the limited distribution, we created a model validation checklist and asked State Street to provide information regarding each model validation step. We reviewed State Street's responses and found that the model validation performed by FTI Consulting was comprehensive based on the functionality in TruView used by State Street for its clients. A State Street Managing Director in Investment Analytics vouched for the accuracy of what was provided by the State Street Risk Advisor. State Street noted that TRS assumes responsibility for the application of the model outputs in its reporting along with any methodology choices made by TRS.

Recommendation

We recommend that the Risk Group document the assumption and methodology choices made by them when using TruView to calculate VaR. Specifically, the Risk Group should document the following:

- Appropriateness of the model
- Model limitations
- Proxy techniques for illiquid assets
- Horizon and sampling methodology
- Confidence level
- Justification of VaR limits
- Reasoning for scenarios selected for stress testing

Management's Action Plan

Management agrees with the recommendation. The Risk Group, in conjunction with State Street, will document the suggested items by December 31, 2012. A copy of this document will be provided to Internal Audit.

3. TRS should request that State Street periodically perform independent model validations and general IT control reviews for its in-house risk services application, TruView, and provide the report to TRS.

State Street's TruView risk services application is responsible for calculating and reporting complex risk signals that are used by the TRS Risk Group and incorporated into TRS IIC and Board Reports. Because the output of the TruView application can have a significant impact on TRS investment risk management activities, it should be independently audited and validated for data integrity and appropriateness of risk signals.

In 2011, an independent consulting firm performed a model validation of the TruView application; however, due to confidentiality requirements, State Street was unable to provide the report to TRS. We did receive a letter from the consulting firm documenting at a high level an overview of the model validation it performed. Upon our request, State Street provided additional information about the level of review performed and answered questions about a finding reported in the letter from the consulting firm. Going forward, TRS should request that State Street continue to have periodic independent model validations and should work with State Street to identify a method to provide the report to TRS while retaining any necessary confidentiality.

In 2011, the general IT controls supporting TruView, were not reviewed or audited by TRS or an independent third party. However, State Street's IT Management provided a statement to TRS attesting that the general IT processes and general IT controls covering the TruView application are similar in nature and performance to the general IT processes and general IT controls that were documented and tested in the IFS Statement on Standards for Attestation Engagement (SSAE) 16 (*Reporting on Controls at a Service Organization Relevant to User Entities' Internal Control over Financial Reporting*) Review. In order to gain an independent assurance, going forward TRS should request that State Street expand the scope of the IFS SSAE 16 audit to include the TruView risk services application.

Recommendation

We recommend that TRS request State Street to:

- Continue to engage a qualified independent party to perform periodic (e.g., annual) model validations of the TruView application and provide the report to TRS, and
- Expand the scope of the current IFS SSAE 16 audit to include the TruView application, which will provide an independent validation of the general IT controls that are in place for TruView.

Management's Action Plan

Management agrees with this recommendation. The Risk Group will deliver a written request to State Street by June 30, 2012. This request will include both independent review and reporting of risk model validations and inclusion of the general IT controls of State Street's TruView system into the SSAE 16 review.

4. Include status updates of External Public Markets' (EPU) re-underwriting process for managers that trigger risk signals as part of the monthly risk signal report to the IIC.

Although our tests indicated that risk signals generated for external managers were followed up by portfolio managers, the status of EPU's re-underwriting process for managers that trigger risk signals is not being consistently reported to the IIC due to the lengthy time period involved in some cases. Without a monthly record of the re-underwriting status the IIC cannot be certain that each signal is followed up on in an appropriate and timely manner. The risk group should formalize the process it uses to obtain the status of EPU's re-underwriting and document it consistently in the IIC monthly report.

Recommendation

We recommend that the risk group consistently include status updates of EPU's re-underwriting process for managers that trigger risk signals.

Management's Action Plan

Management agrees with the recommendation. The Risk Group will provide a status update with each report to the Internal Investment Committee (IIC) beginning in June 2012.

We express our appreciation to IMD management and staff, specifically the Risk Group, for their cooperation, courtesy, and professionalism extended to us during this audit.



Amy Barrett, CIA, CPA
Chief Audit Executive



Hugh Ohn, CFA, CIA, CPA, FRM
Director of Investment Audit & Compliance

APPENDIX A

AUDIT OBJECTIVE, SCOPE, METHODOLOGY, AND CONCLUSION

We conducted this performance audit in accordance with generally accepted government auditing standards contained in the *Government Auditing Standards* issued by the Comptroller General of the United States and the *International Standards for the Professional Practice of Internal Auditing* issued by the Institute of Internal Auditors, Inc.

These standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our audit findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

AUDIT OBJECTIVE

The audit objective was to determine whether significant management controls are working effectively to achieve the business objectives and mitigate significant risks. Business objectives related to investment risk measurement and reporting are as follows:

- Identify all investment risks and risk measures relevant to the Trust
- Accurately measure and report the risk profile of the Trust to management and the Board
- Monitor external manager's investment performance and risk relative to expectations

SCOPE

The scope of the audit covered the business objectives, risks, controls, and processes related to the activities performed by the Risk Group of the Investment Management Division. The scope included an evaluation of the completeness and accuracy of the information prepared by the Risk Group. The scope also included an evaluation of IT general controls of State Street's investment risk services system ("TruView") that provides source data for risk reports related to TRS investments.

The audit scope did not include an evaluation of the entire investment risk management function since it would involve portfolio management activities across all major asset classes. Instead, our audit focused on the risk monitoring activities performed by the Risk Group, which mainly consist of measurement and reporting of investment-related risks to management and the Board.

METHODOLOGY

Our methodology analyzed management's business objectives and risks, and focused on key processes and monitoring controls that have been established to address significant risks. To meet the audit objective, we specifically performed the following procedures:

- Verified the existence of consultants' inputs into investment risks at TRS through interviews with Board investment consultants.

- Interviewed the TRS Audit Committee Chair to determine if TRS risk reporting to the Board was perceived to be complete, understandable, and relevant.
- Assessed the Risk Group staff's activities to keep up with industry practices on risk monitoring, including Chief Risk Officer's participation in risk management peer groups and conferences.
- Surveyed and inquired of other pension and endowment funds to obtain information about additional types of risks, risk measures, risk limits, or risk monitoring practices that might be appropriate or beneficial for TRS.
- Evaluated the appropriateness and accuracy of certain calculations of risk measures (including Value at Risk, Tracking Error, and CuSum) based on the most recently available data, which covers the time period from February 2006 to December 2011.
 - For VaR and Tracking Error:
 - Evaluated the sufficiency of State Street methodology document for how the TruView risk services application calculates VaR.
 - Created a model validation checklist and asked State Street to provide information regarding each model validation step. We reviewed State Street's responses to our model validation checklist for completeness and appropriateness.
 - Recalculated VaR using "dirty" backtesting, which involves using market indices and benchmark prices by asset class to recalculate historical VaR. We then compared the recalculated VaR ("dirty" backtesting) to the historical VaR originally calculated by State Street's TruView application for four sequential months to confirm that both VaR calculations were reasonably similar (i.e., within 30 to 50 basis points).
 - See **Appendix C** (pages 17-19) of this audit report for the VaR and Tracking Error risk measurements reported by the TRS Risk Group in the April 2012 Investment Risk Report to the Board.
 - For CuSum:
 - Assessed the CuSum calculation by creating a replica calculation based on the academic paper "Using Statistical Process Control to Monitor Active Managers" written by Thomas K. Philips, Emmanuel Yashchin, and David M. Stein and published in the Journal of Portfolio Management, Fall 2003.
 - Compared a) the results of the replica for the Artisan and Halcyon external managers to the numbers reported to the Investment Committee and b) the output of the CuSum function to the Artisan data.
 - Tested CuSum signals generated on sample external managers to determine whether follow-up action was taken on these managers by the External Public Markets.
- Evaluated the sufficiency and effectiveness of IT general controls around State Street's TruView application used to calculate VaR, and TRS's risk databases and spreadsheets, used to calculate CuSum signals that trigger the re-underwriting process. See **Appendix D** (pages 20-22) for the data flow diagrams for calculating these risk measures.
- Judgmentally selected a sample of new external managers hired by TRS from November 2010 through March 2012, and we confirmed that the Risk Group performed the appropriate Risk Certification procedures prior to hiring a new external manager.

CONCLUSION

Based on the audit work performed by Internal Audit and the external service provider (Protiviti), we determined that management controls are operating effectively to achieve business objectives related to the risk measurement and reporting performed by the TRS Risk Group.

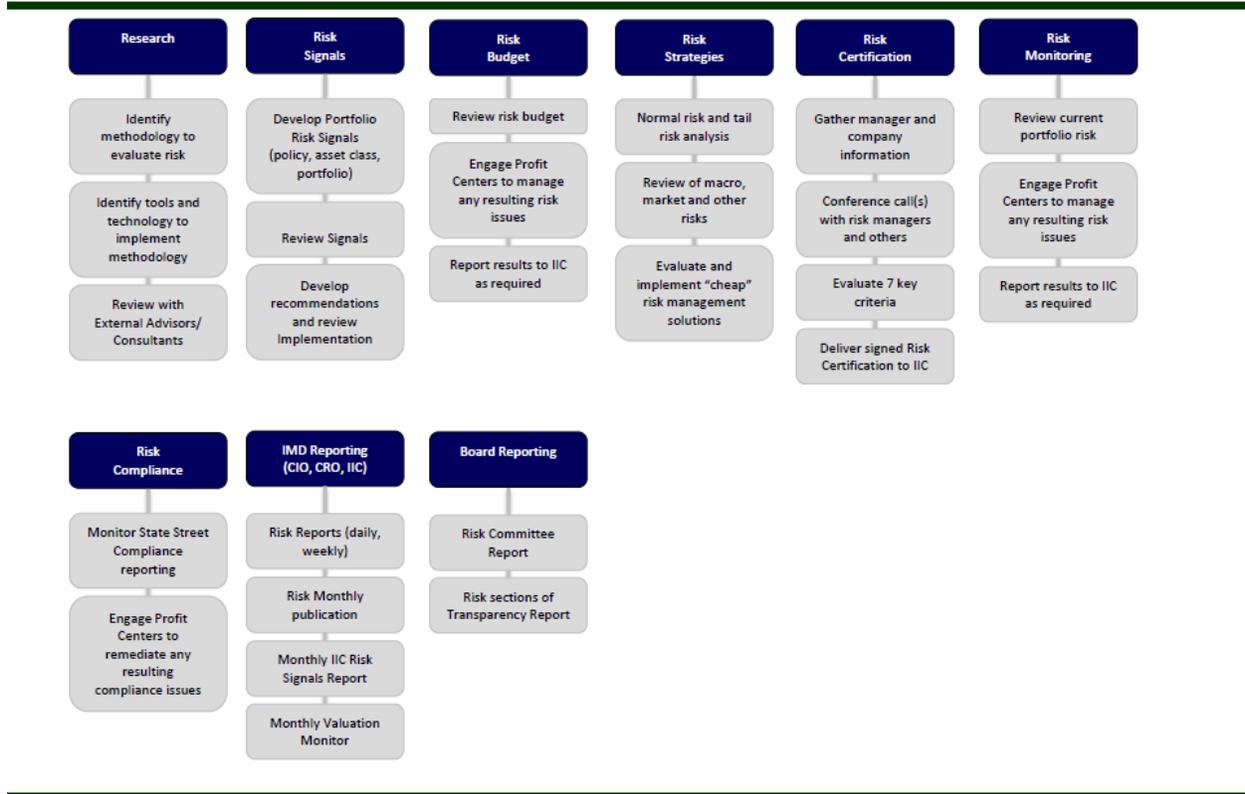
APPENDIX B.1

Investment Risk Group - Process Maps

The process maps below depict the various investment risk processes and activities that are performed by the Investment Risk Group.

Investment Process

PSE: Risk



APPENDIX B.2

Investment Risk Group - Mission and Team Members

The Risk Group is one of three groups within the Portfolio Strategy and Execution (PSE) Department, which is within the TRS Investment Management Division (IMD). The Risk Group is led by Jase Auby, who is also one of the eight members in the Internal Investment Committee (IIC).

The Risk Group's mission is to assist TRS' Investment Management Division (IMD) with the following:

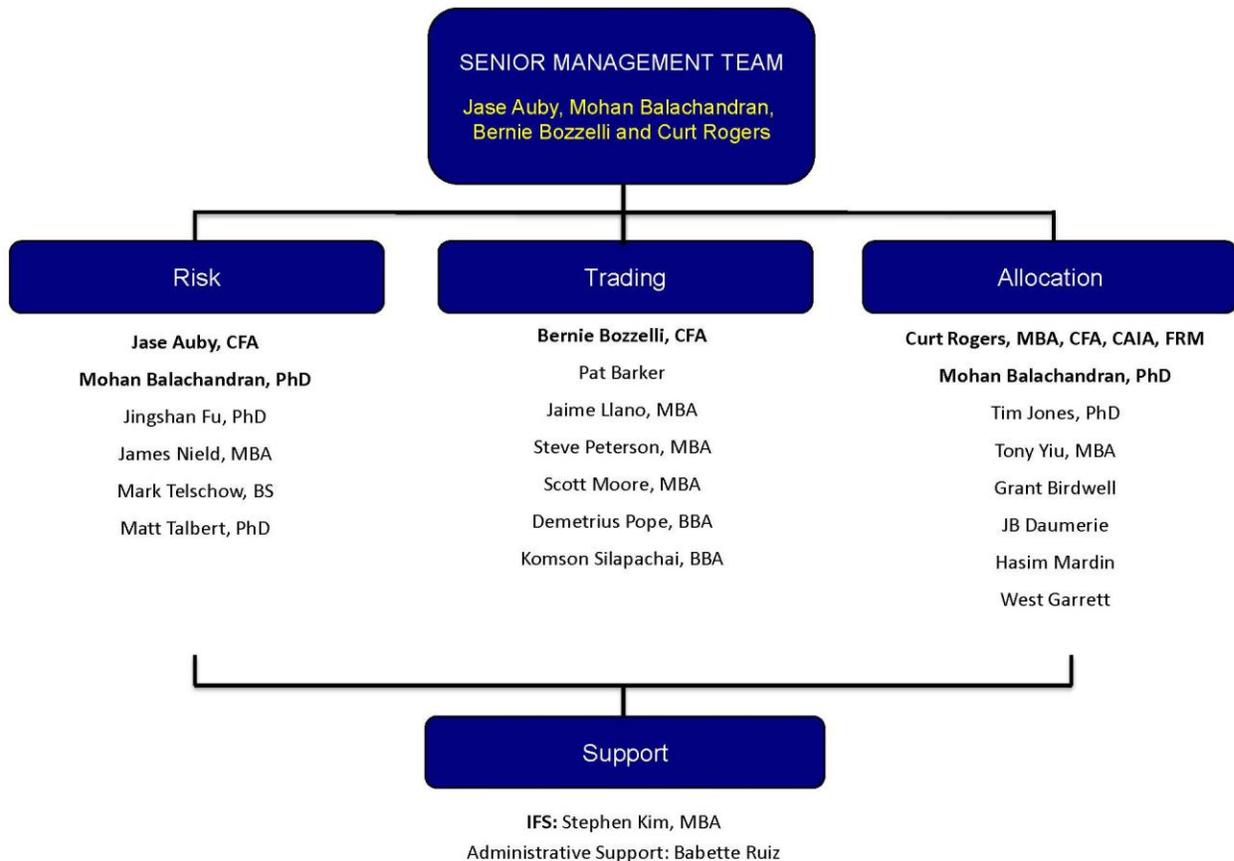
- Compliance
- Risk Monitoring
- Risk Certification
- Risk Signals
- Risk Budgeting
- Risk Strategies

The Risk Group Team includes:

- Jase Auby
- Mohan Balachandran
- Jingshan Fu
- James Nield
- Matt Talbert
- Mark Telschow

Portfolio Strategy and Execution (PSE) Team

As of March 1, 2012



APPENDIX C.1

Investment Risk Group Board Reporting – Summary Compliance

Below is an example of the summary level compliance reporting on the major risks included in the Investment Policy Statement (IPS).



Summary

Policy Requirements	Description	In Compliance?
1. Asset Allocation	In compliance with policy	✓
2. Value at Risk (VaR)	8.2% (68% of the VaR limit range)	✓
3. Tracking Error	In compliance with policy	✓
Total Public Fund	Tracking Error 142	As % of Max 47%
4. Leverages		
Total Trust		
Net Leverage	97.7% (Within historical norm)	✓
Gross Leverage	112.4% (Increased due to change to TAA)	✓
Real Assets		
Loan to Value	49.0% (Within historical norm)	✓
Security Lending		
Net Leverage	100.4% (Within historical norm)	✓
Gross Leverage	120.1% (Within historical norm)	✓
Hedge Fund		
Net Leverage	49.6% (Within historical norm)	✓
Gross Leverage	297.0% (Within historical norm)	✓
Strategic Partner		
Net Leverage	108.7% (Within historical norm)	✓
Gross Leverage	159.9% (Within historical norm)	✓
5. Counterparty		
Exposure	In compliance with policy	✓
Rating	In compliance with policy	✓
6. Derivative Exposures	In compliance with policy	✓

Summary	Asset Allocation	Value at Risk	Tracking Error	Leverage	Counterparty Risks	Derivatives	Conclusions	Appendix
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APPENDIX C.2

Investment Risk Group Board Reporting – Asset Allocation Risk Compliance

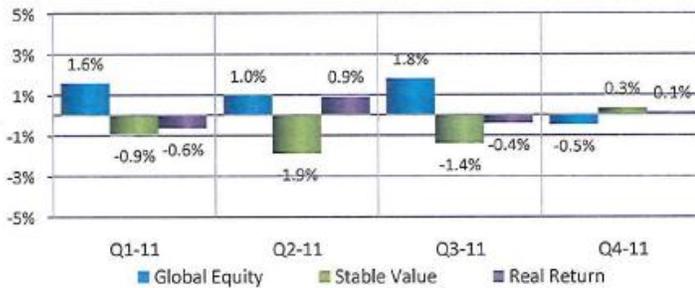
Below is an example of the Asset Allocation compliance as of 12/31/2011 and reported in the April 2012 Investment Risk Report to the Board.

Asset Allocation

Market Value % as of December 31, 2011



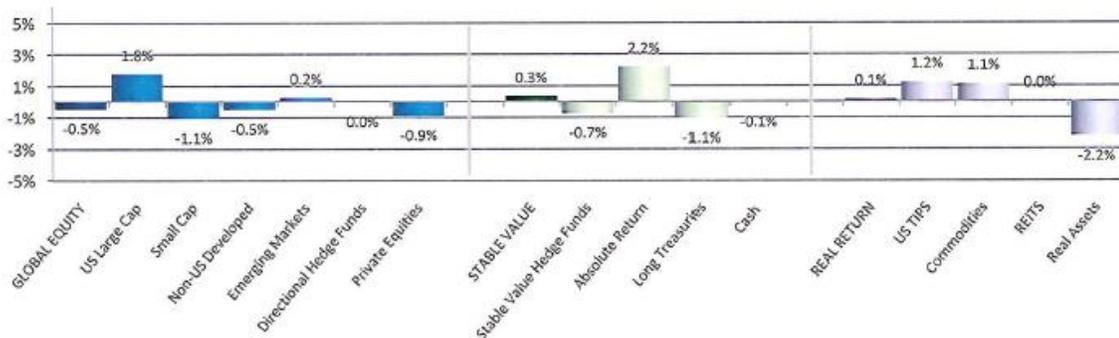
Group Active Allocation



Top Three Overweights	
Absolute Return	2.2%
US Large Cap	1.8%
US TIPS	1.2%

Top Three Underweights	
Real Assets	-2.2%
Small Cap	-1.1%
Long Treasuries	-1.1%

Asset Group/Class Active Allocation
(In Compliance with Policy)



APPENDIX C.3

Investment Risk Group Board Reporting - Tracking Error by Asset Class

Below is an example of the Tracking Error by Policy Asset Class as of 12/31/2011 and reported in the April 2012 Investment Risk Report to the Board. Tracking Error predicts the difference in returns between the managed portfolio and an equivalent investment in the market. Tracking error includes the effect of residual risk (risk not attributable to market influences) and market or systematic risk (beta is a measure of market risk).

Tracking Error

Annualized, as of December 31, 2011



Policy Asset Class Tracking Error

Policy Assets	Market Value (Billions)	Current Forecast (bp)	3 Year Realized (bp)
US Large Cap	\$ 20.6	162	208
US Small Cap	1.0	511	235
Non-US Developed	15.1	121	177
Emerging Market	10.7	209	252
Directional Hedge Funds	5.2	293	^[1]
US Treasuries	12.4	9	114
Absolute Return	2.3	696	826
Stable Value Hedge Funds	3.4	220	364
Cash	1.0	9	211
Global Inflation Linked Bonds	6.5	30	31
Commodities	1.2	2,031	788
REITS	2.1	163	266
Total Public Assets	81.3	75	142
Private Equity	11.5	^[2]	388 ^[3]
Real Assets	11.2	^[2]	444 ^[3]
Total Private Assets	22.8	^[2]	371^[3]
Total TRS Policy Assets	\$ 104.0	^[2]	213

Policy target is 100 bp and policy maximum is 300 bp

^[1] Realized tracking error cannot be calculated due to the short history of this portfolio.

^[2] Not modeled due to lack of transparency for the benchmarks.

^[3] Tracking error assuming current benchmark for entire period.

Source: State Street Bank

Summary	Asset Allocation	Value at Risk	Tracking Error	Leverage	Counterparty Risks	Derivatives	Conclusions	Appendix
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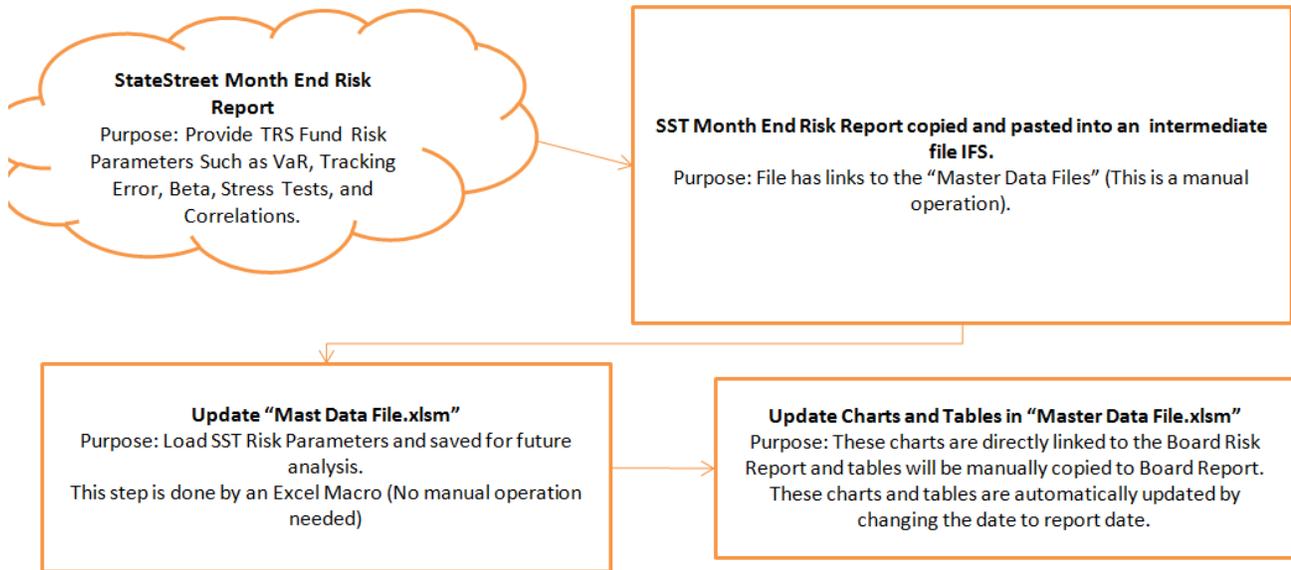
APPENDIX D.1

Investment Risk Group Data Flow - Value at Risk (VaR) and Forecasted Tracking Error (TE)

The data flow diagram below depicts the process and applications / databases / spreadsheets used to calculate VaR and Forecasted TE State Street and transfer this data from State Street to TRS.



Data Flow – VaR and Forecasted TE



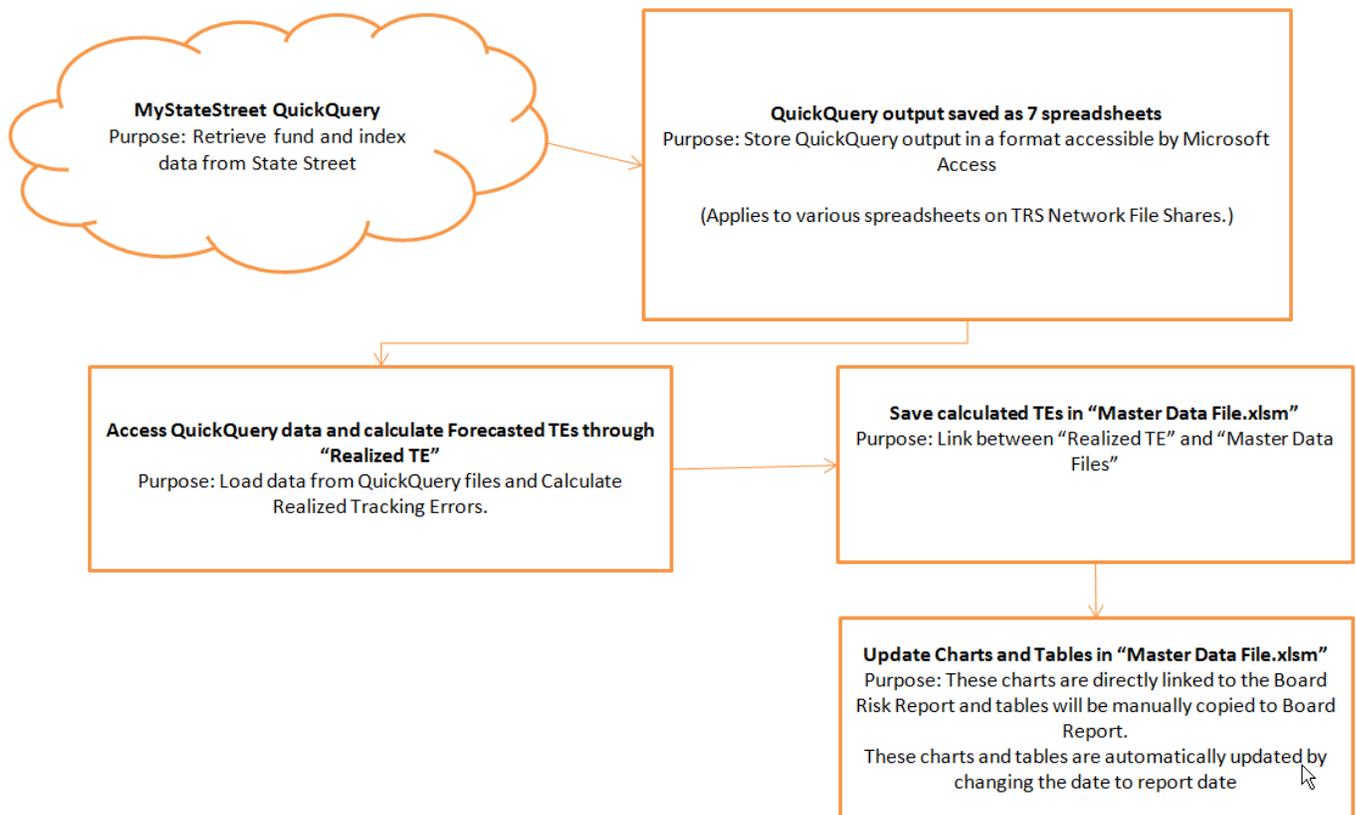
APPENDIX D.2

Investment Risk Group Data Flow - Realized Tracking Error (TE)

The data flow diagram below depicts the process and applications / databases / spreadsheets used by the TRS Risk Group to calculate Realized TE.



Data Flow – Realized TE



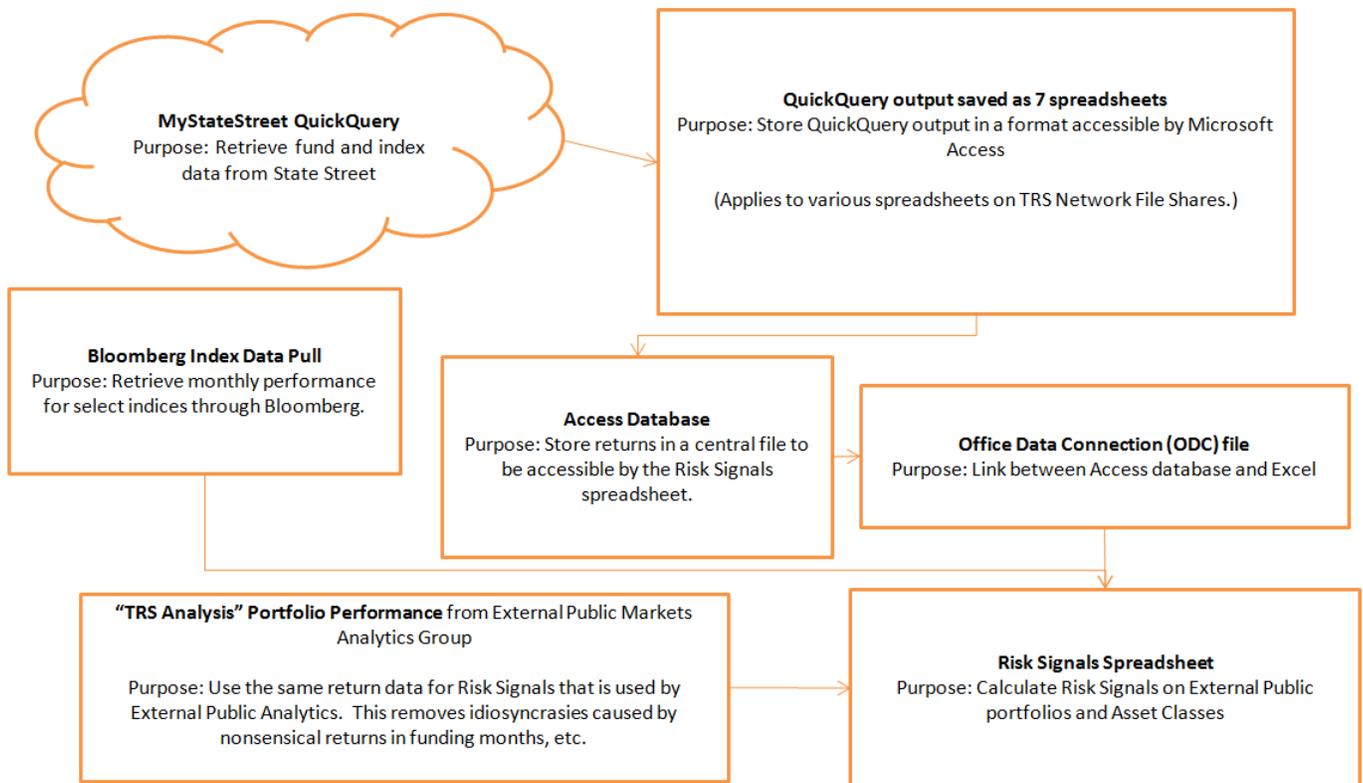
APPENDIX D.3

Investment Risk Group Data Flow - Risk Signals

The data flow diagram below depicts the process and applications / databases / spreadsheets used by the TRS Risk Group to calculate Risk Signals, such as CuSum.



Data Flow – Risk Signals



TAB 3C

QUARTERLY TESTING – INVESTMENT POLICY STATEMENT (IPS) AND SECURITIES LENDING POLICY (SLP)
CALENDAR QUARTER ENDED MARCH 31, 2012, EXCEPT AS NOTED

Business Objectives	1. <u>Board Reports</u> All required information is reported to the TRS Board of Trustees	2. <u>Investment Selection and Approval</u> Investments made are within delegated limits & established selection criteria	3. <u>Investment Management Agreements (IMA)</u> Investment management agreements are consistent with IPS	4. <u>Other (IPS, SLP)</u> Risk limits are followed for other investment programs and activities	5. <u>Monitoring by Investment Compliance Specialist</u> Investment activities comply with IPS (for the two months ended April 30, 2012)
Business Risks	Board is not informed of key investment decisions & critical data	Approvals and funding exceed delegated limits	External managers take more risk than approved by TRS	Risks exceed board established tolerances	Noncompliance is undetected or not timely resolved
Management Assertions	All required reports are made to the board	Approval and funding are within limits and made for qualified managers	Investment management agreements are consistent with IPS requirements	Programs are within risk limits	Investment activities comply with investment policies (proxy, securities lending, IPS)
Agreed-Upon Procedures	Compare board reports to IPS requirements. Obtain underlying supporting documentation for the following reports: Counterparty Exposure, Value at Risk, Leverage, and Tracking Error	Vouch Internal Investment Committee approved investments to supporting documentation	Compare provisions of IMA with IPS. Obtain documentation from Investment Management Division (IMD) staff that supports rebalancing analytics	Obtain senior management disclosures about known compliance violations. Validate monitoring of securities lending program	Perform various compliance checks and monitor State Street's daily compliance reports
Test Results	A summary of four new managers' responses to the IPS Appendix A Questionnaire was not included in the report to the Board. However, IMD did obtain the required responses to the questionnaire.	All supporting documentation exists	All provisions of IMA are within IPS parameters	All other requirements of the IPS and SLP are in compliance	No exceptions
Management Responses	The four new investments were inadvertently excluded from the Summary Reports. IMD will include this information in the next Summary Report.	None	None	None	None

Legend: **Red** - Significant to TRS **Orange** - Significant to Business Objectives **Yellow** - Other Reportable Exception **Green** - Positive Test Result/ No Exception



May 23, 2012

Britt Harris, Chief Investment Officer

We have completed the **Quarterly Testing of compliance with the requirements of the Investment Policy Statement (IPS) and Securities Lending Policy (SLP)** as included in the *Fiscal Year 2012 Audit Plan*.

We performed the procedures listed below that were agreed to by management of the Investment Management Division (IMD). These procedures include tests that supplement the current compliance monitoring procedures performed by the State Street and Senior Investment Compliance Specialist.

This agreed-upon procedures engagement was performed in accordance with generally accepted government auditing standards contained in the *Government Auditing Standards* issued by the Comptroller General of the United States.

The sufficiency of the agreed-upon procedures performed is solely the responsibility of the specified users of the report. Consequently, we make no representations regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

The results of testing indicated the following exceptions:

- A summary of four new managers' responses to the IPS Appendix A Questionnaire was not included in the report to the Board.

Our testing procedures and results are included in **Appendix A**. The monitoring results of the Investment Compliance Specialist are included in this report in **Appendix B**.

Internal Control Structure

We were not engaged to and did not perform an examination of the internal controls nor the operating effectiveness pertaining to the subject areas tested. Accordingly, we do not express an opinion on the suitability of the design of internal controls nor the operating effectiveness of the subject areas tested.

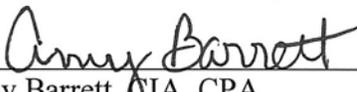
Had we performed additional procedures, or had we made an examination of the system of internal control, other matters might have come to our attention that would have been reported to

you. This report relates only to the procedures specified above and does not extend to the internal control structure.

This report is intended solely for information and use by TRS management, the Board of Trustees, and oversight agencies, and is not intended to be and should not be used by anyone other than those specified parties. However, this report is a matter of public record and its distribution is not limited.

* * * * *

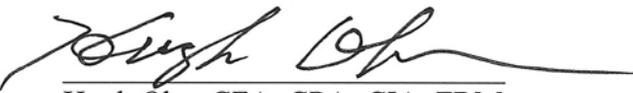
We express our appreciation to management and key personnel of the Investment Management Division for their cooperation and professionalism shown to us during this quarterly testing.



Amy Barrett, CIA, CPA
Chief Audit Executive



Dinah G. Arce, CIA, CPA, CFE, CIDA
Senior Auditor



Hugh Ohn, CFA, CPA, CIA, FRM
Director of Investment Audit and Compliance

APPENDIX A

AGREED UPON PROCEDURES AND RESULTS

STEP #	OBJ. #	TEST PURPOSE	TEST DESCRIPTION	TEST RESULT	MANAGEMENT RESPONSE
1	1	IPS Article 1.7 - Verify that all requirements were reported to Board of Trustees	<ul style="list-style-type: none"> Obtain copies of all reports required to be reported to the Board of Trustees for the testing period. Compare the report information to the required information per the IPS. 	<ul style="list-style-type: none"> Obtained copies of all required reports. Reports contained the required reporting information. 	No response required
2	2	Article 2.6 – Verify that IMD evaluated hedge fund classification	Obtained a list of approved public market investments from IIC materials and verified IMD performed analysis which determined the classification of each investment. For any analysis requiring Board of Trustee approval of classification, obtained the Board minutes to verify whether such approval was provided.	All external manager and hedge fund investments were evaluated and classified. There were no investments that required approval by the Board of Trustees.	No response required
3	2	Article 2.7a – Verify that external manager and hedge fund investments approved during quarter do not exceed the total fund allocation limits specified in the IPS	For the sample selected, compare amounts approved to the fund allocation limits (i.e., 0.5 percent of the total fund for initial investment, 1 percent for subsequent investments) per the IPS by comparing approved funding amounts to amount of the total fund assets.	Amounts approved did not exceed the allocation limit of the IPS.	No response required
4	2	Article 6 – Test compliance with Emerging Managers Program criteria	Obtain documentation of IMD efforts to identify and expand its investments with qualified emerging managers. Inquire how target allocation and maximum funds-of-funds mandates are met, as specified in Appendix D of the IPS.	We obtained documentation of IMD efforts to identify and expand its investments with qualified emerging managers and how target allocations are being met.	No response required
5	4	IPS Appendix A – Test for compliance with tracking error limits	Discuss with staff various tracking error reports for the different portfolios as well as the total fund for the testing period. Select a sample of tracking error reports and compare to tracking error policy limits.	Reports tested indicated tracking error was within policy limits.	No response required

STEP #	OBJ. #	TEST PURPOSE	TEST DESCRIPTION	TEST RESULT	MANAGEMENT RESPONSE
6	2	IPS Appendix B – Test total exposure of each organization and approvals of special investment opportunities	<ul style="list-style-type: none"> • For each investment selected for testing, observe the approved amount is within the authorized limits. • Obtain documentation from IMD staff that supports the calculations of the authorized limits. • Inquire if any “Special Investment Opportunities” were made for the quarter, and if so: <ul style="list-style-type: none"> - Obtain documentation that the Special Investment Opportunity was either a distressed situation or market dislocation. - Obtain documentation that the CIO notified the ED of each Special Investment Opportunity - Obtain documentation that the CIO and the ED requested comments from the chairman of the appropriate board committee and TRS consultants and advisers. - Verify that the Special Investment Opportunity did not exceed \$1 billion. - Verify that no further investment in a special Investment Opportunity was made until the board reauthorized the CIO’s authority to designate a Special Investment Opportunity. 	<ul style="list-style-type: none"> • For the sample selected for testing, no manager or partner organization exceeded the 6 percent total exposure limits. • For the sample selected for testing, obtained documentation from IMD staff that supported the calculations of the authorized limits. • There have been no investments in Special Investment Opportunities. 	No response required
7	3	IPS Addendum Appendix A Questionnaire (Political Contributions; Improper Influence; Placement Agents and Finders) - Verify managers’ responses to the Questionnaire are	<ul style="list-style-type: none"> • For each investment selected for testing, verify that a response to the questionnaire exists for each new manager. • Determine that investment staff compiled responses to the questionnaires and reported results 	<ul style="list-style-type: none"> • Each investment tested had a completed questionnaire. • A summary of managers’ responses to the Appendix A Questionnaire for four new investments approved during 	<ul style="list-style-type: none"> • No response required • The four new investments were inadvertently excluded from the Summary Reports. IMD will include

STEP #	OBJ. #	TEST PURPOSE	TEST DESCRIPTION	TEST RESULT	MANAGEMENT RESPONSE
		being obtained and reported to the Board	to the Board semi-annually. Verify that reports included the required information.	the prior quarter ending December 31, 2011 was not included in the report to the Board. However, IMD did obtain the required responses to the questionnaire.	the information for these new investments in the next Summary Report.
8	5	Disclose compliance issues identified by Senior Investment Compliance Specialist	Obtain the investment compliance report from the Senior Investment Compliance Specialist.	We obtained the investment compliance report. Refer to Appendix B	Refer to Appendix B
9	4	Obtain disclosures from Investment Senior Managing Directors, Legal Investment staff, and Chief Investment Officer (CIO) regarding their knowledge of compliance violations	Send request for disclosure to IMD Senior Managing Directors, Legal Investment staff, and Chief Investment Officer (CIO) requesting disclosure of any known compliance violations for the period March 1, 2012 through April 30, 2012. Report violations to the Senior Investment Compliance Specialist for reporting to the Board of Trustees.	We obtained all disclosures from IMD Senior Managing Directors, Legal Investment staff, and the CIO.	No response required

Note: Testing procedures for the Investment Policy Statement (IPS), Securities Lending Policy (SLP), are for the quarter ending March 31, 2012, except as noted.

APPENDIX B

COMPLIANCE WITH INVESTMENT AND RELATED POLICIES As of and for the two months ended April 30, 2012

Policy	Compliance Exceptions	Reportable Exceptions	Management Responses
Investment Policy Statement (IPS)	No	None	N/A
Securities Lending Policy (SLP)	No	None	N/A
Proxy Voting Policy	No	None	N/A

-  Unsatisfactory progress is being made or there have been significant delays in resolving issue.
-  Timely or satisfactory progress is being made toward resolving issue.
-  No exception or satisfactorily resolved issue.

TAB 4

**TRS Internal Audit
Summary of Audit Recommendations Status
May 2012**

Project	Recommendation	Status	Issue Type	Estimated Date	Revised / Actual Date
10-504 Monitoring Controls - Network Access Management					
	Implement processes and procedures to protect confidential data	Implemented	Significant	8/2011	4/2012
11-305 Investment Travel Paid by Third Parties					
	Develop Investment Management Division (IMD) travel policy	In Progress	Other Reportable	8/2011	12/2012
11-306 Investments Performance Calculations and Reporting					
	Include the performance calculation methodology used by State Street in TRS written operating policies and State Street Service Agreement	In Progress	Other Reportable	8/2011	1/2013
	Work with State Street to ensure that consistent investment returns for cash are reported to the Board	In Progress	Other Reportable	8/2011	9/2012
11-307 Actively-Managed Internal Equity Portfolios, including Commission Sharing Arrangements (CSA)					
	Store emails containing reasons for trade decisions in a document management system	In Progress	Other Reportable	5/2012	12/2012

Significant to Business Objectives

	<ul style="list-style-type: none"> Past <i>original</i> estimated completion date No management action plan <u>or</u> No progress on management action plan
	<ul style="list-style-type: none"> Past <i>original</i> estimated completion date Progress on management action plan
	<ul style="list-style-type: none"> <i>Original</i> estimated completion date has not changed Progress on management action plan
	Satisfactory implementation of management action plan <u>or</u> Acceptance of risk by management

Other Reportable

	<ul style="list-style-type: none"> Past <i>original</i> <u>or</u> first <i>revised</i> estimated completion date No management action plan <u>or</u> No progress on management action plan
	<ul style="list-style-type: none"> Past <i>original</i> <u>or</u> first <i>revised</i> estimated completion date Progress on management action plan
	<ul style="list-style-type: none"> Within <i>original</i> <u>or</u> first <i>revised</i> estimated completion date Progress on management action plan
	Satisfactory implementation of management action plan <u>or</u> Acceptance of risk by management

**TRS Internal Audit
Summary of Audit Recommendations Status
May 2012**

Project	Recommendation	Status	Issue Type	Estimated Date	Revised / Actual Date
12-401 Building Security					
	Card access procedures should be formalized, documented, implemented and include roles and responsibilities	In Progress	Other Reportable	7/2012	
	Procedure manual should include all tasks and a process to periodically review and update the procedure manual	In Progress	Other Reportable	10/2012	
12-402 Investment Accounting					
	Define and perform monitoring activities for the securities lending program	In Progress	Other Reportable	6/2012	
10-601 Human Resources Recruitment and Selection Policies and Procedures					
	Strengthen contractor workforce practices and controls	In Progress*	Consulting	10/2010	5/2012
	Strengthen recruitment and selection practices	In Progress*	Consulting	10/2010	6/2012

* See page 3 for more information on the status and management actions.

TRS Internal Audit
Summary of Management Actions for Significant Past Due Recommendations
May 2012

10-601 Human Resources Recruitment and Selection Policies and Procedures (Consulting Project)

Strengthen contractor workforce practices and controls

Contract Worker Task Force met on April 30th and will meet next on May 8th. Draft Contract Worker Procedure document is almost complete. Task Force also identified the need for several checklists for managers which are currently being developed. Human Resources staff is maintaining the tracking spreadsheet, updating for new contract workers and those who have left. The revised estimated completion date is May 31, 2012 as previously reported in April 2012 Audit Committee.

Strengthen recruitment and selection practices

Draft policy and procedures have been prepared and submitted to Legal Services for initial review. The retirement of the Director of Human Resources has placed this action on hold until a new Director is hired. The revised estimated completion date is June 30, 2012 as previously reported in the April 2012 Audit Committee.

Note: The new Human Resources Director was hired effective May 1, 2012.

TAB 5

TAB 5A

MEMORANDUM

TO: Audit Committee Members, TRS Board of Trustees
Mr. Brian Guthrie, Executive Director

FROM: Amy Barrett, Chief Audit Executive
Karen Morris, Senior Audit Manager

SUBJECT: SURVEY OF PUBLIC PENSION FUNDS – EMPLOYER AUDITS

DATE: May 14, 2012

We have completed our survey of public pension funds regarding employer audits as included in the *Fiscal Year 2012 Audit Plan* and the *TRS Internal Audit 2012-2016 Strategic Plan*.

The purpose of our survey is to identify current activities of public pension funds in the area of employer audits. Survey results will be considered in the development of options for future TRS employer audits. Those options, and evaluation of feasibility and costs associated with those options, will be presented at the September 2012 Audit Committee.

Highlights of the survey results include the following:

- Employer audits were established more than 10 years ago primarily due to increases in intentional and unintentional errors by employers
- Specific risks covered by employer audits include ineligible compensation, reporting of ineligible participants, non-reporting of eligible participants, employment after retirement issues, and service credit manipulation
- Audit scope includes eligibility, compensation, service credit, and member and employer contributions
- Internal audit staff typically conduct employer audits
- Internal staff perform internal monitoring of employer data including data mining by internal auditors to identify errors, anomalies, and trends
- Statistics on the annual cost to conduct employer audits are not maintained by most funds; only half of the funds surveyed track recovery amounts; recoveries varied significantly by fund
- Additional penalties to the employer for noncompliance are typically assessed by funds

We also surveyed public pension funds that do not perform employer audits. The majority of funds who responded stated that they are not performing employer audits due to a lack of perceived high risks and resources.

Please see the attached report for the detailed responses and specific survey questions.

TRS INTERNAL AUDIT

SURVEY OF PUBLIC PENSION FUNDS

EMPLOYER AUDITS

May 2012

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EXECUTIVE SUMMARY

We have completed our study of public pension funds regarding employer audits as included in the *Fiscal Year 2012 Audit Plan* and the *TRS Internal Audit 2012-2016 Strategic Plan*.

Nationally, many public pension funds have audit teams that audit the accuracy and completeness of payroll and personnel data sent by the respective fund's employers. TRS Internal Audit currently does not perform employer audits. Executive management has expressed interest in the possibility of conducting future employer audits.

The purpose of our study is to determine what other public pension funds are currently doing in the area of employer audits and to include these survey results in our development of options for future TRS employer audits. The options and evaluation of feasibility and costs associated with these options will be presented at the September 2012 Audit Committee.

Our study included two surveys with focus on two different groups:

- Pension funds currently performing employer audits ([Survey 1](#))
- Pension funds not currently performing employer audits ([Survey 2](#))

Survey 1

TRS Internal Audit conducted a survey of fifteen public pension funds that currently perform employer audits. Out of the fifteen funds surveyed, thirteen funds responded. The detailed **results of the survey** are included on **pages 4 - 33** and a list of the participating public pension funds are on **page 35**.

The survey was divided into the following categories with specific questions per category. We noted several key results from the survey under each category as follows:

1. History and background of employer audits
<ul style="list-style-type: none">• 77% of funds began employer audits greater than 10 years ago• 62% of funds began employer audits due to increase of errors, unintentional and intentional, on the part of employers• 69% responded that the financial statement auditors do not require employer audits in order to opine on the financial statements• 23% of the funds have greater than 2000 employers with another 23% responding between 500 and 1000 employers• 85% of funds reported that their employers include independent school districts, junior colleges, and local and state government agencies. Additionally, 69% and 77%, respectively, reported charter schools and senior universities as participating employers.• 46% of the funds stated the Legislature determines the member and employer contribution rate, with 23% responding that it is a combination of the fund's Board of Trustees and the Legislature that determines the respective rates• 92% of funds provide compliance training to employers on the respective rules and laws• 77% of funds perform internal monitoring of employer reporting data to identify errors, anomalies, and trends

<p>2. Resources involved in conducting employer audits</p> <ul style="list-style-type: none"> • 85% of funds reported that Internal Audit staff performs employer audits • 77% of the funds states that other state entities are not involved in employer audits and not relying on employer audit results or auditing some element at the state level • 46% have internal resources from 2 to 5 employees/contractors resourced to employer audits, whether it is conduct of the audit itself, process to recover monies, litigation, or other • 62% of the funds perform greater than 20 audits on average per year • 85% of the funds do not keep statistics of the annual cost to conduct employer audits
<p>3. Audit process</p> <ul style="list-style-type: none"> • 100% of funds reported that ineligible compensation, reporting of ineligible participants and non-reporting of eligible participants were specific risks covered by employer audits. Additionally, 92% reported that service credit manipulation and employment after retirement (return to work) were other risks being covered by employer audits. • 62% use risk assessment and results from internal monitoring of employer errors and anomalies in deciding which employers to audit. 77% of funds used other methods such as auditing all funds over a 3 or 5 year cycle, or through referrals from other business units within the fund. • 100% of funds include compensation and eligibility in the scope of the employer audit. Also, 85% and 69% include service credit, and member and employer contribution respectively in the scope • 100% of funds perform audit procedures to compare payroll records to records maintained by the funds. 92% of funds perform procedures to determine if all eligible members are contributing and retirees returning to work are in compliance. • 69% of the funds perform audit work under professional auditing standards • 77% perform data mining of employer data sent to the fund through electronic files • 85% of the funds conduct the audits through a combination of desk audits and physical audits at the employer's location • 46% of the funds spend greater than 200 hours for each employer audit
<p>4. Audit findings and recovery amounts</p> <ul style="list-style-type: none"> • 100% of the funds responded that common audit findings over the last 2 years occurred with compensation, 92 % responded that the findings pertained to eligibility, and 77% responded the findings pertained to return to work • 39% of funds allow 1 to 3 months for employers to comply with an audit finding and make corrections and payments • 69% of funds charge additional penalties to the employer for noncompliance • 46% of the funds keep statistics on recovery amounts. Of those, 33% reported average annual recovery amounts greater than \$20,000 over the last five years with the range being \$40,000 to \$3 million annually.
<p>5. Audit reports</p> <ul style="list-style-type: none"> • 92% of the funds distribute the final audit report to the employers. None distribute the final audit report to legislative bodies. • 54% of the funds discuss the audit reports at the Audit Committee • 77% of the funds indicate that the audit report is a public document • 46% of the funds indicate that the audit working papers are a public document
<p>6. Challenges faced</p> <ul style="list-style-type: none"> • Access to employer data • Turnover of employer staff and audit staff; scheduling and travel • Lack of understanding of the laws, rules and regulations on the part of employer staff • Lack of responsiveness and cooperation from employers • Different payroll systems across employers

Survey 2

TRS Internal Audit surveyed the entire membership of the Association of Public Pension Fund Auditors (APPFA) to determine why some public pension funds are not currently performing employer audits. Sixteen funds participated in the survey.

The responses indicated that the majority of the funds who responded are not performing employer audits due to:

- Lack of resources
- No perceived high risks

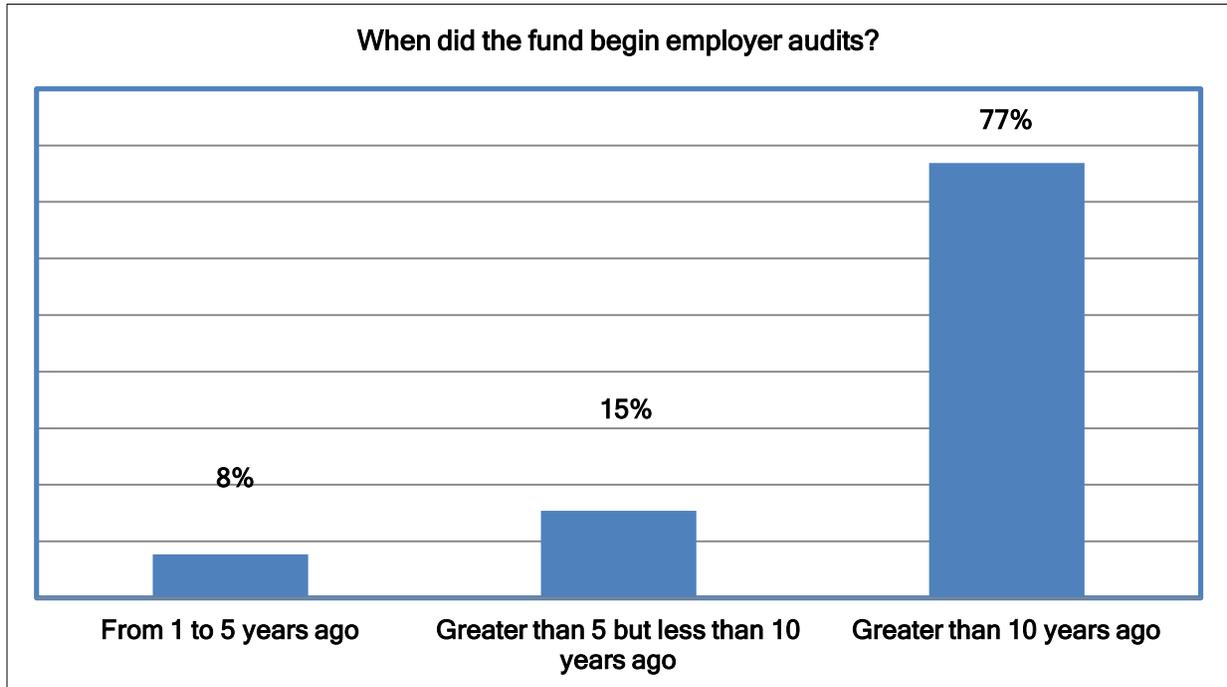
However, two of the sixteen funds indicated that they may be performing future employer audits due to:

- The fund's external auditors stated that there is a need for the internal auditors to conduct employer audits to provide assurance that the information provided by the employers is reliable

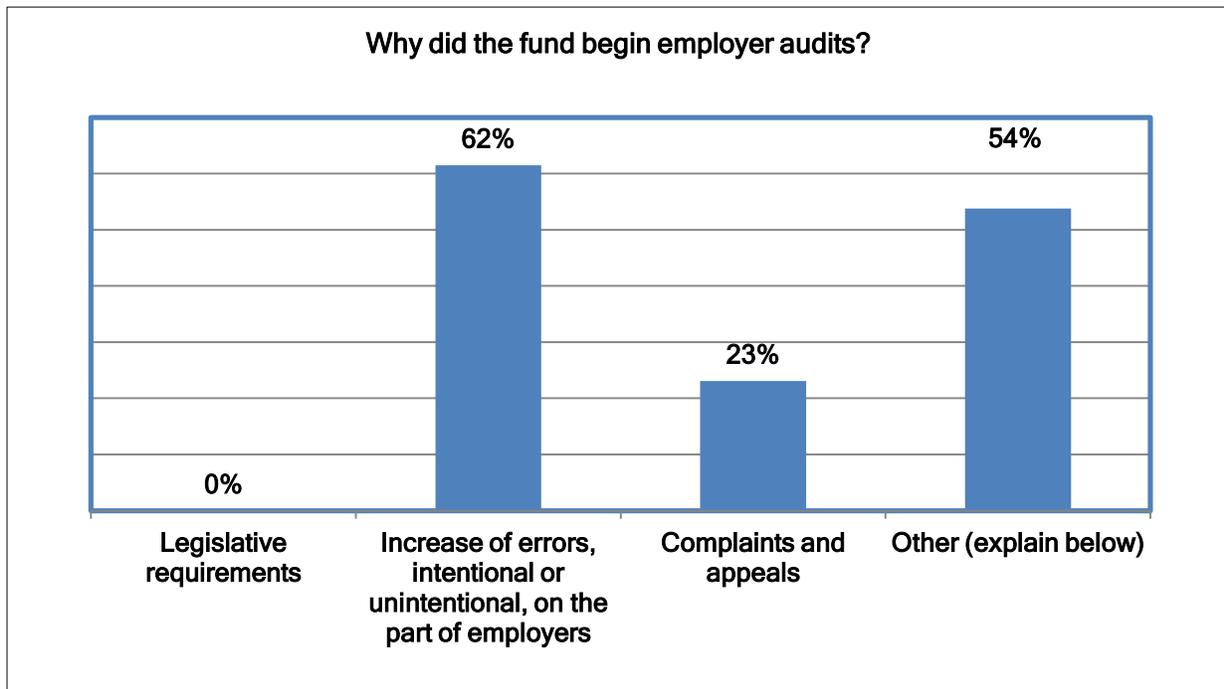
The detailed results of this survey and the list of participating pension funds are included on pages 34 and 35, respectively.

SURVEY 1 – Survey of Funds Currently Performing Employer Audits

1. HISTORY AND BACKGROUND OF EMPLOYER AUDITS (pp. 4 – 10)



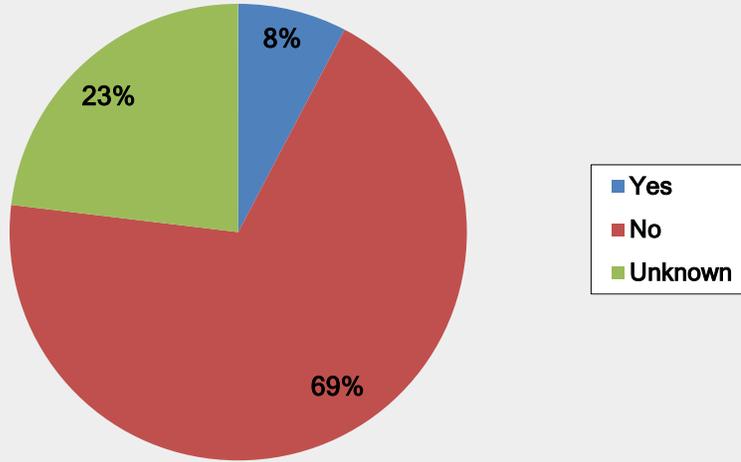
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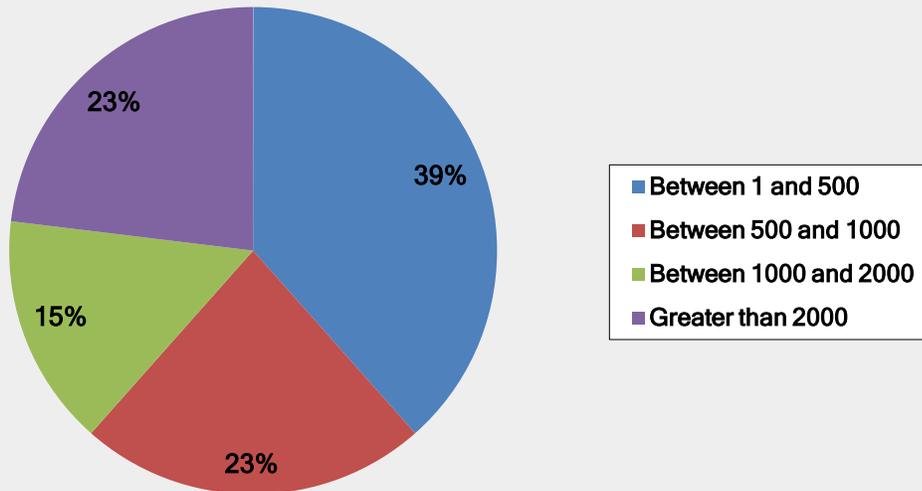
Other (explanation):

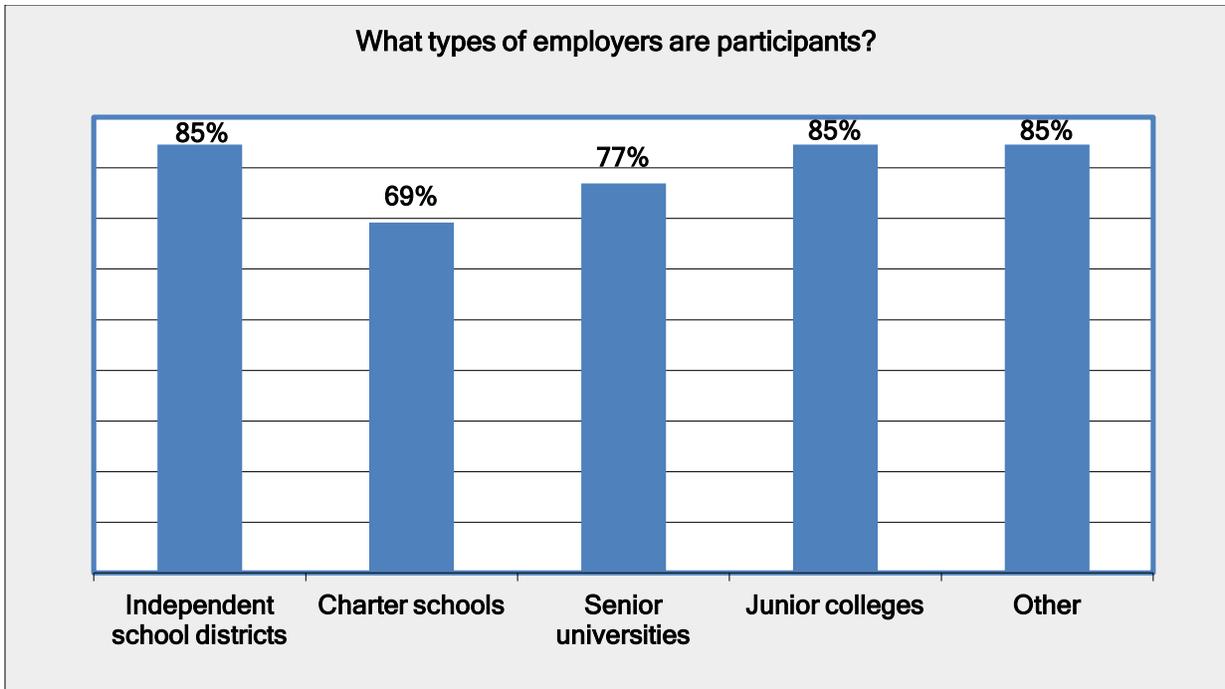
- Errors in general not necessarily an increase in errors; important initiative by the audit committee
- Risk-based decision
- Verification that the employers are following the fund’s law as it pertains to salary and working after retirement
- Ensure compliance with reporting returning to work retirees, correct reporting of compensation, and correctly reporting eligible positions to a retirement system
- Employers were not properly understanding the statutes and reporting correctly
- An independent fiduciary audit suggested beginning employer audits
- Concerns regarding pension spiking

Do your financial statement auditors require employer audits of certain data in order to opine on the financial statements?



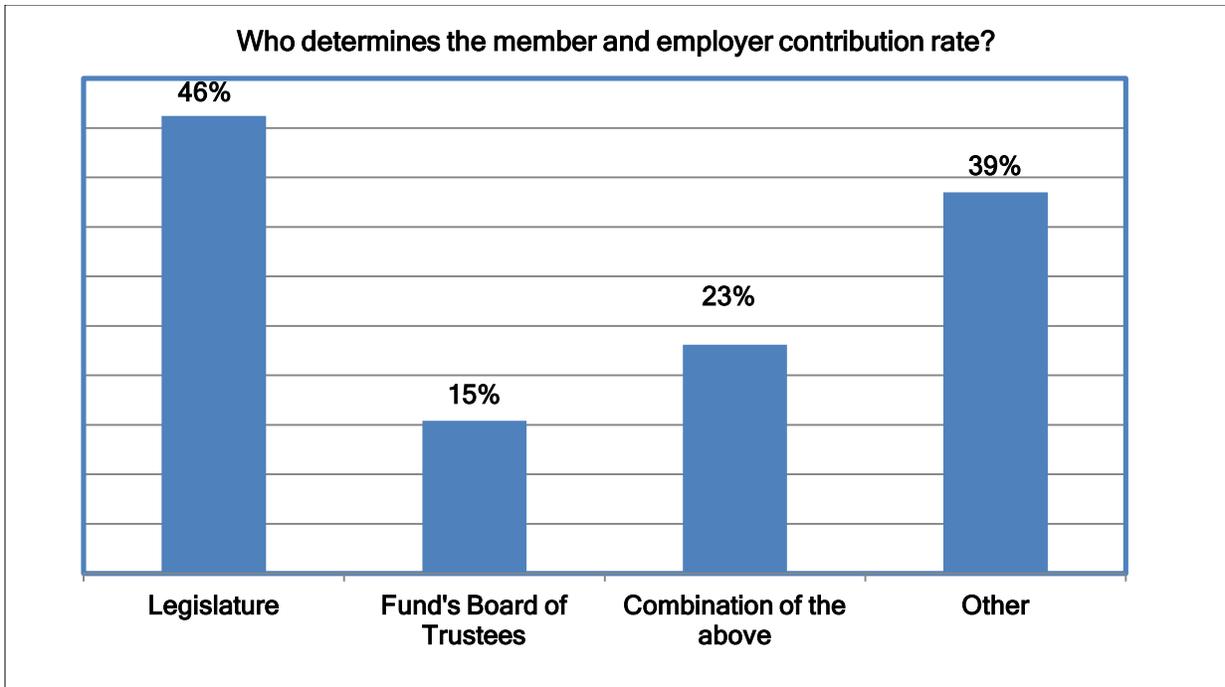
How many employers does your fund have?





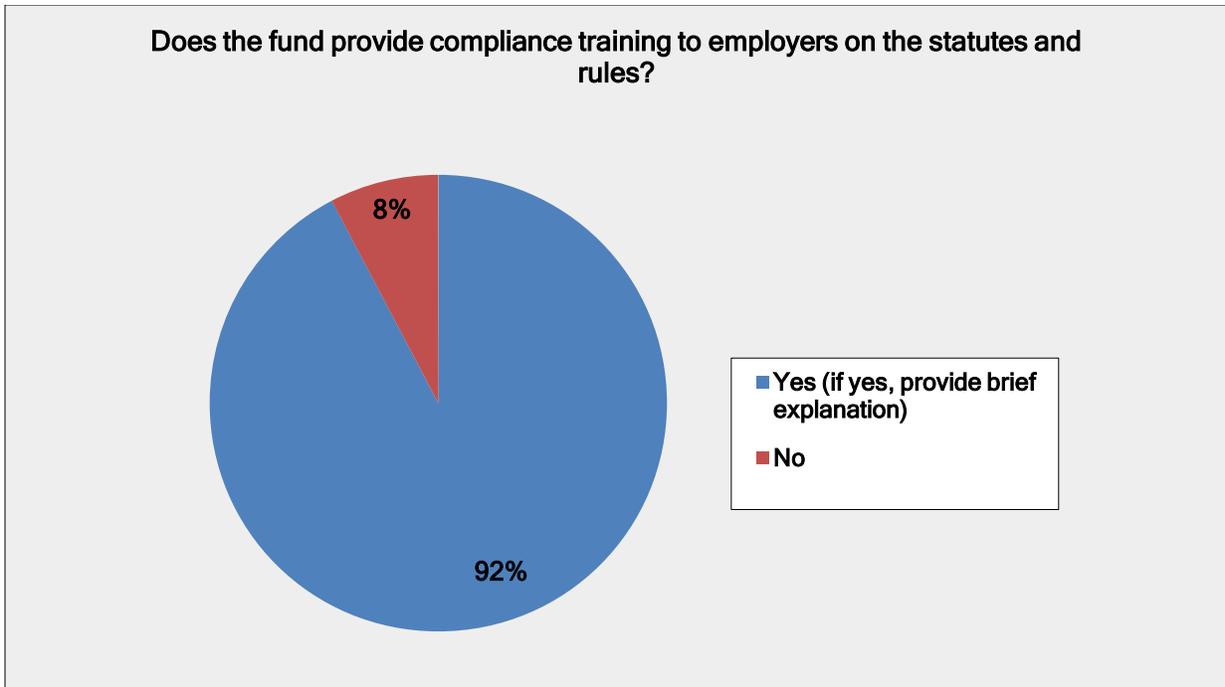
Other participating employers:

- State and local (city, county) governments' employees
- Fire and police
- Judicial employees
- Public hospitals
- Some teacher unions, high school athletic associations
- Special purpose districts (airports, cemetery, conservation, irrigation)
- Libraries, voluntary fire and emergency medical technicians



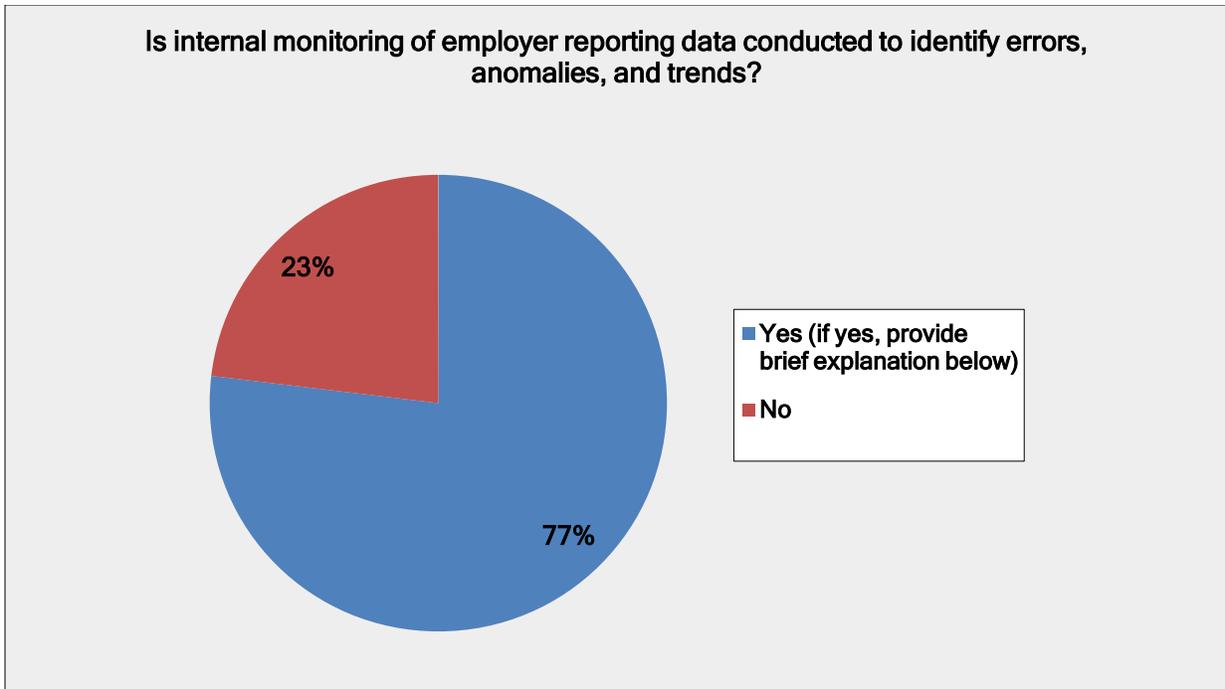
Other (explanation):

- Employee rate is set by legislature and employer rate is set by retirement actuarial committee via a review of the annual actuarial valuation
- Fund's actuary
- The actuarial valuation of each odd year determines the contribution rate which is then approved by the Retirement Board.
- Determined by our actuary. Now it is done annually, but it has been established bi-annually in the past.
- Actuary determines employer contribution rate and the board of trustees approves it; Legislature determines member contribution rates.



Explanations:

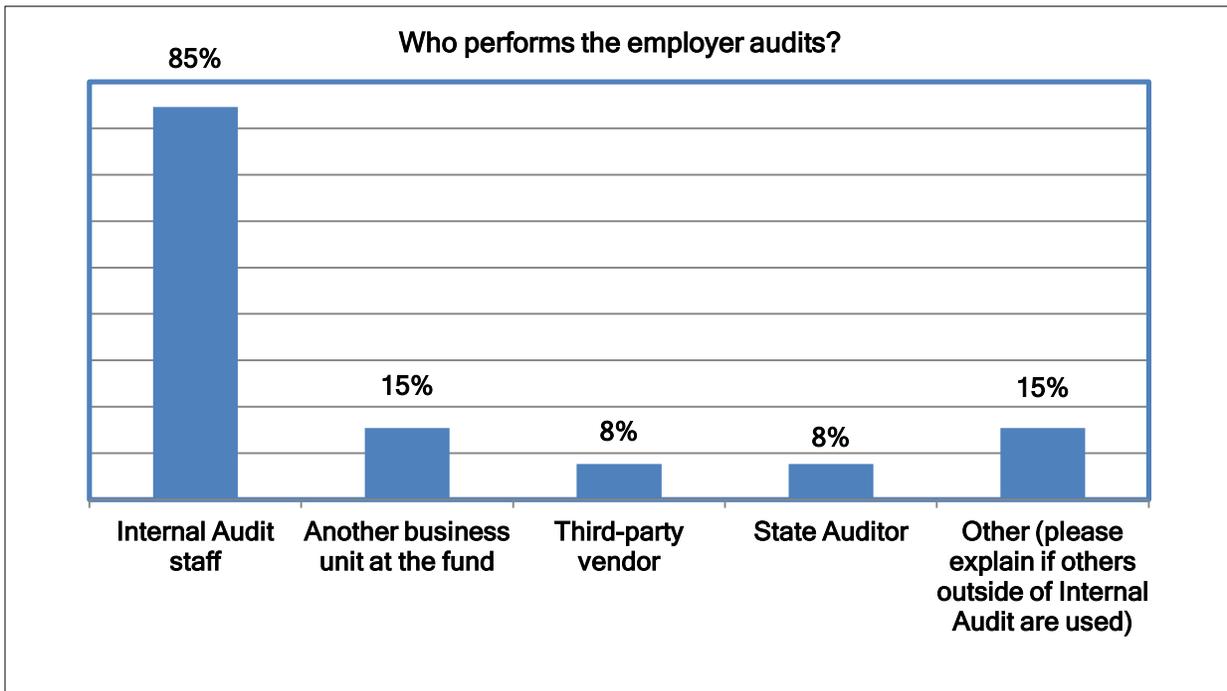
- No formal training position; on a regular basis, Employer Services notifies employers through newsletters, and less frequently through classes
- Educational initiatives, tools and information, provided to our human resources and payroll employer liaisons/staff to comply with statutes and rules
- On-site training provided by employer education unit; web presence with policies and procedures; phone number provided for questions
- Training provided as needed by employer representatives
- Training provided to employers by Employer Support Unit
- Training provided at annual liaison officer conference; additional training is provided in group or individual settings, as requested; training provided to each new agency within 6 months
- Employer directives are issued periodically and training is provided at that time
- Employer training seminars are provided at headquarters and upon request at employing agencies. Also, an employer assistance division goes out to employers and assists them in making needed corrections and submitting required data
- Employer training consists of 3 types: (1) Basic training for new payroll or human resources employees or those wanting a refresher. (2) Annual update of recent legislative changes. (3) Employer specific training on-site when the need is identified
- In-house training provided in April and November and then we travel in June/July to 9 different locations throughout the state and provide training
- Employer training performed by two educators that go onsite at employers
- Employer training through annual employer conference; employer services program has trainers
- Employer training in person every few years; agency liaison works with employers



Explanations:

- Error reports are run on all employer data that we receive based on a set of conditions. For example, if a record is submitted that has 90 hours during the pay period when the employee's standard hours is 80 that would show up on the error report.
- Internal monitoring will occur when new pension administration system goes live
- Monitoring errors and anomalies as opposed to trends; business rules have been configured into our pension administration system to identify exceptions when members are enrolled and contributions reported. These exceptions create a workflow process for staff review and resolution. Key processes such as retirement, refund, and transfers cannot be processed for records that contain exceptions.
- 3-prong approach used for monitoring: unit within the system, 2 units within the agency, and internal audit perform monitoring functions
- Compliance team analyzes employer W2's and 1099's
- Employer support and fiscal units monitor employer reporting
- Employer Services Division reviews wage and contribution reports for errors and assists agency representatives with posting the reports. Additional reporting requirements have been implemented so that staff can track the hours of employees that are not reported.
- Some input controls are in place to prevent obviously erroneous data from being input into our membership system. Unusual data is flagged by the system as "questionable" and must be followed up on prior to a retirement benefit being calculated.
- Monitoring handled at the employer level in Contribution Accounting. The actuary does monitor and review at the member level data to identify anomalies and trends and then we perform analysis of data and respond to actuary.
- System edits and ongoing manual reviews

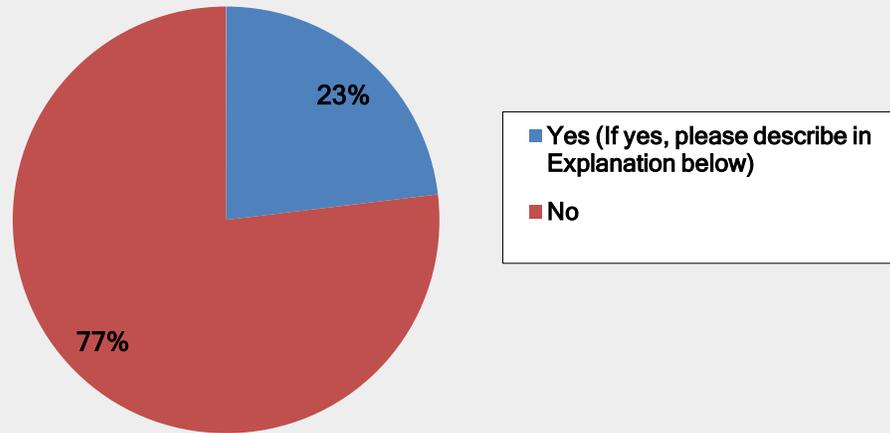
2. RESOURCES INVOLVED IN CONDUCTING EMPLOYER AUDITS (pp. 11 – 15)



Other (explanations):

- Compliance Reviews are performed, rather than “audit” and they are more educational and informational
- External vendor performs the audits as contracted by Internal Audit

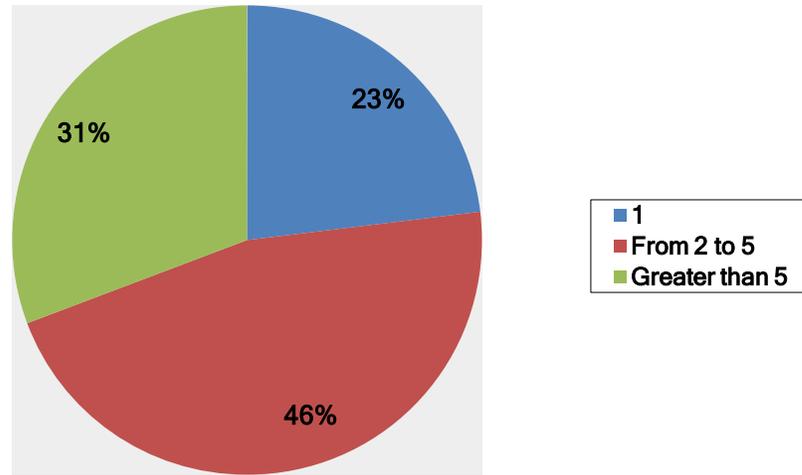
Are other state entities involved in employer audits? Either relying on employer audit results, or auditing some element at the state level?



Explanations:

- Local government
- Independent auditors for schools are required by the legislative auditor to test certain transactions which include some retirement reporting. However, the tests applicable to retirement reporting are very limited in size and scope. It is not uncommon for us to find significant problems at an agency whose independent auditor gave them a clean, unqualified opinion.
- State board of education may be requested to provide data regarding staffing levels reported and that data is compared to reports received, but no other entity is involved in audits.
- State auditors audit employers yearly except for the smaller employers.

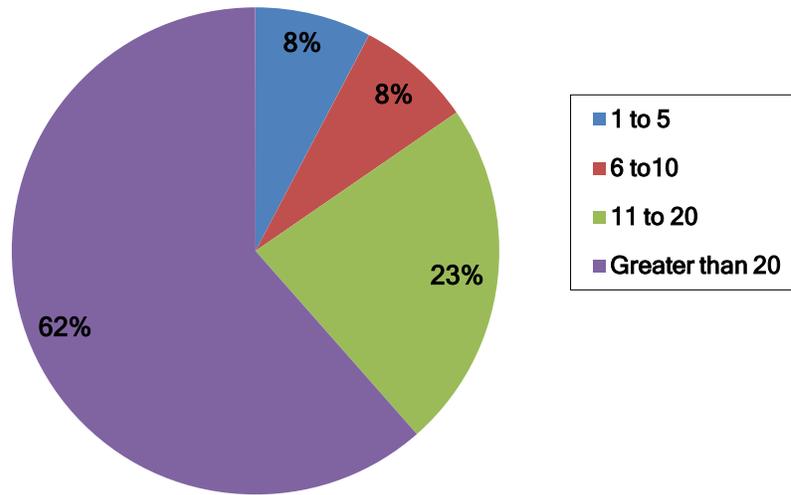
How many employees/contractors internally are resourced to employer audits whether it is conduct of the audit itself, process to recover monies, litigation, etc.?



Explanation provided on resource breakdown:

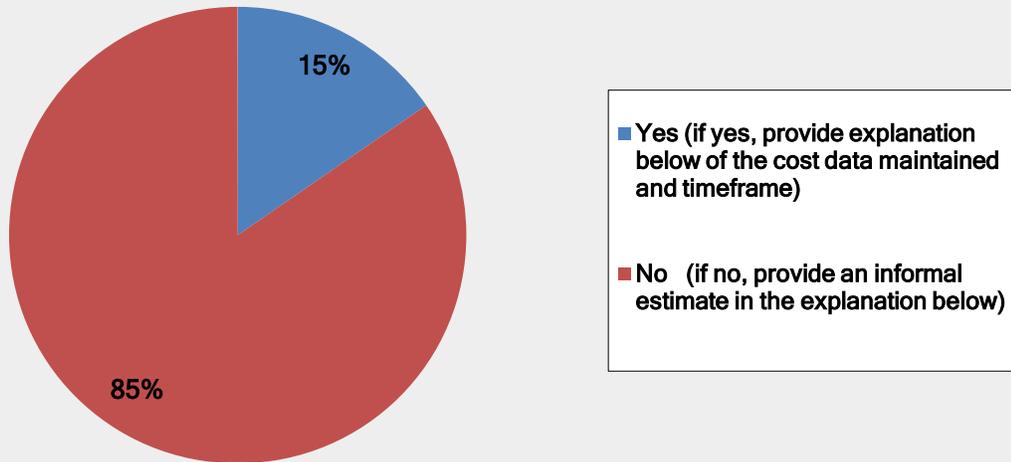
- 1 staff auditor and audit intern make up the 1.5 FTE
- Various staff in internal audit, legal, units of local government, compliance, and overall system
- 1 in Internal Audit, 2 in Legal, 3 in Benefit Services Division
- 1 employer auditor, but recently hired 2 more auditors to begin April 2012; before hiring freezes, we had 3 employer auditors and 1 audit manager
- 3 in Internal Audit, 1 in Legal
- 9 in Internal Audit; 1-2 in Legal (varies by appeal workload); various in Member Account Services and Accounting depending on workloads
- All audit staff (4 full time plus part time intern) perform internal and employer audits at a roughly 40/60 % split.
- 3 employer auditors. We communicate regularly with external affairs' employer liaisons and our agency's assistant attorney general, but none of them are specifically assigned to employer audits
- 7 Compliance Officers, however, only 6 travel and we will complete employer audits across the state every 4 to 4 1/2 years

How many employer audits are conducted on average per year?



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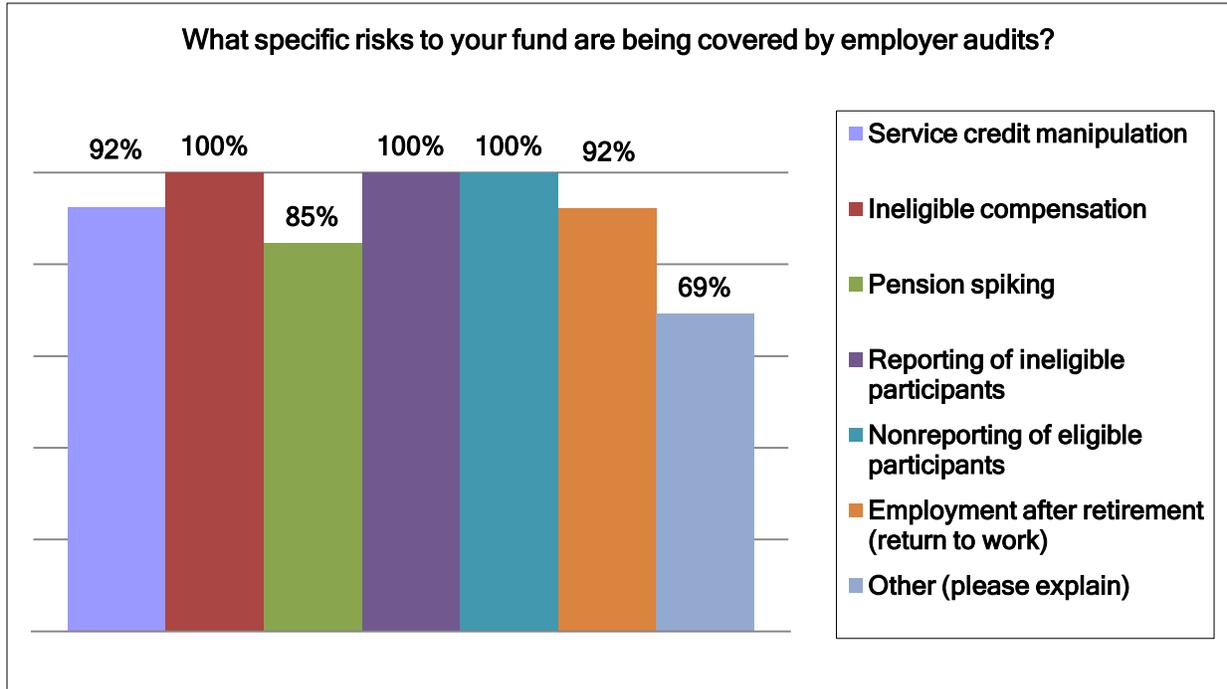
Do you keep statistics of the annual costs to conduct employer audits?



Explanations of cost:

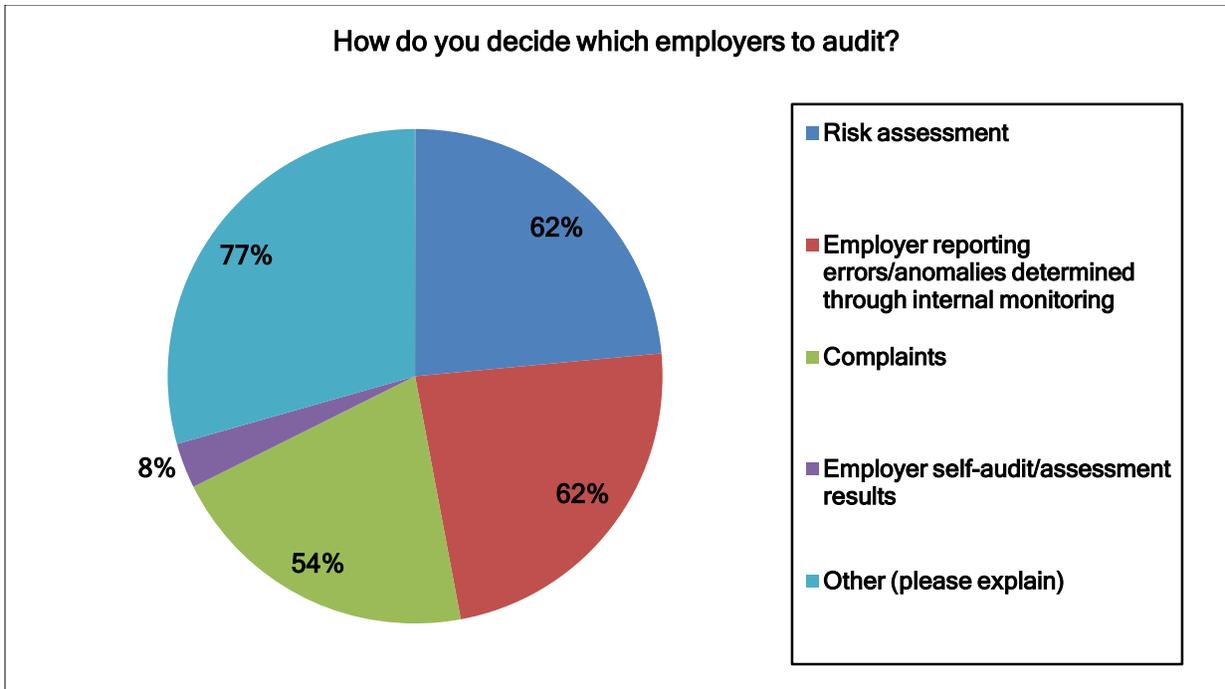
- Cost of three staff members plus the cost of 400 - 500 miles of travel; we try and do desk audits more
- Track hours by staff as opposed to costs, but could translate to costs if needed
- Cost of approximately 1.04 FTE, in-state travel \$2,600, training \$2,800
- Personnel and operating costs of the audit office
- Revenues generated from employer audits are typically greater than the cost of the entire audit department. For example, in FY 2011 employer audits generated over \$700,000 in revenues compared with a budget of \$500,000. The \$500,000 budget included the salary of the Audit Manager who was assigned to our Retirement Department and was not available to perform audits.
- Cost includes annual salaries, plus benefits, may be around \$240,000; minor amounts associated with mileage and some travel
- Cost is based upon the number of employees the employer has at their location; cost ranges from \$3,000 to \$12,000 and audit costs
- Cost of 18 full-time staff to perform and manage audits; several program staff work to obtain resolution to findings

3. AUDIT PROCESS (pp. 16 – 23)



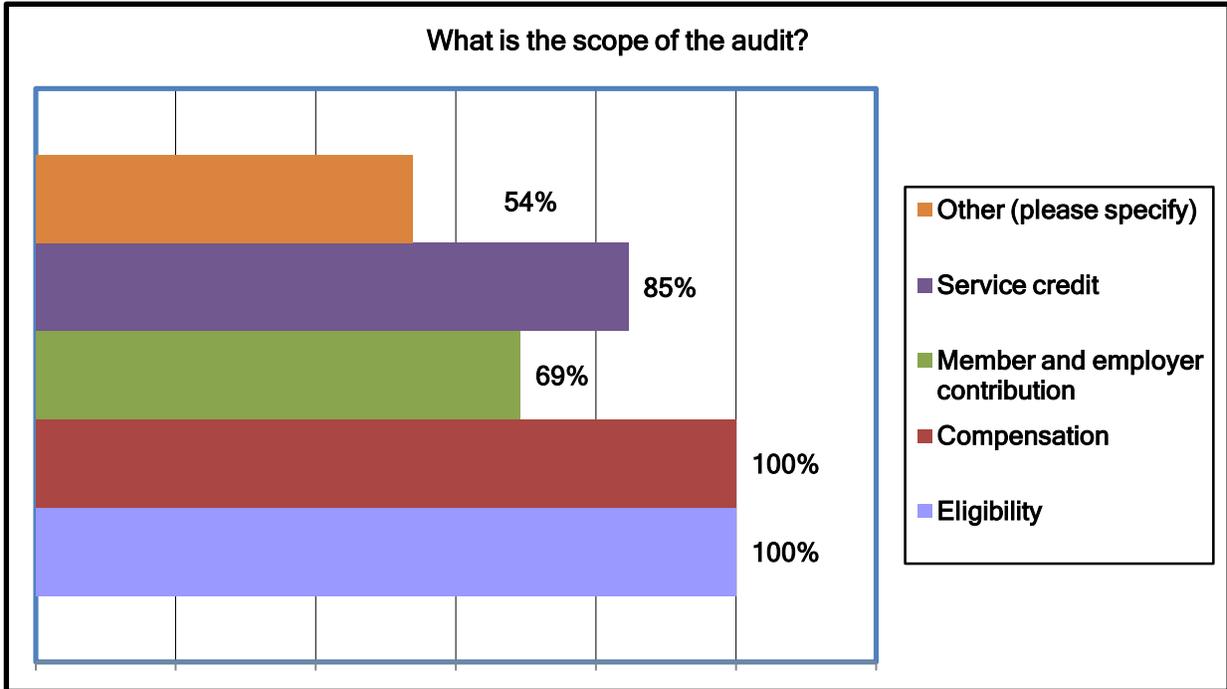
Other (explanation or additional comment):

- Retirees returning to work have become a big risk; employers like getting an experienced employee and not having the retirement costs
- Incomplete or inaccurate information provided to retirement system, early retirement restrictions, enrollment in the correct retirement plan, evaluation of pension system exceptions to identify trends, and retiree leave certification
- Independent contractors and payroll contributions
- Compliance with laws, rules and regulations
- Analysis to identify the number of members who should have been accruing over a 12-month service year (or 10 or 11-month), but were actually accruing as 9-month employees
- Cafeteria plans are the biggest problem
- Correct billing for employer contributions
- Compensation and hours are being reported



Other (explanation):

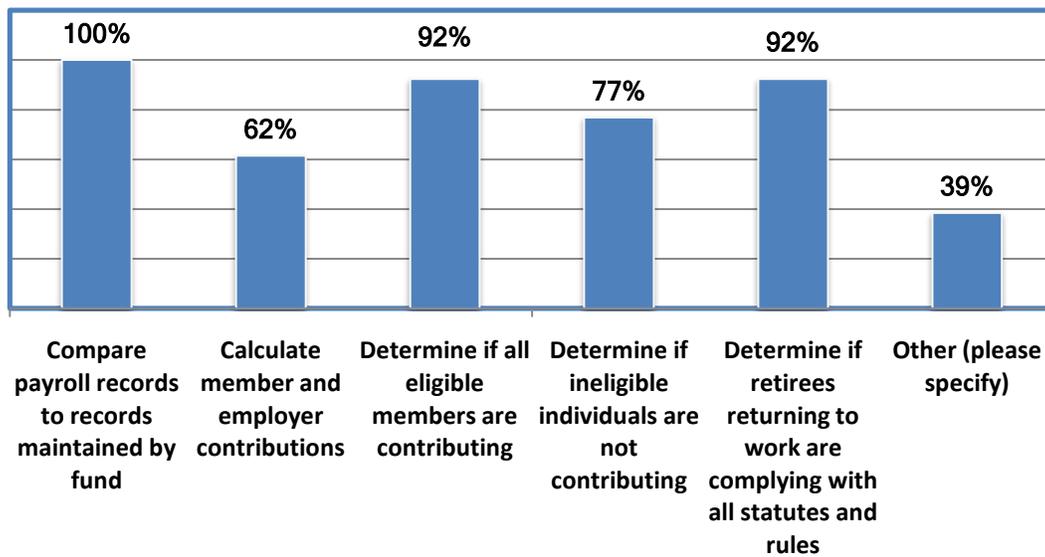
- Last employer visit date
- Referrals
- Request by other divisions
- Random; starting new processes to help employers with ongoing reporting issues
- All employers are on a three year rotation for either a field or questionnaire audit
- Risk assessment but overlaid with a requirement to audit every employer at least once every 5 years
- Most audits are assigned randomly; not yet found a class or type of employer that is generally in compliance in order to concentrate on employers with higher rates of noncompliance. Employers who fail to comply and complete the self-audit are added to the field audit schedule.
- Employers are picked based on when last audit completed unless there are concerns
- All employers are audited over a 3 year audit cycle
- Auditor and management judgment; trying to cover the public employer plan's agencies



Other:

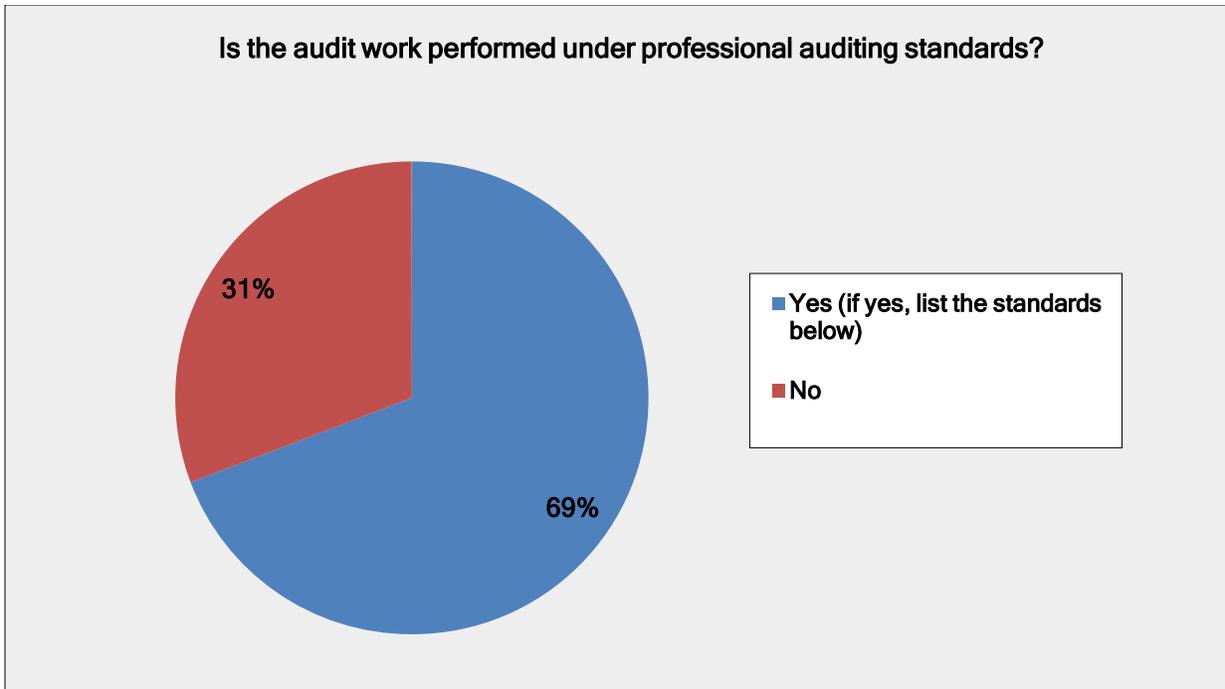
- Scope is adjusted based on the number of reporting employees to our system based on our methodology. For example, an employer that has only 4 members would not undergo a full scope review, but rather a limited one.
- Compliance with laws, rules and regulations
- Independent contractors
- Independent contractors, cafeteria plans, returning to work after retirement
- Billing for employer contributions
- Social security 218 agreements, agency enrollment agreements and 414(h)(2) employer pickup agreements
- Certification of fire staff

What audit procedures are performed?



Other (explanation):

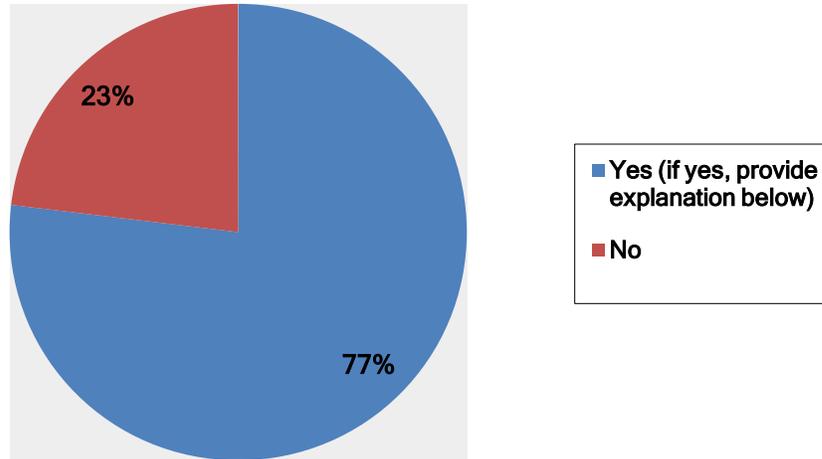
- Determine if ineligible individuals are contributing
- Identify salary spiking of recent retirees
- Verify proper agreements and standard agency enrollment data is on file
- Review membership eligibility and enrollment



Professional standards followed:

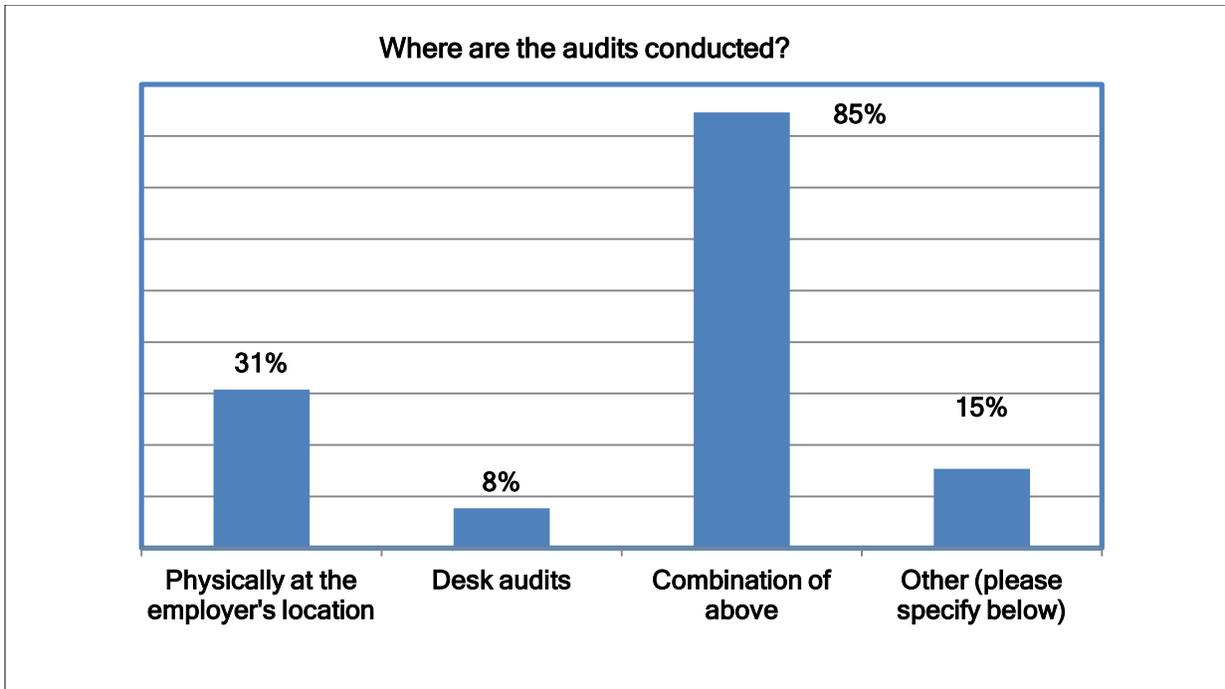
- International Standards for the Professional Practice of Internal Auditing (IIA standards)
- IIA standards, Generally Accepted Government Auditing Standards (GAGAS), Generally Accepted Auditing Standards (GAAS), internal standards
- Compliance review standards set by fund

Do you perform any data mining of employer data sent to the fund?



Explanations:

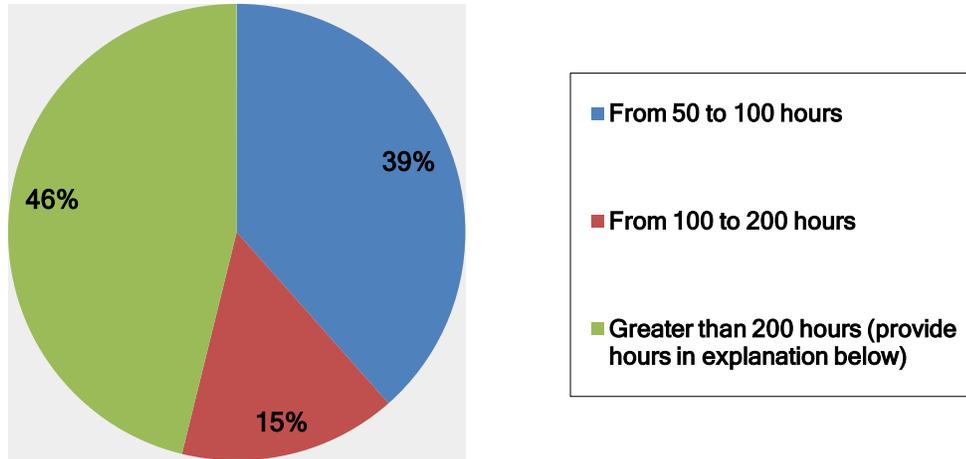
- Review for gaps in service and spiking of compensation
- For full scope reviews, electronic files received are analyzed and compared to data in our system; additionally, monthly process performs testing to ensure that employees are enrolled properly, rehired retirees are reported properly, and correct retiree leave amounts are reported
- Our compliance team does most of this but our audits will electronically compare data received from the employer against our internal systems
- Using ACL data analysis software and mining for pre-determined risk factors
- As part of our audit process, earnings reported throughout the year by employers are electronically compared to earnings from a year end file which is required by law to contain all earnings paid throughout the year
- Identify ineligible contributors and salary spiking
- Match employer records to fund records using data analysis software to identify non-enrolled employees, employees that are enrolled but should not be, and agree payroll data and billing data
- Assist with annual risk assessment



Other (explanations):

- Use a methodology to determine when a physical site visit is necessary and this is typically based on the size of the employer along with the possible anomalies identified during testing
- Prefer to meet at the employers' site but when scheduling is a conflict we may do a phone review but this is very seldom and only for smaller employers

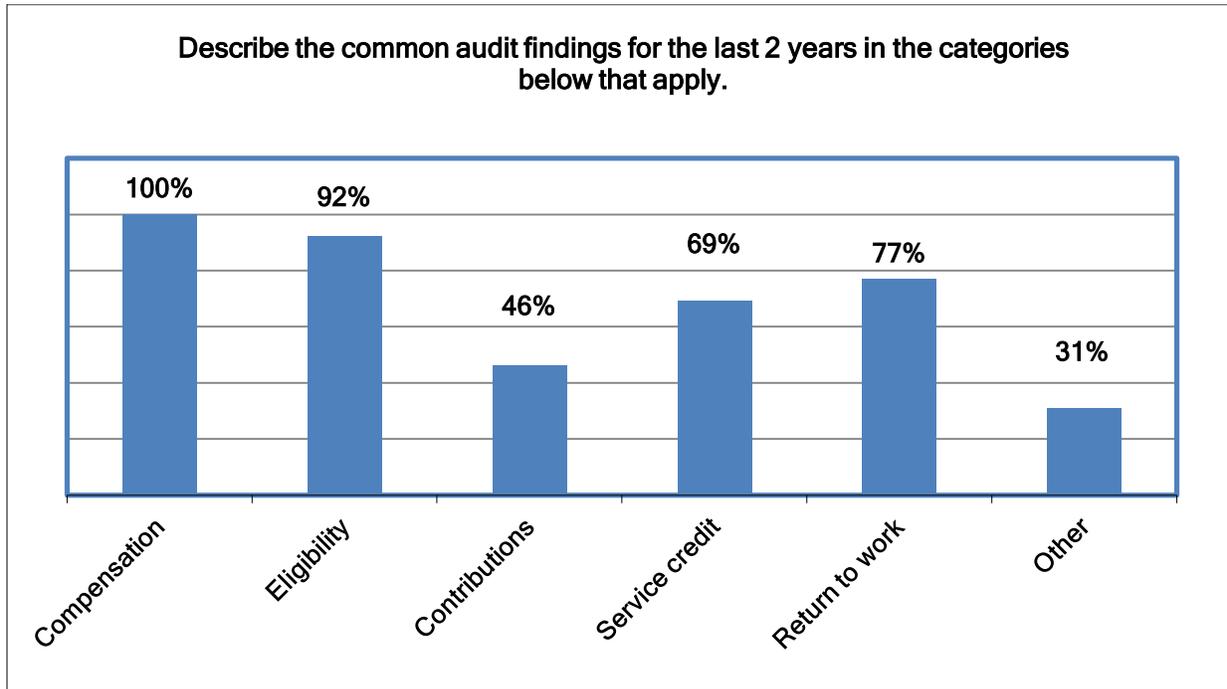
On average, what are the audit hours expended for each employer audit?



Explanations of audit hours:

- Depends on size of employer
- Depends on scope
- 150-300 hours or more depending on complexity of issues
- 240-320 hours for standard audit, but some smaller employers are less
- 400 hours on average, historically
- Take a long time for many reasons - responses from employers, etc; our field audit staff ends up doing a lot of training at small employers
- 40-350 hours depending on the engagement scope and employer size
- 20 to 30 hours per audit
- 5 to 10 hours for review and follow-up based on size of employer

4. AUDIT FINDINGS AND RECOVERY AMOUNTS (pp. 24 – 30)



Representative sample of comments received:

Compensation

- Spiking
- Car allowance being included in salary
- Reporting non-reportable compensation, reporting in wrong months
- Wages over or under reported that do not correspond with payroll received
- Incorrectly reported compensation
- Special compensation misreported
- Compensation over and underreported
- Eligible compensation identified but not receiving the contributions

Eligibility

- Eligible employees not enrolled and ineligible employees enrolled
- Independent contractor should be enrolled; enrolled employees actually work for another entity
- Eligible members reported as ineligible
- Temporary versus permanent employees
- People eligible for plan memberships not reported

Common Audit Findings- comments (continued):

Contributions

- Enrollment in incorrect retirement plan which impacts the employee and employer contribution rate
- Ineligible wages reported affecting contributions
- Inaccurate contributions
- Late contributions

Service Credit

- Unused sick leave incorrectly reported at retirement
- Reporting compensatory time in months not earned affecting service credit
- Service credit over or understated
- Inaccurate service credit due to special compensation additions
- Service credit available based on contributions paid
- Incorrect hours submitted
- Actual hours worked not reported correctly

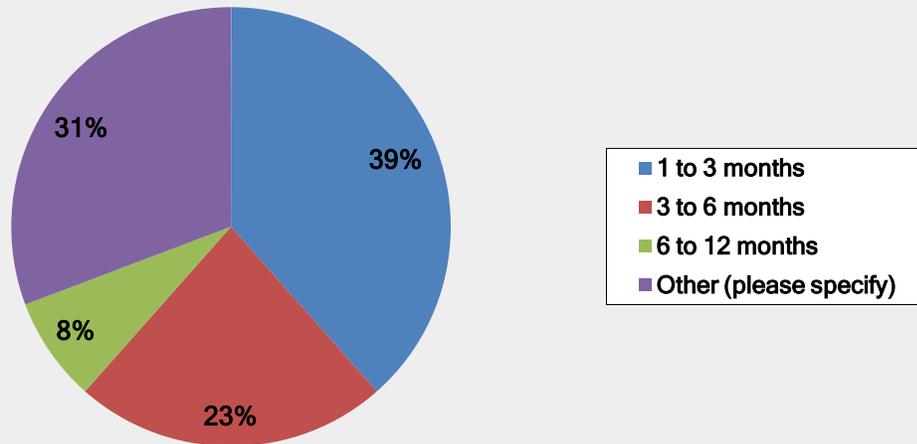
Return to Work

- Rehired retirees not reported
- Retired annuitant exceeds 960 hour limit
- Contributions on income earned by retirees are not received
- Return to work retirees are not reported or reported incorrectly
- Retiree exceeding earnings limitation
- Post retirement earnings are not reported
- Retirees who returned to work too soon, or not at normal retirement

Other

- Eligible wages were not reported up to the full-time equivalent
- Findings with cafeteria plans, independent contractors, optional coverage
- Several of our internal rules did not comply with current practices

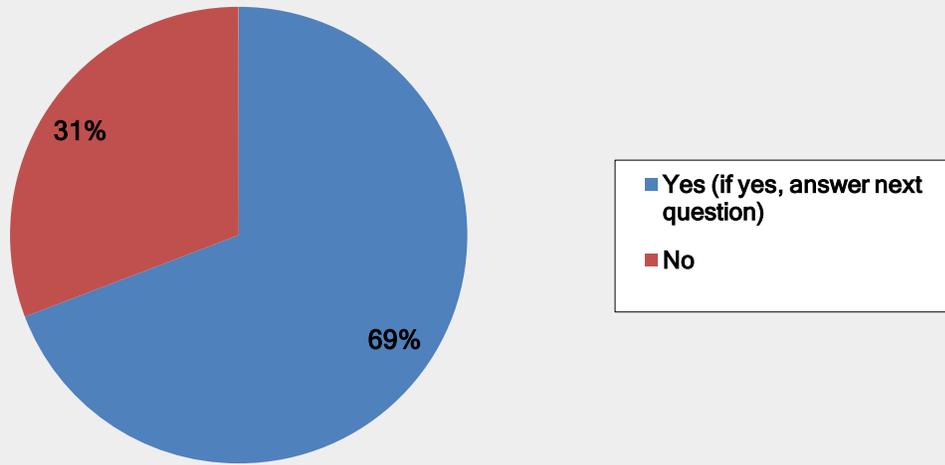
What time frame do employers have to comply with an audit finding and make the appropriate corrections and necessary payments?



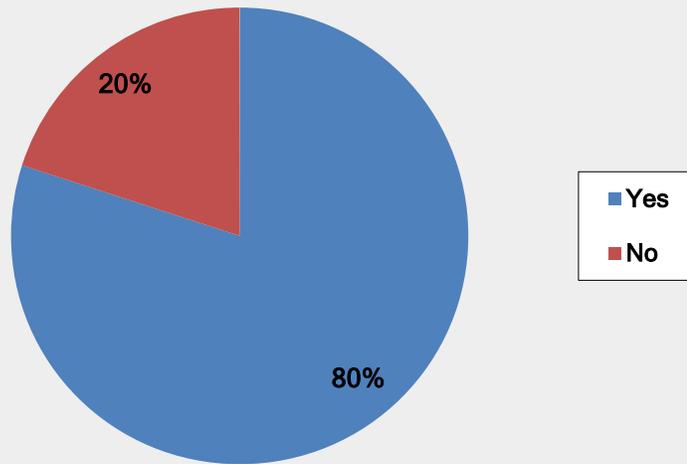
Other (explanations):

- Typically 1 to 3 months depending on the nature of the change. In some cases, the change consists of a programming change to their computer system which can take longer.
- 3 to 6 months but with appeal processes it can exceed this limit
- Working out processes now
- 90 days to pay; follow-up audits one year later

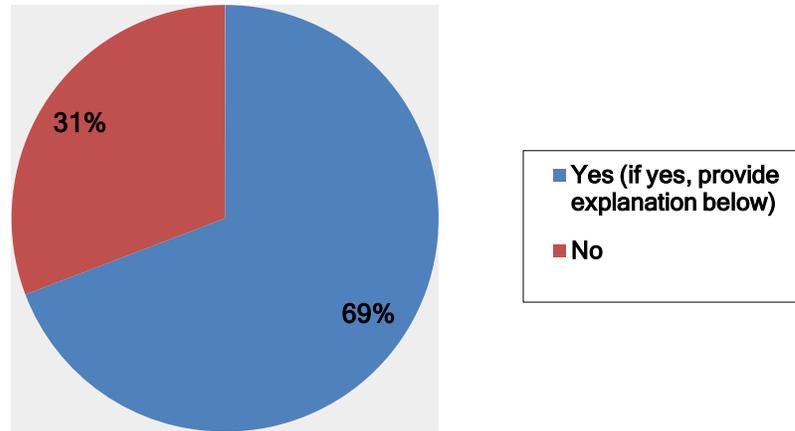
Do you perform follow-up audits of your employers on previous audit findings and recommendations?



Are the same audit findings noted as a result of the audit follow-up?



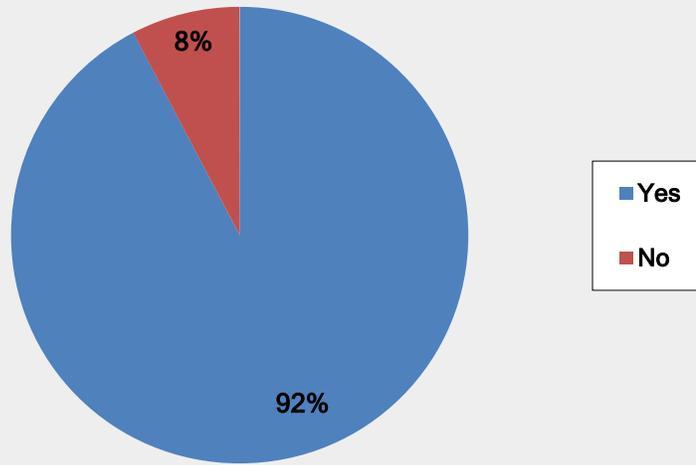
Are there additional penalties to the employer for noncompliance? i.e. interest charged; monetary adjustments to account for the actuarial costs of lost contributions



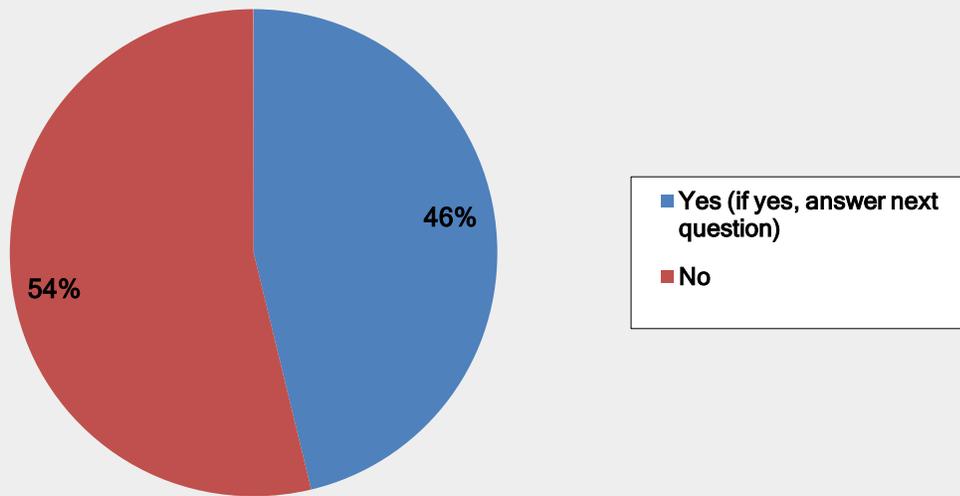
Explanations:

- Interest is charged but haven't seen any charges for actuarial costs
- Generally no, but depends on the nature of the issue. Typically administrative errors which impact contributions or enrollment that are greater than a year old require actuarial interest to be paid. If it relates to late reporting of agency contribution reports or payments, there are provisions to charge an interest penalty.
- Interest and sometimes benefits are reduced
- Interest is charged when contributions are paid after due dates
- Interest billing is completed for retroactive enrollment and other findings that require positive adjustments
- Penalty and interest law was enacted in 2011. Regulations to be implemented July 2012.
- Interest only, at the actuarial assumed rate of 8%. The employer is responsible for both the employer and member interest, so the effective rate is actually 16%.
- Interest will be charged if adding wages
- Not yet, but the audit committee is discussing possible penalties
- A date was set and notification was given to employers. If contributions and enrollment are not correct we will go back to that specific date (July 1, 2010).

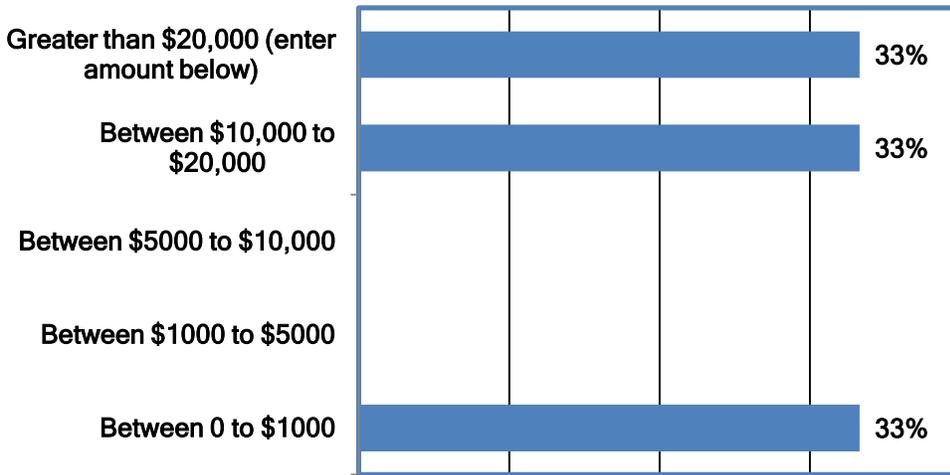
Are audit findings discussed with employer prior to release of final audit report?



Do you keep statistics on recovery amounts?



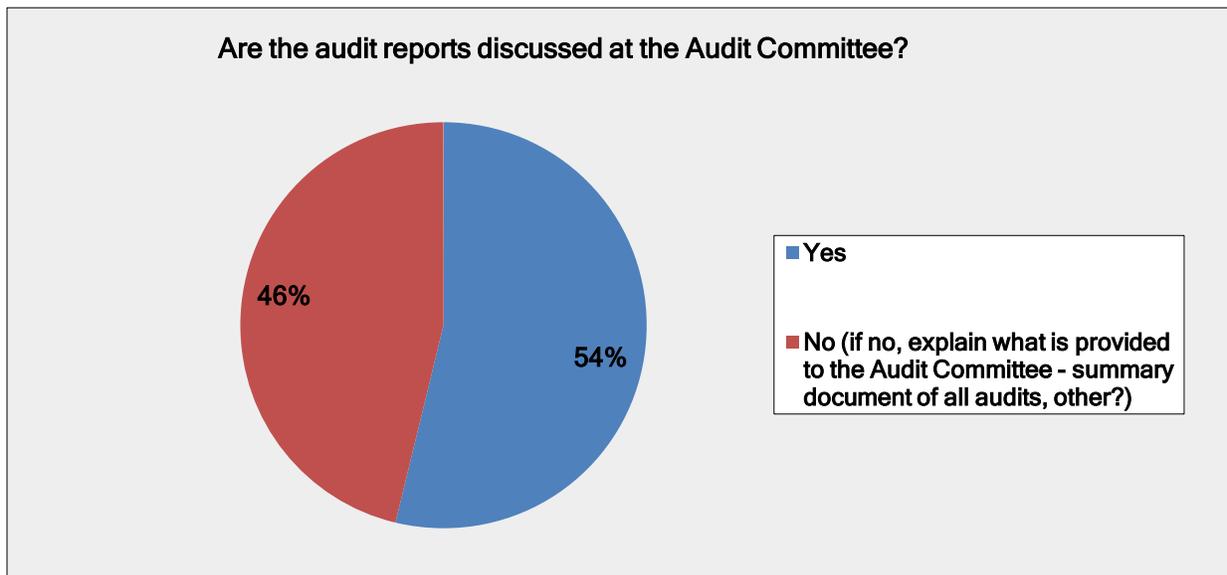
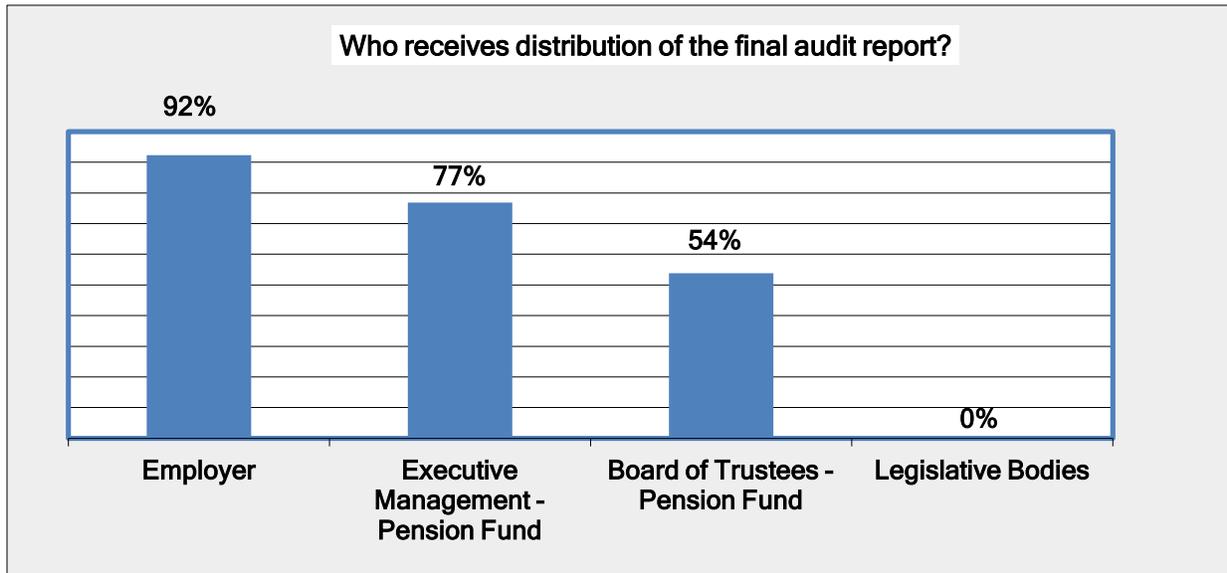
What are your average annual recovery amounts over the last 5 years?



Greater than \$20,000 (provide amount):

- Average \$40,000 mostly from our monthly querying process. One recovery resulted in over \$1 million which was not factored into this average.
- While the process of recovery is lengthy, audit findings have average \$3 million annually
- \$700,000 in FY 2011
- For 3 auditors, usually between \$300,000 and \$450,000

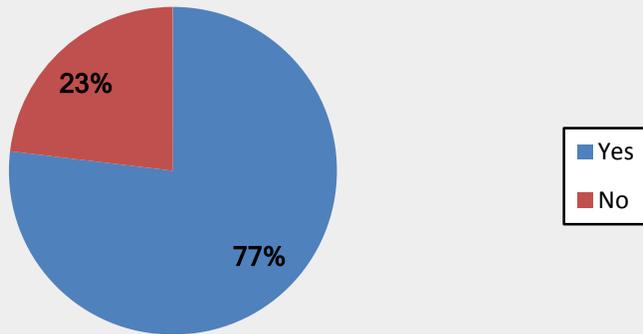
5. AUDIT REPORTS (pp. 31 - 32)



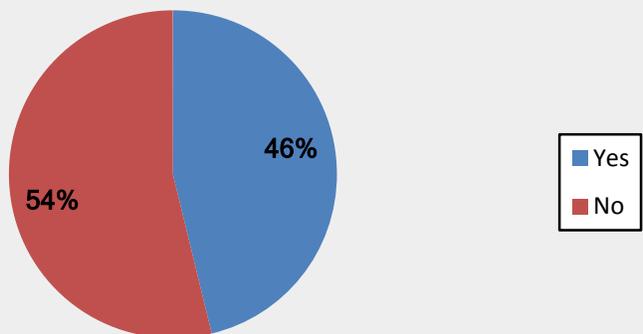
No (explanation):

- Audit committee receives reports as they are issued. In general, reports are not discussed at committee meetings, but from time to time an employer of interest is discussed.
- We do not have an audit committee.
- The board and management receive a summary.
- We present at the Operations Committee. We don't have a formal Audit Committee.

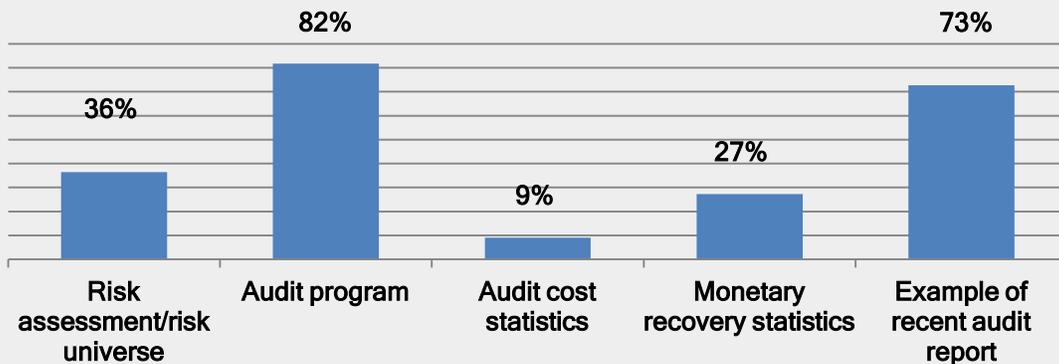
Is the audit report a public document?



Are your audit working papers public documents?



Indicate the documentation you can provide to TRS Internal Audit



6. OTHER – SIGNIFICANT CHALLENGES FACED WHEN CONDUCTING EMPLOYER AUDITS

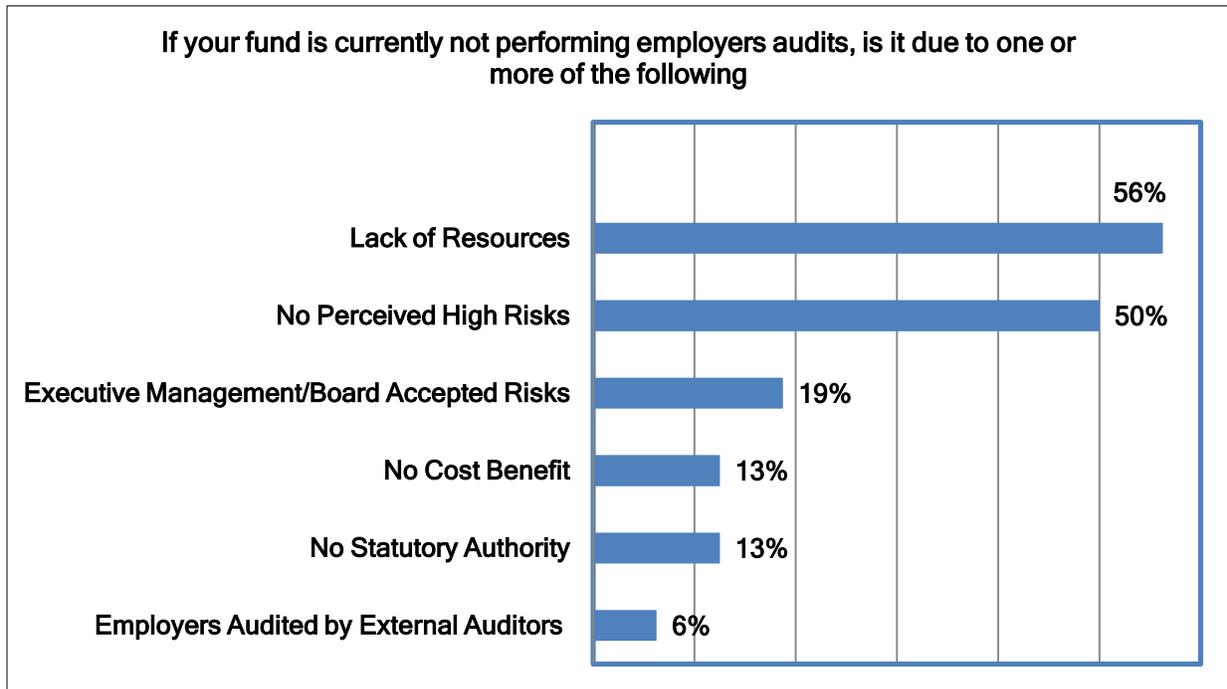
Comments from the surveyed funds included the following:

- Important to use experienced field auditors; use time effectively and don't get bogged down with assisting employers and researching employer individual problems
- Access to data; varying levels of competency with human resources and payroll staff across employer agencies
- Occasional lack of cooperation or lack of necessary documents from employers
- Turnover in employer staff; lack of understanding of the laws, rules and regulations
- Receiving the requested information in the format needed; being able to connect to fund's systems while onsite at employers; getting enough face time with our legal division
- Travel; turnover of audit staff and employer payroll staff
- Responsiveness from agencies is difficult at times
- Variety of interpretation and application of retirement law by the various employers
- Each employer has a different payroll system so fixing a problem at one employer doesn't fix it at the others. Also, if the employer isn't familiar with their payroll system then getting the data needed for the audit can be challenging.
- The employers don't like the audits, and it may appear to be outside our usual customer-service focus. However, the people we find who have been accidentally excluded, fallen through the cracks so to speak, are the part-time people at the lower end of the income ladder, the ones who don't usually have much of a voice. We are helping them receive the benefit they are entitled to by law.
- Scheduling and travel
- Having the contractor performing the audits understand state laws and regulations related to the eligibility and having them always contact us if there are questions or results about how the law applies
- We don't have internal policies in place so employers have been given conflicting guidance in the past. We have too many employers for one auditor to handle.

Additional comments from surveyed funds:

- Work with the employers rather than against them; try to emphasize the benefits to them, such as not having a liability that is accruing interest when contributions are not paid; talk about wanting to provide this excellent benefit to everyone who is eligible
- Make sure all of your staff is on board prior to any audits and that employer manual is up to date and provided to everyone (internal and employers); do not task auditor with other duties while completing audits
- Regarding work papers, confidential and personal information is not public, but any non-confidential work papers would be subject our state's public records act.

SURVEY 2 – Survey of Funds Not Currently Performing Employer Audits



Summary of comments from this survey:

- As a result of reviewing a sample of employers on reliability of payroll information and compliance including eligibility, we may create an ongoing employer audit/review program. External auditor states that employer audits may be needed to provide them with assurance that the information provided by employers is reliable.
- Working to include employer audits at requests of external auditors; working with county’s internal audit team to coordinate these efforts; lack of resources preventing ability to move forward
- Perform internal reviews but no onsite audits due to lack of resources
- With reference to the lack of high risk, all risk of underfunding falls on the employer directly. Each employer has a separately calculated actuarial liability and their required contribution rate is calculated on that. Any error in the contribution or benefits paid by one employer does not impact the other employers in the plans. We have been working on a training program with extensive outreach and we hope to be in a position of a more monitoring role than a training role in the next fiscal year and conduct audits.
- Only have one employer; data comes to retirement fund through the county auditor-controller where validity checks and other checks of the data are automatically done
- Employer Services Group stopped employer audits years ago because not many issues found and turned to education and training and review of information submitted through online systems; Internal Audit found the reviews need improvement

PARTICIPATING PENSION FUNDS

Survey 1 Participants

1. Arizona State Retirement System
2. California Public Employees' Retirement System
3. California State Teachers' Retirement System
4. Colorado Public Employees' Retirement Association
5. Iowa Public Employees' Retirement System
6. Louisiana State Employees' Retirement System
7. Louisiana Teachers' Retirement System
8. Maryland State Retirement and Pension System
9. Nevada Public Employees' Retirement System
10. New Hampshire Retirement System
11. New York State and Local Retirement System
12. Washington State Department of Retirement Systems
13. Wyoming Retirement System

Survey 2 Participants

1. Arizona Public Safety Personnel Retirement System
2. British Columbia Pension Corporation
3. Illinois State Universities Retirement System
4. Illinois Teachers' Retirement System
5. Indiana Public Retirement System
6. Kentucky Retirement Systems
7. Los Angeles County Employees Retirement Association
8. Los Angeles Fire and Police Pensions
9. Maine Public Employees Retirement System
10. Michigan Municipal Employees' Retirement System
11. New Mexico Public Employees Retirement Association
12. San Diego County Employees Retirement Association
13. South Carolina Retirement Systems
14. Texas Employees Retirement System
15. Texas Municipal Retirement System
16. Wisconsin Retirement System

TAB 5B

MEMORANDUM

TO: Audit Committee Members, TRS Board of Trustees
Mr. Brian Guthrie, Executive Director

FROM: Amy Barrett, Chief Audit Executive

SUBJECT: **FISCAL YEAR 2013 AUDIT PLAN FEEDBACK**

DATE: May 18, 2012

The proposed *Fiscal Year 2013 -2015 Audit Plan* will be presented to the audit committee and board of trustees in September 2012 for approval. Auditing standards require that the audit plan be updated annually, consistent with the organization's goals, based on a risk assessment, and that input of senior management and the board be considered.

Due to increased requests for participation in the TEAM program, internal consulting work, and the possibility of conducting employer audits, it is important that internal audit focus its audit resources on the risks that are most meaningful to the board and senior management.

Therefore, we would like your feedback on the fiscal year 2013 audit projects to address whether the proposed audit areas address your concerns or if there are other audit areas you recommend audit coverage during the year. We will perform a similar exercise with Executive Council staff this summer. To facilitate your review and feedback, the attached documents include the following information:

- *TRS' Enterprise Risk Inventory for 2012* – includes the objectives for each risk area and high level risks that could occur if mitigating controls are not in place.
- *Audit Project Universe* – includes a list of any potential audit projects mapped to the TRS risk universe. Projects in bold red are those projects scheduled for fiscal year 2013 that were included in the *Fiscal Year 2012 - 2014 Audit Plan* approved in September 2011 with adjustments for projects identified during the year. For those projects, we have listed the fiscal year that the audit area was previously audited in parenthesis.

There will be an opportunity for you to comment on the audit plan at the June meeting or provide comments on the attached planning documents. Space has been provided on these documents for you to indicate whether you would like to be contacted to discuss the audit plan further and to specify additional concerns and audit areas that should be considered.

We welcome your feedback to ensure that our work addresses your concerns and helps TRS achieve its goals.

Teacher Retirement System of Texas

Enterprise Risk Inventory - 2012

Enterprise		Operations	Finance	Investments
Pension Funding	Communications & External Relations	Pension Benefit Administration	General Accounting & Reporting	Investment Operations
Maintain an actuarially sound pension plan.	Maintain effective communication and positive relations with members, retirees, employers, TRS employees, news media, and the public.	Accurate delivery of benefits to TRS members, retirees and beneficiaries. This includes systems monitoring and controls (including system edits/checks) related to accurate calculations and benefit payments to others.	Maintain the integrity, accuracy, and completeness of financial information and the timeliness of reporting.	Maintain accurate transaction settlement and position management processes.
Absent sound funding for the plan could lead to insufficient assets to pay for long-term benefits and financial obligations.	Poor communication could lead to confusion resulting in increased calls to TRS, poor or inappropriate decision-making regarding TRS benefits, and incorrect information provided to external parties.	Failure to effectively deliver benefits could lead to inaccurate information and/or inaccurate benefits/payments, dissatisfied members, retirees, or beneficiaries, loss of credibility, adverse public perception, and increased scrutiny and oversight.	Materially inaccurate financial information and reports would result in board and Legislature decisions being made on flawed data and adverse or qualified audit opinions.	Inaccurate understanding of investment positions could result in loss and inappropriate investment actions.
Retiree Health Care	Governmental/Association Relations	Health Care Administration	Budget	Investment Reporting
Facilitate long term soundness of TRS-Care in order to pay retiree health care costs.	Maintain effective communications and positive relations with the Legislature, associations, and other public parties.	Administer a retiree and active member health care program that is responsive to and valued by enrollees.	Ensure TRS has appropriate budget to provide and sustain resources necessary to successfully carry out TRS mission, goal, and objectives to serve our members.	Maintain the integrity of investment information - reporting and disclosure, accuracy, completeness and valuation. Additionally, develop and disseminate customized investment reporting for both management and governance to enhance making better strategic and tactical investment decisions.
Inadequate funding would affect solvency of the program over the next biennium, requiring significant premium increases or benefit reductions.	Poor communications could lead to adverse relations, unfavorable legislation, and restricted funding.	Inadequate administration of the health care programs could possibly affect the health of those who depend on the delivery of the TRS health care services.	Lack of a sufficient operating budget could jeopardize our ability to effectively serve our members.	Investment reports would contain material inaccuracies.
Workforce Continuity	TEAM	403(b)	Employer Reporting	Market
Preserve valued institutional knowledge, and ensure a skilled, capable, and motivated workforce is maintained to meet TRS' functions.	Implement cost effective, efficient, and sustainable processes and systems that enable TRS to serve its members, employers, and annuitants.	Set fee caps for 403(b) products offered to school district employees. Maintain list of both qualified companies and products which meet requirements of law and TRS rule.	Accurately capture and utilize employer reported data to project and calculate future benefits of TRS members.	Maintain market risk exposures consistent with investment objectives.
Lack of effective knowledge management, talent management, and turnover transition management could lead to loss of institutional knowledge, which could negatively impact the delivery of member services and pension fund management.	Reliance on aging systems will impede administration and processing of pension benefits and meeting the growing demands of TRS members.	Information regarding company and product qualification is self-reported.	Incorrect reporting could lead to calculated benefits being inaccurate.	Too little or too much exposure to market risk could each lead to undesirable investment outcomes.
Governance	Legacy Information Systems	Customer Service	Procurement & Contract Management	Counterparty/Credit
Maintain an organizational structure and culture that upholds ethical behavior and values that contribute and promote transparency and accountability.	Provide information systems to meet TRS' long term business and customer service needs.	Deliver superior service to membership and internal/external customers.	Maintain effective contract management systems.	Maintain effective management of counterparty and securities lending risks.
Inappropriate agency governance and an unethical structure and culture could lead to inadequate controls which create other risks.	Inability to provide adequate and consistent information in a timely fashion via the preferred delivery mechanism.	Inadequate customer service could result in dissatisfied members or customers and could lead to increased scrutiny and oversight.	Inappropriate procurement practices could result in purchases of sub-standard products, unfavorable pricing or contract terms, and violation of laws. Ineffective contract monitoring could result in contractors not fulfilling their contractual obligations.	Unmanaged counterparty and securities lending exposures could result in losses to the investment portfolio.
Business Continuity	Information Security	Tax Qualification Status		Liquidity/Leverage
Recover and resume operations in the event of a business interruption.	Maintain integrity, availability, and protection of electronic data.	Adherence to current laws and rules to maintain tax qualification status.		Maintain levels of liquidity appropriate for the support of fund disbursements, anticipated investment funding needs and trust level leverage.
Members do not receive statutorily required services.	Inappropriate (accidental or intentional) exposure or modification of critical information maintained by TRS.	Losing the tax qualification status would have tax consequences for our members.		Inadequate liquidity could lead to cash shortfalls.
Fraud Prevention & Detection	Confidential Information			
Protect TRS from fraudulent practices.	Protect confidential information and ensure compliance with applicable laws and rules.			
Fraudulent activities could result in loss of assets and credibility, adverse publicity, and increased scrutiny and oversight.	Unauthorized or unintentional release of confidential information could result in state and/or federal law violations and sanctions against TRS or its employees.			
Records Management				
Preserve TRS records through adherence to applicable laws and rules, and by applying TRS records management policies.				
An ineffective records management program could result in the loss or accidental release of records, loss of credibility, result in delays in accessing records, and increased scrutiny and oversight.				

Teacher Retirement System of Texas

Audit Universe (Red Indicates Projects Planned For FY13)

Enterprise		Operations	Finance	Investments
Pension Funding	Communications & External Relations	Pension Benefit Administration	General Accounting & Reporting	Investment Operations
See Pension Benefit Administration	<ul style="list-style-type: none"> • Social media • Board elections • Open records request compliance 	<ul style="list-style-type: none"> • Actuarial assumptions (external) (FY10) • Benefit payment testing (FY12) • Beneficiary claims controls (FY09) • Member data change controls (FY 09) • Benefit processing controls (FY12) • Qualified Domestic Assistance Orders (FY12) • Disability • Benefit accounting controls (FY12) • Inactive and escheated accounts • Annual statements • Mail room operations • MyTRS website application controls 	<ul style="list-style-type: none"> • CAFR (external) (FY12) • Wire transfers (FY12) • Investment valuation and accounting audit (FY12) • Payroll, accounts payable, travel (external) (FY09) • Compensation, payroll and position control (FY12) • Salary classification (external) (FY10) • Cash receipts (FY10) • Inventory • Tax reporting (1099s) • Closing process 	<ul style="list-style-type: none"> • Investment technology controls (FY 10) • Soft dollars (FY08) • Vendor paid expenses (FY09) • Commission sharing arrangements (CSA) (FY11) • Travel, including third party paid travel (FY11) • Incentive compensation (FY12) • Settlement • Investment performance analytics (FY11) • Master custody services (FY12) • Cash flow projections • Corporate actions • Proxy voting (FY12)
Retiree Health Care Funding	Governmental/Association Relations	Health Care Administration	Budget	Investment Reporting
See Health Care Administration	<ul style="list-style-type: none"> • Bill tracking system controls 	<ul style="list-style-type: none"> • Third party vendor contract compliance (external) (FY12) • Healthcare vendor selection and contract monitoring • Healthcare administration controls • Healthcare payments and collections (FY10) • Appeals process • Premium refund testing (FY12) 	<ul style="list-style-type: none"> • Budget allocations and transfers (FY10) • Budget process and reporting 	<ul style="list-style-type: none"> • Investment policy compliance (FY12) • State Street's compliance calculations (FY12) • Investment performance measurement (FY11) • Investment risk management (FY12)
Workforce Continuity	TEAM	403(b)	Employer Reporting	Market
<ul style="list-style-type: none"> • Employee recruiting and hiring practices (FY10) • Employee training compliance (FY11) • Policy setting and monitoring 	<ul style="list-style-type: none"> • Information technology governance (FY10) • Independent project oversight (external) - added project 	<ul style="list-style-type: none"> • 403(b) certification process 	<ul style="list-style-type: none"> • Employer audits • Employer reporting administration controls • TRAQS application controls 	<ul style="list-style-type: none"> • Asset liability study (external) (FY09) • Tactical asset allocation • Investment benchmark selection (FY11) • Actively-managed internal equity portfolio (FY11) • Passively-managed portfolio • Hedge fund portfolio (FY11) • Derivatives, including futures, forwards, and swaps (FY11)

Enterprise		Operations	Finance	Investments
<p>Governance</p> <ul style="list-style-type: none"> Investment fiduciary study (external) (FY11) Sunset review (external) (FY07) Control environment, governance, and ethics (FY09) Information and communications Strategic planning Enterprise risk management Trustee orientation (FY10) Board reporting (FY08) Open Meetings Act compliance Internal Audit Quality Assurance Review (external) (FY10) 	<p>Legacy Information Systems</p> <ul style="list-style-type: none"> Change management controls (FY12) Application-level controls of legacy systems 	<p>Customer Service</p> <ul style="list-style-type: none"> Performance measures (External) (FY11) Telephone counseling center / telecommunications IT help desk 	<p>Procurement & Contract Management</p> <ul style="list-style-type: none"> Board advisors contract monitoring Outside counsel procurement and monitoring (FY09) Contract administration and purchasing Contract worker onboarding, monitoring and compliance (FY10) HUB program compliance and reporting Software license management 	<p>Counterparty/Credit</p> <ul style="list-style-type: none"> External manager portfolio (FY11) Private markets portfolio (FY12) Emerging manager portfolio Trading center (including broker selection and execution) (FY11)
<p>Business Continuity</p> <ul style="list-style-type: none"> Disaster recovery System and data backup Business continuity plan (FY09) Risk management (health and safety, insurance) (FY12) 	<p>Information Security</p> <ul style="list-style-type: none"> Information security governance Network penetration tests (external) (FY12) Internal vulnerability scans - added project Patch management Database administration controls Information security policy compliance (FY12) Logical access controls (FY12) TAC 202 and HIPAA IT Security Rule compliance (FY11) Cloud computing 	<p>Tax Qualification Status</p> <p>See Pension Benefit Administration</p>		<p>Liquidity/Leverage</p> <ul style="list-style-type: none"> Securities lending Asset management fees FY 10) Funding and distributions related to private markets commitments (FY12)
<p>Fraud Prevention & Detection</p> <ul style="list-style-type: none"> Fraud risk detection and prevention controls (FY09) 	<p>Confidential Information</p> <ul style="list-style-type: none"> Building security and physical access controls (FY12) HIPAA privacy and confidentiality compliance Social Security number scans (FY10) 		<p>Your name: _____</p> <p>Would you like to be contacted by Internal Audit to discuss the audit plan for 2013? Yes _____ No _____</p>	
<p>Records Management</p> <ul style="list-style-type: none"> Records retention (FY11) Imaging system application and management controls 			<p>What areas would you like considered for inclusion in the 2013 audit plan? Please list those areas here:</p>	

TAB 6

Teacher Retirement System of Texas
June 2012 Audit Committee Agenda Items Mapped to TRS Enterprise Risk Inventory

Enterprise		Operations	Finance	Investments
Pension Funding	Communications & External Relations	Pension Benefit Administration	General Accounting & Reporting Agenda Item 3a	Investment Operations Agenda Items 2 & 3b
Retiree Health Care	Governmental/ Association Relations	Health Care Administration	Budget Agenda Item 3a	Investment Reporting Agenda Items 3b & 3c
Workforce Continuity	TEAM	403(b)	Employer Reporting Agenda Item 5a	Market
Governance Agenda Items 4, 5b & 6	Legacy Information Systems	Customer Service	Procurement & Contract Management	Credit
Business Continuity	Information Security Agenda Item 3d	Tax Qualification Status		Liquidity/Leverage
Fraud Preventions & Detection	Confidential Information			
Records Management				

Fiscal Year 2012 Internal Audit Advisory Services¹
April – May 2012

BENEFIT SERVICES
<p>TEAM PROJECT</p> <ul style="list-style-type: none"> • Executive Steering Committee Participation • Business Rules Committee Participation • Commitments Gathering Participation • Monthly meetings with TEAM Project Manager • Core Management Team: Standing Prioritization Review Meeting • Independent Validation and Verification Input – Vendor Presentations
HEALTH BENEFITS
<ul style="list-style-type: none"> • Medicare Advantage Vendor Selection Process Participation • Health Plan Administrator (HPA) and Pharmacy Benefit Manager (PBM) Vendor Quarterly Update Meeting Participation
INVESTMENTS
<ul style="list-style-type: none"> • Personal Trading Monitoring, Weekly Meetings with Legal Services, Quarterly Reporting to Executive Director • Derivatives Operations Group Meetings Participation • Monthly Securities Lending Update Meetings Participation • Internal Investment Committee (IIC) Attendance • Investment Management Division (IMD) Staff Meeting Attendance • Technology and Operations Working (TOW) Group Meeting Attendance • Coordination of State Auditor’s Office Audit of Incentive Pay Plan • Material Non-Public Information (MNPI) Discussion and Analysis of the MNPI Watch List for the Chief Investment Officer
FINANCIAL SERVICES
<ul style="list-style-type: none"> • Valuation Committee Participation
EXECUTIVE
<ul style="list-style-type: none"> • Electronic Records Retention Meetings • Hot Line Call Facilitation • Confidentiality Policy and Procedures Input • New Employee Orientation Training • TRS Manager Training – Internal Controls Presentation • Social Media Advisory Committee • Fraud, Waste and Abuse Prevention Committee • Employee Ethics Training Pilot • TRS 75th Anniversary Committee
INFORMATION TECHNOLOGY
<ul style="list-style-type: none"> • Internal Vulnerability Scan Project Discussion • 2012 Recovery Exercise Observation • Diligent Boardbooks – Input to the Security Overview and Service Agreement

¹ Advisory Services (non-audit services) - The scope of work performed does not constitute an audit under Generally Accepted Government Auditing Standards (GAGAS).

Status of Fiscal Year 2012 Planned Assurance, Consulting, and Advisory Services as of May 2012

AREA	ASSURANCE	CONSULTING/ADVISORY
Benefit Services and Benefit Accounting	<ul style="list-style-type: none"> ✓ Benefit payments: testing on behalf of State Auditor's Office (SAO) in support of the Comprehensive Annual Financial Report (CAFR) audit Benefit quarterly testing: <ul style="list-style-type: none"> • Gross annuity payments, manual payments • Key controls • Legislative changes • TRS Rules and Laws compliance ✓ 1st QTR ✓ 2nd QTR 3rd QTR (testing deferred to 4th QTR) 4th QTR 	<p>Key process flowcharts and controls identification:</p> <p>Benefit Accounting -</p> <ul style="list-style-type: none"> ★ District Reports <ul style="list-style-type: none"> • Disbursements • Special Service Buyback ★ Reporting entity study of other pension system practices
Health Benefits		<ul style="list-style-type: none"> ❖ Health benefits vendor quarterly meetings attendance ✓ Healthcare auditor contract award participation (non-voting)
Investments	<ul style="list-style-type: none"> ★ Private partnership selection and monitoring controls (especially co-investments) ✓ Investment risk management ✓ State Street compliance calculations ✓ Bloomberg access controls (incorporated into technology security testing procedures) Investment policy compliance: Continuous testing (including board reports and wire transfers) <ul style="list-style-type: none"> ✓ 1st QTR ✓ 2nd QTR ✓ 3rd QTR 4th QTR 	<ul style="list-style-type: none"> ❖ Investment Compliance program: <ul style="list-style-type: none"> • Investment Policy Statement • Securities Lending • Proxy Voting • Employee Trading ❖ Trade pre-clearance ❖ Committee participation/attendance: <ul style="list-style-type: none"> • Internal Investments Committee • Technology and Operations Workgroup • Derivatives • Securities Lending Investment Policy Statement review ✓ Incentive pay calculation review Key process flowchart: <ul style="list-style-type: none"> • Corporate actions • Passive portfolio
Financial Services and Staff Services	<ul style="list-style-type: none"> ✓ Investment accounting and valuation ✓ Compensation, payroll, and position control (including Human Resources) ✓ Building security 	<ul style="list-style-type: none"> ✓ SAO coordination for financial audit ❖ Valuation committee participation

Legend: ✓ Project or activity completed
 ★ Project in progress
 ❖ Ongoing during the quarter

Status of Fiscal Year 2012 Planned Assurance, Consulting, and Advisory Services as of May 2012

AREA	ASSURANCE	CONSULTING/ADVISORY
Executive	<p>Follow-up status report on outstanding audit recommendations</p> <ul style="list-style-type: none"> ✓ 1st QTR ✓ 2nd QTR ✓ 3rd QTR 4th QTR 	<p>Internal controls opinion planning</p> <ul style="list-style-type: none"> ★ Internal Audit quality assurance self-assessment ❖ Committee participation: <ul style="list-style-type: none"> • Fraud, Waste, and Abuse Prevention Committee • Website Advisory Committee • Leadership Committee • Risk Oversight Committee • Executive Council • Issues Management Team • Social Media Advisory Committee ❖ Policy reviews and training participation: <ul style="list-style-type: none"> • Ethics policy • Internal policies ❖ Fraud and ethics hotline <p>Key process flowcharts:</p> <ul style="list-style-type: none"> • Legal Services: Securities class action claims • Human Resources: Performance management, compliance and administration <p>Surprise inspections – various</p>
Information Technology	<p>Quarterly testing of security controls</p> <ul style="list-style-type: none"> ✓ 1st QTR 2nd QTR (deferred to 3rd QTR) ✓ 3rd QTR 4th QTR <p>★ Change management controls</p>	<ul style="list-style-type: none"> ❖ Committee participation: <ul style="list-style-type: none"> • TRS Enterprise Application Modernization (TEAM) Executive Steering Committee <ul style="list-style-type: none"> ○ Business Rules team ○ Commitments Gathering • Information Resources Operations Committee • MyTRS • Information Security Program Core Team ✓ Hot site observation

Source: Approved Fiscal Years 2012-2014 Audit Plan

**Internal Audit Performance Measures - Fiscal Year 2012
3rd Quarter Ending May 2012**

Target Performance	Status
1. Complete 90% of original assurance projects.	On Task
2. Facilitate success of external financial audit.	Achieved
3. Increase risk coverage by increasing use of data-mining tools (quarterly testing of benefits, information security, and investment compliance).	On Task
4. Ensure adequate expertise to perform audits by publishing a request for qualifications.	Achieved
5. Ensure outstanding audit recommendations are fully implemented by following up and reporting on their status quarterly.	On Task
6. Improve identification and maintenance of risks and controls through implementation of an automated tool (TeamRisk).	On Task
7. Achieve 75% or higher utilization (direct time/total available hours) of professional staff time on assurance, consulting, and advisory services.	On Task
8. Provide training on internal controls to TRS' managers and staff.	On Task
9. Implement fiscal year 2012 objectives and initiatives of the Internal Audit strategic plan.	On Task
10. Provide the Audit Committee with quarterly and annual status reports (performance measures, Quality Assurance and Improvement Program, and annual report).	On Task

Legend: Target Status

	Target not achieved
	Behind in achieving target
	On task to achieve target
	Achieved target

Teachers Retirement System of Texas
Internal Ethics and Fraud Hotline
Incident Report Activity Summary
1/1/2010 (inception) through 5/31/2012

Time Period	Number of Calls	Status
1/1/2010 – 8/31/2010	1	Resolved
9/1/2010 – 8/31/2011	2	Resolved
9/1/2011 – 11/30/2011	0	N/A
12/1/2011 – 3/30/2012	1	Resolved
3/30/2012 – 05/31/2012	0	N/A

Resolved – fully investigated by the Triage Team and all actions agreed to by the Triage Team have occurred.

Per the TRS Fraud and Ethics Hotline Procedures:

- The Audit Committee Chair will be kept apprised of the status of investigations and will be notified of any suspected fraud in accordance with TRS’s Fraud, Waste, and Abuse Prevention Policy.
- The Audit Committee will be provided with statistics quarterly regarding calls received, their disposition, and those resulting in identification of fraud and notification to the State Auditor’s Office hotline.
- The Audit Committee may instruct Internal Audit to perform an audit of matters relating to issues identified with the allegation in accordance with the Audit Committee Charter.
- Internal Audit will consider results of hotline calls and actions by the Triage Team in developing the annual audit plan or amendments to that plan.

Internal Audit Staff Quarterly Accomplishments

- Amy Barrett, Dinah Arce, and Brian Gomolski attended the Association of Public Pension Fund Auditors (APPPFA) professional development conference where they presented on “Developing an Internal Audit Strategic Plan.”
- Jan Engler presented “One Approach to Strategic Planning for Internal Auditors” for a training sponsored by the Internal Audit Leadership Development Program (IALDP).
- Jan Engler and Dinah Arce (along with Michelle Pagán, Enterprise Risk Management, and Roy Larsen, Human Resources) presented “Benchmarking a Fraud Prevention Program at TRS” for training sponsored by the Association of Certified Fraud Examiners (ACFE).
- The Investment Compliance Team was named as a finalist for the TRS Shining Example Award. Team members include Hugh Ohn, Terry Harris, Dinah Arce, Toma Miller, and Brian Gomolski.
- Stephen Henry will be joining the Internal Audit Department as a summer intern. Stephen is an accounting major at the University of Texas at Austin and an active member and treasurer of the Best Buddies program.