



City of Milwaukee Employees' Retirement System

Risk Assessment and Internal Audit Plan for Fiscal Year 2018

MAY 11, 2018

EXPERIS FINANCE
RISK ADVISORY SERVICES
WISCONSIN OFFICE

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EXECUTIVE SUMMARY

Background

The City of Milwaukee Employees' Retirement System (ERS) is headquartered in Milwaukee, Wisconsin. ERS has the responsibility of administering the benefits of its member constituency, which is comprised of employees and retirees of the City of Milwaukee and its related agencies. Benefits are managed in accordance with legislative guidance and contractual obligations.

Scope and Objectives

Experis Finance performed a high level assessment of the risks associated with various operational and IT areas within ERS at the direction of the ERS Board. From this assessment, a Risk-based Internal Audit Plan was developed to determine the adequacy of the ERS's internal controls and operating procedures. The plan provides emphasis to areas perceived to have higher risk and allows audit resources to be used in the most cost effective manner. The risks identified in this report, and their ratings, are based upon industry knowledge and standards in conjunction with ERS's practices, and are not an indication of where gaps currently exist.

Discussions with process owners and management were performed to determine the primary risks to ERS and internal audit focus. The results of the internal audit procedures performed throughout fiscal year 2017 were also reviewed and assessed. The results of this Risk Assessment are summarized in Appendix I. Based on the Risk Assessment, the Internal Audit Plan was developed (Exhibit I) and related internal audit hours assigned (Exhibit II).

Risk Assessment Results and Audit Plan Justification Summary

The Internal Audit Plan focuses on the risks identified during the Risk Assessment, inherent risks within processes based on industry knowledge, and areas critical to the ERS's strategic goals and operational functionality. In 2018, the Audit Plan will continue to follow the rotational cycle that has been plan in prior years. This year, an area of concern noted for the ERS, while outside its control, is the funding requirement for the employers. The discount rate, that has been set as part of the funding policy, is higher than average when compared to other public pension funds. This presents a Governance risk for the organization and the employers, and puts pressure on the organization to meet the higher than average investment rate of return. The *2018 Risk Based Internal Audit Plan-Exhibit I* includes the following full-scope audits:

- Investment Management
- Contributions
- Benefit Payroll
- Vendor Management
- IT General Controls
- Vulnerability Assessment
- Social Engineering Assessment

- Business Continuity

Hours have been included in this year's Audit Plan to also include the follow-up of previous audit areas that had findings and for any special projects requested by management.

Conclusion

This Risk Assessment and Internal Audit Plan should be reviewed and updated by management and members of the Administration & Operations (A&O) Committee as significant changes occur, and at a minimum on an annual basis. Any changes in ERS's control environment (including but not limited to employee turnover of mid-level and senior level management, procedural changes, changes to the MERITS system, IT infrastructure, etc.) should be communicated, so the audit plan can be adjusted as needed.

SUMMARY OF RISK ASSESSMENT METHODOLOGY

The following steps were performed in completing the Internal Audit Risk Assessment:

1. Key Areas Understanding

Gained an understanding of key operational areas and procedures through employee interviews and a review of documentation:

- Key operating processes, programs and personnel were identified.
- Recent Board Minutes were reviewed to consider relevant issues facing ERS.
- Interviews with the ERS management and key personnel were conducted to obtain their perspective of the risks faced by ERS and to verify their roles and responsibilities in the ERS's current operating environment, and strategic initiatives.
- The results of previous audits were reviewed and discussed with management and considered in the assessment.
- Discussed planned employee job transitions and employee issues within the organization in 2018.
- Discussed changes to the IT environment related to logical access, change management and operations.
- Discussed the impact of cyber security risks and third-party risk management.
- Discussed the potential impact of other external risks that could impact ERS operations, such as the European Union's (EU) General Data Protection Regulation and recent changes in the financial market.

2. Risk Rating Framework Definitions

The Risk Rating definitions are as follows:

Risk Ratings	Definitions
Likelihood	Likelihood that a risk would occur during a specified period of time.
Impact	Impact on earnings, management availability, and the fulfillment of business objectives.
Velocity	The speed of occurrence of a particular risk impacting the organization.

The following table shows the Risk Ratings definitions considered when determining the definitions for the Risk Factors (see #3 below):

	Low	Medium	High
Likelihood	The risk is unlikely to occur during the specified period of time.	The risk is likely to occur during the specified period of time.	The risk is expected to occur during the specified period of time.
Impact	The risk will not materially affect earnings, management availability or fulfillment of business objectives.	The risk will affect complete achievement of anticipated earnings, management availability or fulfillment of business objectives.	The risk will materially affect achievement of anticipated earnings, management availability or fulfillment of business objectives.
Velocity	Risk will occur slowly	Risk may occur quickly,	Risk may occur quickly,

	Low	Medium	High
	and allow for sufficient preparatory time. Management has the ability to react in time to mitigate risk.	and management has the ability to react in time to mitigate risk.	and management does not have the ability to react in time to mitigate risk.

3. Inherent Risk Factors Identification and Definition

The following inherent risk factors associated with the key operating areas within ERS were identified and defined:

Risk Factors	Definition
Prior Year Audit Comments	Final audit rating based on the number and severity of any issues.
Management Concern	Concerns expressed during interviews regarding overall controls in a process area.
Financial Statement Materiality	The risk that financial statements that are prepared and reported are materially inaccurate and lead the reader to arrive at the wrong conclusion.
Strategic Risk	The risk arising from adverse investment / business decisions, improper implementation of decisions, or lack of responsiveness to market or industry changes.
Operational & Control Risk	The risk arising from inadequate or failed internal processes or systems and the misconduct or errors of people. In addition, the risk that the internal control environment does not provide the discipline and structure to identify the failures, misconduct, errors or adverse events above.
Interest Rate & Market Risk	The risk to the Organization's condition resulting from adverse movements in market rates or prices. This can occur to earnings or changes in the value of the investment portfolio. This results from re-pricing risk, basis risk, yield curve risk and from options risk
Liquidity Risk	The risk that the Organization will not be able to meet its obligations as they come due because of the inability to liquidate assets or obtain adequate funding.
Compliance & Regulatory Risk	The risk arising from violations of laws, rules, regulations or from nonconformance with prescribed practices, internal policies and procedures, ethical standards or adverse judgments that can disrupt or negatively affect ERS operations and performance.
Reputational & Public Scrutiny Risk	The risk to current operations arising from negative public opinion resulting from an event within the entity.

Risk Factors	Definition
Reporting and Data Integrity Risk	The risk from inaccurate or unauthorized reports or data used by management or the Board for critical decision making purposes.
Fraud Risk	The risk intentional acts are committed on or by ERS by internal or external sources that can cause a loss of ERS funds, value, or reputation and result in an unauthorized benefit by others.
IT & System Application Risk	The risks of inappropriate/excessive logical access, inconsistent/absent change management processes, or informal/immature data center operations. The risks apply at multiple levels which include the network, application, database, and operating system levels.

The Risk Ratings (see #2 above) and inherent Risk Factors are rated in Appendix I and defined in Appendix II.

4. Operational Areas Assessment and Rating

Each key operational area was assessed according to the Risk Factors and Risk Ratings defined above. An overall risk rating was assigned, and used in determining the risk based audit plan. Each of the sections analyzed has its rating listed within this section; refer to Appendix I-Risk Based Process Ratings to see a summary of rankings for review at the entity level.

Ethics and Governance Medium (3)

Summary

Medium-High and High Risk Factors:

- Strategic Risk
- Reputational Risk

Mitigating Control Factors Currently in Use

- AO Committee and Board of Directors have defined meeting agenda's and follow meeting procedures.
- Management has engaged capable advisors and experts to assist them navigate market risks.

Detailed Analysis

The Ethics and Governance process is responsible for the organization's governance process, management of day to day operations and the communication of policies and values, "Tone from the Top".

Strategic Risk continues to remain elevated in 2018 and reflects a number of external factors that ERS Management will need to monitor and address in 2018. Those external factors include:

- The impact of the recent actuary report on the Projected Benefit Obligation (PBO)

- Investment volatility impacted by rising interest rates, potential inflation and changing US economic policies

These factors may present new challenges to both management and the BOD in 2018 and beyond. Without the appropriate governance authority to do so, the agencies and the staff face a challenge to meet a long term investment rate of return that is above the average of other public pension plans.

Reputational & Public Scrutiny Risk also remains high in 2018 as the responsibility of managing the pension assets and payment of retiree pension payments are the responsibility of ERS management and the A&O Committee.

While external environmental factors have elevated in 2018, the Ethics & Governance Process is based on a solid foundation and management has engaged capable advisors and experts to assist them during this period of change.

In 2017, an audit of the Ethics and Governance process was performed and identified no issues at that time. Since the process is considered to have an overall Medium risk profile and was audited in 2017, an audit is not considered necessary in this fiscal year.

Accounting & Finance Process Medium (3)

Summary

No High Risk Factors.

Mitigating Control Factors Currently in Use

- Accounting and Finance Standard Procedural Instructions (SPI's) detail the procedures necessary to compile and complete the annual financial statements.
- Northern Trust's Investment Management system is reviewed and tested by a third party resulting in a Statement of Controls (SOC) report that is issued to ERS.
- The General Ledger, Payroll and Procurement/Accounts Payable systems are maintained and managed by the City of Milwaukee. Transactions made within these systems must follow defined procedures to execute those transactions within those systems.
- All cash disbursements and payroll payments are approved by the appropriate member of ERS management.

Detailed Analysis

The Finance and Accounting Process is responsible for the recording and reporting of financial transactions within ERS. At year end, this process is responsible for the preparation and reporting of ERS's annual financial statements.

Operational and Control Risk and Management Concerns were lowered in 2018 as compared to the 2017 risk assessment, following the recruitment of a new CFO who, in addition to the CFO responsibilities, also assumed many responsibilities of the previous Pension Accounting Specialist. The primary functions transferred to the new CFO were the preparation of the organization's annual financial filings. The new CFO has experience in this industry as he previously prepared Pension Statements at the Wisconsin Retirement System (WRS).

In 2017 an audit of the Finance and Accounting process was performed and two internal control deficiencies were identified, thus the Medium (3) rating for Prior Year Audit Comments category. One of these two deficiencies introduced an immaterial financial misstatement to the published 2015 financial statements. Both of these deficiencies were corrected in 2017.

The Accounting and Finance process is considered to have an overall Medium (3) risk. Since it was audited in 2017, a full scope audit will not be conducted in 2018; rather follow-up procedures will be conducted related to the review of the key financial reporting workbooks and the financial reporting SPIs issues identified in the 2017 audit. Not performing an internal audit in 2018 will also give the new CFO the opportunity to assess and adjust the control environment over a full fiscal year before the audit in 2019.

Investment Management Process Medium-High (4)

Summary

Medium-High and High Risk Factors:

- Management Concerns**
- Financial Statement Materiality Risk
- Strategic Risk
- Interest Rate / Market Risk*
- Reputational & Public Scrutiny Risk*

*Inherent risk factors assigned an additional weight: Inherent risks are risks under the assumption no internal controls are applied. Some of these risks may not be directly controllable by ERS's internal control environment, but can have a significant impact on the organization. The risks are listed as they are relevant to the organization's operation and are considered by management on a daily basis.

**Management Concerns are not related to the overall process or management of the area, but are directed towards meeting a higher than average investment rate of return within the limits set by the City's pay practices.

Mitigating Control Factors Currently in Use

- The Investment Management team regularly reviews the performance of their Investment managers, including performing on-site due diligence at the managers' offices.
- Investment Managers' accounts and invoices are reviewed against manager statements.
- Manager invoiced fees are independently recalculated by members of the ERS Investment Management team.
- New Investment Managers are selected based on advice of their Investment and Pension Advisor, Callan.
- Investment policy, which drives the investment strategy at ERS, is developed in conjunction with Callan.

Detailed Analysis

The Investment Management process is responsible for the management of the City of Milwaukee's Pension Assets and directing the investment portfolio (approximately \$5.3 Billion) to meet City of Milwaukee pension obligations. The department is currently composed of the CIO and two Investment Analysts.

While there are no changes in the overall Risk Assessment from 2017 to 2018, the inherent risk factors influencing and impacting key risk areas continue to be present within the Investment Management process.

Financial Statement Materiality and Strategic Risk continue to be elevated as portfolio investments represent the majority of ERS assets. In addition, management of these assets is critical to the success of City of Milwaukee ERS and its population of employees, retirees and beneficiaries.

Reputation & Public Scrutiny Risk remains elevated in 2018 given the public's continued interest in local public pensions, the materiality of the assets managed and the impact of funding shortfalls on local taxation. Management has represented these risks cannot be controlled via internal controls and management is aware of them; they are listed here to ensure continued visibility.

Overall there are Management Concerns over the retention of Investment Management employees. While this concern is one of Governance, it is one that directly impacts Investment Management. This concern is driven by several factors, including:

- An improving job market that has very low unemployment rate
- Rising wages across all private industry sectors

The Investment Management process continues to have a Medium-High risk profile due to its importance, the magnitude of the investment balance and the overall inherent risks associated with investment management. An audit of this process is scheduled for fiscal year 2018.

Enrollment & Member Services ***Low-Medium (2)***

Summary:

No High Risk Factors.

Mitigating Control Factors Currently in Use

- The MERITS system is a defined process that requires ERS employees to enter specific employee data. Critical employee data that is missing from MERITS is flagged as a follow-up item by the system; these flags can't be deleted until the data is entered.

Detailed Analysis

The Enrollment and Member Services process is responsible for both the on-boarding of employees into the Retirement System at the time they are hired and then, later, assisting those employees once they move into retirement.

Operational & Control Risk and Management Concerns were reduced in 2018 as ERS was able to internally recruit and fill a number of open positions in 2017. These open positions were filled with individuals who were already ERS employees and had

some familiarity with the Enrollment and Member Services. Management has indicated that they are confident that these new employees have demonstrated growth in their new roles and are capable of performing their assignments in 2018.

Based on the above changes, the process is considered to have an overall lower Medium (2) risk profile and will not be audited in 2018 as this was most recently audited in May 2017 with no issues identified.

Benefit Calculation

Medium (3)

Summary

Medium-High and High Risk Factors:

- Financial Statement Materiality Risk
- Reputational & Public Scrutiny Risk

Mitigating Control Factors Currently in Use

- The Benefit Calculation process is integral to the MERITS system and requires the Benefit Calculation professional to follow defined processes and procedures within the system to generate the participant's benefit payment.
- After the initial retiree payment is calculated, the computation is reviewed and recalculated by another employee, independent of the initial calculation.

Detailed Analysis

The Benefit Calculation process calculates and determines the amount of the pension payments that will be made to future retirees. While the process has a higher inherent risk, as a benefit miscalculation could result in loss of funds and reputational harm, the process is tightly controlled by management and has a number of mitigating controls. Many of the control procedures and computations, especially those associated with retiree payments, are audited by team members that were independent of the initial computations.

Operational & Control Risk was reduced in 2018. The risk was reduced as management has indicated that they have confidence in the employees performing these roles. In 2017, an audit of this process was performed. The results of the audit identified no internal control deficiencies. Reputation & Public Scrutiny Risk remains raised in 2018 given the public's continued interest and scrutiny in local public pension plans.

After considering these changes, the overall Risk Rating associated with this process is rated Medium (3). As the process was audited in May 2017, it will not be audited in 2018.

Contributions
Low-Medium (2)

Summary:

No High Risk Factors.

Mitigating Control Factors Currently in Use

- Employee Contributions from the City of Milwaukee and participating agencies are reviewed and reconciled by the ERS Contributions team.

Detailed Analysis

The Contributions function conducts the receipt and recording of employee pension contributions from each of the agencies participating in the retirement plan. The processes used by ERS to reconcile contributions are well defined and closely monitored by ERS management.

Fraud Risk was lowered in 2018 as the likelihood to misdirect payments being made from a contributing agency to the retirement fund is limited due to the cash management procedures and controls that have been implemented by ERS. Prior Audit Comments risk factor was lowered in 2018 as no comments were identified during the 2014 and 2016 audits.

Based on the above, the process is considered to have an overall Medium risk profile and will be audited in 2018 as the most recent audit was performed in April 2016.

Benefit Payroll
Medium (3)

Summary:

Medium-High and High Risk Factors:

- Management Concerns
- Financial Statement Materiality
- Strategic Risk
- Reputational & Public Scrutiny Risk

Mitigating Control Factors Currently in Use

- Benefit payments are reconciled to each benefit calculation, MERITS benefit system, and bank records.
- Proper segregation of duties exists between custody of check stock, initiating member payment run, authorizing member payment run, running print job, and custody of printed checks, and is reflected in system access.
- Bank authorization for check signing and initiating and authorizing wire transfers and ACH are appropriate per position descriptions and properly uphold segregation of duties.

Detailed Analysis

The Benefit Payroll process disburses and distributes retiree pension payments.

Strategic Risk remains high in 2018 as the Benefit Payment Process is considered to be one of the most critical functions within ERS. In addition, management decisions influencing the delivery of pension payments would significantly impact ERS

operations. Reputational and Public Scrutiny Risk continues to remain high as the process has a higher inherent risk as:

- Regular benefit payments must be made to the fund participants, and
- The miscalculation of benefits payments may result in reputation risk to ERS.

Management Concerns continue to remain high as the process is critical to ERS operations. While employee turnover that occurred in prior years has subsided, management continues to be concerned about employee retention due to an improving economy, overall low unemployment and wage and salary limits implemented by the City of Milwaukee.

Prior Audit Comments risk factor was lowered in 2018 as no comments were identified during the 2014 and 2016 audits. The process is considered to have an overall Medium risk profile and will be audited in 2018.

Benefit Administration ***Low-Medium (2)***

Summary:

No High Risk Factors.

Mitigating Control Factors Currently in Use

- Deposit and withdrawal amounts for life/health/dental benefit contributions per bank records tie out to posting in MERITS, and amounts payable to the benefit provider.
- Retiree elections for health/dental benefits are accurately reflected in MERITS and corroborated to benefit provider invoicing.

Detailed Analysis

Life, health and dental benefit plans are self-funded by the City and are administered by third-party service providers. Benefit Administration employees are responsible for:

- Assisting retirees with insurance inquiries,
- Updating member insurance rates, and
- Reconciling member and plan premiums.

The Benefit Administration process in place is mature and has a relatively low inherent risk profile.

Prior Audit Comments risk factor was reduced in 2018 as no comments were identified during the 2014 and 2016 audits. Other than the change to Prior Audit Comments, the Risk Assessment for the Benefit Administration process will remain unchanged from 2018. This evaluation was based on the following:

- This process is not expected to undergo any system or procedural changes and
- It is not expected to be impacted by any external factors that would otherwise introduce any additional risk to the process.

Based on the above, the process is considered to have an overall Low-Medium (2) risk profile and will not be audited in 2018 as the most recent audit was performed in May 2017.

HR / Payroll Process
Low-Medium (2)

Summary:

No High Risk Factors.

Mitigating Control Factors Currently in Use

- The Payroll process is maintained and managed by the City of Milwaukee. Transactions made within the system must follow defined procedures to execute those transactions within those systems.
- Employee hires, promotions and terminations must be approved by the City of Milwaukee Department of Employee Relations.

Detailed Analysis

The ERS HR / Payroll process utilizes the procedures and software provided by the City of Milwaukee Department of Employee Relations. The HR/Payroll function includes the administration of employment and personnel records, employee time and attendance reporting, the payment and recording of the biweekly payroll and the annual Performance Evaluation process.

The payroll system is run by City of Milwaukee Department of Employee Relations and therefore, ERS's risk is somewhat limited to the system the City uses. Similarly Reputational & Public Scrutiny Risk was reduced in 2018 as the process is maintained and operated by the City of Milwaukee. The process is not expected to undergo any system or procedural changes, nor is it expected to be impacted by any external factors that would otherwise introduce any additional risk to the process. As a result, the Risk Assessment for this process is unchanged from 2017.

Based on the above, the process is considered to have an overall Low-Medium risk rating at a (2) profile. This will not be audited in 2018 as it was most recently audited in May 2017.

Vendor Management
Low-Medium (2)

Summary:

Medium-High and High Risk Factors:

- Reputational & Public Scrutiny Risk

Mitigating Control Factors Currently in Use

- The City of Milwaukee has implemented standardized contracts for service providers who wish to provide services to the City of Milwaukee. These contracts have specific provisions that each service provider must agree to before the contract can be entered into by the City or a member agency.
- In order for a contract to be executed, each contract must follow the contract approval process outlined by the City of Milwaukee.

Detailed Analysis

The Vendor Management process is responsible for the management and administration of the contracts entered into by ERS. The majority of these contracts are related to Management of the Pension Assets and IT services supporting the organization. As part of its efforts to minimize risk in this function, ERS has standardized the provisions and terms in its contracts for its regular and reoccurring contractors.

IT and System Application Risk was lowered in 2018, as the process only utilizes a database to track and manage the contracts entered into by ERS. This database has a limited risk profile as it is only used internally by ERS employees and is not externally accessible.

Reputational & Public Scrutiny Risk continues to remain high, as any negative issue involving a vendor would undoubtedly invite raised scrutiny from the public of ERS operations.

No audit issues were identified during the 2016 audit. Based on the above, the process is considered to have an overall Low-Medium risk profile and will be audited in 2018 as the most recent audit was performed in March 2016.

IT General Controls Medium (3)

Summary:

Medium-High and High Risk Factors:

- Reputational & Public Scrutiny Risk

Detailed Analysis

The IT General Controls consists of logical access, change management and operations. The primary application continues to be MERITS which is used to manage the data of retirees. The network logical access continues to be managed with the Microsoft Active Directory tool. Changes are documented in the Tracker change control database.

The prior year comments and management concern risks were both rated low to medium since there were no audit findings in 2017 and management had no notable concerns. The Operational & Control risk was rated Medium due to the reliance on MERITS which depends on general controls.

With the emergence of new threats and increased occurrences of attacks on networks, there is now a greater risk with the operations of an IT infrastructure that may have a detrimental impact on the organization's reputation. The Reputational risk is therefore now rated higher.

A new regulation, the General Data Protection Regulation (GDPR) which regulates the processing of personal data of European Union (EU) citizens was discussed with management. Management is encouraged to continue to assess the potential impact of GDPR for personal data of retirees residing in the EU.

Overall, failures in general controls could harm ERS's reputation resulting in dissatisfied employees and customers. Additionally, the absence or lack of general controls could expose ERS to a potential data breach. The audit plan for fiscal year 2018 will test the general control environment to determine if controls continue to

operate effectively. Due to the nature of IT, the scope could be modified to include current or emerging threats. Management considers IT General Controls to be a Medium Risk (3).

Vulnerability Assessment Medium-(3)

Summary:

Medium-High and High Risk Factors:

- Reputational & Public Scrutiny Risk
- Fraud Risk

Detailed Analysis

Risks associated with cybersecurity continue to be considered high due to the large number of data breaches in today's society. Cybersecurity risks are on-going, but ERS has maintained controls such as firewalls, access protection and limited external network points to mitigate those risks. The most recent Vulnerability Assessment was completed in February 2018 for fiscal year 2017. An assessment is planned for fiscal 2018 due to the Medium risk rating. Management considers Network Security to be a Medium Risk (3).

Social Engineering Assessment Medium (3)

Summary:

Medium-High and High Risk Factors:

- Reputational & Public Scrutiny Risk
- Fraud Risk

Detailed Analysis

The objective of the social engineering audit is to determine employees' awareness of information security and the effectiveness of training. Unintentional release of sensitive information via email and/or telephone puts organizations at risk of unauthorized access to their data. This will be included in the audit plan for FY 2018.

Business Continuity Medium (3)

Summary:

Medium-High and High Risk Factors:

- Strategic Risk
- Reputational & Public Scrutiny Risk

Detailed Analysis

The primary IT data center for ERS is located in the ERS offices. As IT services are critical components of efficient ERS operations, ERS has adopted a Business Continuity and Disaster Recovery Policy. The purpose of the policy is, "to ensure

continuity of operations in the event of catastrophic equipment failure, data loss, or disaster that makes operations at the primary office unviable." To support this Policy ERS has developed a formal Disaster Recovery (DR) Plan for ERS to use to recover its IT systems timely in the event of an unplanned event impacting the IT infrastructure or its facilities. ERS has also developed a formal Business Continuity (BC) plan to support continued business operations for critical services if the ERS offices are not available for use.

ERS maintains a Remote Office (RO) about 10.5 miles away from the primary location. The RO is available as an alternate work location for staff members to perform critical services. Management completes annual testing in some capacity using the remote office.

ERS has access to an alternate data processing facility located near Madison, WI, to support ongoing operations should an unplanned incident at ERS offices cause an interruption of operations at the primary ERS data center. ERS sends "snapshots" of the critical systems to the alternate data center every four hours.

The Strategic and Reputational risk were rated high due to the general public expectation that companies must have applications and the underlying data available at all times. The last audit was completed in 2015 which did not identify any significant issues. Additionally, the business operations and supporting IT systems have been noted as stable which has justified the cycling of this audit previously. Due to the High risk factors and time since last audit, the FY18 plan includes business continuity audit.

5. Risk Based Audit Plan Development

Priority in the audit plan was given to operating areas with the highest perceived risk based on the factors above. Processes/functions that are identified as "High" and "Medium-High" risk may be on an annual audit cycle; "Medium" and "Low-Medium" risk processes/functions will have an annual to every three year cycle; and "Low" risk areas will be audited every three to four years, unless otherwise stated in the Risk Based Narrative section of this report. See the following Exhibit for the recommended *Risk Based Internal Audit Plan*. Risk assessments and risk based audit plans are most effectively executed if the formal risk assessment and audit planning process is performed at least annually. As risks and circumstances change throughout the year, the risk assessment and audit plan are adjusted.

The audit scope listed on the audit plan are not all-inclusive, rather an example of areas that will most likely have an area of focus. The actual prioritization and scope of the audits will be determined during the planning phase prior to fieldwork.

Milwaukee Employees' Retirement System
2018 Risk Based Internal Audit Plan
March 2018

Audit Area: Scope	Risk Rating	Last Audit	2018	2019	2020	Comments*
Ethics and Governance		May-17		X		
Board and AO Committee Governance				X		
Board and Management Reporting				X		
Whistleblower Governance and Reporting Protocols				X		
Accounting & Finance:		December-17	X	X		
Standard Procedural Instructions (SPIs)			X	X		Limited to determination of proper control design by performing a walk-through rather than testing to determine prior year's audit issue have been properly resolved.
Financial Statement / Footnote Preparation			X	X		
Reconciliation process:				X		
Accounts Payable (AP)/Employee Expense				X		
GL Journal Entry				X		
Manual Expense Checks				X		
Year-end Close Process				X		
Fixed Asset				X		
System Access (PeopleSoft/ACCPAC)				X		
Budgeting Process				X		
Third Party Controls Review (SSAE/SOC-1)				X		
Investment Management		March-16	X		X	
Calendar of Scheduled Events			X		X	
Investment Manager Monitoring / Due Diligence			X		X	
Northern Trust System Access			X		X	
Investment Manager Account Reconciliation			X		X	
Invoiced Fees Payable / Payment			X		X	
Enrollment & Member Services		May-17		X		
MERITS System Access				X		
Data Entry / Data Review				X		
Employee Communications				X		
Benefit Calculation Process		May-17		X		
SPIs				X		
MERITS System Access				X		
Pension Payment Recalculation / Approval				X		
Pension Payment Support / Review				X		
Contributions		April-16	X		X	
SPIs			X		X	
Member Contribution Reconciliation			X		X	
Member Organization Reconciliation			X		X	
Benefit Payroll		April-16	X		X	
SPIs			X		X	
Retiree Payment Reconciliation			X		X	
Retiree Payment Disbursements			X		X	
MERITS System Access			X		X	
Benefit Administration		May-17		X		
SPIs				X		
MERITS System Access				X		
Health Insurance Premium Reconciliation				X		
Life Insurance Premium Reconciliation				X		
Dental Insurance Premium Reconciliation				X		
Health , Dental and Life Insurance Rate Administrati				X		
HR/Payroll:		May-17		X		
People Soft System Access				X		
Payroll System User Access				X		
New/Terminated Employees				X		
Vacation Time Process				X		
Payroll Expense Reconciliation				X		
Employee Payment/Paycheck recalculation				X		
Vendor Management		March-16	X			
SPIs			X			Since this is a lower Medium area, consider an every 3 year cycle. Next audit expected in 2021, unless rating change prior to that.
Contract Compliance			X			
Financial Compliance			X			
Information Technology:			X	X	X	
IT General Controls (Logical Access, Change Management, Operations)		June-17	X	X	X	
Vulnerability Assessment (Internal and External Networks)		February-18	X	X	X	
Social Engineering Assessment		December-17	X	X	X	
Business Continuity		November-15	X		X	

*If no comment is noted, an "X" represents a full audit (including Control Design Documentation and Operational Control Testing) is performed.

**Milwaukee Employees' Retirement System
2018 Risk Based Internal Audit Plan Hours
March 2018**

Description / (scope on Exhibit I)	Risk Rating	Estimated Hours 2018	Estimated Cost	Comments			
Risk Assessment	[REDACTED]	[REDACTED]	[REDACTED]	ate			
Engagement Management - Administration and quality assurance - Management meetings - A&O Committee meetings and document preparation				te			
Investment Management							
Contributions							
Benefit Payroll							
Vendor Management							
IT General Controls							
Vulnerability Assessment							
Social Engineering Assessment							
Business Continuity							
Follow-up Procedures: Accounting and Finance							
Management and Special Projects: TBD							
Total Audit Hours / Cost							
Total Annual Service Hours / Cost							

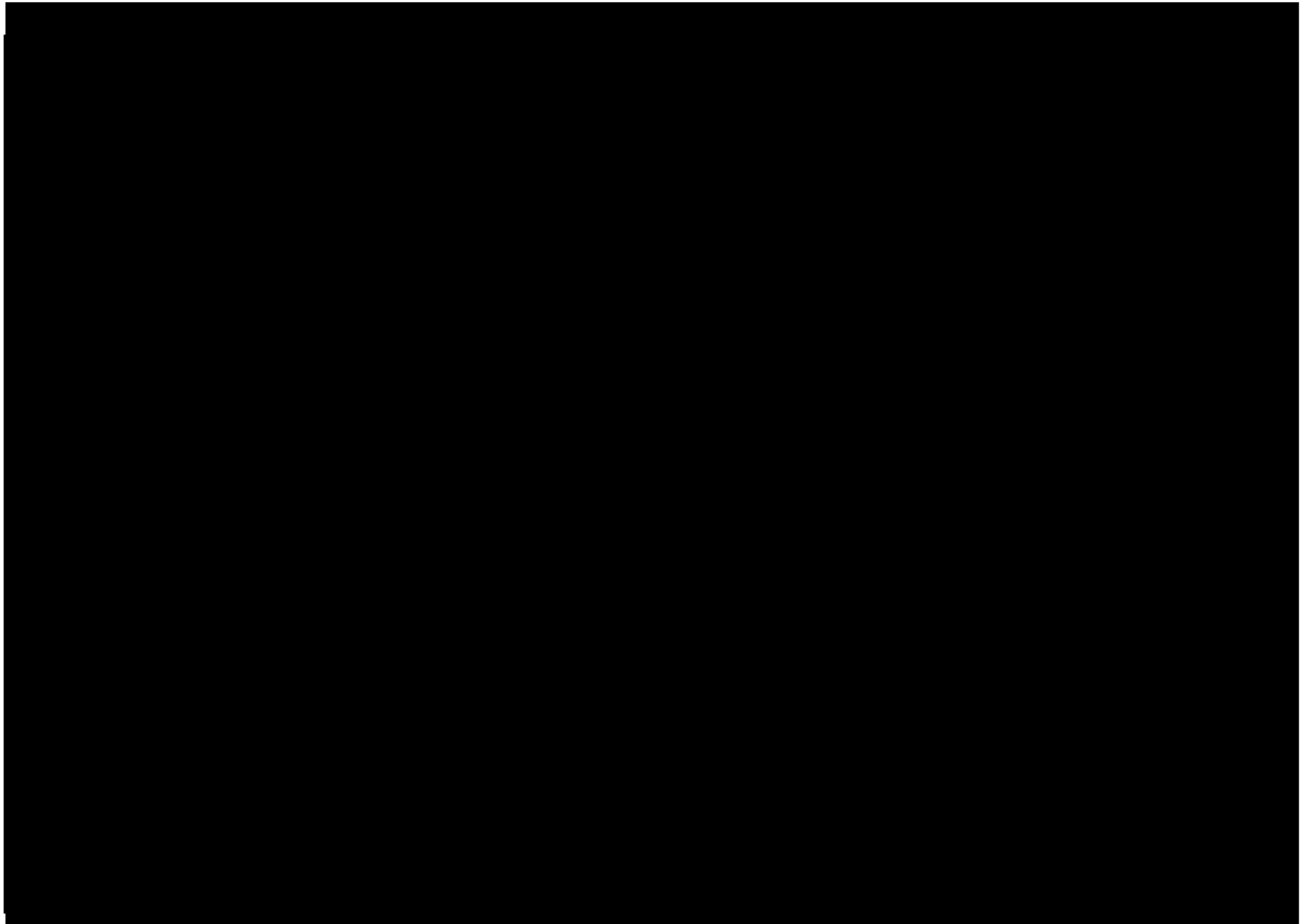
The Audit Plan is subject to change based on the results of the on-going risk assessment review and any changes to legal or regulatory emphasis. Any changes would be reviewed by the Audit Liaison and approved by the Audit Committee.

APPENDICES

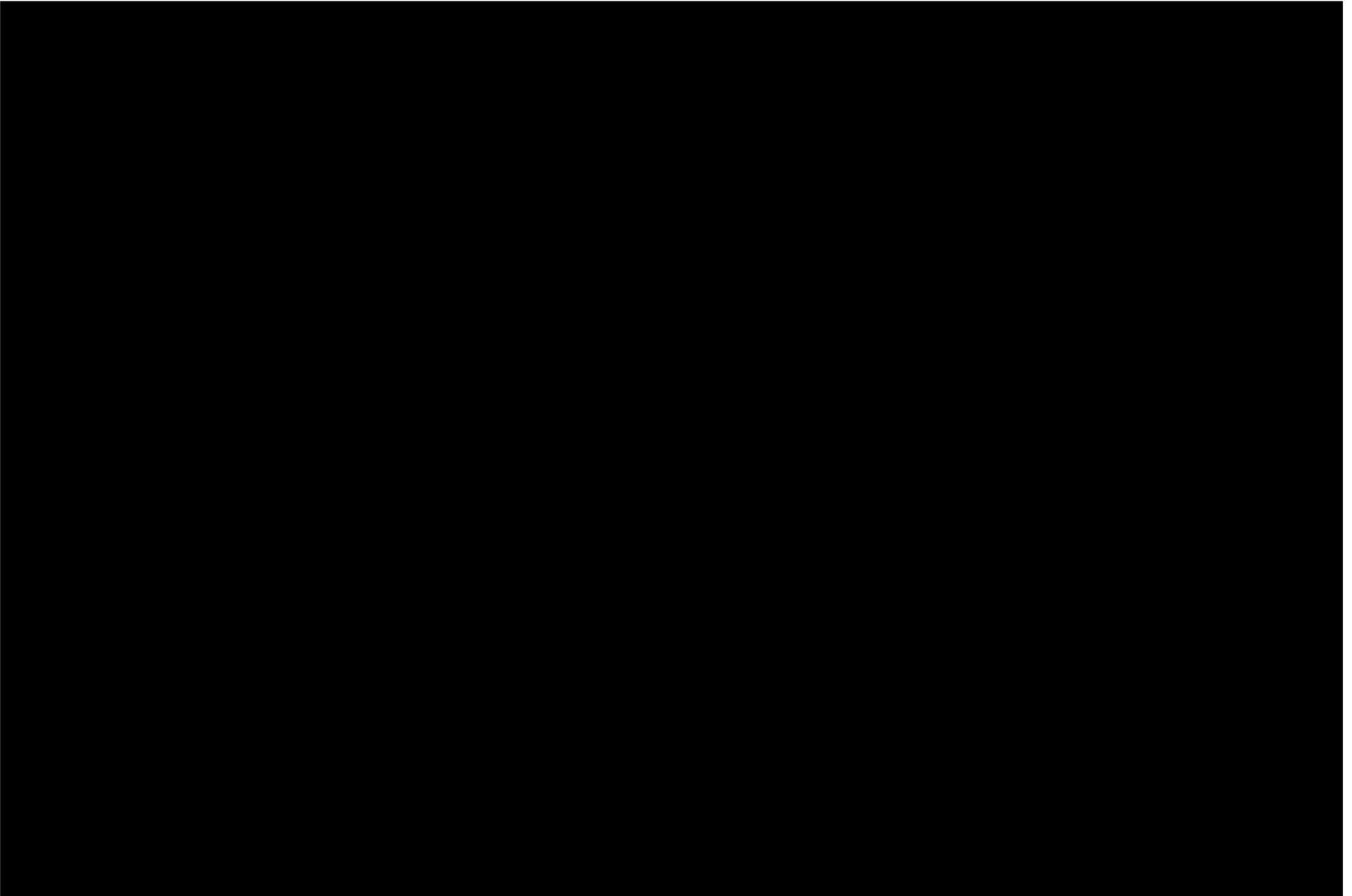
**Milwaukee Employees' Retirement System
Internal Audit Risk Based Process Ratings
March 2018**



Milwaukee Employees' Retirement System
Category Risk Rating Definitions
March 2018



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Category Risk Rating Definitions
March 2018**



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March 2018**

