



Summary Enterprise Risk Management Framework

Last Updated: November 25, 2019

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I. Overview

Risk can be defined as the potential for loss caused by an event or series of events that can adversely affect the achievement of a company's business objectives.

Our mission is "To provide innovative, cost effective, and prudent investment and benefits administration services that address the needs of public sector funds."

To achieve this mission, our business processes, whether they are strategically focused, investment related or operational in nature, must continually balance risk and return.

Our enterprise risk management framework has been put in place to integrate strong corporate oversight with a series of well-defined, independent risk management systems and processes. Our risk management process involves the participation of the Vestcor Board, management, and external service providers. An outline of the risk governance structure is provided in Appendix A.

The following document presents our philosophy and approach to management of risk by identifying:

- the types of risks we face in our investment and benefits administration operations; and
- which parties are accountable for monitoring each risk type, while also outlining the means and timing through which we seek to measure and manage these risks.

We believe that these risk management processes will significantly contribute to maximizing the long-term investment returns and benefits administration efficiency for our clients within the confines of acceptable levels of risk.

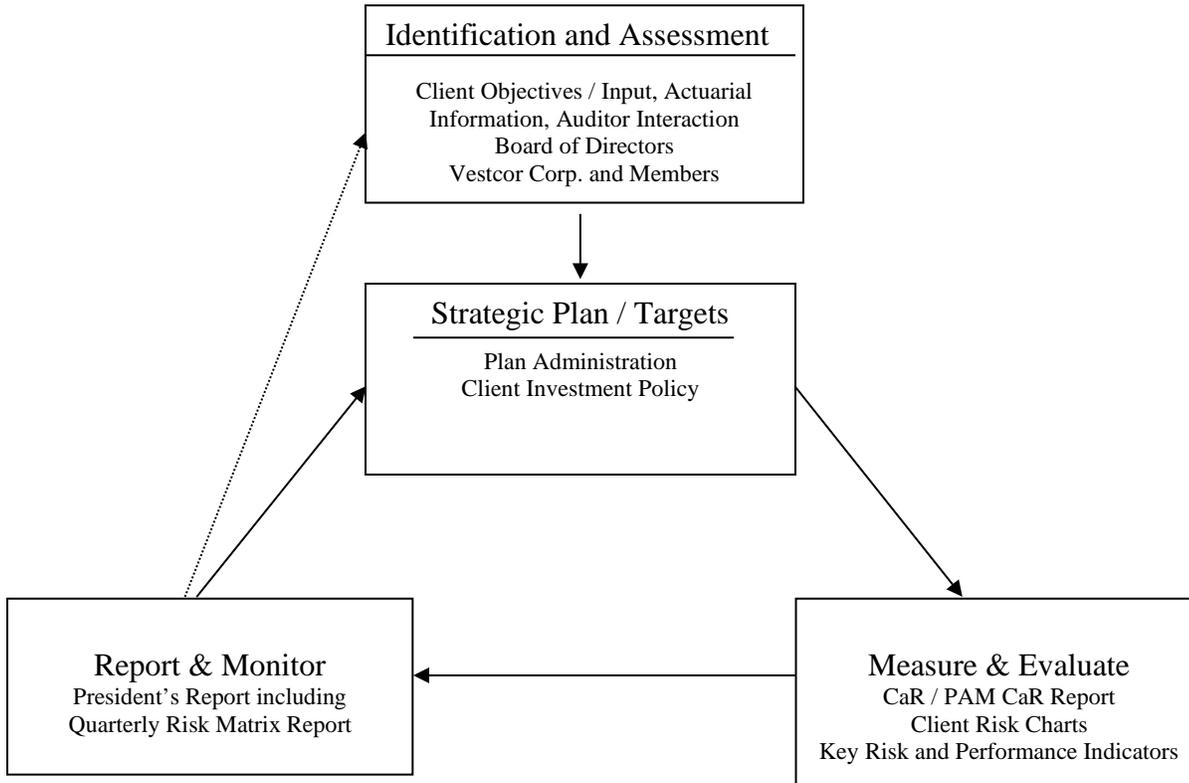
II. Risk Management Philosophy

Risk management at Vestcor is based on several principles and assumptions designed to ensure that we take a “proactive and systematic” approach to managing risk. Specifically, we believe that:

- i. Risk management is an input into the business planning process.
- ii. Establishing a risk management framework is a necessary prerequisite to meaningful discussions on risk by fiduciaries.
- iii. Due to its detailed understanding of the operations of Vestcor, management should play a leading role in identifying the primary risks we face.
- iv. Risk should be defined broadly enough to encompass all major aspects of Vestcor, including such areas as Investments, Plan and Benefits Administration, Operations, Human Resources, and Technology.
- v. No risk framework can be expected to identify or address every conceivable risk. It is important therefore that, once adopted, the risk management framework be continually refined and updated to reflect new risks once they are identified.
- vi. At any point in time, the risks that can be identified will exceed our capacity to address them. Resources must therefore be focused on those risks that are deemed to be the highest.

III. General Risk Management Activities

In general, risk management is a circular process, where potential risks are identified, methods to measure and manage these risks are designed and implemented, and systems are put in place to monitor the effectiveness of the original risk management systems, thus allowing for the identification of new potential risks.



We manage risk through a number of processes:

- investment risk is measured and managed within various systems from both a policy perspective as well as an active management/relative return perspective;
- pension and benefit administration risk and other operational risks are managed through the activities of various committees and policies and by well-designed internal control processes.

Board of Directors Risk Management Process

The Vestcor Board of Directors, as outlined in section 2.6 of their Terms of Reference, is responsible for setting the overall risk appetite, understanding the principal risks facing the business and the systems that have been put in place to mitigate and manage those risks.

While each Board Committee supports the Board's risk management oversight in areas related to their specific mandate, the Audit Committee is specifically assigned the task of assisting the Board in its oversight of risk management.

Our risk management process uses a general framework through which we carry out our risk management activities, and is intended to:

- i. Ensure that there is a proactive and systematic approach to identifying and managing the risks inherent in our operations and environment.
- ii. Ensure that there is agreement between Vestcor (Board, senior management, and staff) and our Clients and Shareholder as to the risk management priorities at any point in time.
- iii. Ensure appropriate involvement by the Board and senior management in setting the above priorities.

The role of the Board is to provide input into, and ultimately approve, the risk management priorities identified, and to ensure that there is a business plan and budget in place for addressing those risk priorities.

Management reports to the Board quarterly through the President's Report, the Investments Report and the Administration Services Report. These reports contain a summary of all business activities conducted in the quarter including key performance and risk indicators.

The role of the Audit Committee is to review this Enterprise Risk Management Framework annually and consider priorities and risk appetite regularly. The Audit Committee is assisted in this responsibility by direct reporting lines to both the Risk Manager and Internal Auditor.

An overall risk review is conducted quarterly through review of a risk matrix report at each Audit Committee meeting. This risk matrix report, prepared by management considering input from its various risk management committees (see below), seeks to identify emerging and changing risks as well as the risk mitigation activities implemented. A risk prioritization is assigned (high, medium or low) to communicate management's assessment of the urgency of risk mitigation activities.

Internal Risk Management Process

We use a number of internal cross-functional committees to focus on risk management, including the:

- Investment Risk Management Committee (IRMC);
- Trade Management Oversight Committee (TMOC);
- Information Technology Risk Management Committee (ITRMC);
- Business Continuity Plan Team (BCP);
- Valuation Committee; and
- Occupational Health & Safety Committee (OH&SC).

We have also created an Enterprise Risk Management Council (ERMC) that seeks to provide another forum to oversee all corporate risks under this Framework, and to provide advice to the President & CEO with respect to his Board reporting activities. ERMC considers and confirms the risk prioritization proposed in the quarterly risk matrix.

Each of the above committees is comprised of a cross-functional membership, including management and non-management positions, providing a rich opportunity for sharing perspectives and insights.

The **IRMC** monitors investment risk measures, considers risks associated with new investment strategies and products and proposes procedures to measure and monitor investment risk positions, subject to the approval of the Chief Investment Officer and within the parameters established by our clients and the Board.

TMOC is responsible for monitoring our trading policies and practices, including broker selection, to ensure we receive the best trade execution possible with well managed counterparty risk. It also reports on proposed market and regulatory developments that may impact future trading practices.

ITRMC considers risks arising from our use of information technology, and future direction of technology within each business unit. It reviews access controls, findings from threat risk assessments related to proposed new software, results of annual network penetration tests, and monitors our incident response plan.

The **BCP** is responsible for developing and implementing the Business Continuity Plan including disaster recovery. BCP meets semi-annually to discuss possible disaster scenarios and uses passive and active tests to practice response protocols thereby providing an opportunity for continuous improvement.

The **Valuation** Committee is primarily responsible for reviewing all private opportunity investments and spread-based fixed income securities for purposes of approving a final valuation to be used for external financial reporting purposes. The Committee may also review the valuation of other public and non-publicly traded securities as required.

Finally, the **OH&SC** is responsible for considering physical environment risks to the continued health and safety of our staff. The OH&SC conducts regular physical site inspections to ensure ongoing safety in the workplace.

IV. Types of Risk

We have identified six main categories of risk related to our business activities. Within these sections we have also subdivided a number of specific risk areas in which we have assigned specific monitoring and control responsibilities and set out the specific measures used to achieve them. The following chart summarizes each of the six main risk categories and the respective specific risk elements.

A. STRATEGIC RISK	B. INVESTMENT RISK	C. PLAN ADMINISTRATION RISK
Governance	Investment Strategy Advice	Member Enrollment and Data
Business Strategy	Active Management	Benefit Calculations
Reputational	Benchmarks	Plan Transactions
Communications	Credit	Client Board and Committee Support
	Valuation	Plan Member Communications
	Liquidity	

D. OPERATIONAL RISK	E. HUMAN RESOURCES RISK	F. TECHNOLOGY RISK
Corporate Transactions	Hiring, Retention and Terminations	IT Environment / Cyber Security
Investment Transactions	Succession Planning	Information Management, Records Retention and Privacy
Financial Reporting	Compensation	Systems, Applications and Databases
Legal, Tax, Regulatory		Business Continuity Planning and Disaster Recovery
Fraud		
Physical Security		

The following section provides details on the specific functioning of the risk systems, controls and responsibilities, with an emphasis on explaining the rationale for their existence, the techniques by which they operate, and the information they provide to senior management and the Board to aid in risk management decision-making. A summary of this information is provided in the table contained in Appendix B.

Category A: Strategic Risk

Strategic risk is the risk of not achieving the Objects and Purposes of Vestcor (our mission) as outlined in the Vestcor Act, within the parameters provided in the legislation.

Vestcor subdivides Strategic Risk as follows:

Governance risk

This risk comes about through potential improper governance structures (including delegation of authority) between directors, senior management, and staff, leading to improper decision making. Good governance processes that outline key responsibilities and accountabilities are a key part of overall risk management.

Responsibility

The Vestcor Act and By-Laws outline the governance responsibilities of Vestcor.

The Board of Directors has set out Board Policies that must be followed, including a Code of Ethics and Business Conduct and Responsible Investment Guidelines.

The Board and each Board Committee have Terms of Reference that outline their respective responsibilities. The Governance Committee of the Board of Directors oversees and coordinates the governance responsibilities of the organization.

Each client has entered into a service level agreement (i.e. Investment Management Agreement and/or Administration Agreement) for services to be provided.

We have also developed an extensive Investment Procedures Manual, Human Resources Manual and other operational guidelines and processes that outline specific operational responsibilities and authorities. All staff have position descriptions that outline their specific responsibilities.

Measures

The Board of Directors and the Board Committees meet at least quarterly. Vestcor is also scheduled to seek budget approval and report results annually to our shareholder, Vestcor Corp.

All new directors receive a comprehensive orientation session and reference manual about Vestcor's mandate, its nature and operations, the role of the board, and the

expectations for individual directors. Subsequent relevant education sessions are provided to Directors on an annual basis.

Directors and employees annually acknowledge understanding and compliance with the Code of Ethics and Business Conduct, Human Resources Manual policies and Information Technology Policies. We regularly conduct assessments of the effectiveness of our internal controls and operational processes in conjunction with the internal audit function.

Business strategy risk

Business strategy risk is the risk of not developing, executing, or monitoring our business activities in order to achieve our mission. Business strategy specifically focuses on our continued pursuit of operational excellence while being mindful of optimal growth opportunities and long-term organizational sustainability.

Responsibility

The Board of Directors and management collaborate in creating a five-year Strategic Plan for the organization and review it on an annual basis. Supporting strategic plans are also prepared annually for Human Resources and for Information Technology.

Management and staff are responsible for keeping abreast of industry developments through media reports, legislative pronouncements, and ongoing client, peer and supplier communication to aid in the strategic planning process.

Management develops an annual business plan that is reviewed with the Board of Directors near the inception of each fiscal year. Progress against the plan is reviewed by the Board periodically throughout the year, and in measuring overall performance at year-end.

Measures

Vestcor conducts quarterly Board Meetings and annual Strategic Plan review sessions (Board and Management). We also review our annual Strategic Plan with our shareholder and clients to ensure appropriate consideration and minimal overlap of interrelated objectives.

We are an active participant in industry-related associations such as the Pension Investment Management Association of Canada (PIAC), the Association of Canadian Pension Management (ACPM), the Canadian Pension and Benefits Institute (CPBI), and the Canadian Coalition for Good Governance (CCGG). Management also actively participates in a number of global industry conferences which not only provide up-to-date information on emerging industry issues, but provide good networking opportunities with personnel from peer institutional investment organizations.

A number of employees are also members of professional associations such as the CFA Institute and CPA Canada organizations among others.

Reputational risk

Reputational risk is the risk of damage to our reputation, image, or credibility as a prudent and effective pension services organization due to internal or external factors.

Responsibility

Reputational risk management is a shared responsibility among the Board, management and all employees.

The Board has instituted oversight and audit relationships that provide third party assurance regarding Vestcor's reputation. The Board is assisted in this oversight by the Governance Committee and the Audit Committee.

Measures

A Code of Ethics and Business Conduct has been established to outline Vestcor's expectations for conduct by employees and directors including confidentiality, conflicts of interest and whistleblowing expectations. Compliance with personal trading restrictions is reported quarterly to the Governance Committee.

Vestcor publishes an Annual Report that sets out our specific goals and objectives for the year, and progress against these objectives. The Annual Report is published externally and communicated in accordance with the Communications Plan.

The Vestcor Corp. (shareholder) Board annually appoints an external auditor to examine the financial position and results of operations of the Vestcor group of companies. The external auditor discusses any findings related to the integrity and reliability of Vestcor's financial reporting and adequacy of internal controls.

The operating companies' Board, through its Audit Committee, also oversees an Internal Auditor function to review and advise on various operational processes and risk management activities.

Communication risk

Communication risk is the risk of not effectively communicating the governance structure, strategic plan, operational activities, and performance of Vestcor to stakeholders. Communications also encompass the quarterly investment and administration reporting that we provide to each of our clients, as well as plan member communications on behalf of our clients' governing bodies.

Responsibility

Under the direction of the Board's Governance Committee, Management is responsible for the development and execution of a Communications Plan.

The Chairperson of the Board and the President are responsible for all official external corporate communication activities.

Management, through its internal Communications Team, is responsible for all client communications with oversight by the Board of Directors.

Each client's governing body is responsible for communication to their stakeholders and members concerning their specific pension or benefits plan.

Measures

Vestcor is a party to a Members' Agreement governing the operations of our shareholder, Vestcor Corp., which outlines specific shareholder communication requirements that include the provision of an annual budget, and submission of an annual report including an auditor's report to its Members.

Each Master Services Agreement covers the investment management and administration services that Vestcor provides. The Master Services Agreement specifies the agreed upon reporting requirements of each client including content and timing and also specifies the content and timing of any plan member communications.

Category B: Investment Risk

Investment risk is the risk that investments are not made in accordance with clients' objectives and do not achieve the long-term return on investments, relative to acceptable risk levels, for the various funds under management.

Responsibility

The governing body for each client is responsible for setting their Statement of Investment Policies while the Vestcor Board of Directors is responsible for ensuring that Vestcor implements the requirements of those Investment Policies. These Statements of Investment Policies set out the benchmark portfolio asset weights, permitted asset weight deviations from the benchmark, performance benchmarks, permissible investments, and performance evaluation metrics.

Management is responsible for developing and managing the underlying investment strategies and programs that deliver achievement of those Statements of Investment Policies. These programs are outlined in an Investment Procedures Manual. The Investment Risk Management Committee, made up of representatives from both the investment and finance and administration teams, review any changes to investment strategies before they are included in the Investment Procedures Manual.

There are significant areas of investment-related risk which are outlined in more detail in the section below:

Investment strategy advice risk

Investment strategy advice risk refers to the risk that the recommendations made to clients to achieve their investment objectives may be insufficient to meet the long-term return and risk requirements of that client.

Vestcor may be asked by a client to provide investment strategy advice and/or the client may use external investment consultants. In either case, each client's long-term investment performance requirement is set out in its Statement of Investment Policies. Where appropriate, a client's fund will undergo a periodic external liability valuation to measure its current funding status.

In cases where we provide client advice in this area, we periodically undertake an asset liability study and provide investment policy advice to identify the most efficient mix of financial assets that will meet or exceed the client's desired funding objectives with the least amount of risk.

Measures

We have developed a Policy Asset Mix Capital-at-Risk (PAM CaR) process that estimates and monitors the risk of the actual asset mix. This calculation estimates the maximum change in value of the asset position that would be expected at a 95 percent confidence level over a one year time period under current model assumptions. The report is distributed weekly to Investment Staff and also reviewed weekly by the members of the Senior Leadership Team and the Investment Risk Management Committee. Each client receives their PAM CaR measure in the quarterly report.

The Investment Risk Management Committee meets at least quarterly to consider new investment strategies and changes to the Investment Procedures Manual.

Active management risk

Active management risk, also known as relative return risk, is the risk that actual investment returns do not meet the pre-specified benchmark portfolio and result in under-performance versus those that would have resulted from passive management.

Measures

The Statements of Investment Policies outline the expected return and value-added objectives in excess of those achieved by a passive management approach.

We utilize a risk budgeting approach to active management which links the amount of active risk taken with the overall active return target. We have also developed a Capital-at-Risk (CaR) process that estimates and monitors the risk of the active value-added investment activities conducted by the investment staff. This calculation estimates the maximum change in value of the relative value added to the benchmark that would be expected at a 95 percent confidence level over a one year time period under current

model assumptions. This calculation is distributed weekly to Investment Staff and also reviewed weekly by the members of the Senior Leadership Team and the Investment Risk Management Committee.

Benchmark risk

Benchmark risk is the risk that the benchmarks used to evaluate investment performance do not appropriately reflect the underlying portfolio.

Each client is responsible for establishing benchmarks appropriate for their specific investment objectives whereas Vestcor is responsible for establishing appropriate benchmarks for each investment strategy it offers through its Vestcor Investment Entities. The benchmarks chosen for Vestcor's investment strategies also influence the determination of investment performance targets and performance incentives. Accordingly, they are reviewed and confirmed annually by the Human Resources and Compensation Committee.

Measures

The Investment Profiles for the Vestcor Investment Entities designate the appropriate benchmarks for each investment strategy. These benchmarks are typically standards set out by the institutional investment industry and correspond closely to those used by peer organizations.

Client Investment Policies may also designate specific benchmarks that in most cases match those of the Vestcor Investment Entities. There may be situations however where a combination of Vestcor Investment Entities is used to gain specific market exposure to an independent client benchmark. In such cases, the benchmarks are typically standards set out by the institutional investment industry and well-known to management.

Credit risk

Credit risk is defined as the risk that a specific counterparty will not meet its financial obligations as set out in a previously agreed upon contract. Credit risk arises from numerous activities including the holding of investments in a specific entity that require a scheduled repayment as well as through entering into derivative transactions with various counterparties (banks / investment dealers). Securities lending programs also present credit risk. Credit risk can manifest itself through changes in the market value of a security or obligation and is generally measured through procedures that attempt to model the probability of default and / or loss.

Measures

The Investment Profiles for the Vestcor Investment Entities designate the appropriate credit risk for each investment strategy. Credit risk also conforms to typical levels used by the institutional investment industry and peer organizations.

Each client's Statement of Investment Policies provides limits in terms of permissible investments and credit quality requirements for investment alternatives.

We monitor this exposure through a monthly Counterparty Credit Exposure reporting process.

We also seek enhancement of portfolio returns through both an internal securities lending program and an external securities lending program with our securities custodian as intermediary. Under the external program, the custodian holds high quality fixed income securities with a minimum market value of 105% of the market value of securities lent as collateral. The external program also limits the eligible borrowers. Management monitors the exposure to approved borrowers periodically and at least monthly.

Valuation risk

Valuation risk is the financial risk that an asset is over or under valued such that it is worth more or less than expected when it matures or is sold. The Board of Directors has delegated the responsibility for oversight of risk management associated with financial reporting to its Audit Committee.

Measures

Management has established Valuation Policies, reviewed by the Audit Committee and approved by the Board of Directors, that provide the overall framework for the fair valuation of investments. Management has also established Valuation Procedures to follow in setting and recording fair values. The internal Valuation Committee meets quarterly to review and discuss valuation recommendations and related matters.

For operational purposes, Vestcor strikes a daily net asset value (NAV) for financial instruments that are traded on an active market. Daily NAVs are based on closing market prices supplied by an independent pricing source. Financial instruments traded over the counter or privately are valued periodically using techniques that maximize the use of relevant observable inputs and minimize the use of unobservable inputs.

Annual financial reporting of the Vestcor Investment Entities is subjected to external audit by an accredited public accounting firm.

Liquidity risk

Liquidity risk is the risk that an investment position cannot be unwound or offset in the financial markets in a timely fashion without enduring significant losses. An occurrence of this type could lead to us not being able to meet payment obligations as they become due or client withdrawal requests because of an inability to liquidate assets.

Measures

Each client's Statement of Investment Policies is developed with a consideration to their near-term periodic cash flow requirements. We have implemented a process of short to medium term cash forecasting to ensure liquidity is managed appropriately.

We also have developed a liquidity risk calculation that considers illiquid assets and outstanding funding commitments to measure the longer-term liquidity available in each client's pension fund. Liquidity risk is reported to each pension fund client at least quarterly.

Category C: Plan Administration Risks

Plan administration risk is the risk that plan administration activities are incomplete, inaccurate or conducted without proper process. It considers all administration responsibilities including enrollment, member data and subsequent changes to that data, contributions collected, benefit calculations, and payment of benefits. As administrator, Vestcor also provides support services to our clients' governing bodies including meeting facilitation and record-keeping, coordination of outsourced service providers, and assistance with meeting regulatory reporting requirements.

Responsibility

Plan administration, including plan design, is ultimately the responsibility of each plan's governing body.

The Vestcor Board of Directors is responsible for ensuring that there is a properly executed service level agreement signed with each client that provides for a clear understanding of the extent (including limits) and timing of the administration activities being conducted on behalf of each client. The Board of Directors has delegated responsibility for the oversight of Vestcor's management information systems and systems of internal controls used in its plan administration activities to its Audit Committee.

Management is responsible for ensuring it has the policies, processes and procedures available to deliver the service commitments that it has agreed to deliver.

Measures

Administration agreements between Vestcor and each of our clients set out the specific services and service level standards for plan administration activities.

An Administration Report is presented quarterly to each client's governing body. This Report communicates any encountered issues with plan design and recommendations to address these issues, provides emerging regulatory matters, reports on plan demographics and service levels achieved as well as status of the plan's regulatory compliance.

Member enrollment and data

This is the risk that employers have not ensured that all eligible employees are enrolled correctly in a pension or benefit plan leading to missed contributions and misunderstanding of employee benefits or that changes to key plan member information are inaccurate, invalid or not reported on a timely basis.

Measures

Employers are provided with standard eligibility and enrollment documents for employees to complete to accurately enroll in the plan. Employers and employee groups are also provided with periodic educational sessions concerning their plan benefits. Copies of all documents, including evidence of changes to plan member master file data are retained in a secure form. Plan members are requested to review and confirm their current data as part of the annual member statement process. Demographic statistics are included in the quarterly Plan Administration Report to each plan's governing body.

Initial data received is subject to automated and manual reviews for accuracy and timeliness before being uploaded to the administration system. The administration system includes additional automated validations of plan member data. As well, account analysts reconcile data between the administration system and the employer payroll systems. An audit of all plan member data is conducted before benefit payments are processed.

Benefit calculations

This is the risk of both manual and automated errors in benefit calculations arising from employee/employer data errors, changes in plan provisions, transfers or exits to or from other plans.

Measures

Vestcor's Administration system contains the plan design rules and plan member data for each client, enabling automation of most benefit calculations. All system changes are subject to a change management and user acceptance protocol.

Calculations are subject to peer reviews and complex calculations to senior reviews and/or actual review. Statistics regarding the type and timeliness of benefit calculations are also reported in the Plan Administration Report. Decisions by each plan's governing body on plan design changes are widely communicated to plan members.

Plan transactions

This is the risk that employer and employee contributions are not complete or timely and that benefit payments made are unauthorized, inaccurate or not timely.

Measures

Contributions are expected on a scheduled basis and are monitored for receipt. An escalation process for late contributions is in place and reported to clients quarterly.

Pension and benefit payments are made using an automated process and the majority of payments remain unchanged month to month. A reconciliation process exists between the administration system and the pension payroll system. This includes a cross reference

from the plan member master file to the payment file. Death searches are conducted on an ongoing basis.

Client Board and Committee support

Vestcor provides support such as secretarial, meeting logistics and facilitation services to certain clients' governing bodies. In providing such services, there is risk that client support activities are incomplete, inaccurate or misunderstood.

The Governance Committee has been delegated the oversight of risk management associated with Vestcor's Client Board and Committee support activities.

Measures

Client governing bodies operate with agreed upon Terms of Reference that provide structure for the timing and content of their meetings. Detailed minutes are recorded and all minutes are reviewed and approved by the client. An internal post-meeting review is conducted to share client feedback and action plans to ensure a coordinated response to requests for support.

Plan member communications

Vestcor assists clients with preparation of plan member communications such as letters, semi-annual newsletters, annual reports and organization of presentations for annual general meetings. This presents a risk of errors or misleading statements that are inconsistent with plan provisions.

Measures

A separate Communications team drafts the initial communications. A formal review is then conducted by various levels of management and ultimately by Client Trustees with a formal approval procedure before such communications are printed in final form and distributed.

Category D: Operational Risk

Operational risk concerns the risks arising from the loss of effectiveness or efficiency from reliance on internal processes.

Responsibility

The Vestcor Corp. (shareholder) Board of Directors engages an independent accounting firm to act as the external auditor of all of Vestcor's financial reporting and activities. The Vestcor Inc. Board, through its Audit Committee, assists the shareholder in their decision by conducting an assessment of the external auditor's work and making a recommendation regarding their (re)appointment.

The Vestcor operating company Board, through its Audit Committee, oversees the Internal Audit function, including the engagement of another external public accounting firm to provide assistance to the Internal Audit Team.

The Audit Committee of the Board is responsible for overseeing the design and operational effectiveness of Vestcor's system of internal controls and quality of management information systems. The Audit Committee is also responsible for the integrity of Vestcor's financial reporting and disclosure processes, compliance with legal and regulatory requirements and oversight of management's fraud risk management program including annual review of Vestcor's Fraud Risk Management Policy and management's annual fraud risk assessment.

Management is responsible to ensure operational efficiency and effectiveness.

Overall Measures

We have delineated a clear segregation of duties with respect to transaction initiation, authorization, and recording activities. Banking authorities and limits are also clearly set out.

The Internal Auditor performs reviews of the efficiency and effectiveness of key operational processes on a revolving basis.

We have subdivided operational risk as follows:

Corporate transactions risk

This is the risk that corporate transactions are inaccurate or incomplete leading to cash flow irregularities and/or errors in financial reporting.

Measures

All expenses are approved by a responsible authority prior to payment and all cash disbursements are approved by two signatories. Senior management reviews actual results versus budget each month.

Investment transactions risk

This is the risk that inappropriate, unauthorized, inaccurate or incomplete transactions lead to loss and errors in decision-making.

Measures

Automated processes ensure completeness and accuracy of trading data transmitted to brokers, custodians and uploaded to the portfolio management system.

Investment performance is calculated by the portfolio management system in accordance with Global Investment Performance Standards (GIPS®) with client composites independently verified annually.

Management in conjunction with an independent Risk team monitors and reports on our compliance with the specific investment requirements established for each of the Vestcor Investment Entities and the Investment Procedures Manual guidelines on a weekly basis.

Financial reporting risk

This is the risk that financial reporting by Vestcor, the Vestcor Investment Entities and/or our clients may be inaccurate or misleading.

Responsibility

Each client's governing body, which may include an audit committee, is responsible for the review and approval of financial reporting by that client. Under each client's Master Service Level Agreement, Vestcor management is responsible for the preparation of client financial reporting, either in the form of a quarterly expenditure report, quarterly unaudited financial statements or draft annual financial statements with note disclosures. Annual financial reporting is subject to independent audit.

The Vestcor Board of Directors, through review by its Audit Committee, is responsible for the approval of the financial statements of Vestcor and related entities. Management is responsible for the accuracy and fair presentation of the financial statements for each of the Vestcor entities, and for preparation of supporting working papers for the independent auditor. Management is also responsible for maintaining a system of internal controls and management information systems capable of providing accurate and timely financial information.

Measures

Audited financial statements and, where applicable Annual Reports, for pension plan clients, Vestcor and Vestcor-related entities are prepared on an annual basis. Quarterly client reports are also prepared including an Investment Report and/or Administration Report.

An Internal Control Report is prepared and presented to the Audit Committee of the Vestcor Board annually and to clients' external auditors. Accounting and finance procedures documentation exists and is kept current. Management information systems are subject to regular review and updating in accordance with an IT Strategic Plan.

Legal, tax, and regulatory risk

This is the risk of loss relating to actual or proposed changes in legislation as well as non-compliance with laws, rules, regulations, prescribed practices or ethical standards.

Responsibility

Each client's governing body is responsible for monitoring their plan's compliance with pension and tax regulations. Vestcor provides clients with status reports of regulatory compliance quarterly as part of the Administration Report.

The Board of Directors, or a Board Committee, is responsible for monitoring Vestcor's compliance with legal, tax and regulatory matters.

Senior management is responsible for establishing and maintaining internal processes to enable the regulatory, tax and financial reporting we provide for our clients.

Measures

External legal counsel is engaged to provide advice on legal as well as pension and securities regulatory matters. External tax expertise is engaged to provide advice and assistance on tax related matters. In addition, employees regularly attend educational sessions to stay abreast of new regulations and share best practices with peer contacts.

Senior management reports to clients regularly with respect to their specific service platform. This may include a quarterly Administrator's Report, Investment Performance Report, unaudited interim financial statements, and/or Regulatory Compliance Checklists.

Senior management also reports quarterly to the Audit Committee and to the Board on the status of current and emerging legal, tax, investment policy compliance and securities and pension regulatory matters.

Fraud risk

Fraud risk is the risk of an intentional act that results in misappropriation of assets, improper or unauthorized expenditures, including bribery and other improper payments, self-dealings, including kickbacks, a material misstatement in financial reporting and / or violations of laws and regulations, including securities laws.

Responsibility

Management is responsible for designing internal controls that specifically consider the risk of fraud and for ensuring that these controls are operating effectively.

Measures

In addition to the measures outlined previously for plan, corporate and investment transactions risk, management with the assistance of the Internal Auditor has designed an annual fraud risk assessment process that considers susceptibility of internal processes to fraudulent acts, identifies internal controls that mitigate these risks and tests the on-going effectiveness of these controls.

Physical security risk

Physical security involves the risk to safety of employees and capital assets.

Responsibility

Management monitors physical safety through its Occupational Health & Safety Committee (OHSC).

Measures

The OHSC meets bi-monthly and conducts physical inspections. A Fire Warden sub-committee exists and conducts semi-annual practices.

Physical access is restricted and monitored on a 24/7 basis by a security service. Access in non-business hours is logged. Building security personnel are available on-site. Cameras record physical access in critical locations and recordings are available for an extended time.

Category E: Human Resources Risk

Human resources risk is the risk of loss resulting from inadequate or failed internal human resource performance and from business practices that are inconsistent with generally accepted human resource laws and practices.

Responsibility

The Human Resources and Compensation Committee of the Board is responsible for oversight of Vestcor's Human Resources policies including compensation.

Senior management is responsible for effective human resources processes and activities. This includes the development of job descriptions for each employee, training and development activities, annual performance reviews and succession planning.

We have subdivided human resources risk as follows:

Hiring, retention and terminations

This is the risk that inadequate hiring practices, performance measurement and coaching, and termination processes result in a mismatch of skills and responsibilities, excessive turnover, and poor employee morale.

Measures

We have created a Human Resources Strategic Plan, reviewed and approved by the Human Resources and Compensation Committee of the Board. This plan sets out our staffing requirements, skills inventory and professional development activities. In addition, we have established clear human resource practices and processes in our Human Resources Manual. We survey staff biennially regarding employee satisfaction.

Under our Human Resources Strategic Plan, we have set out the skills requirements and professional development activities for our staff. We have also established clear human resource practices and processes in our Human Resources Manual. Employee performance reviews are conducted using both a mid-year and annual process. Each employee position has a specific job description, and cross training is used extensively to provide back-up support. Vestcor also has a mandatory vacation policy.

Succession planning

Succession planning risk is the risk that inadequate employee development will result in insufficient qualified resources to fill critical roles when necessary.

Measures

The Human Resources and Compensation Committee annually reviews and advises on management's annual succession plan for key staff positions.

Succession is also considered during the semi-annual performance review process, enabling skills evaluation and planning for future professional development opportunities. Cross-training is also an important tool for ensuring skills transfer and succession planning for all positions. Departmental cross-training is stressed as part of the semi-annual business continuity planning.

Compensation

Compensation risk is the risk that compensation practices are unfair or not competitive.

Measures

The Human Resources and Compensation Committee has developed a Compensation Philosophy for Vestcor. They annually review the competitive compensation landscape versus a group of peer institutional pension fund managers, and periodically retain the services of an external consultant to provide advice in connection with compensation.

Category F: Technology Risk

Vestcor relies significantly on management information systems and communication technology. We are therefore exposed to the potential for material risk of direct or indirect loss resulting from inadequate or failed information technology.

Responsibility

The Audit Committee of the Board is responsible for oversight of Vestcor's IT risk management.

Management is responsible to ensure technological operational efficiency and effectiveness. The IT Risk Management Committee assists management by recommending improvements and best practices from its review of risks faced by our

current and future use of technology. The Business Continuity Planning Team meets semi-annually to consider potential disaster scenarios and our resilience to them.

We have subdivided technology risk as follows:

IT environment / cyber security

Cyber security risk is the risk that compromises the security of data or weakens or impairs business operations.

Measures

A five year Information Technology Strategic Plan, reviewed annually by the Audit Committee, sets out the direction, priorities, resources and skills required for our information systems.

A robust firewall prevents unwanted network access and logs are monitored on a 24/7 basis. Network access is controlled centrally and uses two factor authentication. Anti-virus and anti-spam software is in place with regular updates pushed out to users. Semi-annual logical security access review is conducted by IT and signed off by system owners. Annual penetration testing is performed by accredited IT security firms. An Incident Response Plan has been developed and tested for potential security breaches.

Redundant systems ensure data is constantly recoverable. A secondary internet connection is available and tested regularly. Backup power under license with our landlord is tested regularly.

Third Party threat risk assessments are conducted on all new applications before implementation.

We have developed information technology policies for system access and use of technology-related hardware and software that are communicated regularly to all staff and subject to annual compliance certifications. Our employees participate in continuous and mandatory online cybersecurity awareness training to ensure they understand their responsibility for safeguarding our data and systems.

Internal Audit also performs reviews of the efficiency and effectiveness of key information technology systems and controls on a revolving basis.

Information management, records retention and privacy

This is the risk that critical information and records may be destroyed, lost, stolen or otherwise compromised.

Measures

Redundant systems ensure electronic data is constantly recoverable. Backup procedures exist with offsite storage. Email is automatically archived. A Records Management Policy and Procedures are followed for retention, storage and destruction of business records.

Logical security access controls operate to ensure only authorized access to electronic information. Encrypted file-sharing protocols are followed for plan member data.

Privacy training for all plan administration staff has been conducted.

Systems, applications and databases

This is the risk that systems, applications and databases do not meet the business requirements.

Measures

Internally developed software is documented and code is stored in a secure safe. User manuals have been prepared for internally-developed applications. An application lifecycle management process is followed. Mission critical spreadsheets are independently reviewed annually.

A standard project management methodology is used for all new system implementations to ensure that the project follows a pre-defined scope and produces deliverables that meet project objectives.

Regular visits by trade execution management system provider representatives provide trouble-shooting and upgrade opportunities for those systems.

All system licenses are inventoried for budget purposes. Computer equipment is also tagged for inventory control. A triennial computer hardware replacement cycle is followed.

Business continuity planning and disaster recovery

Major environmental forces (floods, fires, etc.) could interrupt operations leading to financial loss and reputational damage.

Measures

We have developed a Business Continuity Plan (BCP) in order to enable an efficient crisis management and disaster recovery plan in the case of adverse events. The BCP is subjected to semi-annual review with scenario testing. Annual disaster recovery scripting is tested at offsite location. A disaster recovery service provider is on retainer for delivery of critical equipment.

Annually, management also conducts a review of Service Organization Control Reports for all critical hosted applications (i.e. portfolio management system provider, securities

custodian, administration system provider, payroll provider) to ensure business continuity controls exist and have been independently audited.

V. Conclusion

This document presents a summary of our philosophy on the management of risk, discusses the risks that we are exposed to in the normal course of operations, and provides a brief overview of the risk management procedures that are currently employed to aid in managerial decision-making.

We attempt to take an integrative point of view on the management of risk and use tools and processes available to us in various situations, such as quantitative tools for objective investment risks, and qualitative assessments for other risks such as operational risks.

Risk management is, as mentioned, a circular process. The undertaking of risk management procedures often leads to the identification of previously unidentified sources of risk. For this reason, this document is expected to be a living document, and will be annually updated for changes in risk management beliefs, objectives, and processes.

Appendix A: Risk Governance Structure

Board of Directors and its Committees



Management and its Committees



External Service Providers

- External Audit
- Consultant Services
- Clients' Actuaries
- External Legal Counsel
- Clients' Investment Consultants
- Hosted System Service Providers
- Securities Custodian
- External Investment Management

Appendix B: Risk Management Outline

<u>Core Risk</u>	<u>Detailed Risk</u>	<u>Process and Responsibility</u>
A. STRATEGIC		
	Governance	Vestcor Act, By-laws, Board Policy, Director Orientation and Education Policy, Code of Ethics and Business Conduct (Annual Acknowledgement), Board Self-Assessment Process, Management Procedures, Annual Report to Shareholder, Quarterly Board Governance Committee
	Business Strategy	Five Year Strategic Plan Cycle, Annual Business Planning Process, Regular Board Meetings, Enterprise Risk Management Council, Senior Management Monitor, Industry Association Involvement
	Reputational	Client Interaction, Stakeholders and Related Service Providers Interaction, PNB Interaction, PNB Auditor General Interaction, External and Internal Audit Relationships, FCNB / Superintendent of Pensions interactions
	Communications	Centralized with President, Audit Committee Approval of Financial Press Releases, Annual Report, Quarterly Presentations to Clients' Governing Bodies, Communication Strategy
B. INVESTMENT		
	Investment	Asset Liability Studies (upon receipt of Actuarial Analysis), Client-Approved Investment Policies, Investment Risk Management Committee, Weekly Relative & Nominal Risk Reports (CaR, PAM CaR), Monthly Counterparty Credit Exposure Report, Monthly Securities Lending Borrower Compliance Report, Valuation Committee, Liquidity Analysis, Trade Management Oversight Committee, Weekly Internal Compliance Reports (Independent Team)
C. PLAN ADMINISTRATION		
	Administration	Quarterly Administration Reports, Plan Member Enrollment Forms, Annual Plan Member Statements, Annual External Audits, Benefit Calculation Reviews, Contribution Reconciliations
D. OPERATIONAL		
	Corporate Transactions	Two Signing Authorities Policy, Monthly Reporting against Budget, Internal Audit Reviews, External Audits
	Investment Transactions	Investment Authorities Policy, Affirmation/Confirmation Process, Centralized Clearing Process, Counterparty Agreements, Custodian Reconciliations
	Financial Reporting	Annual External Audits, GIPS Verification, Internal Control Report, Accounting Procedures Documentation
	Legal, Tax and Regulatory	Regular Board Meetings – Quarterly President's Report Risk Matrix, Legal and Regulatory Compliance Reports, Quarterly Board Audit Committee, Annual External Audit, Internal Audit Reviews, External Legal and Tax Advisors

<u>Core Risk</u>	<u>Detailed Risk</u>	<u>Process and Responsibility</u>
	Fraud	Annual Fraud Risk Assessment, Enterprise Risk Management Council
E. HUMAN RESOURCES		
	Hiring, Retention and Terminations, Succession Planning, Compensation	Board Human Resources & Compensation Committee, Human Resources Strategic Plan, Annual Succession Plan, Human Resources Manual, Compensation Philosophy, Peer Institutional Pension Fund Manager Compensation Survey Participation, External Compensation Consultant Reviews and Biennial Employee Satisfaction Surveys
F. TECHNOLOGY		
	Cyber Security, Information Management, Systems, Applications and Databases, Business Continuity Planning	Five Year IT Strategic Plan, IT Risk Management Committee, Business Continuity Plan, IT Policies, Occupational Health & Safety Committee, Change Management Process, Internal Audit Reviews