THE PUBLIC SCHOOL

and

THE PUBLIC EDUCATION EMPLOYEE RETIREMENT SYSTEMS OF MISSOURI

PSRS/PEERS

PUBLIC SCHOOL & EDUCATION EMPLOYEE RETIREMENT SYSTEMS OF MISSOURI

INVESTMENT POLICY and INVESTMENT IMPLEMENTATION MANUALS

Adopted by the Board of Trustees
December 2016

This Investment Implementation Policy supersedes all previous Investment Implementation Policies and is effective immediately.

INVESTMENT POLICY

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The Public School
and
The Public Education Employee Retirement Systems of Missouri

I. Statement of Purpose

The Investment Policy and Investment Implementation Manuals specifically outline the investment philosophy, objectives, and practices of The Public School and The Public Education Employee Retirement Systems of Missouri[1] ('PSRS' and 'PEERS', respectively, and hereinafter collectively referred to as 'PSRS/PEERS' or 'Systems') and have been developed to serve as the primary reference point for management of the Systems' assets. As a critical component related to the overall provision of benefits to PSRS/PEERS Members and Beneficiaries, the Board of Trustees ('Board') has adopted the long-term investment plan outlined in this Investment Policy document. This plan is intended to ensure that the long-term growth in financial assets is consistent with the accumulated liabilities of the Systems. **This is an official policy document of PSRS/PEERS. Adoption of this Investment Policy supersedes any prior Investment Policy document(s). Deviation from this document is not permitted without explicit written permission, in advance, from the Board.**

The Investment Implementation Manuals (included herein), in contrast to the Investment Policy, are designed to be dynamic policy documents maintained and utilized by Staff to ensure the Board's investment plan is carried out effectively and efficiently. The Manuals provide detailed information on how certain investment matters are implemented and the details related to portfolio structuring and day-to-day investment activity.

II. Mission Statement

PSRS/PEERS is a mandatory, cost-sharing multiple-employer retirement system for substantially all full-time employees of all public school districts in the State of Missouri and all public community colleges.[2] Each system is separate by statute and the benefit structures and contribution rates are unique to PSRS and PEERS. Responsibility for the operation and administration of the Systems is vested in a common Board, which has a fiduciary responsibility to the Members and Beneficiaries. In recognition of this fiduciary obligation, the Board has adopted the Mission Statement for the Systems shown on the following page:

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[1] *Effective 7/1/2013 all assets are held in the Missouri Education Pension Trust (MEPT) for the exclusive benefit of PSRS and PEERS. PSRS and PEERS continue to own their respective share of the commingled invested assets.*

[2] *Exceptions are the school districts of St. Louis and Kansas City, and non-teacher employees of St. Louis Community College. These groups are not covered by either PSRS or PEERS.*

Mission Statement

> **The Public School and The Public Education Employee Retirement Systems of Missouri** work in partnership with the member school districts of this state to provide eligible employees and their beneficiaries with a significant source of income based on the employee's length of service and compensation in order to enhance retirement, disability and death benefits received from other sources.
>
> It is the fiduciary responsibility of those charged with administration of PSRS/PEERS to:
>
> - Effectively collect contributions,
> - Prudently invest the assets to obtain optimum returns,
> - Equitably provide benefits, and
> - Impartially and in accordance with applicable law administer the benefit programs.
>
> The Board of Trustees and Staff are committed to providing services to the members and beneficiaries professionally, promptly, courteously, and efficiently.

The purpose of the Mission Statement is twofold. First, it provides broad operational direction to the Board, Staff and external service providers. Second, it makes an explicit commitment to the Members and Beneficiaries of the Systems regarding the provision of retirement benefits. With the Systems' Mission Statement as a basis, the Board has adopted this Investment Policy document.

III. Fiduciary Obligations

In developing its Investment Policy, the Board understands and accepts its fiduciary obligations to the Members and Beneficiaries of the Systems. These obligations are legal in nature, and are outlined in Section 105.688 of the Revised Statutes of Missouri. The statute is reproduced below and incorporated in its entirety as part of this Investment Policy:

> *The assets of a system may be invested, reinvested and managed by an investment fiduciary subject to the terms, conditions and limitations provided in sections 105.687 to 105.689. An investment fiduciary shall discharge his or her duties in the interest of the participants in the system and their beneficiaries and shall:*
>
> > *(1) Act with the same care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a similar capacity and familiar with those*

matters would use in the conduct of a similar enterprise with similar aims;

(2) Act with due regard for the management, reputation, and stability of the issuer and the character of the particular investments being considered;

(3) Make investments for the purposes of providing benefits to participants and participants' beneficiaries, and of defraying reasonable expenses of investing the assets of the system;

(4) Give appropriate consideration to those facts and circumstances that the investment fiduciary knows or should know are relevant to the particular investment or investment course of action involved, including the role of the investment or investment course of action plays in that portion of the system's investments for which the investment fiduciary has responsibility. For purposes of this subdivision, "appropriate consideration" shall include, but is not necessarily limited to a determination by the investment fiduciary that a particular investment or investment course of actions is reasonably designed, as part of the investments of the system, to further the purposes of the system, taking into consideration the risk of loss and the opportunity for gain or other return associated with the investment or investment course of action; and consideration of the following factors as they relate to the investment or investment course of action:

> *(a) The diversification of the investments of the system;*
>
> *(b) The liquidity and current return of the investments of the system relative to the anticipated cash flow requirements of the system; and*
>
> *(c) The projected return of the investments of the system relative to the funding objectives of the system;*

(5) Give appropriate consideration to investments which would enhance the general welfare of this state and its citizens if those investments offer the safety and rate of return comparable to other investments available to the investment fiduciary at the time the investment decision is made.

The statute provides the foundation for development of the Systems' Investment Policy. The language in the statute is complex. For brevity and clarity, the Board hereby adopts the following interpretation of the statute as its "Guiding Principles":

Principles Guiding PSRS/PEERS' Investment Activity

1. *Act in the exclusive interest of the Members of the Systems.*
2. *Maximize total return within prudent risk parameters.*
3. *Preserve the long-term purchasing power of the Systems.*

These principles, combined with the applicable sections of the Revised Statutes of Missouri, serve as the basic guideline for this Investment Policy document.

IV. Investment Philosophy and Objectives

The Systems' Mission Statement indicates that among its key duties is provision of benefits to Members and Beneficiaries. In order to do so, the Systems must accumulate and maintain the financial reserves necessary to fulfill this obligation.

Financial reserves shall be obtained from three sources: (1) Contributions from the Members of the Systems; (2) Contributions from Employers; and (3) Return on Investments. The Systems are contributory by statute; for purposes of developing this Investment Policy, the Systems assume at this time that the stream of contributions from Members and their Employers will continue in the future and remain an important source of funding. More important than the level of contributions, in terms of total dollar impact, is the return on investment of the accumulated assets of PSRS/PEERS. Based on general beliefs about the long-term investment returns available from a well-diversified, prudently invested portfolio, the Board has adopted the following Total Fund Investment Objective:

Total Fund Investment Objective

*The goal of the PSRS/PEERS investment strategy is to achieve a **total real rate of return of at least 5.5 percent per annum over time**.*[3]

In order to achieve this real rate of return, the Board will rely on an investment strategy utilizing an appropriate long-term, diversified asset allocation model. Considerations in the asset allocation decision include: the appropriateness of the asset class given PSRS/PEERS' investment objectives, the expected return of the broad asset classes, risk management, expected correlations between asset classes, the general purpose of the Systems, the size and financial condition of the Systems, and general market conditions. In determining its philosophy towards risk management, the Board has properly considered, in addition to its fiduciary obligations and statutory requirements, the Systems' purpose and characteristics, financial condition, and liquidity needs. Currently, the liquidity requirements of the Systems are not so binding that specific investment decisions are necessary to meet them. The Board is not prevented from structuring a well-diversified investment portfolio. The factors mentioned here are not intended to be

[3] *The real rate of return is the rate by which the long-term total return exceeds the long-term inflation rate. The Board shall employ an actuarial consultant for purposes of determining the inflation rate to be used in calculating the PSRS and PEERS pension obligations. The current assumed inflation rate is two and one-quarter (2.25) percent per annum.*

limiting; rather, they are outlined as a general indication of the importance of diversification to proper asset allocation decision-making. The Board determines proper long-term asset allocation targets based on advice and analysis provided by the Investment Staff and/or External Asset Consultant(s).

For the most part, the broad asset allocation determination by the Board is implemented through the review, selection, and on-going management of external asset managers. These external service providers are typically given specific tactical roles within the overall investment plan. The Investment Staff, with assistance from External Asset Consultants, provide performance monitoring and supervision of the Systems' managers, and provide periodic updates to the Board.

The Board recognizes that even though its investments are subject to short-term volatility, it is critical that a long-term investment focus be maintained. Given the importance of the broad asset allocation decision to the Systems' long-term investment success, Staff is required to conduct an asset allocation/liability study at least every five years and to report the results of that study to the Board. In addition, the Chief Investment Officer must annually evaluate the asset allocation mix and any strategic allocation of the portfolio and give a report on the results of that evaluation to the Board. This ongoing review of the asset allocation process helps to ensure that the asset allocation is being monitored and modified as needed to meet the financial obligations of the Systems. The Board has adopted the following formal review schedule[4] :

Formal Review Agenda Item	**Formal Review Schedule**
Total Fund Performance	Quarterly
Broad Asset Allocation Targets	At least every five years
Investment Policy and Asset Allocation Review	Annually

Investment Constraints:
The following are additional factors that have been accounted for by PSRS/PEERS in determining its investment plan:

<u>Liquidity:</u> A portion of the monthly liquidity needs are expected to be covered by contributions from the members and school districts. However, the need for liquidity from the Systems' current asset pool is expected to be significant . As such, the Systems have a need to maintain liquid reserves. Potential sources of liquidity would be cash reserves and liquid asset classes. See Appendix II, Liquidity Management Policy for further details.

[4] *The Board reserves the right to review any of these topics at any time. This formal schedule is set forth for long-term planning purposes only.*

Time Horizon: The Systems have a very long time horizon, which is typical for most retirement systems. The horizon extends well beyond a normal market cycle and for purposes of the investment strategy, can be considered to be in "perpetuity."

Tax Considerations: The Systems are exempt from federal and state income taxes. Consequently, tax considerations are not a meaningful constraint for the Systems, other than the fact that securities with tax-exempt features should be avoided under all but the most unusual circumstances. Unusual circumstances might be instances when a tax-free security offers a higher rate of return than a taxable security with comparable features. In addition, the Systems' position is that it is not subject to unrelated business taxable income (UBTI) consequences.

V. Roles and Responsibilities

PSRS/PEERS is one of the larger public pension funds in the United States; as such its operational requirements are complex. In order to properly administer the Systems and carry out investment strategies, the Board relies heavily on both Internal Staff and external service providers. Because of the number of parties involved, their roles as fiduciaries must be clearly identified to increase operational efficiency, to ensure clear lines of responsibility, to ensure proper controls and to reduce or eliminate duplication of effort.

Delegation of Manager Hiring and Termination Decisions
The Board of Trustees has delegated to the Investment Staff, with the assistance of External Asset Consultants, all manager hiring and termination decisions. The Executive Director (Director), Chief Investment Officer (CIO) and at least one External Asset Consultant (either the General Consultant or an organization serving in a Specialty Consultant role[5]) must unanimously agree upon all manager/partnership hiring and termination decisions in writing. The hiring process for external service providers, other than investment managers/partnerships, must be agreed upon by the Director and CIO. The specific details regarding the Systems' external hiring and termination procedures are described in Appendix III, Service Provider Hiring, Retention and Termination Policy.

Board of Trustees
The Board is responsible for prudent utilization of the Systems' assets. The Board has the responsibility of establishing and maintaining policies and objectives for all aspects of the Systems' operations, including establishing contribution rates and administrative policies.

Specifically with regard to the investment process, the Board relies on the recommendations of its Investment Staff and External Asset Consultant(s) prior to taking investment action. The following are examples of Board-level investment decisions:

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5 *This could include a fund-of-fund advisor.*

1. Approval of formal policies related to the investment program,
2. Determination of long-term policies for risk tolerance and asset allocation,
3. Approval of broad policies related to portfolio structure, and
4. Review of manager selection and termination decisions made by the Investment Staff and External Asset Consultant(s).

In fulfilling its oversight and decision-making responsibilities, the Board will rely upon the following:

- Documentation materials prepared by the Investment Staff and/or External Asset Consultant(s) that support decisions to hire or terminate external managers,
- Detailed investment reports at each Board meeting,
- Quarterly performance reporting by Staff and External Asset Consultant(s),
- Monthly performance reporting by Staff,
  and
- Annual committee meetings with Staff on each asset program.

In keeping with its obligation to serve as the governing fiduciary (as explained above in the investment philosophy section of this document), any changes to the Investment Policy or Investment Implementation Manuals require the Board's approval. The Board has delegated the development and maintenance of the Policy and Manuals to Staff.

Executive Director

The Executive Director (Director) is appointed by, and serves at the pleasure of the Board. The Director is responsible for planning, organizing, and administering all operations of the Systems under the broad policy guidance and direction of the Board. The Director, with the assistance of the Investment Staff, monitors the performance of the investment portfolio; ensures that funds are invested in accordance with Board policies and ensures that proper internal controls are developed to safeguard the assets of the Systems. In fulfilling these responsibilities, the Director relies heavily on the Chief Investment Officer and External Asset Consultant(s).

The Director must agree in writing to all hiring and termination decisions prior to the execution or cancellation of a contract with external service providers. The Executive Director relies heavily on the Investment Staff and the External Asset Consultant(s) in fulfilling these responsibilities. The specific details regarding the Systems' external service provider hiring and termination procedures are described in Appendix III, Service Provider Hiring, Retention and Termination Policy. The Director is also responsible for certifying that material strategic allocation shifts[6] proposed by the Staff are in compliance with the Investment Policy prior to implementation.

[6] *A material strategic allocation shift is defined as a movement of assets from one sub-asset class or asset class to another(outside of traditional rebalancing towards long-term Policy targets) of more than 2.5% of the Total Fund. A gradual movement in an allocation over time is not considered a material strategic shift if it is reported routinely in an open Board meeting. Material strategic allocation shifts must be approved in writing by the Director, CIO and General Consultant.*

Chief Investment Officer (CIO)

The Chief Investment Officer serves at the pleasure of the Director yet has a direct, but limited, link to the Board on investment-related issues. The CIO's sole access to the Board is for submission of investment reports, information, or communications required by the Investment Policy and any other information or opinions specifically requested by the Board with regard to the investment program. The CIO is the individual primarily responsible for providing direction for the investment program. The CIO studies, recommends, and implements policy and operational procedures that will enhance the investment programs of PSRS/PEERS; It is the CIO's responsibility to work with the Director, the General Consultant, Specialty Consultants, and other external service providers with the assistance of the Internal Staff in advising the Board on policies related to the investment program. The CIO has responsibilities related to hiring and terminating service providers. The specific details regarding the Systems' external service provider hiring and termination procedures are described in Appendix III, Service Provider Hiring, Retention and Termination Policy.

Critical functions of the CIO include recommendations for implementation decisions related to the investment plan and for the strategic allocation of the portfolio within broad ranges approved by the Board. While strategic changes are the responsibility of the CIO, proposed changes must be approved in writing by the CIO, General Consultant and Director prior to a change being implemented. If the change involves the hiring/termination of an external service provider, the Service Provider Hiring, Retention and Termination Policy in Appendix III must be followed.

Internal Investment Staff

The Internal Investment Staff provides internal investment management and consulting support to the CIO, Board and Director. The primary functions of Investment Staff include constructing and managing the various Investment Programs of PSRS/PEERS; monitoring the external managers; participating in the hiring and firing of external managers based on the Board's Service Provider Hiring, Retention and Termination Policy found in Appendix III; assisting and providing technical advice to the CIO; analyzing and rebalancing the overall asset allocation of PSRS/PEERS and its portfolio structure; assisting in the implementation of the Board's policies, serving as a liaison between the Board and the investment community; and informing and advising the CIO and Director on financial, economic, and political developments that may affect the Systems' asset allocation strategies or other interests. The Investment Staff also works closely with External Service Providers on a project-specific basis, and where appropriate, may seek the advice and counsel of the General Consultant and/or Specialty Consultant(s) for particular projects.

Internal Investment Operations Staff

The Investment Operations Staff develops and maintains the investment accounting systems of PSRS/PEERS. The Investment Operations Staff identifies and records on a timely basis the valid investment transactions of the Systems, and designs and monitors the internal controls on those transactions so as to ensure the integrity of the fiscal information. The Investment Operations staff is responsible for reconciliation of the Systems' investment accounting and performance records with the reports prepared by the Custodian(s), inclusive of alternative investments that may not be custodied at the Master Custodian.

The Investment Operations Staff assists the Accounting Staff in providing the Director and the Board with the financial tools to make informed management decisions, and preparing the external accounting statements and Comprehensive Annual Financial Report (CAFR) in accordance with U.S. generally accepted accounting principles (U.S. GAAP). The Accounting and Investment Operations Staff share responsibility for both the management of the cash flow of the Systems' funds and the maintenance of the Systems' banking relationships necessary to facilitate that process.

Actuarial Consultant

The Systems may employ an Actuarial Consultant (Actuary) for the purpose of forecasting asset and liability growth and the many complex factors included in estimating future pension costs. These factors include, but are not limited to, interest rates, inflation, investment earnings, mortality rates and employee turnover. These actuarial assumptions are then used to forecast uncertain future events affecting the Systems. The Actuary shall provide periodic reports on the actuarial valuation of the Systems, and shall provide recommendations to the Board including, among other things, the estimated level of contributions necessary to fund promised benefits. The Actuary is appointed by, and serves at the pleasure of, the Board.

External Asset Consultant(s)

The Systems may employ both a General Consultant and one or more Specialty Consultants. The General Consultant is an independent resource available to collaborate with the Board and Staff on the investment process. This typically includes regular meetings with the Board to provide an independent perspective on the Systems' goals, structure, performance and managers. The General Consultant may review asset allocations and performance in conjunction with the Staff, and make recommendations to the Board as appropriate. The General Consultant will assist with external manager selection, when appropriate. In addition to observing financial, economic, and political developments, the General Consultant will also monitor changes within the pension and investment communities that may affect the Systems. The General Consultant will bring investment-related issues to the attention of the Board and Staff, when appropriate.

Additionally, the General Consultant is involved with the strategic allocation shifts for the portfolio. While strategic changes are the responsibility of the CIO, proposed material strategic changes must be approved in writing by the General Consultant, CIO and Director prior to a change being implemented. The specific details regarding the Systems' external service provider hiring and termination procedures are described in Appendix III, Service Provider Hiring, Retention and Termination Policy.

The duty of the Specialty Consultant(s) is to work with the Board and/or Staff to assist in managing and monitoring certain program allocations, (e.g., Real Estate, Private Equity, Private Credit, etc.), making recommendations as appropriate. This includes assisting Staff in establishing the appropriate investment targets and ranges within certain program allocations. The Specialty Consultant(s) will periodically attend meetings with the Board to provide an independent perspective on the Systems' goals, structure, and performance related to specific investment programs. Performance measurement services may be provided and reported to the Board on a quarterly basis.

The Consultants (both General and Specialty) will assist Staff with external service provider selection and termination. In certain circumstances, an external manager may also serve in a Specialty Consultant role (for example, the Systems' advisor for the Private Equity Program is an External Investment Manager for PSRS/PEERS and also serves as a Specialty Consultant for the Systems). The Board and Staff are aware that such instances could pose a conflict of interest. Prior to hiring an External Investment Manager and/or Specialty Consultant to perform both of these roles, Staff will perform rigorous due diligence to determine that potential conflicts of interest are mitigated. Ongoing due diligence will be performed to ensure continued mitigation of possible conflicts. The specific details regarding the Systems' external service provider hiring and termination procedures are described in Appendix III, Service Provider Hiring, Retention and Termination Policy.

All External Asset Consultants, serving in a consulting capacity (General and Specialty), are appointed by, and serve at the pleasure of, the Board. Specific operational information for each External Asset Consultant is addressed at length in the contractual agreements.

External Investment Managers

For purposes of this document, External Investment Managers are considered to be external money managers, including but not limited to external money managers who may be structured as a public or private entity in the form of a partnership, limited liability company, trust, separately managed account, commingled account, or some other form of operational structure in which assets may be held by an external custodian selected and monitored by the external manager.

Managers will be given explicit written directions detailing their particular assignments or will follow the investment program outlined in their offering documents or Limited Partnership Agreements, and will construct and manage investment portfolios that are consistent with the investment philosophy and disciplines for which they were hired. Discretion is delegated to the managers to carry out investment actions as directed by the Systems.

Pursuant to the Board's Service Provider Hiring, Retention and Termination Policy (Appendix III), the CIO, with the approval of an External Asset Consultant and the Director, may retain or dismiss External Investment Managers to implement the Systems' investment plan as described in this policy. The Systems recognize that many External

Investment Managers employ restrictions on their clients' ability to terminate within a certain period of time, or may apply restrictions on asset withdrawals, that collectively limit the Systems' ability to terminate manager assignments in certain circumstances.

Master Custodian

The Master Custodian is the party charged with the responsibility of safeguarding the Systems' assets. The Master Custodian will hold all cash and securities, except in cases where investment in a partnership, commingled account, or unique asset class makes it impossible to do so. In these cases, the specific location for custody will be outlined in the relevant governing document. A third-party custodian will be the holder of the cash or securities where possible. Other cases might prohibit a custodian from having physical custody of the assets. Such situations may include private equity investments and real estate properties. In cases where the Master Custodian may not hold physical custody of the assets, the Master Custodian will be responsible for maintaining details regarding the market value and accounting at the portfolio level. The Master Custodian will be responsible for providing an on-line records maintenance system, performance reporting, fund accounting on both a trade date and settlement date basis and other services as defined in the contract. The Master Custodian records are considered the official book of accounting and performance records for the Systems investment portfolio. If agreed to contractually, the Master Custodian may act as a lending agent for PSRS/PEERS.

Prime Brokers

Prime broker accounts may be utilized for non-traditional investment strategies. Assets contained in prime brokered accounts are no longer custodied by the Master Custodian but pertinent portfolio information is regularly transmitted to the Master Custodian and included in custodial reports.

VI. Asset Allocation

Policy Allocation

The asset allocation decision is generally regarded as the most important decision to be made in the investment management process since it is key to achieving the long-term objectives established by the Board. In that light, it is the Board's responsibility to determine the appropriate policy asset allocation based upon several criteria with input and guidance from Staff and the General Consultant. These criteria are as follows:

1. The expected rate of return for each asset classification;
2. The expected risk of each asset classification (expressed as the standard deviation of the rate of return);
3. The correlation of returns between asset types;
4. The investment objectives and risk constraints of the Systems (including but not limited to liquidity needs and the expected time horizon);
5. The funded ratio and cash flow requirements for each System, and
6. The impact of the Systems' return volatility on the contribution rate.

In addition to these criteria, the Systems' vulnerability to the negative effects of inflation dictates more of an emphasis on equity and equity-like investments than traditional fixed income investments. In selecting the asset allocation, the portfolio will be invested broadly with assets allocated in a manner intended to achieve the return objectives of the Systems given certain risk constraints. It is common practice to construct portfolios using combinations of asset classifications in order to improve the risk/return profile of the fund. This concept is called diversification, or owning a variety of assets that act differently under a variety of economic scenarios. The greater the diversity of assets (lower correlation) within the portfolio, the better the odds of reducing the total portfolio volatility while helping to achieve the return objectives. Through a complete analysis of each asset classes' return and risk, and the relationship of each asset class relative to the others, an asset mix that produces an optimal risk/return tradeoff can be determined.

In establishing PSRS/PEERS' asset allocation targets, a wide variety of investment types and investment strategies are assigned to the following broad investment programs: Public Risk Assets, Safe Assets and Private Risk Assets. Public Risk Assets consists of the following specific programs: U.S. Public Equity Program (inclusive of the Large-Cap Domestic Equity Program-including Alpha Overlay and the Small-Cap Program); the Hedged Asset Program; the Public Credit Program and the Non-U.S. Public Equity Program. Safe Assets includes U.S. Treasury Securities, U.S. Treasury Inflation Protected Securities (TIPS),FDIC-backed bonds and cash equivalents. The Private Risk Assets category includes: the Private Real Estate Program; the Private Equity Program; and the Private Credit Program.

The allocation to these investment programs considers the risk tolerance of the Systems and the long-term return objective. The Board has chosen the long-term policy allocation shown in the table that follows as of the June 2016 Board meeting.

The interim policy allocations have been (and will continue to be) established by Staff on a quarterly basis and will reflect the continued funding of Private Risk Assets and progress towards the Systems' stated long-term asset allocation objective. It is fully anticipated that the interim policy will move towards the long-term policy target over time. For performance measurement purposes, the interim policy will serve as the basis for establishing the formal Total Fund policy benchmark (described in more detail in a subsequent section) until the on-going process of funding Private Risk Investments is complete.

PSRS/PEERS POLICY ALLOCATION	***LONG-TERM POLICY***	***INTERIM POLICY as of 7/1/16***
U.S. Public Equity Program	27.0%	27.0%
Public Credit Program	7.0%	12.0%
Hedged Asset Program	6.0%	6.0%
Non-U.S. Public Equity Program	15.0%	15.0%
Public Risk Assets	***55.0%***	***60.0%***
U.S. Treasury Securities	16.0%	16.0%
U.S. Treasury Inflation Protected Securities (TIPS)	4.0%	4.0%
Cash Equivalents	0.0%	0.0%
Safe Assets	***20.0%***	***20.0%***
Private Equity Program	12.0%	10.5%
Private Real Estate Program	9.0%	7.5%
Private Credit Program	4.0%	2.0%
Private Risk Assets	***25.0%***	***20.0%***

Strategy Allocation

The Board has granted the Investment Staff the responsibility for establishing the strategic allocation of the portfolio within broad bands approved by the Board. The Board recognizes the cyclical nature of the investment markets, thus it has allowed the Staff to capitalize upon these opportunities by changing the allocation of each asset class or sub-asset class. Good checks and balances dictate that the Staff must discuss and get approval for material desired strategic changesfrom the CIO, General Consultant and Director prior to implementation. If the change involves the hiring or termination of an external service provider, the CIO, an External Asset Consultant and Director must approve the change in writing. The specific details regarding the Systems' external service provider hiring and termination procedures are described in Appendix III, Service Provider Hiring, Retention and Termination Policy.

The flexibility given to the Staff in establishing the strategic mix provides opportunities for the Systems to take advantage of changing market conditions. Unexpected changes in market values may on occasion cause the actual asset allocation to fall outside the allowable ranges. In that event, if the asset class is liquid, the position will be brought back within the target range in accordance with the Portfolio Rebalancing Policy found in Appendix I. If the asset class is illiquid, the Board will be notified immediately through written correspondence and an appropriate plan of action will be determined at the next scheduled Board meeting, or sooner if the CIO believes conditions warrant. Based on a variety of considerations, the Board has selected the following strategic allocation bands:

Strategic Ranges	**Minimum**	**Maximum**
U.S. Public Equity Program	16.0%	48.0%
Public Credit Program	0.0%	20.0%
Hedged Asset Program	0.0%	25.0%
Non-U.S. Public Equity Program	8.0%	28.0%
Public Risk Assets	***35.0%***	***75.0%***
U.S. Treasury Securities	0.0%	40.0%
U.S. Treasury Inflation Protected Securities (TIPS)	0.0%	40.0%
Cash Equivalents	0.0%	10.0%
Safe Assets	***10.0%***	***40.0***
Private Equity Program	4.0%	15.0%
Private Real Estate Program	4.0%	12.0%
Private Credit Program	0.0%	8.0%
Private Risk Assets	***10/0%***	***30.0%***

The Board may change any of these ranges; however, it is anticipated that these changes will be infrequent.

Decisions regarding allocations among investment programs and asset types will be made when such actions are expected to produce incremental return (net of transaction costs), reduce risk, or both. The investment characteristics of an asset class, including expected return, risk, correlation, and its overall role in the portfolio will be analyzed in the context of the current and anticipated future economic environment when making such decisions. For purposes of performance measurement of these strategic decisions, the benchmark for each Program will be weighted at the allocation to the asset class at the beginning of the month. Thus, the performance differential between the policy benchmark and the strategy benchmark shall be considered the value added through strategic allocation decisions made by the Staff.

Private Risk Implementation

In order to achieve the target allocation over time to Private Risk Programs listed in the table above, the Board recognizes that in certain instances it may be necessary to make commitments that in total exceed the targeted percentages. These commitments are necessary because capital is typically drawn down over a period of three to five years, and distributions often begin before the capital is fully drawn down for investment.

Investment Program Descriptions

Each Investment Program shown in the previous table has a defined role within the overall asset allocation structure of the portfolio. These Programs and their respective roles within the portfolio are defined as follows:

Public Risk Assets

U.S. Public Equity Program – This Program is comprised of the Large-Cap and Small-Cap programs which seek to provide long-term capital appreciation and dividend income in excess of inflation through the investment in equity securities. The Alpha Overlay portfolio resides within the Large-Cap Domestic Equity Program. Returns above a purely passive investment alternative are targeted through the use of a wide variety of active investment strategies that may employ exposure to both equity securities and other types of investments. The objective of the Large-Cap program will be to provide market beta that is similar to the Russell 1000 Index. The objective of the Small-Cap program will be to provide market beta that is similar to the Russell 2000 Index. The primary ***beta*** exposure will be achieved through investments in passive investment vehicles (including derivatives); traditional long-only active domestic equity management; and active long/short approaches. ***Alpha*** (or, excess returns above a passive alternative) is expected to be achieved through traditional long-only active domestic equity management, active long/short approaches and alpha overlay strategies, including equity long/short, equity market neutral and multi-asset directional and non-directional strategies. Exposure to the various segments of the domestic equity market (i.e., growth-oriented, value-oriented, and core) and to the approved investment strategy types listed above will be achieved through the identification, selection and on-going management of SEC-registered[7] investment advisors qualified to serve as fiduciaries to the Systems.

Public Credit Program – This Program is designed to provide a source of current income and capital appreciation through exposure to investment grade corporate securities, below investment grade debt instruments, distressed debt securities, convertible bonds, bank loans, agencies, mortgage-backed securities, asset-backed securities, and interest rate sensitive securities (including those issued or guaranteed by the United States Government or its agencies). Investments in this Program may include debt of both U.S. and non-U.S. issuers, commodities and equity securities in special situations. Hedging strategies may be utilized, and exposures may be obtained by managers within the Program by using derivative securities on a limited and controlled basis. Exposure to the various segments of the bond market will be achieved through the identification, selection and on-going management of SEC-registered investment advisors qualified to serve as fiduciaries to the Systems.

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[7] *Refers to external investment advisors that are registered with the Securities & Exchange Commission.*

Hedged Asset Program – This Program provides diversification to the total portfolio and strives to reduce volatility within the Total Fund. Investments permitted within the Hedged Asset Program include a wide variety of hedge-fund related strategies and balanced beta investing approaches, such as "risk parity." The concept of "alpha overlay" may also be utilized within the Hedged Asset Program in accordance with the policies included herein. The purpose of this Program is to enhance the overall risk/return profile of the portfolio through the inclusion of specialized investment strategies. These strategies may employ multi-asset directional and non-directional investment approaches and may utilize leverage as allowed within their governing documents. The returns from these strategies have historically had a low to moderate correlation with the traditional equity markets, thus providing diversification benefits in addition to portfolio return enhancement. These strategies seek to control risks and maintain a focus on absolute returns. The inherent nature of these vehicles to serve as a "hedge" provides for the expectation that this asset class will lag the equity market during times when equities are performing above the long-term averages. However, when equities are performing below the long-term averages, it would be expected to outperform the equity market. In addition, managers within this asset class have historically possessed significantly lower volatility relative to traditional equity managers. Exposure to the hedged asset strategies will be achieved through the identification, selection and on-going management of SEC-registered investment advisors (both individual managers and fund-of-funds providers) qualified to serve as fiduciaries to the Systems. Fund-of-funds service providers may elect to hire underlying managers that are not registered with the SEC.

Non-U.S. Public Equity Program – This Program provides long-term capital appreciation in excess of inflation and dividends through exposure to equity securities on a global basis. Specific investment strategies approved for the Non-U.S. Public Equity Program include passive investment vehicles, traditional long-only active equity management and active long/short approaches. Exposure to the various segments of the global equity market (i.e., U.S., developed non-U.S., emerging, growth-oriented, value-oriented, and core) and to the approved investment strategy types listed above will be achieved through the identification, selection and on-going management of SEC-registered investment advisors qualified to serve as fiduciaries to the Systems. The global portfolios provide an element of diversification relative to the domestic equity portfolios. Currency is another aspect of international investing that can impact performance and volatility of the asset class over the short-term; however, over the long-term the effect from currency is expected to be neutral. The Non-U.S. Public Equity managers may from time to time decide to actively manage currency within their portfolio subject to the constraints of their governing documents.

Safe Assets

U.S. Treasury Securities – The U.S. Treasury allocation is intended to provide a source of current income and reduce overall fund volatility. In addition, it is expected to perform well during periods of disinflation and/or outright deflation. Treasuries are highly liquid securities issued by the United States Treasury that are backed by the full faith and credit of the U.S. government, and thus are perceived as having no credit risk. This category may also include FDIC-backed (secured) bonds.

U.S. Treasury Inflation Protected Securities (TIPS) - These securities are also backed by the full faith and credit of the United States and are highly liquid. The TIPS allocation is intended to preserve principal in periods of inflation and serve as a deflation floor. TIPS also provide a source of current income and reduce the overall volatility of the portfolio. In addition, this asset is viewed as the best hedge against the Systems' liabilities due to similarities in inflation sensitivity, thus it is viewed as the risk-free asset in relation to the liabilities.

Cash Equivalents – These securities may include commercial paper, repurchase agreements, certificates of deposit, U.S. and non-U.S. debt instruments and money market funds. This allocation is expected to provide liquidity.

Private Risk Assets

Private Equity Program – The role of this Program is to achieve returns higher than those attainable in the public equity markets and provide diversification that will periodically assist in lowering overall portfolio volatility. The private equity allocation will be comprised of opportunities both within the U.S. and internationally. Specific types of strategies include, but are not limited to, venture, buyout, distressed debt and opportunistic/special situations. A variety of investment styles within these strategies may be used to accomplish diversification within this sub-asset class. The Board recognizes that investments in this class are long-term in nature (at least 10 years), and may provide little, if any current income. In addition, it often produces negative returns and cash flows in the early years because of management fees and capital contributions with a lack of distributions until later in the fund life when investment exits occur. This is often referred to as the "J-curve". To mitigate this effect and produce smoother returns, Staff will attempt (when prudent) to spread out commitments to these categories of investments over a reasonable period of time to achieve vintage year diversification within the portfolio.

Private Real Estate Program – This asset class primarily serves as a hedge against unanticipated general price inflation, and may also provide a significant amount of income due to the nature of real estate in providing revenues from rental properties. Investments in this area may include real estate funds and other private investment funds that purchase or invest in real assets that exhibit risk/return characteristics consistent with real estate investments.

Private Credit Program – This Program provides additional diversification to the Total Fund and is expected to produce equity-like returns. Investments include, but are not limited to, debt instruments of U.S. and international companies which are privately held or publicly traded (but placed in a private investment structure). Typical holdings are senior and subordinated debt instruments. Equity exposure is acceptable as debt positions are often converted to equity during the bankruptcy reorganization process.

A more complete description of the Programs described above and of the allowable investment strategies are included in the specific Implementation Manuals for each category.

<u>Performance Objectives</u>

The Board has established a long-term goal to achieve a total investment return of at least 7.75%[8] percent per year and a real rate of return of at least 5.5 percent per year. Generating a total real rate of return net of expenses of at least 5.5 percent per annum is an important consideration in the asset allocation decision and the primary performance objective for the Total Fund over long periods of time. The need for a long-term focus is necessary to preclude the temptation to overreact to events in the financial markets that have no relevance to long-term asset/liability management. The resulting dilemma is the conflicting need to evaluate investment policy implementation over shorter time periods while maintaining a longer-term focus on meeting the 5.5 percent real rate of return objective. In order to determine if the Systems' shorter-term and long-term objectives are being achieved, it is necessary to develop multiple benchmarks by which the Systems' progress may be judged. These benchmarks allow the Systems to be judged: (1) by performance relative to a defined set of broad market indices (i.e., performance relative to a policy benchmark that reflects the Systems' long-term asset allocation objective), (2) by long-term performance relative to its actuarial assumptions, and (3) by performance relative to other public pension systems and their investment managers as a reference point of oversight. The stated performance objectives of the investment management process are as follows:

1. *To equal or exceed over a full market cycle[9] a policy benchmark that reflects the Systems' long-term asset allocation objective approved by the Board of Trustees. The policy benchmark will change over time as the Systems' asset allocation*

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[8] *The long-term total investment return was 8.0% from 1980 through fiscal year 2016.*

[9] *A full market cycle may vary in duration depending upon economic and market conditions, but is generally expected to be approximately five years.*

changes with Board decisions. For performance measurement purposes, the interim policy will serve as the basis for establishing the formal Total Fund policy benchmark until the on-going process of funding Private Risk Investments is complete[10] *The current long-term asset allocation objective for the Systems results in a policy benchmark comprised of the following:*

PSRS and PEERS		
Policy Allocation	**Benchmark**	**Percentage**
Public Risk Assets	Customized Public Risk Assets Benchmark[11]	55%
Safe Assets	Customized Safe Assets Benchmark[12]	20.0%
Private Risk Assets	Customized Private Risk Assets Benchmark[13]	25%

The customized benchmarks result in a combined long-term policy benchmark of the following:

Policy Benchmark	**Percentage**
Russell 3000 Index	40.5%
MSCI ACWI Ex-U.S.A, Index	16.5%
Barclays U.S. Intermediate Credit Index	10.0%
Merrill Lynch High Yield Master II Index	4.0%
NCREIF ODCE Index	9.0%
Barclays U.S. Treasury Index	16.0%
Barclays U.S. TIPS 1-10 Years Index	4.0%

For the purpose of reviewing individual programs within the Public Risk Assets Composite, the following benchmarks will be used:

PSRS and PEERS	
Program	**Benchmark**
Large-Cap U.S. Public Equity Program	Russell 1000 Index
Small-Cap U.S. Public Equity Program	Russell 2000 Index
Public Credit Program	Barclays U.S. Intermediate Credit Index
Hedged Asset Program	Customized Hedged Asset Benchmark[14]
Non U.S. Public Equity Program	MSCI ACWI Ex-U.S.A Index

10 The actual allocation will be compared to the Long-Term Policy Target and the Interim Policy Target at the end of each quarter. As specific Private Risk programs grow, the Policy Benchmark for Private Assets will increase and the Policy Benchmark for Public Risk Assets will decrease. Changes will be made incrementally on quarterly basis only.

11 The Customized Public Risk Assets Benchmark is comprised of 51.8% Russell 3000 Index,30 % MSCI ACWI Ex-U.S.A Index and18.2% Barclays U.S. Intermediate Credit Index.

12 The Customized Safe Assets Benchmark is comprised of 80% Barclays U.S. Treasury Index and 20% Barclays U.S. TIPS Index.

13 The customized Private Risk Asset Benchmark is comprised of 48% Russell 3000 Index, 36% NCREIF Property Index (NPI) and 16% Merrill Lynch High Yield Master II Index.

14 The Customized Hedged Asset Benchmark is comprised of 25% Russell 3000 Index, 25% MSCI ACWI Ex-U.S.A.) and 50% Barclays U.S. Intermediate Credit Index.

The complete discussion and specific details regarding the Systems' Public Risk Assets Composite can be found in Appendix A, Public Risk Assets Implementation Manual.

2. *To earn a rate of return, after fees, of 5.5 percent in excess of plan liability inflation. The current assumed inflation rate is 2.25 percent per annum.*

There will be meaningful short-term variations from this objective; the Board believes, however, that over the long-term (market cycle to market cycle) this goal should be attainable.

3. *To perform adequately on a risk-adjusted basis relative to other similar institutional investors and their external investment managers.*

<u>Manager Evaluation</u>

In the short-term, individual managers employed by the Systems will not be measured against the aggregate fund objective nor against the real rate of return target outlined above. Managers may be evaluated:

1. against appropriate market indices on both a risk-adjusted and nominal basis;
2. against peers within their style groups;
3. on adherence to their stated investment styles; and
4. on adherence to investment guidelines.

Performance expectations for each manager will be determined by the Investment Staff and the External Asset Consultant(s). The specific performance criteria for each manager will typically be outlined in the Manager Investment Guidelines, where appropriate.

<u>Strategy Benchmarks</u>

As has been discussed previously, latitude has been given to the Staff to make strategic decisions away from the broad asset allocation targets established by the Board. In an effort to capture the effect of these strategic decisions, the benchmarks laid out above will be changed (in weights only) at the beginning of each month to reflect where the portfolio is currently positioned. By changing the benchmarks monthly based on how the portfolio is currently structured, the Board will be able to compare the static policy benchmark above to the changing strategy benchmark to capture the additional value generated from the latitude given to the Staff to alter the asset class or sub-asset class allocations. In a few noted cases, this process may deviate slightly to more accurately capture the strategic decisions in place within the portfolio. Beyond capturing strategic allocation decisions made by the Staff, a comparison of the strategy benchmark to the actual fund return is utilized to capture the value added from implementation/manager hiring and termination decisions made by Staff.

VII. Permissible Investments

Allowable Investments in all Asset Classes (Beta Exposures)

As it pertains to the above referenced sub-asset classes within PSRS/PEERS' portfolio, beta exposure may be gained through investments in derivative instruments including, but not limited to futures, forward contracts, swaps, and options per the terms of each manager's specific governing documents and in accordance with the limitations outlined in the PSRS/PEERS Investment Policy. In addition to derivative instruments, leverage may be utilized in the implementation of these sub-asset classes in accordance with each manager's specific governing documents and in keeping with the investment limitations outlined in this Policy. Additional investments which are allowed include exchange traded funds (ETFs), warrants, rights, convertible bonds, commodities, and preferred stock. Currency hedges may also be used for non-dollar exposures within each respective asset class as outlined in each manager's governing document. Long/short investment strategies may also be employed per the terms of the Investment Policy. In addition to the instruments outlined in the paragraph above, for every sub-asset class, a variety of investment structures may be utilized depending on the nature of a particular investment. Per the terms of the investment limitations outlined in this Policy, these structures may include funds, partnerships, limited liability companies, trusts, fund-of-funds, and separately managed accounts in which assets may be held by an external custodian who is selected and monitored by the external manager or general partner.

The Investment Staff may utilize derivative instruments including, but not limited to futures, forward contracts, swaps, and options to gain specific market exposure or to hedge specific exposure within the total portfolio. The total exposure at the fund level shall not exceed 35% of the portfolio. Derivatives used in the active management of cash and cash equivalent balances shall be considered separate from the 35% total fund limit. The instruments must be managed by an external third-party. The Systems will monitor counterparty exposure at the total fund level inclusive of securities lending exposures, as part of the Systems' risk management.

Alpha Strategies

A variety of implementation strategies may be used in capturing alpha (skill-based manager returns) within the portfolio. These strategies include both traditional active management strategies and marketable alternative market neutral strategies. Marketable alternative strategies may be used as long as the CIO, Director and at least one External Asset Consultant sign off on the strategy. The use of investment instruments available to these managers is broad, covering a variety of investment types and strategies across numerous asset classes. In making implementation decisions related to the alpha component of the portfolio, Staff may utilize any and all investment tools so long as they are defined in each manager's governing documents and are carried out in accordance with the overall Investment Policy.

Additional Information and General Investment Restrictions

In carrying out the investment objectives of the Board, the Board has imposed certain limitations or restrictions upon Staff. A list of these restrictions and limitations is as follows:

1. Certain strategies may allow for the use of leverage. Leverage may be used in such strategies where the manager has been given specific authorization to employ it within its Investment Guidelines or governing documents.

2. Assets may be held in commingled funds, privately managed separate accounts, limited partnerships, and limited liability companies. Investments in commingled funds, limited partnerships, and limited liability companies shall be evaluated on a case-specific basis through analysis of the offering document, prospectus, side letters, and any other governing document that may be applicable. The 'offering document' shall become the specific investment guidelines for that particular allocation, along with any additional terms negotiated and agreed upon in writing between the investment manager and PSRS/PEERS.

3. Derivative securities that are highly leveraged and are being used for purposes of speculation may not be used without prior review and express written authorization from the Board. Derivative securities are specifically allowed within several PSRS/PEERS investment programs and their use is detailed within each program Implementation Manual. Futures and options may be used by investment managers to obtain asset class exposure with uninvested cash, to equitize dividend receivables, or for yield curve management.

4. All investments made shall be subject to the quality and diversification restrictions established by Section 105.688 of the Revised Statutes of Missouri. Investments will not be made in any investment prohibited by the Internal Revenue Service, statutory restrictions or other federal regulatory restrictions.

5. No investment or action pursuant to an investment may be taken unless permitted by the Investment Policy. In the event that any exception is discovered, such exception will be immediately reported to the Board by the Director and/or the CIO together with a detailed explanation of the exception and action which is being taken to remedy the situation.

6. The Board has delegated responsibility for establishing the Portfolio Rebalancing Policy (Appendix I) to Staff subject to any limitation outlined in the Investment Policy. This Policy outlines the timing and method by which the portfolio is to be rebalanced to broad asset classes. Based on this Policy, it will be necessary to periodically rebalance the portfolio as a result of market value fluctuations. The Board has delegated the rebalancing responsibilities to Staff, to be implemented in accordance with the Policy.

7. The Systems' assets are to be managed in the financial best interests of the Members of the Systems. Please see Appendix IV: Economically Targeted Investment (ETIs) Policy and Appendix VIII: Anti-Terrorism and Economic Sanctions Investment Policy for more specific information related to this objective.

8. From time to time, class action lawsuits arise against companies which PSRS/PEERS invests in. The Board has adopted a Securities Class Action Litigation Policy and specific details regarding the Policy may be found in Appendix VII of this document. The Securities Class Action Litigation Policy is designed to address the actions PSRS/PEERS will take when such instances occur.

Securities Lending

The Board may elect to hire a Securities Lending Investment Agent (Agent) to lend financial securities of the fund. Any income from this activity will be deposited upon receipt in a pre-specified short-term investment vehicle or vehicles. The Agent may lend financial securities (including but not limited to U.S. and non-U.S. equities, corporate bonds and U.S. and non-U.S. government securities). This Agent shall continually review the creditworthiness of potential borrowers through adequate analysis of publicly available information and any other material available. No more than thirty (30) percent of the Systems' securities on loan shall be loaned to any one borrower. All loans shall be fully collateralized with cash, securities or irrevocable bank letters of credit. Collateralization of such loans shall be at least 102 percent domestic (105 percent international) of the market value of the loaned securities plus accrued income for U.S. and non-U.S. loans, respectively. Securities on loan should be marked-to-market on a daily basis to assess adequacy of collateralization. The Agent shall provide monthly performance reports to the Staff. The Securities Lending program shall in no way inhibit the trading activities of the managers retained by the Systems.

VIII. Responsibilities of External Investment Managers

General Manager Guidelines

PSRS/PEERS utilizes External Investment Managers to implement its investment Programs. These managers have demonstrated expertise with particular asset classes and/or management styles. In order to be considered for an assignment, a manager must have a level of assets under management so that the addition of funds from PSRS/PEERS will not cause the assets of the Systems to exceed 25 percent of the manager's total assets in the product or strategy. Each investment manager shall be a registered advisor under the Investment Advisers Act of 1940 (or shall be appropriately exempt from registration). Individual investment guidelines will be set for each manager, where appropriate[15]. Other managers will follow the investment process outlined in offering documents or Limited Partnership Agreements. Typically, guidelines will be specific as to the particular role of that manager's portfolio in the overall investment structure, and will address the following topics:

[15] *Commingled investment vehicles will typically not have separate Guidelines, but will instead be governed by the fund documents.*

- Permissible Investments
- Style Adherence
- Diversification
- Portfolio Quality Requirements
- Performance Objectives
- Manager-specific Issues
- Withdrawal/Redemption Requirements

Managers will be delegated the duties of sector and security selection, portfolio quality and timing of purchases and sales (including broker selection), subject to their specific guidelines. Compliance with these guidelines is mandatory. No deviation will be permitted without express written permission, in advance, from the Investment Staff.

Communication

An external public market manager employed by the Board is expected to communicate, in writing, any developments that may impact the Systems' portfolios to the Staff and External Asset Consultant(s) within five (5) business days of occurrence. Examples of these events include, but are not limited to:

- a significant change in investment philosophy;
- a significant shortfall in performance relative to the assigned benchmark for the most recent quarter;
- a loss of one or more key management personnel;
- a new portfolio manager being assigned to the Systems' accounts;
- a change in the ownership structure of the manager's firm; or
- any occurrence which might potentially impact the management, professionalism, integrity or financial position of the investment management firm.

Additionally, public managers will typically be responsible for meeting with the Investment Staff at least once per year in person and as requested through audio and/or video conference calls. The Investment Staff will coordinate with the manager to arrive at acceptable meeting dates.

The communication requirements for private managers and hedge funds are individually addressed in partnership agreements and offering documents.

Benchmarks

All investment managers will be judged against appropriate benchmarks. Each manager's benchmark will reflect that manager's particular style or strategic role in PSRS/PEERS' investment process. Each benchmark will be clearly specified, measurable and investable. Benchmarks do not have to be published or widely recognized; they may be "customized" for a particular investment style(s). The proper benchmark shall be determined in advance of funding by mutual agreement between the manager and Staff.

<u>Performance Reporting</u>
All investment managers under contract with PSRS/PEERS will report investment performance to Staff on a quarterly basis. The **Systems require** most **public market** managers to utilize a standard reporting format. Managers may however provide their standard performance reports as supplemental information to the PSRS/PEERS standardized report. Please refer to the following section of this document for more information.

<u>Ramification of Non-Compliance</u>
All public market investment managers are employed at the pleasure of the Board, with a five-day termination notice provision in PSRS/PEERS' standard manager contract. Failure to follow these generic guidelines, and/or the manager-specific guidelines may result in termination.

IX. Performance Measurement

The Systems' success in achieving the actuarial required rate of return will only be evaluated over long time periods. The reason for the long-term focus on this objective is to preclude the temptation to overreact to events in the marketplace that have no relevance in long-term asset/liability management. The resulting dilemma is the conflicting need to evaluate investment policy implementation decisions over shorter time frames while maintaining the longer-term focus necessary to manage and measure the fund's performance relative to the actuarial required rate of return.

To address this, the Board has established the following categories to measure performance:

1. Board Policy Decisions
2. Staff Decisions
    a. Strategy Decisions
    b. Implementation Decisions

<u>Board Decisions</u>
The value added through Board Policy decisions is measured by the difference between the Policy Benchmark return and the actuarial required rate of return objective (defined as Real Return Objective + Inflation). This difference captures the value added by the Board through its broad policy asset allocation decisions relative to the actuarial required rate of return objective. A Policy Benchmark return greater than the actuarial required rate of return reflects value added through Board decisions. A Policy Benchmark return less than the actuarial required rate of return reflects losses or shortfalls in performance in funding the liabilities of the Systems. These policy decisions are measured over long periods of time.

<u>Staff Decisions</u>
There are two components to the Staff decisions that are monitored by the Board on an ongoing basis:

Strategy Decisions:

Strategy Decisions are asset class or sub-asset class asset allocation choices made by the Staff to deviate from the Policy Benchmark weights, with approval from the General Consultant, and a certification from the Director that the proposed material deviation is in compliance with the Board's Investment Policy. The value added through these decisions to overweight and/or underweight these sub-asset classes is measured by the difference between the Strategy Benchmark return and the Policy Benchmark return. This difference captures the value added by the Staff through sub-asset class strategic decisions relative to the Board's broad policy allocation decisions. A Strategy Benchmark return greater than the Policy Benchmark return reflects value added through the allocation decisions. A Strategy Benchmark return less than the Policy Benchmark return reflects losses to the fund's performance based upon strategy decisions. Strategy decisions should be measured over all periods of time.

Implementation Decisions:

Implementation Decisions are money manager selection choices made by the Staff with the approval of an External Asset Consultant(s) and the Director. The value added through these manager selection decisions is measured by the difference between the Actual Portfolio return and the Strategy Benchmark return. This difference captures the value added through these manager hiring decisions. An Actual Portfolio return greater than the Strategy Benchmark return reflects value added through these manager selection decisions. An Actual Portfolio return less than the Strategy Benchmark return reflects losses to the fund's performance based upon implementation decisions. Implementation decisions should be measured over all periods of time.

<u>Periodic Reports</u>

Performance reviews are a critical part of the portfolio management process. In fulfilling this duty, the Board will rely on its External Investment Managers, External Asset Consultant(s), Custodian(s), and Staff. The PSRS/PEERS Staff receives quarterly performance reports from the following three sources:

1. **Managers:** most shall provide quarterly reports utilizing a standardized reporting format specified by the Staff. Managers may provide their standard performance information in an alternate format as agreed upon by the Staff.

2. **Custodian(s)**: shall provide monthly performance reports to the Investment Staff. These reports shall detail the individual performance of managers and the overall performance of the fund. In addition, the Master Custodian shall report the results of any securities lending activities to the Investment Staff on a monthly basis.

3. **Specialty Consultant(s):** may provide quarterly performance reports to the Investment Staff for each alternative investment composite.

Staff will be responsible for ensuring that performance reports are received in a timely manner from these parties, and will provide continual supervision of the performance reporting on the portfolio.

The Board will monitor performance through periodic reports that will allow assessment of broad policy decision, strategic allocation decisions, and implementation decisions. All performance shall be calculated using time-weighted rate of return methodology. Other calculation methodologies may be reported in compliance with specific regulatory requirements, such as the Governmental Accounting Standards Board.

- Quarterly, the internal Investment Staff will submit a report to the Board that fully details manager and composite performance including actual returns relative to the Policy and Strategic benchmarks.

- The Custodian shall provide a detailed performance report to the Board on a quarterly basis. Additionally, the Private Equity and Real Estate Consultants or Staff will provide detailed reports to the Board on a quarterly basis.

- Not less often than every five years, a formal asset/liability study will be conducted. In the interim, the CIO shall submit a report to the Board on an annual basis, at the first board meeting following the beginning of the new fiscal year, which addresses the continued prudence of the current asset mix.

X. Implementation

The Board recognizes that PSRS/PEERS' complex investment process requires a substantial amount of daily attention. It is clear that the Board, meeting periodically, cannot oversee the day-to-day operations of the investment functions. This could lead to gross inefficiency of operations that would likely breach fiduciary duties. In order to promote operational efficiency in the implementation of its Investment Policy, the Board has employed various parties to carry out these duties. The efficiency of operations is critically dependent on the proper delegation and coordination of clearly defined assignments among the various parties listed in the roles and responsibilities section of this document.

Specifically, the Board has directed the Staff and Director, with assistance from the External Asset Consultants, to carry out the implementation of the policy objectives it establishes and the strategic objectives established by the Staff. Such implementation decisions might include, but are not limited to such things as:

- The passive vs. active management mix;
- Any overweights/underweights based upon size, style, or sector.

In addition, the Board has directed the CIO, Director, and External Asset Consultants, with the assistance of Staff, to retain or dismiss external investment managers pursuant to the Board's Service Provider Hiring, Retention and Termination Policy (Appendix III) in order to implement the Board's policy allocation. It is the responsibility of the CIO, and Staff with assistance from the External Asset Consultants, to carry out the performance monitoring/evaluation requirements for each manager according to the guidelines outlined in each manager's governing documents and in accordance with the performance reporting/monitoring requirements outlined in this Policy. Implementation decisions will be evaluated based upon the difference between the strategy benchmark return and the actual portfolio return. More specific details regarding these benchmarks may be found in the performance reporting/monitoring section of this Policy.

This Investment Policy has been written with the intent of providing a broad operational outline, or *reference point*, for implementing the investment philosophy and practices of PSRS/PEERS. Properly structured, a policy document of this nature should require little revision over time. Technical details have been intentionally omitted from this document, due to the volume and complexity of these issues. The investment operational information is included in the Implementation Manuals and maintained electronically, as well as being available for public inspection in the central computer files of PSRS/PEERS' Investment Department. The electronic information will be maintained by PSRS/PEERS' Internal Investment Staff and will contain the following information:

Asset Allocation Assumptions

Section VI of this Investment Policy contains a general discussion of the asset allocation process and the end results of the model; more detailed information, including the inputs and assumptions used in the process will be maintained electronically. An important part of the process is retaining detailed information regarding the allocation and rebalancing of assets between asset classes and within the manager structure. An electronic spreadsheet will contain summaries of all portfolio rebalancing activities by Staff.

Manager Guidelines

The investment manager guidelines have been previously outlined in Section VIII of this document. The specific guidelines outlining the tactical role of each individual manager within PSRS/PEERS' investment strategy will be maintained electronically. These guidelines shall include, but are not limited to, general information on each manager, specific descriptions of assignments, communication requirements, proxy voting responsibilities, benchmarks, and performance reporting requirements. These specific guidelines will be agreed upon by Staff and the manager in advance of funding. Alternatively, many managers follow the investment program outlined in offering documents of Limited Partnership Agreements.

Performance Measurement

Quarterly performance information for each manager employed by PSRS/PEERS will be maintained electronically for at least three years.

Cost Management

The Investment Staff is responsible for securing the services of qualified service providers at fee levels that are reasonable and competitive. The Staff will work diligently to assure the most favorable fee arrangements for the Systems. In accordance with that policy, Staff will consider a number of different fee structures. Both asset-based and performance-based fee alternatives will be considered. All performance-based fee structures, however, will be carefully compared and contrasted to traditional asset-based fee options.

A master spreadsheet is maintained that monitors all management fees. Additionally, summary information provided by managers about their management fees, brokerage commission expenses, and use of soft dollars will be maintained electronically.

As representatives of PSRS/PEERS and Towers Watson Investment Services, we have reviewed this policy and understand the requirements set forth for each of us. This policy will remain in force until written notice is received to revoke or change the policy.

PSRS/PEERS

By: Craig A. Husting — December 12, 2016
Craig Husting — Date
Chief Investment Officer

Towers Watson Investment Services

By: Michael Hall — December 12, 2016
Michael Hall — Date
West Division Practice Leader

Appendix I

Portfolio Rebalancing Policy

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

Policies and Procedures

The Board is responsible for setting the asset allocation policy targets and ranges, and will periodically review the asset allocation decisions to confirm or adjust the targets and ranges (see Section VI of Investment Policy). Until such time as the Board changes the asset allocation ranges, it will be necessary to periodically rebalance the portfolios as a result of market value fluctuations. Rebalancing portfolios typically involves the periodic transfer of funds from investment strategies that have performed well to strategies that have not performed as well to ensure an optimal balance is maintained.

Portfolio rebalancing is an important component of the investment policy. One of the biggest challenges in managing institutional assets is avoiding the pressure to shift the asset mix in a reactive manner after a meaningful market movement. As markets decline during periods of uncertainty, investors' emotions can override rational decisions and sound long-term investment programs can be abandoned at precisely the wrong time. This tendency is part of human nature. In order to ensure that long-term asset class targets are maintained during all types of market conditions, the Systems use a disciplined portfolio rebalancing process that emphasizes flexibility and tactical positioning within the Board-approved ranges.

A second challenge to the rebalancing process is recognizing that flexibility within the investment process is critical to the long-term success of the investment program. By allowing tactical allocation shifts at the margins, the Systems are able to take advantage of mis-valuations within the market for portfolio optimization or risk management purposes.

At the recommendation of Staff and the General Asset Consultant, the Board has adopted the policy allocation on the following page along with the strategic sub-asset class ranges which grant the Investment Staff the authority to capitalize on investment mis-valuation opportunities at the margins for portfolio optimization or risk management purposes.

[1] *Effective 7/1/2013, all assets are held in the Missouri Education Pension Trust (MEPT) for the exclusive benefit of PSRS and PEERS. PSRS and PEERS continue to own their respective share of the commingled invested assets.*

ASSET CLASS	POLICY ALLOCATION	STRATEGY ALLOCATION	
		Minimum	*Maximum*
U.S. Public Equity Program	27.0%	16.0%	48.0%
Public Credit Program	7.0%	0.0%	20.0%
Hedged Asset Program	6.0%	0.0%	25.0%
Non U.S. Public Equity Program	15.0%	8.0%	28.0%
Public Risk Assets	***55.0%***	**35.0%**	**75.0%**
U.S. Treasuries	16.0%	0.0%	40.0%
U.S. Treasury Inflation Protected Securities (TIPS)	4.0%	0.0%	40.0%
Cash Equivalents	0.0%	0.0%	10.0%
Safe Assets	***20.0%***	**10.0%**	**40.0%**
Private Equity Program	12.0%	4.0%	15.0%
Private Real Estate Program	9.0%	4.0%	12.0%
Private Credit Program	4.0%	0.0%	8.0%
Private Risk Assets	***25.0%***	**10.0%**	**30.0%**

The adoption of a formal rebalancing mechanism is a complex decision; no one rebalancing rule is appropriate for all circumstances. The rebalancing process is further complicated due to the following:

- PSRS and PEERS are in a 'negative cash flow' position. As such, monthly employee and employer contributions do not cover monthly benefits, and
- The Systems have adopted an asset allocation that requires a significant movement of funds from publicly traded assets to alternative assets over a long time horizon (three to five years). For the most part, this movement of funds occurs through capital drawdowns on a regular basis.

Due to the unique conditions of the Systems as described above, the Investment Staff is in a continuing state of 'cash' rebalancing. For example, cash is needed throughout the month to meet Private Risk Asset capital calls and at the end of each month to pay benefits. Thus, Staff is typically funding monthly cash needs by pulling money from overweight asset classes in an effort to move strategically towards the long-term target asset allocation.

Factors that influence the funding of a rebalancing event include manager structure, the relative volatility of asset classes, and the correlations between asset classes. As such, outlining a step by step process in this Investment Policy would only serve to encumber the flexibility needed to rebalance in the most efficient manner possible. At all times, the Investment Staff will proceed with a portfolio rebalancing event with the goal of optimizing the tradeoff between controlling portfolio risk as measured by negative tracking error to the policy benchmark, opportunistically overweighting and underweighting certain asset classes based on market circumstances, and minimizing transaction costs and portfolio disruptions.

Appendix II

Liquidity Management Policy
The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

Introduction

PSRS reached the point in mid-1999 where monthly contributions did not always cover monthly benefits (referred to as negative cashflow). PEERS became a negative cashflow system during the 2013 fiscal year. This is not a sign of a liquidity crisis; rather it is a normal characteristic of a maturing pension fund.

Policy and Procedures

On approximately the 20th of each month, the amount of cash in the Cash Clearing Accounts will be evaluated to determine if there will be adequate liquidity to fund the monthly benefit payments and to fund capital calls for private investments in the Private Equity, Private Credit and Private Real Estate programs. In the event there is not, the Investment Staff will determine which manager(s) to utilize to raise the needed funds.

In determining which manager(s) to utilize, the following factors will be considered:

- Amount of cash in the managers' portfolio,
- Pending trade activity,
- Current asset allocation versus the policy target, and
- Managers' current allocation versus the policy target.

In those months when the Cash Clearing Account accumulates excess cash, Staff will determine when cash should be drawn down and distributed to investment manager(s).

In determining the manager(s) to receive funds, the following factors will be considered:

- Probability of a rebalancing event,
- Current asset allocation versus the policy target, and
- Managers' current allocation versus the policy target.

Staff will consider all of the above factors to determine the most efficient manner to distribute excess funds to investment manager(s).

[1] *Effective 7/1/2013, all assets are held in the Missouri Education Pension Trust (MEPT) for the exclusive benefit of PSRS and PEERS. PSRS and PEERS continue to own their respective share of the commingled invested assets.*

Appendix III

Service Provider Hiring, Retention and Termination Policy
The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

I. Introduction

In accordance with PSRS/PEERS' Investment Policy, the following document provides a policy and procedures for hiring, retaining and terminating outside service providers, including External Investment Managers, the General Consultant, Specialty Consultants, the Master Custodian, and fund-of-funds providers. The external money managers include, but are not limited to, those who may be structured as a public or private entity in the form of a partnership, limited liability corporation, trust, separately managed account, commingled account, or some other form of operational structure in which assets may be held by an external custodian selected and monitored by the external manager. The Board of Trustees has delegated to the Investment Staff, with the assistance of the External Asset Consultant(s) the final decision-making authority related to most of the activities as described in this Policy. Continuation of this policy is primarily dependent on Staff adhering to the procedures outlined herein and doing so to the Board's satisfaction.

In establishing this policy, it is the Board's intention to assure all interested parties that decisions made in carrying out this policy occur in a full disclosure environment characterized by objective evaluation, and proper documentation. The overriding consideration with respect to all decisions is that they shall be made solely in the interest of plan participants and beneficiaries.

II. Hiring and Termination Decisions

The following table depicts the decision-making authority and the documentation timeframe required to hire or terminate an external service provider.

Service Provider	Decision Making Authority	Documentation Timeframe
Master Custodian, General Consultant and Specialty Consultants	Board of Trustees	Written material to the Board at least one week prior to the meeting.
Public Market Managers	CIO, Executive Director, and General Consultant or Specialty Consultant in writing.	At least one week prior to the execution of a contract for hiring decisions and within 72 hours of a

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		termination decision.
Private Equity and Private Credit Partnerships	CIO, Executive Director and Specialty Consultant in writing.	Within one month after the execution or termination of a contract.
Real Estate Partnerships	CIO, Executive Director and Specialty Consultant in writing.	At least one week prior to the execution of a contract for hiring decisions and within 72 hours of a termination decision.
Hedge Funds	CIO, Executive Director and Specialty Consultant in writing.	At least one week prior to the execution of a contract for hiring decisions and within 72 hours of a termination decision.
Prime Brokers, Hedge-fund-of-funds and private equity or real estate fund-of-funds or secondary funds	CIO and Executive Director in writing.	At least one week prior to the execution of a contract for hiring decisions and within 72 hours of a termination decision.

Documentation materials prepared by the Staff, with the assistance of the External Asset Consultant(s), regarding action to hire or terminate a service provider(s) will include a full description of the reason for the action, the expected benefits resulting from the action and a full review of the decision-making process. The primary focus of the Staff when preparing the documentation will be on providing the Board with the level of information necessary to satisfy all parties that decisions were well-reasoned, carefully considered and prudent.

Upon reaching a hiring decision, the Director and/or his designee is authorized to execute any and all agreements necessary to implement the decision. The Director has designated the CIO as an additional person with authority to execute the agreements. All agreements entered into must be in writing and in a form that has been reviewed by the Chief Counsel or PSRS/PEERS' outside legal counsel, or the counsel associated with a Specialty Consultant.

Clearly Defined Objectives

Any action to hire or terminate a service provider will be based on one or more of the following observations:

- Identification of a new asset class or approach.
- The need to deploy additional assets within an existing asset class.
- A diversification of styles within an existing asset class.
- The removal of one service provider in favor of another based on skill.

Documentation regarding any such action will include a full description of the reason for the action, the benefit to the total fund, the specific elements serving as the basis for the evaluation, as well as identification of the parties involved and their responsibilities.

Documentation will include identification of the relevant issues from a total fund perspective, the assumptions made, the results considered and/or qualitative issues upon which the action was based. An objective discussion of the risks, costs, and perceived benefits shall also be included if appropriate to the subject matter.

Investment Selection Criteria

In order to receive consideration for an assignment, a manager/strategy must meet certain minimum criteria. In addition to these basic requirements that apply to all assignments, a manager must also comply with any additional search criteria defined by the Staff and External Asset Consultant(s) that have been established for a particular assignment. The minimum criteria for external asset managers are described below.

Organizational Qualifications. To be selected as an external service provider, a manager shall meet the following organizational criteria:

- Qualified to serve as a fiduciary to the Systems,
- Registered with the SEC (if applicable)[2],
- Free of conflicts of interest, and
- Have a proven record of professionalism and ethical behavior.

Investment Style and Process. The investment style and process employed by a manager/strategy must be compatible with the Systems' investment objectives and policies. The manager/strategy should also have a proven record of adherence to an established investment philosophy over time.

Personnel. A manager/strategy must have an experienced professional staff with adequate support personnel to meet the necessary reporting requirements. A manager should be able to demonstrate policies designed to attract and retain key personnel.

Performance. The manager and/or its personnel shall have a demonstrated ability to achieve superior performance in the investment approach under consideration.

Competitive Environment

Efforts must be conducted in an open and competitive environment in order to ensure that qualified alternative service providers are identified, that expectations and actual results are consistent, and that pricing is reasonable. In cases where multiple providers exist, a meaningful sample of qualified service providers must be considered and evaluated relative to each other. In situations in which an investment approach is unique to a

[2] *Refers to external investment advisors that are registered with the Securities & Exchange Commission. However, SEC registered fund-of-funds providers may utilize underlying managers that are not registered with the SEC. Additionally, most private equity partnerships and real-estate partnerships are not required to be managed by SEC-registered entities.*

specific firm, a full description of the unique characteristics of the firm and the reasons why a competitive alternative does not exist must be fully documented. Due to the nature of the asset classes and the dynamics of the alternative asset management arena, it is commonplace that hedge funds, private equity, real estate and other alternative investments are not selected through a traditional Request for Proposal (RFP) or Request for Information (RFI) process. However, the competitive rigor is stringent and the external specialty consultant adds significant due diligence to the process. In these circumstances where issuing an RFP or RFI is not prudent, the Staff should fully document the decision-making process in the report to the Board.

<u>Proper Documentation and Full Disclosure</u>

The primary focus of the Board when reviewing the documentation regarding the hiring or termination of an external investment service provider shall be on ensuring that the Board will be able to satisfy any interested party that decisions were well-reasoned and thoroughly considered, and that the resulting decisions were prudent. Toward this end, Board members will be provided with a written letter of notification within a prudent time period of the hiring decision.

<u>Defining Expectations</u>

In the case where a money manager is hired, the search process document shall include a full description of the return expectations, the absolute and relative risks inherent in the manager's approach, and the proper time horizon for evaluation of results. Relevant comparative measures such as benchmarks and/or peer samples shall be identified. The relevant factors related to expectations of the manager shall be incorporated into the manager's operational guidelines.

III. Service Provider Monitoring

After an external service provider is selected and the Board is notified in accordance with the Policy, Staff will regularly monitor the service provider's results versus expectations. Staff and an External Asset Consultant(s) will conduct periodic due diligence meetings with the outside organizations and provide the Board with reports, as necessary, summarizing the assessments made. Staff and the External Asset Consultant(s) are responsible for reporting to the Board on any material events regarding a service provider as well as the action taken, if any.

<u>A. Monitoring External Service Providers</u>

All of the Systems' external service providers are monitored on an ongoing basis by the Investment Staff and (if appropriate) External Asset Consultant(s). It is through this monitoring process that Staff and the External Asset Consultant(s) gather the information necessary to conduct quantitative and qualitative evaluations of external service provider performance. Contact with external service providers is often frequent. A formal schedule for official meetings with external service providers, as well as a log of past meetings, is maintained in the Investment Department. Additionally, the contract, guidelines, Limited Partnership Agreement, or other documents typically codifies formal performance reporting requirements. Investment performance reports are provided to the

Systems by the managers, the Custodian(s), and the Specialty Consultant(s). Staff files electronic meeting notes following meetings with each external service provider. Additionally, a more formal due diligence summary is completed by Staff and filed on the Board website. Due diligence summaries for public market managers (including hedge funds) are filed semi-annually. Due diligence summaries for private market managers (including real estate, private equity and private credit) are also updated semi-annually.

Review of Alternative Investment Annual Audit Reports

Staff will review the Audited Financial Statements of each alternative investment manager (real estate, private equity, private credit and hedge funds) on an annual basis. The report will be reviewed in its entirety for material information. Documentation of such review will be maintained electronically for each class of alternative investments. In addition, the audit reports will be maintained electronically.

Guideline Compliance for Public Market Managers

Staff will download a report from the Master Custodian on a monthly basis that details guideline compliance for most public markets managers. The exception report (guideline violations) will be divided into sections of Staff responsibility. Specific Staff are then required to clear all exception items and document the resolution.

Manager Meeting Frequency and Content

Staff will meet with public market investment managers (including hedge funds) typically at least once a year (in PSRS/PEERS' offices or on-site with the investment manager). Additionally, Staff will obtain portfolio updates from the manager at least once each year through video or audio conferencing. Each meeting will include a review of the investment manager's performance, current investment strategy, and other issues related to the manager's organization, personnel, and investment process.

Staff will meet with each private market manager (partnership) as the commitment schedule dictates. For example, there may be a limited need to meet with an existing partnership early in the relationship as the commitment schedule is slow. Staff will increase the on-site meetings with the partnerships as the relationship matures. Additionally, the private market partnership due diligence may be accomplished through attendance at partnership annual meetings. Staff may also regularly engage in conference calls or other means of communication with private partnerships.

External service providers may meet with the Board of Trustees for a strategic investment planning retreat at some point during each fiscal year. Additionally, they may be called to appear before the Board at any time during the fiscal year.

Performance Reporting

All public and private investment managers under contract with PSRS/PEERS will report investment performance to Staff on a quarterly basis. The reports for most public market managers will utilize a standardized reporting format specified by the Systems.

Managers may provide their standard performance information in a different format as supplemental information at their discretion.

The Systems' Custodian(s) shall provide monthly performance reports to the Staff. These reports will detail the individual performance of Managers and the overall performance of the fund. In addition, the Custodian shall provide a detailed performance report to the Board on a quarterly basis. These reports will include, at a minimum, comparison with the Total Fund Objectives.

B. Monitoring External Asset Consultants

The Systems' utilize a General Consultant and several Specialty Consultant(s). Contact with the External Asset Consultants is quite frequent, in some instances on a daily basis. Staff is required to meet with each Consultant at least once annually for a review. Additionally, Staff is required to review the contract, conflict of interest disclosures and scope of services for each External Asset Consultant at least every five years to ensure the scope of services, level of service, level of independence and the fees are appropriate.

IV. Manager Retention

Investment experts agree that asset allocation is the most important decision made by a pension fund. The second most important decision is that of manager selection. A great deal of effort goes into the selection of the investment managers and service providers that constitute a fund's manager structure. Unfortunately, manager retention decisions are generally made on a much more ad-hoc basis - yet this decision has the same potential impact on returns as does the initial selection of the manager.

The decision to replace an inferior (or unskilled) investment manager with a superior (or skilled) investment manager seems quite simple, with obvious benefits for the Systems. The decision process, however, is not as elementary as it might seem. The complicating factor lies in the inherent variability of investment returns. The dynamics and inefficiencies of the capital markets, which investment managers are hired to exploit, make straightforward evaluations of manager skill very difficult. This complexity can, in turn, result in poor investment manager retention decisions. A faulty analysis may have potentially high costs if the conclusion results in:

- the retention of an unskilled manager, or
- the premature termination of a skilled manager.

In addition, a fund must also consider the cost of transitioning assets between managers. These transaction costs are not inconsequential, yet are of secondary consideration in comparison to the cost of retaining an unskilled manager. In order to make both sound hiring and sound retention decisions, a pension fund must make reliable assessments of an investment manager's skill. Without such an assessment, there is little assurance that a manager selected today will outperform a manager that was terminated yesterday.

Objectives and Principles

The following provides a systematic, consistent and rational framework for external service provider retention decisions. The Policy allows for the identification of existing and potential problems, and outlines how and when PSRS/PEERS should address specific issues and events, thereby avoiding untimely or ad-hoc decisions that may adversely impact fund returns. This policy will apply to all of the Systems' external service providers, except where otherwise noted, and is intended to:

- foster a long-term approach to manager evaluations,
- provide a logical and statistically valid framework for manager skill evaluation,
- promote timely and appropriate responses to actual and potential performance issues, and
- provide flexibility to allow application across all asset classes, management styles, and market environments.

When conducting a search for a potential investment manager, efforts are made to determine the likelihood of *future* success. It is important to maintain this same focus when conducting a retention analysis on an existing investment manager. There are two broad categories of analysis for evaluating investment manager performance - quantitative and qualitative. Quantitative assessments of manager success are useful in judging *past* investment success. They are, however, much less successful predictors of *future* performance. Quantitative tools, such as cumulative and rolling returns, will be used in this Retention Policy to identify performance shortfalls relative to the manager's specific benchmark. Qualitative assessments of the investment manager's philosophy, organizational structure and depth of personnel are helpful in identifying the source of the shortfall. Both types of analysis will be employed to allow for the identification of both actual and potential performance problems.

Quantitative Analysis

In order to evaluate public markets manager skill, cumulative or rolling assessments of tracking error will be calculated for each external manager investing PSRS/PEERS' assets in publicly-traded securities. Due to the differences between active and passive management, separate standards will apply.

Passive Managers

Passive management strategies exhibit low variability of returns, and also have a zero-alpha performance expectation relative to each specific index. For these reasons, PSRS/PEERS will use annual tracking error objectives outlined in each passive manager's investment guidelines to monitor performance. Enhanced passive strategies with explicit alpha expectations will be considered active management strategies for the purposes of monitoring performance. As such, enhanced passive strategies will be subject to the "Active Manager" guidelines outlined in the following section.

Active Managers

The quantitative evaluation of active investment managers is a complex process. There is significant volatility in active manager returns (relative to the manager's benchmark), and this volatility makes it very difficult to assess whether a manager's over- or under-performance is the product of random volatility or true investment skill. A proper quantitative analysis must therefore consider the variability of a manager's excess return, in addition to the absolute magnitude of the excess return, when making judgments about manager skill.

It should be expected that skilled managers will often have periods of under-performance, as it should be expected that unskilled managers will often experience periods of over-performance. Due to the inherent volatility of active manager returns relative to an assigned benchmark, investment manager skill must be evaluated from a long-term perspective. Over time, skilled managers will produce a higher average excess return more frequently than will unskilled managers. Depending on the availability and appropriateness of each manager's historic quarterly return series, manager skill should be evaluated on a five-year rolling average basis.

<u>Qualitative Analysis</u>

In-depth qualitative analysis is conducted on potential investment managers during the Systems' systematic manager search process. This analysis covers areas such as style, philosophy, process, personnel, and organizational structure. Similar analysis will be employed on an ongoing basis during the contract period with each manager, whether passive or active.

A significant and potentially adverse event related, but not limited, to any of the following qualitative issues or events will be considered - a problem or potential problem - by the Staff or External Asset Consultant(s). Examples may include, but are not limited to:

- significant changes in firm ownership and/or structure,
- loss of one or more key personnel,
- significant loss of clients and/or assets under management,
- shifts in the firm's philosophy or process,
- significant and persistent lack of responsiveness to client requests,
- chronic violations of PSRS/PEERS' investment policy or investment manager guidelines.

Because of the subjective nature of Qualitative Analysis, each situation should be handled on a case-by-case basis. Qualitative issues do not necessarily require immediate action or reaction on the part of the Systems.

<u>Recommended Actions</u>

Should quantitative performance issues or qualitative issues develop, Staff will make an assessment of the nature of the problem or potential problem and then make a determination as to the appropriate course of action. Possible responses include, but are not limited to:

- no action,

- staff meetings with the manager,
- a formal re-interview of the manager, or
- termination .

Conclusion

This Service Provider Hiring, Retention and Termination Policy provides guidelines for hiring, monitoring, reviewing and terminating external service providers. It should be noted that all of PSRS/PEERS' public market investment manager contracts may be terminated, with or without cause, after five days' written notice.

Nothing contained in this Policy mandates retention or termination of an external service provider. As stated in the introduction, the objective of this document is to provide a long-term approach and guidelines to decisions regarding external service providers.

Appendix IV

Economically Targeted Investment (ETIs) Policy

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

Policy and Procedures

For purposes of definition, ETIs are " . . . investments that are selected for the economic benefits they create in addition to the investment return to the employee benefit plan investor."[2] Various terms have been used to describe ETIs and related investment behaviors, including, but not limited to: socially responsible investing, sustainable and responsible investing, environmental, social and governance (ESG) investing, impact investing. The Board understands that this area is open to broad interpretation. The following criteria, applicable to any investment, will also be applied to investments that might be classified as ETIs:

1. The fiduciary principles of prudence and exclusive interest of participants will not be abrogated or modified in order to increase the attractiveness of ETIs.
2. There will be no concession on rate of return. This means there will be no hidden subsidies and that the classic "efficient frontier" test is applicable: a commensurate unit of return will be received for each unit of risk incurred.
3. All participation should be voluntary on the part of the Systems and should not stem from a legal or policy mandate.
4. Each ETI will be evaluated using an integral, objective process -- that is, each will be meticulously analyzed solely on its own risk/return characteristics. **No weight will be given to redeeming social interests.**
5. The Systems will participate only if at least one other comparable institutional investor is participating.

When evaluating an investment, appropriate consideration must be given to the role that the investment or investment course of action plays (in terms of diversification, liquidity, risk and return) with respect to the entire investment portfolio of the Systems. Consideration should also be given to alternative investments with similar risks available to the Systems. The Board believes this set of investment criteria is in full compliance with Section 105.688. RSMo., quoted previously in Section II of this document.

[1] *Effective 7/1/2013, all assets are held in the Missouri Education Pension Trust (MEPT) for the exclusive benefit of PSRS and PEERS. PSRS and PEERS continue to own their respective share of the commingled invested assets.*

[2] *Labor Department Interpretive Bulletin on Economically Targeted Investments, October 26,2015, 80 FR 65135*

Appendix V

Brokerage Policy

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

Introduction

As part of its fiduciary responsibility to the Members, it is important that the Board maintain a prudent policy pertaining to brokerage commissions paid on securities transactions. The Board hereby delegates discretion over placement and execution of securities transactions to its managers subject to the constraints outlined below:

Best Execution

When trading assets under management, investment managers retained by the Systems are expected to seek best execution at the lowest net execution cost.

Average Commission Ceiling

The Systems believe that electronic crossing networks (ECNs), discount brokerage and ongoing commission negotiations by investment managers with brokerage firms are prudent methods for controlling brokerage expenses. Both ECNs and discount brokerage have become increasingly efficient and cost-effective methods for equity trading. The presence of active and continual commission cost negotiations between investment managers and brokers facilitates the proactive reduction of brokerage expenses incurred by the Systems. In order to encourage usage of ECNs and discount brokerage, as well as proactive commission negotiation by equity investment managers, the Systems require that its equity managers closely monitor their brokerage commission expenses. Brokerage commissions vary with investment styles and philosophies; some transactions are more or less difficult to execute than others. Staff will negotiate an average commission per share ceiling with each individual Manager prior to funding as needed. This number shall be included in the specific manager guidelines.

Each of PSRS/PEERS' managers will be required to provide Staff with a quarterly report showing all brokerage transactions effected on behalf of the Systems. In the event that average commissions exceed this ceiling, a detailed explanation of the reasons why must also be provided. The Custodian shall also provide quarterly brokerage commission information to Staff.

Directed Commission/Commission Recapture Programs

In instances where commissions are not effectively reduced through other methods, commission recapture can be utilized by the Systems to minimize brokerage costs.

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Commission recapture is the process whereby a plan sponsor receives a cash rebate from commissions generated through the buying and selling of its securities. The rebate represents a portion of the commission charged on these transactions. The rebated percentage is negotiated with the broker, who keeps a portion of the commissions for facilitating the trade and administration of the program.

Commission recapture became a viable option for the Systems in 2004 as augmentations resulting from increased competition led to more favorable recapture rates, better trade execution, improved reporting and greater transparency. In recent years, the brokerage environment has become increasingly competitive and commission costs have decreased resulting in fewer brokerage firms remaining in commission recapture broker networks with little international coverage offered. The Systems' program will be instituted with flexible and modest direction limits determined by the investment manager's style. Modest direction limits prevent recapture from inhibiting a manager's ability to receive best execution. Implementation decisions will be made on a manager-by-manager basis with cooperation and input from managers. Ongoing monitoring will be conducted by Staff to ensure the program functions effectively.

Investment Staff will monitor the Systems' commission recapture program by periodically evaluating the quality of trade executions and explicit trading costs for directed trades, as well as analyzing target direction levels, reconciling directed trades and assessing the timeliness of recapture rebate receipts. The quality of trade executions for directed trades should be evaluated periodically for all investment managers participating in the commission recapture program. A determination of trade execution quality will be made from transaction analysis and periodic correspondence with investment managers. Trade direction should not affect quality of trade execution. The average level of explicit trading costs or commissions for directed trades will be evaluated at least annually. Commission costs for directed trades will be compared to those not directed. Trade direction should not result in an increase in average explicit commission cost. The target direction level set for each investment manager will be reviewed regularly for appropriateness. Investment mandate and style will be considered in determining target direction level. Each manager's participation in the program will be assessed by comparing actual to targeted direction. Directed trades identified by investment managers will be reconciled against those reported by commission recapture broker(s) on a periodic basis. Investment Staff will contact commission recapture broker(s) regarding trades omitted from recapture credit. Timeliness of recapture rebate credits will be assessed quarterly. Rebates for directed trades should be received from the commission recapture service provider(s) within the first 15 business days of the month following trade settlement.

The Systems will utilize one or more commission recapture service provider(s) to facilitate its program. Competitive recapture rates, an expansive correspondent broker network, and a strong back office infrastructure with a sound system of internal controls are among the selection criteria that will be incorporated to evaluate potential service providers. Only firms with the ability to provide commission recapture services without impacting the normal trading activities of the Systems' investment managers will be given consideration.

Staff will provide a quarterly report to the Board that details the revenue generated by the commission recapture program. The report will provide analysis by manager and by commission recapture service provider.

Soft Dollars

The Board recognizes that "Soft Dollar" Commissions are allowed under Section 28(e) of the Securities and Exchange Act of 1934 (commonly referred to as the 'Safe Harbor' provision). However, there is significant controversy surrounding the use and proper allocation of soft dollars by investment managers. The Board therefore requires its managers to provide accounting of soft dollar transactions involving securities of the Systems. The Board believes it is possible to make a reasonable, though admittedly imprecise, allocation of these commission dollars across manager accounts. These reports shall be provided quarterly to Staff, and shall include the number of shares traded, dollar amount of soft dollar commissions, the brokerage firms to which they were directed, and an explanation of the goods or services received.

Appendix VI

Proxy Voting Policy

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

Policy and Procedures

Individual investment managers will be responsible for voting proxies in the best interests of the members of the Systems. Each manager is responsible for maintaining records of how each proxy is voted and providing a report to the Investment Staff within thirty (30) days after fiscal year-end (June 30), detailing how their proxies were voted. Managers are expected to vote proxies to maintain or enhance shareholder value in the sole interest of the Systems, and will not support unethical, predatory, manipulative, or other actions that would not reflect the best interests of the Systems. The Board reserves the right to provide specific proxy voting direction to its managers at any time.

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Appendix VII

Securities Class Action Litigation Policy

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

This statement sets forth the policy regarding monitoring, evaluating and participating in securities class action litigation when appropriate to recover damages for investment losses.

Background

In fulfilling its fiduciary responsibility to prudently invest and manage the assets of the Systems, PSRS/PEERS invest in both the stock and debt of public companies ("issuers") through the use of external investment managers. From time to time, class action lawsuits are brought against the issuers, their directors, and/or their officers for alleged violations of federal and state securities laws relating to various disclosure obligations and, in many cases, other breaches of fiduciary or other duties. As a shareholder, the Systems are putative members of the alleged classes. When notification is distributed regarding the potential securities class action litigation, action is required in order for the Systems to participate as a member of the alleged classes (as are most or all of the other shareholders).

Frequently, PSRS/PEERS receive solicitations from attorneys who seek to represent PSRS/PEERS in these class action lawsuits. While, initially, it may appear beneficial for PSRS/PEERS to pursue legal action to recover on a claim, PSRS/PEERS must also consider that most, if not all, securities litigation will be prosecuted by the securities litigation bar in conjunction with a lead plaintiff whether or not PSRS/PEERS takes an active role. Also, the lead plaintiff does not obtain any additional financial benefit from serving as a lead plaintiff, but, instead, shares any final judgment or settlement with the class members on an equal, per share basis.

Appointment as a Lead Plaintiff

Under the federal Private Securities Litigation Reform Act of 1995 (PSLRA), federal courts are required to appoint one or more members of the putative class to serve as the lead plaintiff(s) in securities class action lawsuits. *See* 15 U.S.C. § 78u-4(a) (3) (B). The Act provides a rebuttable presumption that the lead plaintiff is to be the investor with the largest financial interest in the relief sought by the lawsuit, who wants to serve as the lead plaintiff. *See* 15 U.S.C. § 78u-4(a) (3) (B) (iii). Typically, this means that those investors with the largest holdings in the defendant issuer's stock have the right to serve as the lead plaintiff.

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In most securities class action lawsuits, several other investors, including many institutional investors with substantially greater investment portfolios or different asset allocations than PSRS/PEERS, hold more shares in the defendant issuer than PSRS/PEERS holds and, thus, have a larger financial interest in the relief sought. Accordingly, in most such lawsuits, an investor other than PSRS/PEERS will have a superior right to serve as the lead plaintiff. Also, other institutional investors that have been lead plaintiff in previous actions will possess a greater expertise than PSRS/PEERS in serving as lead plaintiff.

Financial Risks of Serving as Lead Plaintiff

There are financial risks in serving as a lead plaintiff in a securities class action lawsuit. Serving as lead plaintiff or being designated lead plaintiff may have financial risks if the litigation is unsuccessful. Unless the lead plaintiff negotiates an allocation of potential financial risk with other named plaintiffs, the lead plaintiff could bear the costs, expenses or, potentially, attorneys' fees of the opponent if the litigation is unsuccessful or the court grants sanctions under Rule 11 of the Federal Rules of Civil Procedure. Finally, regardless of the outcome of the lawsuit, class members could potentially pursue claims against the lead plaintiff for inadequately representing their interests.

Again, in return for assuming these financial risks, the lead plaintiff does not obtain any additional financial benefit from serving as a lead plaintiff (although the lead plaintiff may also recover its attorney's fees, costs, and expenses if the lawsuit is successful or a settlement is obtained). *See* 15 U.S.C. § 78u-4(a) (4).

Therefore, in assessing the appropriate role PSRS/PEERS should take in any given case, it is important to carefully consider alternative approaches to becoming lead plaintiff, including, but not limited to: active monitoring of a case; intervening or objecting as appropriate; filing amicus support; or, opting out of the class to pursue recovery in another manner.

PSRS/PEERS' Policy

PSRS/PEERS may consider serving as lead plaintiff in securities litigation only when a case is identified in which active involvement will add value on a long-term, portfolio-wide basis and where no other quality institutional investor is taking an active role.

In order to determine and facilitate the appropriate level of participation by PSRS/PEERS in a securities class action proceeding, it is important to establish a policy, and implement procedures, to: 1) collect objective information about potential cases that is timely, accurate, and comprehensive; 2) calculate PSRS/PEERS' losses and potential recovery in a particular action; 3) evaluate the legal merits of individual cases; 4) consider the benefits and costs of alternative approaches to participation in the case; and, 5) decide whether PSRS/PEERS should seek appointment as lead plaintiff.

All securities litigation cases with a potential loss (according to PSLRA methodology) to PSRS/PEERS will be tracked and PSRS/PEERS will participate in the litigation as a member of the class and will file proof of claims so that PSRS/PEERS will receive its pro rata share of any recovery.

All securities litigation cases will be reviewed to determine if further evaluation is needed and if PSRS/PEERS should: 1) serve as lead plaintiff; 2) opt out of the class action and file an individual action; 3) or monitor the case and participate as a member of the class by filing a proof of claim. PSRS/PEERS will consider many factors in making that determination, including, but not limited to, the following:

1. The potential loss to PSRS/PEERS;
2. The potential loss to other institutional investors;
3. The probability of a successful outcome;
4. The availability of witnesses and the ability of PSRS/PEERS' investment staff, custodian, consultants, and managers to participate in anticipated discovery;
5. The ability of the defendant or its insurer to pay a judgment or claim;
6. The likelihood that legal action would result in corporate governance changes that would benefit PSRS/PEERS' holdings in the defendant;
7. The availability of another institutional investor that has superior expertise in being a lead plaintiff; and
8. The adverse or disruptive effect on ongoing, regular PSRS/PEERS business.

If appropriate, PSRS/PEERS will engage the services of one or more law firms or monitoring services with the expertise and experience to properly evaluate potential class action litigation against a particular company. If necessary, PSRS/PEERS will engage a law firm with requisite expertise and experience to represent PSRS/PEERS in a securities litigation case.

Based on the foregoing, PSRS/PEERS anticipate that it will generally not be best suited to serve as a lead plaintiff in securities class action litigation. All determinations will be on a case-by-case basis based on the factors listed above, among others. The Investment Operations staff is responsible for monitoring securities class action litigation activity. If their analysis indicates that PSRS/PEERS may be best suited to serve as a lead plaintiff, additional review will be performed by the PSRS/PEERS Executive Director, General Counsel and Chief Investment Officer. Any determination to serve as lead plaintiff will ultimately be decided upon by the Board of Trustees.

Participation as a Member of a Class

In all cases, the Systems require their external investment managers to be familiar with all securities class action litigation involving securities held (or held in the past) in the Systems' portfolios under their direction. It is each manager's fiduciary responsibility to ensure that PSRS/PEERS is a participant in any securities class action litigation where the manager believes it is in the Systems' best interest. As a supportive means to ensure that PSRS/PEERS is a class member participant in the appropriate instances, the Systems' Custodian or third party securities class action servicer is required to file claims on behalf of the Systems in all eligible securities litigation class actions filed in U.S.

courts involving securities currently held (or held in the past) in the PSRS/PEERS investment portfolios both at the Custodian and at the prime broker(s).

Policies and Procedures

On a quarterly basis, the investment operations staff will perform reconciliation procedures of all securities class action proceedings. Such procedures will include collecting objective information from a third party regarding potential cases and recent settlements of cases, when reasonably available. The information gathered will be reconciled to PSRS/PEERS' applicable investment holdings, filings submitted by the Systems' Custodian or third party securities class action servicer on our behalf, and our general ledger for any settlement payments. This process will ensure the proper review and inclusion of all material class action filings and settlements. Investment operations staff will review new cases to insure the policies set forth in this document are followed in each instance. All such review procedures may include a review of external service providers hired by PSRS/PEERS to assist with these functions.

Appendix VIII

Anti-Terrorism and Economic Sanctions Investment Policy

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

Introduction

This policy is intended to avoid 1) punishing companies whose activities abroad are supported by the U.S. government; 2) punishing companies whose activities abroad do not further terrorism, 3) unnecessarily harming U.S. companies and jobs; 4) engaging in investment transactions prohibited by the US. Treasury's Office of Foreign Assets Control (OFAC) and 5) compromising the Board's fiduciary duties to the beneficiaries of the Systems. Recognizing the dynamic nature of this issue, annually staff will evaluate this policy to determine if changes need to be made to reflect recent developments in this area. In the event that Staff believes changes to this policy are warranted, they will bring the issue to the attention of the Board for consideration.

Policy and Procedures

1. At least annually, the PSRS/PEERS Investment Staff will contact the Department of Homeland Security, the State Department, the Commerce Department, the Justice Department, the Securities and Exchange Commission, the US. Treasury's Office of Foreign Assets Control (OFAC) and any other federal agency deemed to have useful information in accurately identifying companies that are supporting terrorism or subject to economic sanctions. Specifically, Staff will request guidance from these agencies on countries and more specifically companies that are believed to be supporting terrorism. Once the information is received, Staff will compare the list of companies with current holdings. In the event that PSRS/PEERS is a holder of one of these companies, Staff will immediately contact the manager of the specific investment account to bring the situation to their attention and discuss appropriate actions for divesting from the company. In addition, Staff will communicate pertinent information received from any of these federal government agencies to the Systems' investment managers so they can avoid making initial investments or divest of existing investments in companies that are identified.

2. Annually, Investment Staff will obtain from the Master Custodian and all External Investment Mangers a letter of confirmation that each maintains appropriate policies, procedures, and controls to comply with all U.S. and applicable non-U.S. economic sanction programs. Such confirmation will include verification of the use of OFAC's sanction lists, including but not limited to the following;

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a. Specially Designated Nationals and Blocked Persons List
b. Foreign Sanctions Evaders List
c. Sectoral Sanctions List

3. Additionally, Investment Staff will seek to ensure that External Investment Managers and the Master Custodian are contractually bound to indemnify PSRS/PEERS for any and all violations of OFAC’s controls on investment transactions.

4. Finally, Staff will provide a report to the Board on an annual basis that identifies any investment actions taken due to links to terrorist or sanction related activities.

Appendix IX

Personal Trading Policy

The Public School
and
Education Employee Retirement Systems of Missouri[1]

PSRS/PEERS employees are prohibited from engaging in "insider trading" as prohibited by federal law. "Insider trading" is generally defined as engaging in a securities transaction based on information about a company that is both material and nonpublic. Information is material if a reasonable investor is likely to consider it significant in making an investment decision or if the information is reasonably certain to have a substantial impact on the future market price of a company's securities. Information is nonpublic if it has not been generally disclosed to the marketplace. The following are examples (non-exhaustive) of information that is considered "material":

- a forthcoming dividend declaration or omission
- a forthcoming corporate reorganization or takeover
- the acquisition or loss of a major contract
- a major purchase or sale of company assets
- an event of default on company debt
- knowledge of forthcoming press coverage of a company's affairs whether positive or negative
- substantial increases or decreases in earnings projections
- substantial mineral findings by a mining company, regulatory approvals of a product, or issuance or denial of patents.

PSRS/PEERS employees are prohibited from engaging in "front-running" as prohibited by the CFA Institute Code of Ethics and Standards of Professional Conduct. Front-running is trading that takes place when a person engages in a personal securities transaction timed to take advantage of nonpublic information that would favorably affect that person's personal securities transaction.

A violation of this policy by an employee of PSRS/PEERS may result in disciplinary action up to and including termination of employment or termination of a contract. There also may be additional legal consequences associated with any violation of this policy.

Due to the increased potential to be exposed to information that could be considered material or nonpublic information as described in this policy, the executive staff, the internal audit staff and all investment department personnel are required to acknowledge in writing that they have read, understand, and agree to the terms of this policy. This

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written statement should be submitted to PSRS/PEERS' external auditor quarterly (Schedule A).

The executive staff, the internal audit staff and all investment department personnel must submit Schedule B to the external auditor within 5 business days of buying or selling a security. Additionally, these individuals are required to notify the external auditor in writing before the acquisition of any securities in (1) an initial public offering, or (2) a private placement; and to serve on the board of directors of publicly traded companies. These individuals are also required to submit personal trading statements on a quarterly basis (Schedule A). The statements must only include trading in individual securities within brokerage accounts and savings vehicles and specifically excludes trading in mutual funds and exchange traded funds (ETFs). Duplicate confirmations from all trades must be submitted to the external auditor. The maintenance of documentation for personal securities trades in a given calendar year must be maintained for three years.

PSRS/PEERS will provide each external money manager with notice of this trading policy upon the decision to hire a new firm. In the event that an external money manager receives a telephone call, email, or other communication from an employee of PSRS/PEERS requesting or mandating a strategic modification or to buy or sell a particular security, such manager is obligated to notify the external auditor immediately.

If any external manager receives guidance or direction from any employee or Board Member of PSRS/PEERS that the manager believes to be inappropriate under this policy, the manager is obligated to notify the external auditor about that communication together with an explanation of why the manager believes the guidance or direction may be inappropriate.

Appendix X

Derivatives Policy

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

This policy identifies common derivative investments and strategies that are consistent with PSRS/PEERS' overall investment policy statement and addresses the authorization process allowing for derivative investments.

For the purposes of this policy statement, a derivative is defined as a security whose value is dependent upon one or more underlying assets. The derivative comes in the form of a contract between two or more parties and its value is determined by the price movement in the underlying asset. The underlying asset could be a stock, bond, commodity, currency, interest rate or market index among others. The most common types of derivatives are futures contracts, forward contracts, options, and swaps.

In general, there are four basic strategies which can be achieved through the use of derivatives. They are as follows:

Substitution: When the characteristics of the derivative sufficiently parallel those of the cash market instrument, the derivative may be substituted as a more cost effective means of obtaining market exposure and/or as part of a mechanism to overlay a designated cash market instrument. The strategy is particularly useful when investing cash flow or liquidating investments as the derivative can be used to manage more precisely market entry and exit points.

Risk Control (Hedging): When characteristics of the derivative instrument sufficiently parallel those of the cash market instrument, an opposite position in the derivative can be taken from the cash market instrument to alter the exposure to or the risk (volatility) of the cash instrument. This strategy is useful in managing risk without having to sell the cash instrument. Sometimes referred to as "hedging", the use of the derivative in this context means that there is a high correlation in price movement between the cash market instrument and derivative instrument.

Speculation: When the characteristics of the derivative are the sole reason for its purchase or sale. In this instance there is no underlying cash position. This strategy also implies the leveraging of the portfolio that may create an obligation of value in excess of the value of that portfolio.

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Leverage: When the sole reason for the derivative use is to increase the notional exposure of assets such that the notional exposure is greater than the market value of the underlying assets. This strategy results in the leveraging of a portfolio.

Derivatives in Separately Managed Accounts

Separately managed accounts for the purpose of this document are defined as any non-commingled, non-partnership account that can customize investment policies and guidelines to the specific needs of individual clients. In general, PSRS/PEERS will only utilize the first two strategies – substitution and risk control (hedging) within its separately managed accounts.

An exception will be made in regard to the Public Risk Composite, in which derivatives may be used in separately managed accounts for the purpose of leverage. The process of applying leverage to a portfolio may be used by investment managers within the Public Risk Composite on a carefully managed and controlled basis as necessary to obtain proper portfolio positions. Specifically, appropriate levels of market exposure may be obtained using derivatives such as futures contracts and swap agreements to achieve equitization in the composite, including in an 'Alpha Overlay'[2] format.

While the use of leverage can increase the level of active management risk and overall risk within a portfolio, each manager will be required to demonstrate the proper level of risk management sophistication required to limit unnecessary active risk. Staff and Consultant(s) will monitor the leverage exposure of individual managers and of the total composite.

In all separately managed accounts where the use of derivatives is allowed, the operational guidelines for the accounts will address the types of derivative instruments and derivative strategies that may or may not be used by the fund manager. These guidelines will also give specific direction as to the reporting requirements, margin and mark to market payments, counter party issues, and any other issues that are directly related to the accounts' authorization to utilize derivatives.

In order to ensure compliance with PSRS/PEERS contractual obligations to swap dealers under the ISDA Dodd-Frank Protocol, all investment management agreements with managers with the authority to enter into derivative transactions must include (and existing agreements will be amended as necessary to include) provisions to ensure that the managers' contractual obligations are consistent with the relevant regulations and to require the managers to provide the information necessary for PSRS/PEERS to monitor compliance with certain provisions of the regulation. In addition, internal procedures shall be in place to aggregate the trading data provided by the investment managers to

[2] *Within the Alpha Overlay Program, the approved investment strategies provide primarily the opportunity for active returns. These strategies are then combined with separate methods to gain underlying stock market exposure (i.e., equitization) to complete the process (referred to as a portable alpha approach). Additional information regarding the implementation of the program can be found in Appendix A: Public Risk Implementation Manual.*

make any calculations necessary to monitor compliance. The regulatory requirements are continuously evolving for derivatives. Investment staff shall monitor regulatory requirements and make necessary revisions to investment management agreements to maintain compliance. Investment staff may seek assistance from both Internal Legal Counsel and External Legal Counsel.

Derivatives in Commingled and Partnership Accounts

The use of derivatives in commingled and partnership accounts will be addressed in the applicable prospectus and partnership agreements that govern the accounts.

Appendix XI

Affirmative Action Policy and Procurement Action Plan Money Managers, Brokers, Investment Counselors

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

Introduction

Within the bounds of its fiduciary responsibilities under law, including but not limited to the provisions of section 105.688 RSMo, the Board of Trustees of The Public School and The Public Education Employee Retirement Systems of Missouri (hereinafter collectively referred to as 'Systems') desires to take affirmative actions to assure equal opportunities for minorities and women in the areas of money management, brokerage, and investment counseling. The Systems have adopted the following affirmative action policy and procurement action plan pursuant to sections 104.342.13(6), 104.621, 105.702, and 169.573, RSMo.

Policies and Procedures

1. All contracts with money managers, brokers, and investment counselors domiciled in the United States will require the contractor to maintain an affirmative action plan with respect to the employment of women and minorities. The Systems will require an annual affirmative action report from each contractor.

2. The Systems provide access to all money managers, brokers and investment counselors (hereinafter referred to as 'Firms'). Any Firm may contact the Systems and provide information about the Firm's ability to meet the needs and requirements sought by the investment program. Firms are allowed to contact the Systems' investment consultants and investment staff. When evaluating proposals from money managers, brokers, and investment counselors, the Systems will consider proposals from Firms determined to be qualified to provide the services requested.

3. Investment Staff will provide an annual report to the Board of Trustees that will include the following: 1) a summary of the annual affirmation action reports from contracted Firms, 2) a listing of current contracted minority and women owned Firms, 3) a summary of meetings held with potential minority and women owned Firms and 4) information regarding any professional gatherings that heightened the awareness of minority and women owned Firms. The Board will evaluate the results of the affirmative action policy and procurement action plan annually and file an annual progress report in accordance with sections 104.342.13(6), 104.621,105.702, and 169.573, RSMo.

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4. To qualify as a minority or women owned Firm, such Firm shall:

   a. Be domiciled in the United States;
   b. Be owned or controlled by one or more individuals who collectively are women or who qualify as a minority as defined below. Ownership is classified as having a controlling interest in the firm of at least 51%; and
   c. Have such women or minority owners involved in the daily business operations of the firm.

As used in this policy, the term “minorities” means individuals who are citizens of the United States (or lawfully admitted permanent residents) who are considered a minority for purposes of the State of Missouri’s Minority and Women’s Business Enterprise program, as administered by the Missouri Office of Equal Opportunity.

Appendix XII

Glossary of Terms

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

Active Management – An approach to money management where the manager seeks to beat a predefined benchmark. Typically, higher fees are associated with this type of management, as you are paying a money manager for its ability to "add value" relative to passively investing in the benchmark. These managers typically take on greater "benchmark risk" (i.e. a greater likelihood of deviating from the benchmark).

Actuarial Accrued Liability – The present value of the estimated cost of benefits payable to active and retired members covering service rendered prior to the date of an actuarial valuation as determined by use of assumptions about the future and an actuarial cost method.

Actuarial Assumptions – Assumptions which are made for the purposes of determining the contribution which must be made in order to fund the future liabilities. Actuarial assumptions are generally grouped into two categories: demographic (i.e. life expectancy, rate of retirement, number of years worked, etc.) and economic (inflation rate, the return on investments, etc.).

Agencies: These are securities, usually very liquid, issued by either federally related institutions (arms of the federal government) or by government sponsored enterprises (GSEs) which are typically privately owned, but have an important public purpose and strong ties to the U.S. government. The Agency market is primarily comprised of GSEs which are typically not backed by the full faith and credit of the US government, and thus investors purchasing GSEs are exposed to credit risk, albeit considered minimal due to the agencies' importance and relationship to the government.

Alpha – This is a measure used to determine a manager's contribution to performance based upon security selection. On a technical level, it is the excess return of a portfolio above the portfolio's benchmark adjusted for risk. A positive alpha indicates that a manager added value relative to the risk that it took on. A negative alpha indicates that the manager lost money relative to the risk that it took on.

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Alternatives – As it relates to PSRS/PEERS, this asset class includes three distinct strategies referred to as "sub-asset classes" which include Private Real Estate, Private Equity, Private Credit and Hedged Assets.

Annual report – The formal financial statement issued yearly by a corporation. The annual report shows assets, liabilities, revenues, expenses and earnings - how the company stood at the close of the business year, how it fared profit-wise during the year, as well as other information of interest to shareowners.

Arbitrage – A technique employed to take advantage of differences in price. If, for example, ABC stock can be bought in New York for $10 a share and sold in London at $10.50, an arbitrageur may simultaneously purchase ABC stock here and sell the same amount in London, making a profit of $.50 a share, less expenses. Arbitrage may also involve the purchase of rights to subscribe to a security, or the purchase of a convertible security - and the sale at or about the same time of the security obtainable through exercise of the rights or of the security obtainable through conversion.

Assets – Everything a corporation owns or that is due to it: cash, investments, money due it, materials and inventories, which are called current assets; buildings and machinery, which are known as fixed assets; and patents and goodwill, called intangible assets.

Asset Allocation Decision – Choosing among broad asset classes such as equities, fixed-income securities and real estate.

Asset-Backed Securities (ABS): These securities are backed by over-collateralized liquid assets such as car loans and credit card receivables, to illustrate some examples of the types of underlying collateral. ABS typically have short-to-intermediate maturities and are usually very liquid.

Asset Class – A group of investments that share similar characteristics. Types of asset classes include stocks, bonds and various alternative investments such as private equity and real estate.

Balance sheet – A condensed financial statement showing the nature and amount of a company's assets, liabilities and capital on a given date. In dollar amounts, the balance sheet shows what the company owned, what it owed and the ownership interest in the company of its stockholders.

Basis Point – A unit of measurement equal to 1/100th of one percent. For example, 0.53% is equal to 53 basis points and 1.00% is equal to 100 basis points.

Bear market – A declining market.

Beneficiary – The present or potential recipient of a benefit.

Beta – This is a measure used to determine a portfolio's sensitivity to movements in a particular market or asset class. In technical terms, it is the expected percentage change in return for a portfolio based upon a 1% change in the market or asset class. For example, if the S&P 500 is up 1% for the month and a portfolio has a beta of 1.2, you would expect the portfolio to be up 1.2% (or 20% more than the market). In contrast, if a portfolio has a beta of .8, this indicates that if the market is up 1% for the month, this portfolio will be up .8% (or lagging 20% relative to the market). Essentially, beta helps to measure a portfolio's risk (volatility) relative to the market or asset class it is compared to.

Blue chip – A company known nationally for the quality and wide acceptance of its products or services, and for its ability to make money and pay dividends.

Bond – Basically an IOU or promissory note of a corporation, usually issued in multiples of $1,000 or $5,000, although $100 and $500 denominations are not unknown. A bond is evidence of a debt on which the issuing company usually promises to pay the bondholders a specified amount of interest for a specified length of time, and to repay the loan on the expiration date. In every case a bond represents debt - its holder is a creditor of the corporation and not a part owner, as is the shareholder.

Broker – An agent who handles orders to buy and sell securities, commodities or other property. A commission is charged for this service.

Brokerage Commission – Payment for administrative costs incurred in trading securities; the cost of execution.

Bull market – An advancing market.

Cash flow – Reported net income of a corporation plus amounts charged off for depreciation, depletion, amortization, and extraordinary charges to reserves, which are bookkeeping deductions and not paid out in actual dollars and cents.

Collateral – Securities or other property pledged by a borrower to secure repayment of a loan.

Commercial paper – Debt instruments issued by companies to meet short-term financing needs.

Commingled Fund – A pooling of funds from multiple investors, managed as one account. The client owns units in the pool; similar to a mutual fund.

Commission – The broker's basic fee for purchasing or selling securities or property as an agent.

Commodities – Unprocessed goods such as grains, metals, and minerals traded in large amounts on a commodities exchange.

Common stock – Securities that represent an ownership interest in a corporation. If the company has also issued preferred stock, both common and preferred have ownership rights. Common stockholders assume the greater risk, but generally exercise the greater control and may gain the greater award in the form of dividends and capital appreciation. The terms ‘common stock’ and ‘capital stock’ are often used interchangeably when the company has no preferred stock.

Correlation – The simultaneous change in value of two numerically valued random variables.

Correlation Coefficient – A measure that determines the degree to which two investment’s movements are related. If two investments have perfect positive correlation (+1), you would expect them to move in lock-step with one another. If two investments have perfect negative correlation (-1) you would expect them to move in opposite directions of one another. Between perfect positive and perfect negative (+1 or -1) you have a scaled relationship between the two investments. A correlation of zero (0) implies no relationship between the movements of the two investments.

Current assets – Those assets of a company that are reasonably expected to be realized in cash, sold or consumed within one year. These include cash, U.S. Government bonds, receivables and money due usually within one year, as well as inventories.

Current liabilities – Money owed and payable by a company, usually within one year.

Derivative – A financial instrument whose value and characteristics are derived from the performance of some underlying investment, such as a stock, bond, commodity, or currency. Derivatives are often used to help large investors manage their risks and gain exposure to various investments at a relatively low cost compared to holding the underlying asset. Examples of derivatives include futures and options contracts.

Discount – The amount by which a preferred stock or bond may sell below its par value. Also used as a verb to mean "takes into account" as the price of the stock has discounted the expected dividend cut.

Discretionary account – An account in which the customer gives the broker or someone else discretion to buy and sell securities or commodities, including selection, timing, amount, and price to be paid or received.

Diversification – Spreading a portfolio over many investments to avoid excessive exposure to any one source of risk.

Dividend – The payment designated by a corporate board of directors to be distributed pro rata among the shares outstanding. On preferred shares, it is generally a fixed amount. On common shares, the dividend varies with the fortunes of the company and the amount of cash on hand, and may be omitted if business is poor or the directors decide to withhold earnings to invest in plant and equipment. Sometimes a company will pay a dividend out of past earnings even if it is not currently operating at a profit.

Dollar-cost-averaging – A system of buying securities at regular intervals with a fixed dollar amount. Under this system, investors buy by the dollars' worth rather than by the number of shares. If each investment is of the same number of dollars, payments buy more shares when the price is low and fewer when it rises. Thus temporary downswings in price benefit investors if they continue periodic purchases in both good and bad times, and the price at which the shares are sold is more than their average cost. Dollar-cost-averaging does not assure a profit and does not protect against loss in declining markets. Since dollar-cost-averaging involves continuous investment in securities regardless of fluctuating price levels of such securities, investors should consider their financial ability to continue purchases through periods of low price levels.

Due Diligence – The process of investigating the details of potential and ongoing investments and managers by investors. The details include examination of the operations, management and verification of the material facts surrounding the investment.

Duration – This is a measure that reflects the change in the value of a fixed income security that will result from a 1% change in interest rates. Duration is stated in years. For example, a 3-year duration means the bond will decrease in value by 3% if interest rates rise 1% and increase in value by 3% if interest rates fall 1%. Duration is used as a measure of the volatility of a bond. Generally, the higher the duration (the longer an investor needs to wait for the bulk of the payments), the more its price will drop as interest rates go up. Of course, with the added risk come greater expected returns. If an investor expects interest rates to fall during the course of time the bond is held, a bond with a long duration would be appealing because the bond's price would increase more than comparable bonds with shorter durations.

Earnings Report – A statement, also called an income statement, issued by a company showing its earnings or losses over a given period. The earnings report lists the income earned, expenses and the net result.

Efficient Frontier – This is the line on the risk/return graph which reflects all of the “efficient portfolios” one can invest in, given the investment choices available. An efficient portfolio is a portfolio that provides the greatest expected return for a given level of risk, or the lowest risk for a given expected return.

Electronic Crossing Network – An increasingly popular and cost-effective means of trading securities where issues are traded by computer either intra-day or overnight. Reduces or eliminates market impact of trading and brokerage commissions.

Emerging Markets Equity – Emerging Markets Equity is a sub-asset class consisting of equity investments in companies in countries where the per capita income is below a predetermined level. Examples of emerging market countries include India, Brazil, South Africa, Mexico, Russia, Malaysia, Turkey, Poland, South Korea, Chile, and China to name a few. Emerging Markets Equity seeks to provide an opportunity for long-term capital appreciation in excess of inflation. This sub-asset class invests in countries where higher growth rates are expected, and thus one would expect higher returns. The emerging markets allocation provides another level of diversification for the total portfolio. Experience has shown that the emerging markets can be very volatile; however, as a part of the total portfolio, it can serve as an additional diversifier, reducing risk for the entire portfolio.

Equity – The ownership interest of common and preferred stockholders in a company.

Equity Investment – Claims held by the residual owners of a firm. May also be referred to as common stock.

Fair Market Value – The amount the Systems could reasonably expect to receive in a current investment sale between a willing buyer and a willing seller (an orderly transaction) – that is, other than in a forced or liquidation sale.

Fiduciary – One who can exercise discretionary authority or can control important aspects of a pension plan's management.

Fiscal Year – A corporation's accounting year. Due to the nature of their particular business, some companies do not use the calendar year for their bookkeeping. A typical example is the department store that finds December 31 too early a date to close its books after the Christmas rush. For that reason many stores wind up their accounting year January 31. Their fiscal year, therefore, runs from February 1 of one year through January 31 of the next. The fiscal year of other companies may run from July 1 through the following June 30. Most companies, though, operate on a calendar year basis.

Fixed Income Investment – A security issued by a borrower that obligates the issuer to make specified payments to the holder over a specific period. May also be referred to as "debt" or "bonds".

Fundamental research – Analysis of industries and companies based on such factors as sales, assets, earnings, products or services, markets and management. As applied to the economy, fundamental research includes consideration of gross national product, interest rates, unemployment, inventories, savings, etc.

Funded Ratio – This number reflects the percentage of total liabilities that the System has already funded based upon the actuarial value of the assets. For example, if the System has a funded ratio of 96%, it implies that the System could pay 96 cents of every $1 owed to beneficiaries at that point in time.

Fund of Funds (FoF) – A “fund of funds” is an investment fund that uses an investment strategy of holding a portfolio of other investment funds rather than investing directly in shares, bonds or other securities. This type of investing is often referred to as multi-manager investment. There are different types of “fund of funds”, each investing in a different type of collective investment scheme (typically one type per FoF), e.g. mutual fund FoF, hedge fund FoF or private equity FoF.

Futures Contract – A standardized, transferable contract that trades on an organized exchange that requires delivery of a specified investment (stock index, stock, bond, currency) at a specified price at a predetermined date. Essentially, this allows one to replicate the performance of an investment without holding the underlying investment (i.e., you can obtain the return of the S&P 500 by owning an S&P 500 futures contract and you don't have to own all 500 stocks in the S&P 500 Index).

Government bonds – Obligations of the U.S. Government, regarded as the highest grade securities issues.

Growth stock – Stock of a company with a record of growth in earnings at a relatively rapid rate.

Hedge fund – A fund, usually used by institutions and wealthy individuals, which is allowed to use strategies that are unavailable to mutual funds, including selling short, leverage, program trading, swaps, arbitrage, and derivatives. Hedge funds are exempt from many of the rules and regulations governing other mutual funds, which allows them to accomplish their investing goals. They are restricted by law to no more than 100 investors per fund, and as a result most hedge funds set extremely high minimum investment amounts, ranging anywhere from $250,000 to over $1 million. As with traditional mutual funds, investors in hedge funds pay a management fee; however, hedge funds also collect a percentage of the profits (usually 20%).

High Yield Bonds – This sub-asset class consists of investments in bonds issued by companies with below investment grade credit quality. High yield bonds provide high current income to the portfolio, while providing opportunities for capital appreciation when purchased at opportune times. This allocation is viewed as a tactical one, in that appropriateness of an allocation will be dependent upon the valuation of these investments and where we are in the economic cycle. Generally, we would expect allocations to this sub-asset class to increase at the tail-end of an economic recession and decrease as the economy recovers. Credit quality of these securities ranges from BB to CCC and are in non-default status. Investments in this portfolio may include both U.S. and non-U.S. issuers.

Index – A statistical yardstick expressed in terms of percentages of a base year or years. For instance, the NYSE Composite Index of all NYSE common stocks is based on 1965 as 50. An index is not an average.

Information Ratio – This is a measure used to determine how effectively a manager is able to add excess return above a benchmark (alpha) relative to the risk (tracking error) they have taken above the risk of their benchmark. The higher the information ratio the better the risk adjusted return of the manager has been.

Institutional investor – An organization whose primary purpose is to invest its own assets or those held in trust by it for others. Includes pension funds, investment companies, insurance companies, universities and banks.

International Developed Equity – Investment in this sub-asset class includes investing in non-U.S. based companies that are domiciled in countries considered to be developed, as opposed to developing, based on per capita income levels. This sub-asset class provides long-term capital appreciation in excess of inflation. International equity may be diversified across portfolios of varying size, investment style, and exposure to opportunities in a variety of developed countries. The international developed equity portfolios provide an element of diversification relative to the domestic equity portfolios. Non-dollar currency exposure is another aspect of investing in this area that will impact performance and volatility of the asset class over the short-term, however, over the long-term, we would expect no additional return from the currency exposure.

Investment-grade Corporate Securities: These are securities issued by corporations that carry an investment grade credit quality rating ranging from AAA to BBB. The degree of credit quality associated with these bonds is lower than that of Agencies but above that of high-yield bonds. Corporations can be U.S. or International. Any non-dollar International holdings would be largely hedged back to the U.S. dollar. Liquidity characteristics of corporate securities can vary greatly—they are clearly less liquid than Agencies and the most common types of MBS.

J-Curve Effect – The curve realized by plotting the returns generated by a private asset fund (private equity, private real estate and private credit) against time (from inception to termination). The common practice of paying the management fee and start-up costs out of the first draw-down does not produce an equivalent book value. As a result, a private asset fund will initially show a negative return. When the first realizations are made, the fund returns start to rise quite steeply. After about three to five years, the interim IRR will give a reasonable indication of the definitive IRR. This period is generally shorter for buyout funds than for early-stage and expansion funds.

Large Capitalization Growth Stocks: These are stocks whose market capitalization is in excess of $5 billion according to the Morningstar database. In addition, these stocks possess the characteristics of growth companies, which in technical terms means that their price-to-earnings ratio is greater than the market average. It is expected that these stocks have the potential to increase earnings per share at a faster rate than the average stock within the market.

Large Capitalization Value Stocks: These are stocks whose market capitalization is in excess of $5 billion according to the Morningstar database. In addition, these stocks possess the characteristics of value companies, which in technical terms means that their price-to-earnings ratio is below the market average. These stocks are typically associated with mature companies that are expected to pay out a larger portion of their income in the form of dividends than their growth counterparts as opportunities to reinvest this income back into the company at above average growth rates are limited.

Leverage – The practice of borrowing funds in order to purchase additional investments/assets.

Liabilities – All the claims against a corporation. Liabilities include accounts, wages and salaries payable; dividends declared payable; accrued taxes payable; and fixed or long-term liabilities, such as mortgage bonds, debentures and bank loans.

Liquidation – The process of converting securities or other property into cash. The dissolution of a company, with cash remaining after sale of its assets and payment of all indebtedness being distributed to the shareholders.

Liquidity – The ability of the market in a particular security to absorb a reasonable amount of buying or selling at reasonable price changes. Liquidity is one of the most important characteristics of a good market.

Long – Signifies ownership of securities. "I am long 100 U.S. Steel" means the speaker owns 100 shares.

Market Capitalization – This is a measure of the size of a corporation. It is simply the price of a company's stock multiplied by the number of shares outstanding of that particular stock.

Market price – The last reported price at which the stock or bond sold, or the current quote.

Marked-to-Market – Revaluation of securities to fair market value.

Maturity – The date on which a loan or bond comes due and is to be paid off.

Mean – The mean return for an asset class is the average return for the group of observations.

Median – This is the middle return in a universe of returns. It is NOT the average return.

Mortgage-Backed Securities (MBS): These are highly liquid instruments that are backed by both the issuer's credit worthiness as well as the underlying mortgage collateral (primarily residential but some commercial). Agencies, most notably GNMA, FNMA and Freddie Mac, are the primary issuers of MBS with some issuance coming from private mortgage originators and banking institutions. The primary risk associated with MBS is the prepayment risk associated with the underlying mortgage collateral (long-term investors receive their investment back prematurely due to refinancing activity).

Municipal bond – A bond issued by a state or a political subdivision, such as county, city, town or village. The term also designates bonds issued by state agencies and authorities. In general, interest paid on municipal bonds is exempt from federal income taxes and state and local taxes within the state of issue. However, interest may be subject to the alternative minimum tax (AMT).

NASDAQ – An automated information network that provides brokers and dealers with price quotations on securities traded over-the-counter. NASDAQ is an acronym for National Association of Securities Dealers Automated Quotations.

Net asset value (NAV) – Usually used in connection with investment companies to mean net asset value per share. An investment company computes its assets daily, or even twice daily, by totaling the market value of all securities owned. All liabilities are deducted, and the balance is divided by the number of shares outstanding. The resulting figure is the net asset value per share.

New York Stock Exchange (**NYSE**) – The largest organized securities market in the United States, founded in 1792. The Exchange itself does not buy, sell, own or set the prices of securities traded there. The prices are determined by public supply and demand. The Exchange is operated by NYSE Euronet a subisidary of Intercontinental Exchange (ICE).

Nominal Return – This is the total return of an investment before taking into account the impact of inflation.

Option Contract – The right, but not the obligation, to buy (for a call option) or sell (for a put option) a specific amount of a given stock, commodity, currency, index, or debt, at a specified price (the strike price) during a specified period of time.

Par – In the case of a common share, par means a dollar amount assigned to the share by the company's charter. Par value may also be used to compute the dollar amount of common shares on the balance sheet. Par value has little relationship to the market value of common stock. Many companies issue no-par stock but give a stated per share value on the balance sheet. In the case of preferred stock, it signifies the dollar value upon which dividends are figured. With bonds, par value is the face amount, usually $1,000.

Passive Management – An approach to money management where a manager seeks to replicate the performance of a predefined benchmark. Typically, lower management fees are associated with passive management relative to active management as there is no expectation for alpha in passive strategies.

Portfolio – Holdings of securities by an individual or institution. A portfolio may contain bonds, preferred stocks, common stocks and other securities.

Preferred stock – A class of stock with a claim on the company's earnings before payment may be made on the common stock and usually entitled to priority over common stock if the company liquidates. Usually entitled to dividends at a specified rate - when declared by the board of directors and before payment of a dividend on the common stock - depending upon the terms of the issue.

Premium – The amount by which a bond or preferred stock may sell above its par value. May refer, also, to redemption price of a bond or preferred stock if it is higher than face value.

Price-to-earnings ratio – A popular way to compare stocks selling at various price levels. The P/E ratio is the price of a share of stock divided by earnings per share for a 12-month period. For example, a stock selling for $50 a share and earning $5 a share is said to be selling at a price-to-earnings ratio of 10.

Prime rate – The lowest interest rate charged by commercial banks to their most credit-worthy customers; other interest rates, such as personal, automobile, commercial and financing loans are often pegged to the prime.

Private Equity – This sub-asset class invests in the equity of privately held-companies. The role of this sub-asset class is to provide high real returns over long periods of time. The private equity allocation will be comprised of opportunities both within the U.S. and internationally. Specific types of strategies will include venture capital, buyout, and opportunistic/special situations investing.

Private Placement – Issuance of debt or equity directly to an investor or investors.

Proxy – Written authorization given by a shareholder to someone else to represent him or her and vote his or her shares at a shareholders meeting.

Prudent Person Rule – An investment standard; also called the Prudent Man Rule. In some states, the law requires that a fiduciary, such as a trustee, may invest the fund's money only in a list of securities designated by the state - the so-called legal list. In other states, the trustee may invest in a security if it is one that would be bought by a prudent person of discretion and intelligence, who is seeking a reasonable income and preservation of capital.

Public Equity – This is an asset class consisting of publicly owned stock or other securities representing an ownership interest. This asset class includes domestic, hedged, developed international and emerging market equity.

Public Debt – This is an asset class consisting of various types of debt instruments including those issued by the U.S. Treasury, its agencies and corporations. Also included are securitized mortgages, asset-backed securities and dollar denominated debt issued by foreign nations.

Rally – A brisk rise following a decline in the general price level of the market, or in an individual stock.

Rebalancing – Realigning the proportions of assets in a portfolio as needed.

Real Estate Investment Trust (REIT) – A form of corporate organizational structure specifically allowed for companies whose assets are made up primarily of real estate. REITs are required to pay out 90% of their net income to investors in the form of a dividend. Real estate primarily serves as a hedge against unanticipated general price inflation, and may also provide a significant amount of income due to the nature of real estate in providing revenues from rental properties.

Real Return – The return of a portfolio or investment after accounting for the effects of inflation.

Required Rate of Return – This is the real rate of return that the portfolio must generate in order to fund the liabilities per the actuarial assumptions being made. The real rate of return is the rate by which the long-term total returns exceeds the long-term inflation rate.

Risk – The uncertainty of outcome or the likelihood of a loss.

Risk-Free Rate – This is the return one would expect to earn on a "risk-free" investment. To an individual, the risk-free rate is normally defined by the return on a 3-month U.S. Treasury Bill; however, to a pension plan like PSRS/PEERS, its risk free rate could be considered to be the asset that most highly correlates with its liabilities. Many academics have argued that this asset may very well be a Treasury Inflation Protected Security of very long maturity.

Risk-Adjusted Return – This is a return measure utilized to compare the return of two portfolios with different levels of risk. By "equalizing" the risk of both investments, you can compare the returns for an "apples-to-apples" comparison. The Sharpe Ratio is a common measure for obtaining risk-adjusted return comparisons.

Risk Premium – In the aggregate, investors who take risk expect to be compensated for that risk with higher returns. The expected risk premium on an asset is the amount which the asset is expected to outperform to compensate for the additional risk.

As an example - one should expect bonds to outperform cash because they subject the investor to inflation risk and in some cases credit risk and prepayment risk that an investor in a short-term Treasury Bill does not incur. If cash paid a higher return than bonds over long periods of time and cash had less risk than bonds, no one would invest in bonds because they would not be being compensated for the risks they were bearing. Thus, over very long periods of time one would expect stocks to earn a risk premium over bonds and bonds to earn a risk premium over cash.

Think of a risk premium as a form of hazard pay for your investments. Just as employees who work relatively dangerous jobs receive hazard pay as compensation for the risks they undertake, risky investments must provide an investor with the potential for larger returns to warrant the risks of the investment.

SEC – The Securities and Exchange Commission, established by Congress to help protect investors. The SEC administers the Securities Act of 1933, the Securities Exchange Act of

1934, the Securities Act Amendments of 1975, the Trust Indenture Act, the Investment Company Act, the Investment Advisers Act and the Public Utility Holding Company Act.

Separate Account – Funds managed on an individual account basis; no pooling with other investors. The client owns the securities.

Sharpe Ratio – This ratio is often used to measure the risk-adjusted return of a portfolio. It is calculated by taking a portfolio's return above the risk-free rate (often defined as 3-month Treasury Bills) and dividing it by the risk level (standard deviation) of the portfolio. This measures how much return a portfolio or manager is producing for each unit of risk they take.

Short sale – Also referred to as "shorting a stock", a short sale is the process of selling a stock that is not owned by the investor. If an investor has a negative view of a stock and believes its price will fall, shorting becomes an attractive action. Essentially, the investor will borrow the stock from someone who owns it (paying them a fee to borrow it), and then they will sell the stock. If the stock falls, there is a profit as the investor sold it at a higher price and is now able to buy it back cheaper and return it to the entity from whom it was borrowed. In contrast, if the stock goes up, the investor transacting the short sale loses money because they sold it at a lower price and now have to buy it back at a higher price.

Short-Term Investments – Any fixed income investment with less than one year to maturity.

Small Capitalization Growth Stocks: These are stocks whose market capitalization is below $1 billion according to the Morningstar database. In addition, these stocks possess the characteristics of growth stocks, which in technical terms means that their price-to-earnings ratio is greater than the market average. It is expected that these stocks have the potential to increase earnings per share at a faster rate than the average stock within the market.

Small Capitalization Value Stocks: These are stocks whose market capitalization is below $1 billion according to the Morningstar database. In addition, these stocks possess the characteristics of value companies, which in technical terms means that their price-to-earnings ratio is below the market average. These stocks are typically associated with mature companies that are expected to pay out a larger portion of their income in the form of dividends than their growth counterparts as opportunities to reinvest this income back into the company at above average growth rates are limited.

Soft Dollars – The value of goods or services that brokerage houses supply to investment managers "free of charge" in exchange for the investment managers' business.

Sovereign wealth fund (SWF) – A sovereign wealth fund is a state-owned fund composed of financial assets such as stocks, bonds, property or other financial instruments. Sovereign wealth funds have gained world-wide exposure by investing in several Wall Street financial firms including Citigroup, Morgan Stanley and Merrill Lynch. These firms needed a cash infusion due to losses resulting from the credit crunch.

Some sovereign wealth funds are held solely by central banks, which accumulate the funds in the course of their fiscal management of a nation's banking system; these types of funds are usually of major economic and fiscal importance. Other sovereign wealth funds are simply the state savings which are invested by various entities for the purposes of investment return, and which may not have a significant role in fiscal management.

Spreads – The difference between two prices.

Standard Deviation – A statistical measure used to determine the risk, or volatility, of a portfolio. It reflects the average deviation of the sample observations from the mean (average) of the observations. Since it measures the width of the range of return outcomes, the larger the standard deviation, the greater the risk (volatility) of the portfolio. For example, if the mean return of an asset class is 5% and the standard deviation is 10, you can expect the range of outcomes to be between +15% and -5% about 68% of the time assuming the returns are normally (i.e. equally) distributed around the mean.

Stock exchange – An organized marketplace for securities featured by the centralization of supply and demand for the transaction of orders by member brokers for institutional and individual investors.

Stock dividend – A dividend paid in securities rather than in cash. The dividend may be additional shares of the issuing company, or in shares of another company (usually a subsidiary) held by the company.

Swap – A swap is an agreement entered into by two parties where each agree to pay a particular stream of payments according to specified terms. Typically one is paying a fixed rate, while the counterparty is paying a floating rate that varies with the performance of a particular investment benchmark.

Tender offer – A public offer to buy shares from existing stockholders of one public corporation by another public corporation under specified terms good for a certain time period. Stockholders are asked to "tender" (surrender) their holdings for stated value, usually at a premium above current market price, subject to the tendering of a minimum and maximum number of shares.

Ticker – A telegraphic system that continuously provides the last sale prices and volume of securities transactions on exchanges. Information is either printed or displayed on a moving tape after each trade.

Total Return – Interest or dividend income plus any realized or unrealized capital gain (or loss) on an investment.

Tracking Error – This is a measure used to determine the amount by which the performance of a portfolio differs from that of a given benchmark. Technically, it is the annual standard deviation of the difference between the portfolio and the benchmark. It is a good measure to determine how consistently a manager achieves a return close to a pre-defined benchmark.

Treasuries: These are highly liquid securities issued by the United States Treasury that are backed by the full faith and credit of the United States government, and thus are perceived as having no credit risk.

Treasury Inflation Protected Securities (TIPS) – These securities are backed by the full faith and credit of the United States and are quite liquid. TIPS is a sub-asset class intended to generate a real return as inflation protection is a vital part of the instrument. Unlike nominal bonds, which will be hurt by increases in interest rates and inflation, TIPS will not. TIPS also provide a source of current income and reduce the overall volatility of the portfolio. In addition, this asset is viewed as the best hedge against the Systems' liabilities due to similarities in duration and inflation sensitivity, thus it is viewed as the best risk-free asset in relation to the liabilities.

Value-At-Risk (VAR) – A statistical technique used to determine the amount that can be expected to be lost from a portfolio of investments over a specified time frame.

Yield – Also known as return. The dividends or interest paid by a company expressed as a percentage of the current price. A stock with a current market value of $40 a share paying dividends at the rate of $3.20 is said to return 8% ($3.20÷$40.00). The current yield on a bond is figured the same way.

Yield Curve – The relationship between time-to-maturity and the yield for fixed income in a given risk class.

Yield-to-maturity – The yield of a bond to maturity takes into account the price discount from, or premium over, the face amount. It is greater than the current yield when the bond is selling at a discount and less than the current yield when the bond is selling at a premium.

Yield Spreads – The differences in yields on different types of fixed income securities which is a function of supply and demand, credit rating, and anticipated interest rate changes. Generally, the greater the "spread" of a bond compared to a U.S. Treasury Bond, the greater the risk of that particular bond investment.

Appendix A

Public Risk Assets Implementation Manual

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

I. Introduction

On June 8, 2009, the Board of Trustees of The Public School and The Public Education Employee Retirement Systems of Missouri ('PSRS' and 'PEERS', respectively, and hereinafter collectively referred to as 'PSRS/PEERS' or 'Systems') approved a number of changes to the Systems' overall Public Risk Assets allocation, including re-defining the segments of the overall allocation into five distinct areas:

- Large-Cap Domestic Equity Program (also referred to as the 'Large-Cap Program' or 'L-CAP'). The Alpha Overlay portfolio resides as a multi-manager pool within the Large-Cap Program.
- Small-Cap Program (also referred to as 'S-CAP').
- Hedged Asset Program.
- Non- U.S. Public Equity Program.
- Public Credit Program.

Each program within the Public Risk allocation is a separate multi-manager composite that is treated generally as a single portfolio. Each program serves a specific and distinct role within the overall Public Risk Composite and also within the overall Total Plan allocation. Over time, the Public Risk Composite and its sub-components serve as an effective and efficient vehicle to supply the underlying beta exposure to a portfolio of global risk assets required by the Systems' asset allocation policy, while providing the opportunity to achieve excess returns above that of a passive equity benchmark[2] through the prudent combination of passive investment vehicles and a wide range of active investment strategies.

Specific investment strategies approved for the Public Risk Composite include: low volatility or low beta equity strategies, market neutral, and long/short active domestic equity and non-U.S. equity management. These include strategies where the portfolio beta is essentially equal to one (e.g., 130/30 approaches) and strategies where the portfolio beta is less than one (e.g., long/short strategies that are focused on earning more

[1] *Effective 7/1/2013, all assets are held in the Missouri Education Pension Trust (MEPT) for the exclusive benefit of PSRS and PEERS. PSRS and PEERS continue to own their respective share of the commingled assets.*

[2] *The customized Public Risk Policy Benchmark is comprised of 51.8% Russell 3000 Index, 30% MSCI ACWI Ex-U.SA Index and 18.2% Barclays U.S. Intermediate Credit Index.*

stable, absolute returns over time through underlying stock selection and modest beta exposure). Additionally, multi-asset directional and non-directional strategies and traditional long-only (active and passive) management approaches may be utilized.[3] Exposure to the various approved investment strategy types listed above will be achieved through the identification, selection and ongoing management of SEC-registered[4] investment advisors (including fund-of-funds advisors) qualified to serve as fiduciaries to the Systems. Fund-of-funds typically build diversified portfolios of underlying investment strategies through the selection and retention of underlying investment managers. Fund-of-funds managers utilized by the Systems may utilize organizations that are not registered with the SEC.

The Investment Staff, with assistance from one or more External Asset Consultants (including Specialty Consultants), is charged with administering the Public Risk Composite. The Investment Staff, working jointly with at least one External Asset Consultant, is responsible for manager hiring and termination decisions (External Asset Consultant approval is not required for fund-of-funds), the development and implementation of investment strategies, and manager allocation policies and practices. The long-term policy allocation to the Public Risk Composite is 55.0 percent of the Systems' Total Fund assets. On August 31, 2009, the Board originally adopted the policies and procedures for the Public Risk Composite set forth in this Implementation Manual. The most recent revisions to this document were adopted by the Board on December 12, 2016.

II. Statement of Purpose of Implementation Manual

The Public Risk Assets Implementation Manual provides formal documentation of the investment policies and procedures for all Public Risk Assets and is incorporated into the Systems' Investment Policy as Appendix A. The document serves as a reference point for the management of Public Risk Assets by providing a clear definition of the Composite's philosophies, objectives, and practices and also gives guidance to those responsible for overseeing and administering the Public Risk Composite – that is, the Board, Executive Director, Investment Staff and External Asset Consultant(s).

The Implementation Manual is intended to serve in tandem with the Investment Policy as it relates to the Public Risk Composite. The development and maintenance of the Implementation Manual is the responsibility of the Investment Staff. Any revisions to the policies and procedures set forth herein must be approved by the Board of Trustees. The General Consultant and Specialty Consultants are also expected to provide input regarding changes to the directives specified in this document. The Implementation Manual may be revised at any time and will be formally reviewed annually.

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[3] *A full definition of each investment strategy type is contained in Section IV – Approved Investment Strategies.*

[4] *Refers to external investment advisors that are registered with the Securities & Exchange Commission. However, SEC registered fund-of-fund providers may utilize underlying managers that are not registered with the SEC.*

III. Investment Philosophy

The Public Risk Composite will be managed with a distinct and separate set of investment objectives and guidelines, and is treated for purposes of strategy formulation, risk management, asset class rebalancing and Board-level performance reporting as a single portfolio within the overall structures of PSRS and PEERS. Each program within Public Risk will also be managed with a separate set of investment objectives and guidelines, and each program will be tracked on an individual basis for performance measurement purposes. Overall, the Public Risk Composite is designed to provide effective and efficient credit and global equity exposure, diversification, risk control and the opportunity for excess returns above passive alternatives through the deployment of a wide variety of active investment strategies.

The Systems utilize a number of specific investment policies and practices that are unique to the Public Risk Composite and its sub-components. These policies and practices are described in the paragraphs that follow.

A. Public Risk Composite Performance Objective

The performance objective for the Public Risk Composite is to exceed the returns of the broad public risk markets while incurring a level of risk that is generally consistent with the policy benchmark. Based on the Systems' general beliefs and expectations regarding the level of excess returns that can be generated in the global equity and public credit area by a carefully reasoned combination of active and passive management styles, the following performance objective has been established for the Public Risk Composite:

Public Risk Composite Performance Objective

The performance goal of the Public Risk Composite is to achieve a net-of-fees return that is 100-125 basis points above the return of the Public Risk Benchmark over a full market cycle. This return objective will be pursued by targeting a tracking error objective of approximately 300-500 basis points relative to the Public Risk Benchmark. Over shorter periods of time, the tracking error may be higher. Generally, a longer-term focus must be maintained in the evaluation of success in managing both tracking error and the level of excess returns. The Investment Staff may choose to lower the excess return target and the tracking error target during times when quality active strategies appear limited. For the Public Risk Composite and the composites for each individual program, returns will be measured on both an absolute basis and a risk-adjusted basis.

As discussed in Section I of this Implementation Manual, the Public Risk Composite will be managed as five separate programs. Each program is designed as a multi-manager pool with a distinct and separate set of investment objectives and guidelines that is treated for purposes of strategy formulation, risk management, asset class rebalancing and Board-level performance reporting as a single portfolio within the overall Public Risk

Program. As such, each program has the following specific investment philosophies and performance objectives.

B. Large-Cap Program Investment Philosophy and Performance Objective

The Large-Cap Program's objective is to provide long-term capital appreciation and dividend income through broad exposure to large-cap U.S. stocks. Other asset types beyond large-cap U.S. stocks may reside in the Large-Cap Program through the Alpha Overlay portion of the L-CAP portfolio. The performance objective for the Large-Cap Program is to exceed the returns of the broad large-cap domestic equity markets through the use of a wide variety of active management approaches while incurring a level of risk that is generally consistent with the policy benchmark. During times when the opportunity for active returns above the policy benchmark are limited, the Investment Staff may elect to materially reduce the level of active management within the composite, and instead rely on passive investment vehicles to gain basic market exposure. During these times, the Excess Return Objective for the Large-Cap Program may be reduced to match the market environment and opportunity set for active returns. At other times, based on market conditions and other factors, the Investment Staff may elect to explicitly reduce the level of volatility of the Large-Cap Program to a level meaningfully below that of the policy benchmark to assist with the preservation of capital. During such periods, the structure of the L-CAP portfolio may be such that the level of risk is not consistent with the policy benchmark (that is, an overall lower risk level) and the level of tracking error to the policy benchmark may be higher. The Investment Staff may lower the overall level of volatility in the Large-Cap Program using a number of approaches, including the use of low volatility or low beta equity strategies, reducing the level of equitization in alpha overlay, and increasing the level of cash. Other specific investment strategies approved include: passive investment vehicles; traditional long-only active domestic equity management; strategies appropriate for alpha overlay (outlined in *Section IV*), and active long/short approaches.[5]/[6] Appropriate levels of market exposure may also be obtained using derivatives (such as futures contracts and SWAP agreements). Cash and cash equivalent balances associated with a derivatives-based approach are permitted to be managed in an active fashion by external asset managers as an additional tool to add incremental excess returns above the policy benchmark. Active management of cash balances may include investing in derivatives, securities with longer-dated maturities and in securities that inherently possess credit risk. Market exposure derived through the use of derivatives will not exceed 40.0 percent of the total market value of the Large-Cap Program, including the Alpha Overlay portfolio. Derivatives used in the active management of cash and cash equivalent balances shall be considered separate from the

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[5] *A more complete definition of each investment strategy type is included in Section IV – Approved Investment Strategies.*

[6] *The active long/short investment strategies are designed to provide both the underlying stock market (or, beta) exposure and access to a manager's active investment process (often referred to as a 'beta one' approach). Within the Alpha Overlay Program, the approved investment strategies provide primarily the opportunity for active returns. These strategies are then combined with separate methods to gain underlying stock market exposure (i.e., equitization) to complete the process (referred to as a portable alpha approach).*

40.0 percent limit. Please see Section V: I. 'Cash Enhancement Program' for additional cash enhancement guidelines.

Large-Cap Policy Benchmark	Russell 1000 Index
Large-Cap Excess Return Objective Over a Full Market Cycle	50-100 basis points above the Benchmark
Large-Cap Tracking Error Objective Relative to the Benchmark	250-400 basis points

Note: The level of tracking error may exceed 400 basis points during periods where the Investment Staff has elected to explicitly lower the level of volatility or overall beta of the Large-Cap Program.

C. Small-Cap Program Investment Philosophy and Performance Objective

The Small-Cap Program's objective is to provide long-term capital appreciation and dividend income in excess of inflation through exposure to small-cap U.S. stocks. The performance objective for the Small-Cap Program is to exceed the returns of the broad small-cap domestic equity markets while incurring a level of risk that is generally consistent with the policy benchmark. During times when the opportunity for active returns above the policy benchmark is limited, the Investment Staff may elect to materially reduce the level of active management within the composite. At other times, based on market conditions and other factors, the Investment Staff may elect to explicitly reduce the level of volatility of the Program to a level meaningfully below that of the policy benchmark to assist with the preservation of capital. As such, during certain time periods, the level of risk in the Program may not be consistent with the policy benchmark and the level of tracking error to the policy benchmark may be higher or lower. Other specific investment strategies approved include: passive investment vehicles, traditional long-only active domestic equity management, and active long/short approaches. Appropriate levels of market exposure may also be obtained using derivatives (such as futures contracts and SWAP agreements). Cash and cash equivalent balances associated with a derivatives-based approach are permitted to be managed in an active fashion by external asset managers as an additional means to add incremental excess returns above the policy benchmark. Market exposure derived through the use of derivatives will not exceed 50.0 percent of the total market value of the Small-Cap Program. Derivatives used in the active management of cash and cash equivalent balances shall be considered separate from the 50.0 percent limit. Please see Section V: I. 'Cash Enhancement Program' for additional cash enhancement guidelines.

Small-Cap Policy Benchmark	Russell 2000 Index
Small-Cap Excess Return Objective Over a Full Market Cycle	100-200 basis points
Small-Cap Tracking Error Objective Relative to the Benchmark	400-600 basis points

D. Hedged Asset Program Investment Philosophy and Performance Objective

The Hedged Asset Program's objective is to provide diversification to the total portfolio and reduce volatility within the Public Risk Composite. The purpose of this Program is to enhance the overall risk/return profile of the Public Risk Composite through the inclusion of specialized investment strategies that typically generate returns, in aggregate, in a different fashion (i.e., absent a high correlation to equities or bonds). These strategies may utilize leverage as allowed within their governing documents. The returns from these strategies have historically had a low to moderate correlation with traditional equity markets, thus providing diversification benefits in addition to portfolio return enhancement. These strategies seek to control risks and maintain a focus on absolute returns. The inherent nature of these vehicles to serve as a "hedge" provides for the expectation that this category will lag the equity market and corresponding policy benchmark during times when equities are performing above the long-term averages, however when equities are performing below the long-term averages, it would be expected to outperform. In addition, managers within this asset class have historically possessed significantly lower volatility relative to traditional equity managers. The Investment Staff may materially change the overall risk profile of the Hedged Asset composite in response to the market environment and investment opportunity set.

Hedged Asset Policy Benchmark	(25% Russell 3000 Index, 25% MSCI ACWI-U.S.A Index and 50% Barclays U.S. Intermediate Credit Index
Hedged Assets Excess Return Objective Over a Full Market Cycle	100-200 basis points
Hedged Assets Tracking Error Objective Relative to the Benchmark	400-600 basis points

Where reliable information is available, PSRS/PEERS will also measure returns against the broad universe of hedge fund managers. This measure will serve as a secondary measure of the success of the Hedged Asset Program by measuring the ability of the Program's investments to add alpha over the broad universe of strategies and managers.

E. Non-U.S. Public Equity Investment Philosophy and Performance Objective

The Non-U.S. Public Equity Program objective is to provide long-term capital appreciation and dividend income in excess of inflation through exposure to primarily non-U.S. stocks. The performance objective for the Non-U.S. Public Equity Program is to exceed the returns of the broad non-U.S. public equity markets while incurring a level of risk that is generally consistent with the policy benchmark. During times when the opportunity for active returns above the policy benchmark is limited, the Investment Staff may elect to materially reduce the level of active management within the composite. At other times, based on market conditions and other factors, the Investment Staff may elect to explicitly reduce the level of volatility of the Program to a level meaningfully below that of the policy benchmark to assist with the preservation of capital. As such, during certain time periods, the level of risk in the Program may not be consistent with the policy benchmark and the level of tracking error to the policy benchmark may be higher or lower.

Specific investment strategies approved include: passive investment vehicles; traditional long-only active global equity management and active long/short approaches.[7/8] Appropriate levels of market exposure may also be obtained using derivatives (such as futures contracts and SWAP agreements). Cash and cash equivalent balances associated with a derivatives-based approach are permitted to be managed in an active fashion by external asset managers as an additional tool to add incremental excess returns above the policy benchmark. Market exposure derived through the use of derivatives will not exceed 30.0 percent of the total market value of the Non-U.S. Public Equity Program. Derivatives used in the active management of cash and cash equivalent balances shall be considered separate from the 30.0 percent limit. Please see Section V: I. 'Cash Enhancement Program' for additional cash enhancement guidelines. The global managers may from time to time decide to actively manage currency within their portfolio subject to the constraints of their governing documents. Additionally, the Investment Staff may explicitly hedge the currency exposure within the composite through the use of derivatives.

Non-U.S. Public Equity Policy Benchmark	MSCI ACWI Ex-U.S.A. Index
Non-U.S. Public Equity Excess Return Objective Over a Full Market Cycle	150-175 basis points
Non-U.S. Public Equity Tracking Error Objective Relative to the Benchmark	350-500 basis points

In order to achieve each of the performance objectives specified above, it is anticipated that at times the programs will differ significantly from the appropriate benchmark in terms of portfolio construction and risk characteristics. While these differences will likely result in short-term return volatility relative to the benchmark (i.e., tracking error), the combination of investment strategies utilized in the total Public Risk Composite are expected to provide favorable risk-adjusted rates of return over full market cycles.

F. Public Credit Program Investment Philosophy and Performance Objective

The Public Credit Program's objective is to provide a source of current income and capital appreciation through investment grade corporate securities, below investment grade debt instruments, distressed debt securities, convertible bonds, bank loans, agencies, mortgage-backed securities, asset-backed securities, and interest rate sensitive securities (including those issued or guaranteed by the United States Government or its

[7] *A more complete definition of each investment strategy type is included in Section IV – Approved Investment Strategies.*

[8] *The active long/short investment strategies are designed to provide both the underlying stock market (or, beta) exposure and access to a manager's active investment process (often referred to as a 'beta one' approach).*

agencies). Investments in this program may include debt of both U.S. and non-U.S. issuers. The Public Credit Program may include exposure to commodities and the Program may also contain equity securities; specifically in those instances where credit-related instruments are restructured or a business reorganization takes place and equity securities are issued to the prior holders of credit instruments. In total, this program should exhibit high degrees of liquidity and retain the general characteristics of a high-quality credit portfolio.

The performance objective for the Public Credit Program is to exceed the returns of the investment grade credit markets through the use of a wide variety of active management approaches while incurring a level of risk that is generally consistent with the policy benchmark. However, during certain times within the market or interest rate cycle, the Investment Staff may elect to materially reduce the level of active management within the composite. Appropriate levels of market exposure may also be obtained using derivatives (such as futures contracts and swap agreements). Cash and cash equivalent balances associated with a derivatives-based approach are permitted to be managed in an active fashion by external asset managers as an additional means to add incremental excess returns above the policy benchmark. Market exposure derived through the use of derivatives will not exceed 30.0 percent of the total market value of the Public Credit Program. Derivatives used in the active management of cash and cash equivalent balances shall be considered separate from the 30.0 percent limit. Please see Section V: I. 'Cash Enhancement Program' for additional cash enhancement guidelines. A variety of hedging strategies may be employed from time-to-time by managers within the Public Credit Program, including the use of index 'shorts' and individual security 'shorts.' Options, futures, and swap agreements may be utilized by managers wishing to hedge various risk factors. Currency exposures and portfolio duration may also be managed using hedging techniques and derivative instruments. Managers may utilize leverage within the Public Credit Program.

Public Credit Policy Benchmark	BC Intermediate Credit Index
Public Credit Excess Return Objective Over a Full Market Cycle	50-100 basis points
Public Credit Tracking Error Objective Relative to the Benchmark	250-400 basis points

G. Delegation of Manager Hiring and Termination Decisions

The Board of Trustees has delegated to the Investment Staff, with the assistance of the External Asset Consultant(s) all manager hiring and termination decisions within the Public Risk Program. The Executive Director, Chief Investment Officer and at least one External Asset Consultant (either the General Consultant or a Specialty Consultant) must unanimously agree upon all manager hiring and termination decisions in writing. The specific details regarding the Systems' external hiring and termination procedures are described in Appendix III, Service Provider Hiring, Retention and Termination Policy.

IV. Approved Investment Strategies

The Board has approved the following types of broad investment strategies for inclusion in the Public Risk Composite:

- **Traditional passive management** – Passive exposure to the broader global equity or bond markets or to certain segments of the market, such as growth, value, developed or emerging markets. Passive investment strategies can generally be characterized as low cost exposure to a broad section of the market that is designed to deliver the general equity/bond risk premium and closely follow a specified index, but they are not constructed to deliver excess returns from active management decisions.

- **Traditional long-only active equity/bond management** – The traditional form of active management whereby investment managers are allowed to own (or overweight) positions in securities they believe are attractive investments and not own (or underweight) stocks/bonds that are viewed to be unattractive. Within long-only mandates, the ability to sell short securities is expressly prohibited.

  Investments in this sub-asset class may include global stocks, U.S. Treasuries, agencies, mortgage-backed securities, asset-backed securities and global investment and non-investment grade corporate securities. Other instruments which are allowable as holdings include global inflation protected securities, currencies and commodities. The maximum exposure to commodities is 15% within the Public Risk Asset program.

  Exposure to the traditional investments may be made directly, within a commingled fund (including All Asset Funds) or through derivative instruments such as swaps, futures or forward contracts.

- **Long/short active equity management (beta generally equal to one but not exceeding 1.25)** – An active portfolio management strategy that allows managers to own (or overweight) securities they believe to be attractive investments and not own, underweight or sell short securities believed to be unattractive investments. Typically with long/short mandates, the aggregate of the long positions and short positions equal full market exposure (i.e., a beta of 1.0) with alpha (or value added above benchmark returns) coming from stock or sector selection, not from an adjusted market beta (e.g., a portfolio with 120% long exposure and 20% short exposure equals full market exposure, or an approximate portfolio beta of 1.0 and a leverage ratio of 0.4x).[9] Long/short mandates require a prime brokerage account, the potential use of futures contracts and occasionally tri-party custodial agreements. While the manager that implements long and short positions will typically

[9] *Long/short managers, to ensure that market risk is appropriately managed, use a variety of sophisticated risk control measures.*

leverage the portfolio on a controlled basis to obtain proper portfolio positions, a long/short portfolio will generally not have any material net leveraged exposure to the stock market (i.e., leveraged beta). For the purposes of this Policy, a manager may not exceed net leverage of 1.25. The leveraging of a portfolio can increase the level of active management risk. Mandates may take the form of separate accounts or participation in commingled investment vehicles.

- **Market neutral and long/short active domestic equity and non-U.S. public equity management (beta less than one)** – Active portfolio management strategies that allow managers to own (or overweight) securities they believe to be attractive investments and not own, underweight or sell short securities believed to be unattractive investments. Market neutral managers may utilize, as an example, 90% long positions and 90% short positions with little or no beta exposure to the market (a beta of approximately 0.0). Market neutral managers may also add leverage more directly to the portfolios by implementing strategies whereby long positions and short positions each equal, for example, 200% of the total notional value of the portfolio. A long/short portfolio is similar to market neutral in that managers may hold both long positions and short positions in equity securities. A long/short manager in this context, however, may over time have a net long position bias in the overall portfolio construction process (a beta greater than 0.0). For example, a long/short manager in this context may hold a portfolio that is 120% long and 50% short. Additional beta, if desired, is typically achieved through the use of S&P 500 Index futures contracts or SWAP agreements to replicate passive market exposure. The Investment Staff may elect to hire, retain, and equitize managers with a net long position bias, but Staff shall take into account the expected long exposure in each manager's account when determining the proper level of overall equitization for Alpha Overlay or the Hedged Asset Program. Market neutral and long/short portfolios require a prime brokerage account and the use of futures or SWAP agreements. The leverage applied to an alpha overlay portfolio can increase the level of overall risk. Some positions held by managers falling into this category of investments may be relatively illiquid.

- **Multi-asset directional and non-directional strategies** – This very broad category of investment strategies seeks diverse sources of alpha generation (often on a global basis) and positive absolute returns through a wide variety of beta exposures (i.e., long positions in a diversified portfolio of investment types). These strategies may or may not be layered onto passive exposure to domestic stocks (i.e., alpha overlay). By separating beta (the underlying exposure to domestic stocks) from alpha, managers in this space are able to look across a large cross section of global alpha opportunities and beta sources to add value above domestic equity benchmarks, such as the S&P 500 Index.

This category includes the following approaches: diversified relative value, relative value credit, credit-driven, distressed/restructuring credit, diversified event driven, global macro, global asset allocation, and multi-strategy. Global macro strategies are defined as taking long and short positions based on top-down macroeconomic analysis (i.e., interest rates, foreign exchange rates and commodity prices). Global strategies involve long and short positions in securities of diverse geographical regions such as developed and emerging markets. Event driven strategies involve taking long and short positions in order to exploit the relative valuation differentials between securities rising from transactional events such as spinoffs, mergers/takeovers, and reorganizations. Relative value strategies seek to capitalize on price discrepancies between different securities within a similar type or between diverse security groups. The controlled use of leverage is common within strategies falling under this category. Operational requirements for multi-asset directional and non-directional strategies are manageable, but can be somewhat more complex than U.S. long/short and market neutral. These strategies are also more apt to be offered as part of a fund structure, reducing the operational complexities faced by the Systems. The Investment Staff may elect to hire, retain, and equitize managers with a net long position bias in this category, but Staff shall take into account the expected long exposure in each manager's account when determining the proper level of overall equitization for the Alpha Overlay portfolio or the Hedged Asset Program. Managers retained by the Systems in this category of investments may hold a portion of the portfolio in relatively illiquid positions.

Exposure to the various segments of the public global equity and bond markets (i.e., developed, emerging, growth, value, etc.) and to the approved investment strategy types listed above will be achieved through the identification, selection and on-going management of SEC-registered investment advisors qualified to serve as fiduciaries to the Systems.

A. Risk Management

Diversification is the primary risk management tool within the Public Risk Composite. The Systems will maintain a prudent level of diversification by establishing and adhering to ranges for stocks and bonds as well as sector exposure (i.e., U.S. and non-U.S., and growth and value). Risk management will also be achieved by diversifying across active investment strategy types and by ensuring that portfolios are diversified across a number of individual holdings.

Individual investment strategies can appear risky when viewed in isolation. When carefully reasoned combinations of diverse investment strategies are viewed in the aggregate, the resulting portfolios can produce a return pattern over time that exhibits very favorable risk/return characteristics. With that goal in mind, the Staff, with the assistance of External Asset Consultant(s), will give careful consideration to strategy combinations through quantitative and qualitative risk management techniques. The objective will be to develop a portfolio with optimal risk/return characteristics. The analysis of how individual portfolios perform within a larger composite will be part of both the investment search process and the ongoing evaluation of the Public Risk Composite.

B. Leverage

The process of applying leverage to a portfolio may be used by investment managers within the Public Risk Composite on a carefully managed and controlled basis as necessary to obtain proper portfolio positions. While the use of leverage can increase the level of active management risk and overall risk within a portfolio, each manager will be required to demonstrate the proper level of risk management sophistication required to limit unnecessary active risk. Staff will monitor the leverage exposure of individual managers and of the total composite.

V. Implementation

A. Guidelines for Strategy and Manager Allocations

Allocations to the Public Risk managers may be altered over time as a means to control risk and add incremental excess returns. Actual allocations to Public Risk managers may deviate from initial targets as a result of market fluctuations or from the transfer of assets from one manager to another. The manager allocation strategies employed within the Public Risk Composite may from time to time result in modest ‘style tilts’ to the portfolio. All active decisions to reallocate funds within Public Risk that result from changes in the target manager weights are based on a careful assessment of the expected relative risk and return potential for each manager. Incorporation of tactical manager allocation strategies is expected to improve the risk/return profile of the Public Risk Composite.

Monitoring the allocations to each manager and, when necessary, making policy changes to those allocations to take advantage of market and investment management opportunities are important components of Staff’s responsibilities in managing the Public Risk Composite. Staff shall adhere to the following guidelines when determining the dollar allocations to the Public Risk managers:

- Changes to the manager allocations shall be based on longer-term expectations and should not be guided by short-term fluctuations in the capital markets,
- A prudent level of style and process diversification shall be maintained at all times,
- No active external asset manager shall invest more than 25.0 percent of the total assets of the Program where it resides based on market values (a fund-of-funds manager may invest more than 25.0 percent of the assets within a given program and certain managers may hold allocations within more than one

Program). Additionally, a manager that exhibits passive, or primarily passive characteristics, may invest up to 100.0 percent of the total assets of the Program, and

- Any changes in the allocations to managers should be completed in a cost efficient manner, utilizing 'natural' cash flows to the extent possible.

It is possible, at times, that a manager may be under contract with the Systems but will not manage any assets. Such a situation would be based on the Systems' manager allocation strategies. The initial allocations and all reallocations are based on a careful assessment of the relative risk and return potential for each manager. The Investment Staff is responsible for documenting the rationale for actions taken in accordance with this policy.

The following chart indicates the target allocations for each of the Programs within the Public Risk Composite as a percent of total plan assets.

	Minimum Allocation	**Neutral Target**	**Maximum Allocation**
Large-Cap U.S. Equity	16%	24%	48%
Small-Cap U.S. Equity	0%	3%	6%
Hedged Asset	0%	6%	25%
Non-U.S. Public Equity	8%	15%	28%
Public Credit	0%	7%	20%

B. Large-Cap Program: Guidelines for Strategy and Allocations

Staff shall manage the allocations within the Large-Cap Program so that the portfolios fall within the ranges shown below:

	Minimum Allocation	**Maximum Allocation**
Passive Management	10%	100%
Long-only active	0%	90%
Active long/short	0%	40%
Alpha Overlay	0%	35%

	Minimum Allocation	**Style Neutral Target**	**Maximum Allocation**
Value	25%	50%	75%
Growth	25%	50%	75%

Note: Investment style exposure will be measured using the Russell U.S. Indices.

The Alpha Overlay portfolio resides within the Large-Cap Domestic Equity Program. Specific investment strategies approved for the Alpha Overlay portfolio include: market neutral and long/short active domestic equity and non-U.S. equity management, multi-asset directional and non-directional strategies, and traditional long only (active and passive) management. The Alpha Overlay portfolio may specifically utilize hedge fund-of-funds. A hedge fund-of-funds may employ underlying hedge fund vehicles that employ a very wide range of investment strategies. All hedge fund-of-funds employed by the Systems must be SEC-registered advisors. A hedge fund-of-fund may, however, employ direct hedge funds that are not managed by advisors registered with the SEC. Traditional long-only management (active and passive) shall not exceed 25.0 percent of the Alpha Overlay portfolio.

The performance objective of the Alpha Overlay portfolio is to achieve a net-of-fees return that is approximately 200-250 basis points above the return of the S&P 500 Index over a full market cycle. This return objective will be pursued by targeting a tracking error objective of approximately 400-500 basis points relative to the S&P 500 Index. Over shorter periods of time, the tracking error may be higher than 500 basis points. The Investment Staff may choose to lower the excess return target and tracking error target during times when quality active strategies appear limited.

The Alpha Overlay portfolio may utilize investment strategies that hold securities that are relatively illiquid. The Investment Staff may elect to hire, retain, and equitize managers with a net long position bias, but Staff shall take into account the expected long exposure in each manager's account when determining the proper level of overall equitization for the Alpha Overlay portfolio. The Alpha Overlay portfolio is designed specifically to aid in the objective of providing incremental active returns over a passive benchmark within the Large-Cap Domestic Equity Program.

C. Small-Cap Program: Guidelines for Strategy and Allocations

Staff shall manage the allocations within the Small-Cap Program so that the portfolios fall within the ranges shown below:

	Minimum Allocation	Maximum Allocation
Passive Management	0%	100%
Long-only active	0%	100%
Active long/short	0%	20%

	Minimum Allocation	Style Neutral Target	Maximum Allocation
Value	25%	50%	75%
Growth	25%	50%	75%

Note: Investment style exposure will be measured using the Russell U.S. Indices.

D. Hedged Asset Program: Guidelines for Strategy and Allocations

Approved investment strategies of the Hedged Asset Program include market neutral and long/short domestic equity and non-U.S. equity management (beta less than one), as well as multi-asset directional and non-directional strategies.

The Hedged Asset Program may specifically utilize hedge fund-of-funds. A hedge fund-of-funds may employ underlying hedge fund vehicles that employ a very wide range of investment strategies. All hedge fund-of-funds employed by the Systems must be SEC-registered advisors. A hedge fund-of-funds may, however, employ direct hedge funds that are managed by advisors not registered with the SEC. The Hedged Asset portfolio may utilize investment strategies that hold securities which are relatively illiquid. Equitization through futures or swaps is permitted within the Hedged Asset Program, including equitization in an 'Alpha Overlay' format. Other derivative instruments including, but not limited to forward contracts, variance swaps, volatility swaps, VIX funds, put options and call options may be utilized to gain specific exposures or to hedge specific exposures within the Hedged Asset Program. The Investment Staff may also enter into SWAP agreements to gain exposure to various forms of actively managed investment strategies and 'Dynamic Beta' exposures. In addition, the Investment Staff may employ the concepts of 'Risk Parity' and 'Dynamic Beta' investing within the Hedged Asset Composite. Market exposure decisions made by the Investment Staff that are derived through the use of derivatives will not exceed 30.0 percent of the total market value of the Hedged Asset Program. Cash and cash equivalent balances associated with a derivatives-based approach are permitted to be managed in an active fashion by external asset managers as an additional means to add incremental excess returns above the policy benchmark. Derivatives used in the active management of cash and cash equivalent balances shall be considered separate from the 30.0 percent limit. Please see Section V: I. 'Cash Enhancement Program' for additional cash enhancement guidelines.

E. Non- U.S. Public Equity Program: Guidelines for Strategy and Allocations

The benchmark for the Non-U.S. Public Equity Program is the MSCI ACWI Ex-U.S.A. It is expected that the benchmark may change over time to reflect the appropriate PSRS/PEERS allocation to dedicated international or global strategies.

PSRS/PEERS hires external managers to implement strategies based on specified benchmarks. Within the Non-U.S. Public Equity Program, individual Investment Guidelines have been established for each external asset manager. These guidelines specify the range of permissible regional investments relative to assigned benchmark regional weights.

In addition, Staff shall manage the allocations within the Non-U.S. Public Equity Program so that the aggregate investment style of the portfolios falls within the ranges shown below:

	Minimum Allocation	Neutral Target	Maximum Allocation
Global (including emerging) strategies	0%	NA	50%
International (including emerging) strategies	50%	100%	100%
Total in emerging markets (exposure from dedicated emerging, global and international strategies)	0%	benchmark weight	2x benchmark weight

	Minimum Allocation	Neutral Target	Maximum Allocation
Passive Management	0%	10%	100%
Long-only active	0%	80%	100%
Active long/short	0%	10%	40%

F. Public Credit Program: Guidelines for Strategy and Allocations

The maximum exposure to credit within the Public Risk Assets composite is 20% of the Total Fund.

G. Prime Brokers

Prime broker accounts may be utilized for non-traditional investment strategies. Assets contained in prime brokered accounts are no longer custodied by the Master Custodian but all portfolio information is regularly transmitted to the Master Custodian and included in custodial reports.

H. Valuation

All investments will be valued in accordance with U.S. generally accepted accounting principles (U.S. GAAP) as noted in the Investment Policy. U.S. GAAP requires investments to be reported at fair value on a trade date basis.

Publicly traded securities are valued based on the last bid price or quoted closing market price at the period end date based on current exchange rates. If a recent bid price or quoted closing market price is not available, the securities will be valued using accepted industry valuation methods. Fixed income securities not traded on exchanges are based on equivalent values of comparable securities with similar yield and risk.

All securities that are held in custody by the Master Custodian are priced by both the Master Custodian and the Investment Manager. A predetermined threshold for price variance between the Master Custodian and Investment Manager has been set. If the price variance of a security exceeds the threshold, the Master Custodian and the Investment Manager research the pricing further to determine the appropriate value.

Hedge funds are broadly defined to include non-traditional investment strategies whereby the majority of the underlying securities are traded on public exchanges or are otherwise readily marketable. However, many hedge funds do not offer complete transparency of their underlying investment holdings. The Systems contractually require the Hedge Fund Managers to determine the fair value of their investment holdings using accepted industry valuation methods. Staff and a Specialty External Asset Consultant will review the valuation methods via a variety of data which may include offering documents, annual audited financial statements, due diligence inquiries and other relevant data.

If the Specialty External Asset Consultant or Staff disagrees with a valuation or valuation method, additional research will be performed and adjustments to the valuations made as warranted by Staff. In the rare instance when an investment valuation is disputed, the Systems may request outside expertise for further analysis. Staff will maintain written documentation of all adjustments and related supporting documentation.

I. Cash Enhancement Program

The objective of the Cash Enhancement Program is to provide greater returns on the Systems' cash and cash equivalent balances than are available through the use of more traditional approaches to cash management. The Program permits cash in the Public Risk Composite to be managed in an active fashion by external asset manager(s) to add incremental excess returns. The Program will be primarily utilized to manage the cash balances associated with a derivatives-based approach to beta management. Active management of cash balances may include investing in securities with longer-dated maturities[10], repurchase transactions, derivatives, and in securities that inherently possess credit risk, including non-U.S. dollar denominated securities. Cash enhancement strategies are separated into the following two distinct categories:

Category A Cash Enhancement Strategies:

Category A cash enhancement strategies are characterized as lower risk/lower return investment opportunities. Examples of permitted strategies include the purchase of short-dated U.S. Treasury securities as well as short-dated cash and carry trades[11] utilizing U.S. Treasury securities and derivatives.

Category B Cash Enhancement Strategies:

Category B cash enhancement strategies are characterized as having higher risk and higher return potential relative to Category A strategies, though the overall level of risk is still considered low. Category B strategies may include investing

[10] While longer-dated maturities may be held as part of the Cash Enhancement Program, it is Staff's intention to manage these exposures in a manner that minimizes the inherent risks with such longer-dated/longer duration investments.

[11] Short-dated cash and carry trades involve purchasing a longer-dated Treasury security and simultaneously selling it forward to the First Notice Date using futures. The combination of these two transactions effectively creates a 3-month investment.

in longer-dated maturities, repurchase transactions, non-US dollar denominated securities, derivatives, and securities that inherently possess credit risk.

Staff shall manage the Cash Enhancement Program to the following ranges in the Public Risk Assets Composite:

	Minimum Allocation	Maximum Allocation
Total Cash Enhancement	0%	25%
Category A	0%	25%
Category B	0%	10%

Staff shall manage the Cash Enhancement Program to the following ranges for the following Investment Programs:

	Total Cash Enhancement		Category A Cash Enhancement		Category B Cash Enhancement	
	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
Large-Cap Domestic Equity Program (Including Alpha Overlay)	0%	25%	0%	25%	0%	15%
Small-Cap Domestic Equity Program	0%	40%	0%	40%	0%	30%
Hedged Assets Program	0%	10%	0%	10%	0%	10%
Non-US Public Equity Program	0%	20%	0%	20%	0%	10%
Public Credit Program	0%	20%	0%	20%	0%	10%

Cash enhancement strategies may be utilized within the Large-Cap Domestic Equity Program (Including Alpha Overlay), Small-Cap Domestic Equity Program, and Non-U.S. Public Equity Program in an effort to generate excess returns over passive equity investments. Specifically, cash enhancement strategies may be utilized in an effort to generate excess returns over passive equity exposure obtained using derivative instruments that do not require the full amount of the dollar investment be exchanged upon initiation of the investment. An example would be passive equity exposure obtained through the use of total return swaps.

Cash enhancement strategies may be utilized within the Hedged Assets Program in an effort to generate excess returns over passive equity or credit exposure obtained using derivative instruments that do not require the full amount of the dollar investment be exchanged upon the initiation of the investment. Cash enhancement strategies may also be used to generate marginally higher returns on cash reserves not associated with any passive equity or credit exposures obtained through the use of derivative instruments.

Cash enhancement strategies may be utilized within the Public Credit Program in an effort to generate excess returns over passive credit exposure obtained using derivative instruments that do not require the full amount of the dollar investment be exchanged upon the initiation of the investment.

Appendix B

Safe Assets Implementation Manual

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

I. Introduction

On December 21, 2007, the Board of Trustees of The Public School and The Public Education Employee Retirement Systems of Missouri ('PSRS' and 'PEERS', respectively, and hereinafter collectively referred to as 'PSRS/PEERS' or 'Systems') approved a number of changes to the Systems' Public Debt allocation, including the movement from a composite built around the Lehman Aggregate benchmark to a composite focused primarily on U.S. Treasury and TIPS securities. The Public Debt portfolio was converted to a higher quality and more simplified structure in December 2007 to provide significant diversification to the Total Fund. On June 8, 2009, as part of an Asset Allocation study, the Board of Trustees changed the name of the Public Debt Composite to the Safe Assets Composite.

The Investment Staff, with assistance from one or more External Asset Consultants (Consultants), is charged with administering the Program. The Investment Staff, working with at least one External Asset Consultant, is responsible for manager hiring and termination decisions, the development and implementation of investment strategies, and manager allocation policies and practices.

II. Statement of Purpose of Implementation Manual

The Implementation Manual provides formal documentation of the investment policies and procedures for the Program and is incorporated into the Systems' Investment Policy as Appendix B. The document serves as a reference point for the management of the assets by providing a clear definition of the Program's philosophies, objectives and practices. It also gives guidance to those responsible for overseeing and administering the Program – that is, the Board, Executive Director, Investment Staff and External Asset Consultant(s).

The Implementation Manual is intended to serve in tandem with the Investment Policy as it relates to the Safe Assets Program. The development and maintenance of the Implementation Manual is the responsibility of the Investment Staff. Any revisions to the policies and procedures set forth herein must be approved by the Board of Trustees. The

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[1] *Effective 7/1/2013, all assets are held in the Missouri Education Pension Trust (MEPT) for the exclusive benefit of PSRS and PEERS. PSRS and PEERS continue to own their respective share of the commingled invested assets.*

General Consultant is also expected to provide input regarding changes to the directives specified in this document. The Implementation Manual may be revised at any time and will be formally reviewed annually.

III. Investment Philosophy

The Safe Assets Program will be treated as a separate and distinct asset class within the Total Fund structure of PSRS/PEERS with a customized set of objectives, strategies and guidelines. The specific risks and return associated with the Program will be viewed both in isolation and within the context of the entire Fund structure. The Safe Assets Program is designed to create substantial diversification, having low correlation to other asset classes. The securities in the Program should exhibit high liquidity and safety.

A. Overall Investment Objectives

The Safe Assets allocation is intended to act as a source of safety and income for PSRS/PEERS. The allocation should create substantial diversification to the total portfolio and reduce Total Fund volatility through low correlation to other asset classes. Specifically, the Safe Assets portfolio should provide asset protection at the Total Fund level in periods of economic stress.

B. Performance Expectations and Benchmark

The policy benchmark for the Safe Assets allocation will be 80% Barclays U.S. Treasury Index and 20% Barclays U.S. TIPS 1-10 Years Index. The policy benchmark will reflect the approximate duration of the PSRS/PEERS Safe Assets portfolio. However, Staff has been given the discretion in setting duration targets for the portfolio and shall not be limited by the duration of the policy benchmark in effectively managing the Safe Assets portfolio in a manner consistent with the Program's overall objectives. Under certain market and/or economic situations, the Investment Staff may elect to hold an allocation to cash or cash equivalents. Additionally, the staff may elect to underweight or overweight the allocation to U.S. TIPS for the purposes of providing additional risk management to the Safe Assets portfolio or to achieve modest excess returns above the policy benchmark. Under this scenario, Staff will work diligently to manage and monitor the level of tracking error to the policy benchmark. Under most circumstances and over longer time periods, the level of tracking error to the policy benchmark will not exceed 200 basis points.

C. Delegation of Manager Hiring and Termination Decisions

The Board of Trustees has delegated to the Investment Staff, with the assistance of the External Asset Consultant(s) all manager hiring and termination decisions within the Safe Assets Program. The Executive Director, Chief Investment Officer and at least one External Asset Consultant (either the General Consultant or a Specialty Consultant) must unanimously agree upon all manager hiring and termination decisions in writing. The specific details regarding the Systems' external hiring and termination procedures are described in Appendix III, Service Provider Hiring, Retention and Termination Policy.

D. Approved Investment Strategies

The Board has approved the following types of securities for inclusion in the Safe Assets Program:

- Inflation Protected Securities linked to the Consumer Price Index issued by the U.S. Treasury, a department or Agency of the U.S. Government or a Government Sponsored Enterprise.
- Securities issued by the United States Government or its Agencies, including U.S. Treasury STRIPS and FDIC-backed bonds.
- Cash Equivalents including commercial paper, repurchase agreements, certificates of deposit, U.S. and non-U.S. debt instruments and money market funds.

E. Risk Management and Allocation Strategies

The primary risk management tools within the Safe Assets portfolio are the effective duration of the total composite and the allocation to specific security types. Securities within the Safe Assets Program may be utilized as collateral in other parts of the Total Fund. Up to 25% of the Safe Assets portfolio may be levered (at a maximum of 2 to 1). Derivative instruments including, but not limited to futures, forward contracts, swaps and options may be utilized to gain specific market exposure or to hedge specific exposure within the Safe Asset portfolio.

Allocations to the Safe Assets Managers (strategies) may be altered over time as a means to control risk and add incremental return. Actual allocations to Safe Assets Managers (strategies) may deviate from initial targets as a result of market fluctuations or from the transfer of assets from one manager to another. All active decisions to reallocate funds within Safe Assets that result from changes in the target weights are based on a careful assessment of the expected relative risk and return potential for each strategy. The Guidelines for duration and strategy allocations are described in Section IV of this document.

IV. Implementation

A. Guidelines for Duration and Strategy Allocations

The Investment Staff, with the advice of the External Asset Consultant(s), will determine the following within the Safe Assets Program:

- the duration of the Treasury portfolio and the TIPS portfolio, and
- the allocation to Treasuries (and other government supported securities), and TIPS and cash equivalent portfolios.

Monitoring the duration of the total composite and the allocation to each strategy are important components of Staff's responsibilities in managing the Safe Assets Program.

Staff shall adhere to the following guidelines when determining the duration and strategic allocation of the Safe Assets portfolio:

- Strategic allocation and duration changes shall be based on longer-term expectations and should not be guided by short-term fluctuations in the capital markets,
- A prudent level of diversification shall be maintained at all times, and
- Any changes in the allocations to managers should be completed in a cost efficient manner.

In addition, Staff shall manage the allocations within the Safe Assets Program so that the aggregate exposure and duration falls within the ranges shown below:

	Minimum Allocation	Target	Maximum Allocation
Treasuries (government supported securities)	0%	80%	100%
TIPS	0%	20%	100%
Cash Equivalents	0%	0%	40%

	Minimum Duration	Target Duration	Maximum Duration
Treasuries (government supported securities)	3 years	6 years	10 years
TIPS	3 years	5 years	10 years
Cash Equivalents	0 years	1 year	3 years

B. Ongoing Manager Evaluation

The Investment Staff is responsible for the monitoring and evaluation of the external asset managers employed by the Systems as part of the Safe Assets Program. In fulfilling this role, Staff typically meets at least annually with each manager to formally review performance and investment activity.

In addition to these formal review mechanisms, the Investment Staff engages in a number of activities designed to oversee the external management of Safe Assets. Staff carefully monitors the managers to ensure compliance with the Systems' investment policies and procedures and to make sure each firm is adhering to the specific Investment Guidelines established for each mandate. The Staff combines the information received from the managers with its own internally generated analyses and data from the Custodian as part of the review process of the Safe Assets managers.

C. Valuation

All investments will be valued in accordance with U.S. generally accepted accounting principles (U.S. GAAP) as noted in the Investment Policy. U.S. GAAP requires investments to be reported at fair value on a trade date basis.

Publicly traded securities are valued based on the last bid price or quoted closing market price at the period end date based on current exchange rates. If a recent bid price or quoted closing market price is not available, the securities will be valued using accepted industry valuation methods. Fixed income securities not traded on exchanges are based on equivalent values of comparable securities with similar yield and risk.

All securities that are held in custody by the Master Custodian are priced by both the Master Custodian and the Investment Manager. A predetermined threshold for price variance between the Master Custodian and Investment Manager has been set. If the price variance of a security exceeds the threshold, the Master Custodian and the Investment Manager research the pricing further to determine the appropriate value.

Appendix C

Private Risk Assets: Private Credit Implementation Manual

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

I. Introduction

On June 8, 2009, the Board of Trustees of The Public School and The Public Education Employee Retirement Systems of Missouri (hereinafter collectively referred to as 'PSRS/PEERS' or 'Systems') approved a 2.0 percent target allocation to the Private Credit Program as part of a comprehensive asset allocation review. At the June 14, 2016 Board meeting, the target allocation to Private Credit was increased to 4.0 percent of the Systems' total assets as a result of an Asset Allocation Study.

Private Credit is viewed as a separate asset class (within the Private Risk Assets composite) for inclusion in the Systems' overall investment portfolios. Investments in Private Credit differ substantially from the Systems' Public Risk Assets in part because they are typically long-term in nature, not publicly traded, relatively illiquid, and offer the potential for higher returns (along with a commensurate level of risk). The Private Credit portfolio also differs from the Private Equity portfolio, and is a separate and distinct composite within Private Risk Assets. The Private Credit portfolio consists primarily of debt-related investments, but lower risk equity and equity-related private investments also reside within the Private Credit Program. Exposure to Private Credit assets will be achieved by making investments with Private Partnerships and other qualified service providers identified, selected and monitored through one or more of the following: fully-discretionary[2] limited partnership fund-of-funds (separate account and/or commingled basis), and advisory relationship(s) with qualified service providers.

A strategy of over-commitment to the asset class will be followed in order to reach and maintain the 4.0 percent target allocation over a prudent period of time. The Investment Staff, working jointly with at least one External Asset Consultant or Advisor, is responsible for manager hiring and termination decisions, the development and implementation of investment strategies, and manager allocation policies and practices. The parties responsible for the Systems' Private Credit allocation – that is, the Board, Executive Director, Investment Staff and External Advisor(s)[3] (referred to as 'Advisor(s)' or 'Consultant(s)') – recognize the need to establish, maintain and follow a tailored strategy in order to address the complexity of the asset class and to manage its unique risk/return and liquidity characteristics. On August 31, 2009, the Board originally adopted the policies and procedures for the Private Credit Program set forth in this

[1] *Effective 7/1/2013, all assets are held in the Missouri Education Pension Trust (MEPT) for the exclusive benefit of PSRS and PEERS. PSRS and PEERS continue to own their respective share of the commingled invested assets.*

[2] *The term fully-discretionary refers to the delegation of Private Partnership selection to the service provider.*

[3] *Pathway Capital Management (Pathway) and Albourne America, LLC (Albourne) are the Systems' External Advisors.*

Implementation Manual. The most recent revisions to this document were adopted by the Board on December 12, 2016.

II. Statement of Purpose of Implementation Manual

The Implementation Manual provides formal documentation of the investment policies and procedures for the Private Credit allocation and is incorporated into the Systems' Investment Policy as Appendix C. The document serves as a reference point for the management of all Private Credit assets by providing a clear definition of the strategy's philosophies, objectives, and general practices and also gives guidance to those responsible for overseeing and administering the program. The Implementation Manual is intended to serve in tandem with the Investment Policy. The development and maintenance of the Implementation Manual is the responsibility of the Investment Staff. Any revisions to the policies and procedures set forth herein must be approved by the Board of Trustees. The Implementation Manual may be revised at any time and will be formally reviewed annually.

III. Investment Philosophy

The Systems' allocation to Private Credit shall be treated as a separate and distinct asset class within the Total Fund structures of PSRS and PEERS with a customized set of objectives, strategies and guidelines. The Private Credit allocation is intended to enhance long-term Total Fund returns and provide diversification without substantially changing the overall objectives and risk profile of the Systems' portfolios. For risk management and for other purposes, the characteristics and risks associated with Private Credit will be viewed both in isolation and within the context of the entire Fund.

A. Performance Objectives

Based on the Systems' general beliefs and expectations regarding the level of returns that can be generated from a carefully developed and implemented Private Credit Program, the performance objective for the Private Credit allocation is to achieve a net-of-fees return that is 200-300 basis points above the return of the Merrill Lynch High Yield Master II Index over rolling ten-year periods. Additionally, where information is available, PSRS/PEERS will measure returns against median and top quartile performance for the appropriate vintage year, as provided by a third party source. These comparisons will serve as a secondary measure of the success of the Private Credit allocation by measuring the ability of the strategy's investments with general partners to add value within the asset class.

B. Private Markets Categories

The Private Credit asset class is comprised primarily of debt-related investments that typically provide a current yield that may also include equity participation referred to as an 'equity kicker.' Primary strategies are distressed debt, direct lending, mortgage-related investments, bankruptcy restructurings, mezzanine debt, bank loans, and other credit-driven or debt-related investment strategies. Returns typically occur in years three-to-eight. The portfolio may also hold equity and equity-related investments falling under the broad category of buyouts. Buyout strategies include growth financing, acquisitions, add-on acquisitions, restructuring, and recapitalizations. Returns are generally realized in years four-to-ten. Investments in buyouts will not exceed 35.0 percent of the Private Credit target allocation. Investments can be made in the U.S. or globally. In total, the allocation to Non-U.S. Private Credit investments will not exceed 40.0 percent of the overall Private Credit target allocation.

C. Risks of Investing in Private Markets

Along with the potential for higher returns, Private Credit entails a greater level and number of unique risks when compared to public equities and fixed income. As a matter of prudent policy, the Systems (often working in conjunction with its External Private Equity Advisors) will strive to identify and understand the risks associated with each Private Credit investment before any assets are committed. Some of the primary risk characteristics of the Private Credit asset class that differentiate it from the risks associated with publicly traded investments are as follows:

- Investments are relatively illiquid. The illiquid nature of Private Credit can result from the form of the asset or security itself, or it can be a function of the investment structure being utilized (e.g., a limited partnership). Notwithstanding the fact that illiquidity is generally a fundamental characteristic of the asset class and a partial source of the expected return premium, the Systems will ensure that investments provide the maximum liquidity practical through sound policies and a clear understanding of each investment vehicle and its exit strategy.
- Private Markets are inefficient. Since Private Markets are less efficient than public markets and because reliable information is difficult to obtain, professional expertise and a substantial time commitment is necessary to identify and manage the unique and complex risk characteristics of the Private Credit asset class. Due to its inefficient nature, the return dispersion between good and bad Private Credit investments is substantially greater than the dispersion between the returns of publicly traded securities and, as a result, professional expertise and resources are more likely to give an investor an advantage. PSRS/PEERS recognizes that long-term strategic relationships with qualified service providers and a well-crafted, continually monitored Private Credit investment strategy is critical to long-term success.
- Very little public information is available. Due to the fact that Private Credit securities are not publicly traded, there is no readily available, unbiased pricing source for these investments. Thus, interim period valuations are difficult to ascertain, and are, to a great degree, subjective in nature. Consequently, pricing and performance measurement prior to realization of gains are less reliable than in the traditional publicly traded asset classes. The Systems will continually work to establish the processes and procedures necessary to reasonably monitor performance on a quarterly basis, and to assess valuations of assets held in the Private Credit portfolio.

D. Risk Management

Clearly defined policies and procedures for making and monitoring Private Credit investments are an important component of risk management. Within the scope of appropriate, well-defined policies, diversification and a rigorous Private Credit Partnership selection process are the primary risk management tools. The Systems will maintain a prudent level of diversification through the establishment and adherence to appropriate sub-asset class targets and ranges. In addition, diversification will be across vintage years, investment strategies, industries and external service providers. In order to reduce risk, PSRS/PEERS will adhere to a rule that it will not exceed 25.0 percent of a Private Credit Partnership's or manager/advisor's assets within a given fund or product offering. Within the advisory portion of the Private Credit allocation, investments made to any single Private Credit Partnership shall not exceed $150 million on an aggregate cost basis. Developing and following a careful strategy with regard to the timing and diversification of asset commitments and placements will assist in managing overall risk and, specifically, the 'J-curve' effect. International investments will be limited to 40.0 percent of total Private Credit commitments. The Investment Staff may explicitly hedge non-dollar currency exposure within the Private Credit composite through the use of derivative investments.

Staff will review the Audited Financial Statements of Private Credit managers on an annual basis. The report will be reviewed in its entirety for material information. Documentation of such review, as well as each audit report, will be maintained electronically.

E. Private Credit Partnership Commitment Strategy

Private Credit Partnership selection is a critical part of a successful Private Credit Program, along with the annual pace of partnership commitments. The Systems strive to identify and commit assets to Private Credit Partnerships that will perform over the long-term in the top quartile of a universe of similar service providers and to diversify those selections across vintage years in a prudent manner that achieves and maintains the 4.0 percent target allocation.

Based on the Systems' overall asset level, the assumed rate of growth in assets, the Private Credit target allocation, and other factors, the Investment Staff determines and periodically presents to the Board an annual Private Credit Partnership commitment target, usually covering a period of one-to-three years. The target represents a strategy to realize and maintain the target allocation within prudent periods of time. Actual commitments each year will vary from the annual Private Credit Partnership commitment target based on many factors, including the level of high-quality investment opportunities available in a given year.

F. Use of Specialized External Advisors and Investment Structures

Recognizing that Private Credit strategies generally require focused knowledge, expertise, deal flow, industry contacts, and the ability to negotiate favorable terms, the Systems will employ specialized advisors to assist in the development and implementation of the Private Credit Program.

Due to the unique characteristics of the Private Credit asset class, a number of investment structures may be utilized. Exposure to the Private Credit sub-asset classes will be achieved by making investments with Private Credit Partnerships and other qualified service providers identified, selected and monitored through one or both of the following investment structures: fully-discretionary limited partnership fund-of-funds on a separate account basis (i.e., the Missouri Teachers/Pathway Fund managed by Pathway), and advisory portfolios where Staff works closely with one or more of the Systems' External Private Equity Advisors (Albourne and Pathway). By allowing a wide variety of investment structures, PSRS/PEERS will be appropriately positioned to take advantage of market opportunities.

Additionally, specialized firms may be employed for distribution management services and external legal counsel will be utilized as needed. It is expected that specialized investment advisors employed by the Systems will work closely with the Investment Staff in order to develop a clear understanding of all investments placed and to assist Staff in developing a greater level of expertise with regard to the asset class.

G. Delegation of Investment Partnership Hiring and Termination Decisions

The Board of Trustees has delegated to the Investment Staff, with the assistance of External Private Credit Advisor(s)/Asset Consultant(s) all Private Credit Partnership hiring and termination decisions within the advisory portion of the PSRS/PEERS Private Credit allocation. The Executive Director, Chief Investment Officer and External Private Credit Advisor(s)/External Asset Consultant(s) must unanimously agree upon all Private Credit Partnership hiring and termination decisions in writing before the execution of an official contract. The specific details regarding the Systems' external hiring and termination procedures are described in Appendix III, Service Provider Hiring, Retention and Termination Policy.

Within the advisory portion of the Private Credit allocation, investments issued by any single Private Credit Partnership shall not exceed $150 million on an aggregate cost basis. Additionally, in order to reduce Private Credit Partnership risk, PSRS/PEERS will adhere to a rule that it will not own more than 25.0 percent of the outstanding equity interests of any single investment opportunity.

H. Total Fund Target Allocation

A target allocation of 4.0 percent has been established for Private Credit. However, it can take several years from the time a commitment to invest in a Private Credit vehicle is first made to the time the assets are actually placed. Additionally, distributions from existing investments often occur before all assets are fully invested. As such, a comprehensive commitment strategy is necessary to ensure the target allocation is reached within a reasonable time period. As part of its implementation strategy, the Systems will over-commit to the asset class initially in order to attain the 4.0 percent target in a prudent time frame. The Investment Staff and External Private Credit Advisor(s) will monitor the actual and committed exposure to the asset class closely. The uncommitted and unplaced assets will generally maintain public risk exposure until appropriate Private Markets investment vehicles are identified and committed capital is placed. As the Private Credit Program matures, it is anticipated that the actual allocation to Private Credit (as a percentage of total plan assets) may vary based on total plan asset growth and based on the cash flow attributes of the underlying Private Credit partnerships and investments.

IV. Implementation

A. Private Credit Partnership Selection Process

The basic process followed by the External Private Equity Advisor(s)/External Asset Consultant(s), working in conjunction with the Investment Staff, to manage the process of Private Credit Partnership (and other qualified service providers) selection is outlined below:

- Screen Private Credit Partnership investment opportunities for compatibility with the goals, objectives and guidelines established by PSRS/PEERS,
- Conduct an examination of the investment opportunity, including the general partners' investment experience and track record,
- Complete a review of offering documents and additional materials and conduct interviews as appropriate,
- Scrutinize key provisions relating to fees and expenses, allocation of profits, losses, distributions, voting rights, general partner withdrawals and exit clauses, and
- Develop an overall assessment of the suitability of the investment opportunity.

Selection Criteria for Private Credit Partnerships

In order to receive consideration for an assignment with the Systems, a Private Credit Partnership must meet certain minimum criteria. In addition to the basic requirements specified here that apply to all potential Private Credit Partnership selection decisions, a Private Credit Partnership must also comply with any additional criteria defined by the Investment Staff and External Private Credit Advisor(s) that have been established for a particular assignment. The minimum criteria for the selection of Private Credit Partnerships are outlined below:

- Demonstrated knowledge of the Private Credit market segment(s) which the Private Credit Partnership is considering for investment,
- Clearly-defined, repeatable investment process,
- Experienced and diverse management team,
- Demonstrated performance record of adding value in the asset class,
- Track record of quality access/deal flow,
- Clear and accurate communication with investors,
- Good references, and

- Willingness to accept terms that result in the appropriate alignment of interests.

In addition, a Private Credit Partnership must have a sufficient level of assets under management so that the addition of funds from PSRS/PEERS will not cause the assets of the Systems to exceed 25.0 percent of the Partnership's total assets in the product offering.

B. Use of External Legal Counsel

The negotiation of legal agreements governing the terms for investors in Private Credit Partnerships can be complex. The Systems will employ external legal counsel as necessary to ensure the prudent development and execution of contracts with external service providers in the Private Credit area. The Investment Staff and Internal Legal Counsel will be responsible for the retention of qualified external legal counsel.

C. Ongoing Private Credit Partnership Monitoring and Evaluation

The External Private Credit Advisor(s) and Investment Staff have responsibility for the ongoing monitoring and evaluation of Private Credit Partnerships employed by the Systems. The Investment Staff will rely upon a broad body of information and data, including that received from the General Partners and from the External Private Credit Advisor(s). Examples of duties related to the ongoing monitoring and evaluation of Private Credit Partnerships include, but are not limited to, the following:

- Conduct periodic meetings with the general partners/managers,
- Serve on partnership advisory boards if invited and as deemed appropriate,
- Review of amendments to partnership agreements,
- Measure and evaluate partnership return data and financial reports,
- Respond to notices of calls for capital contributions,
- Manage the distributions of public stocks by partnerships, and
- Develop action plans in those situations where PSRS/PEERS or the External Private Credit Advisor(s) become aware that the activities of a partnership are not in conformance with applicable governing documents.

D. Valuation

All investments will be valued in accordance with U.S. generally accepted accounting principles (U.S. GAAP) as noted in the Investment Policy. U.S. GAAP requires investments to be reported at fair value on a trade date basis.

Private Credit investments' fair value will be determined quarterly using accepted industry valuation methods. Staff and the External Private Credit Advisor(s) will review the valuation methods via a variety of data which may include offering documents, annual audited financial statements, due diligence inquiries and other relevant data. Offering documents may allow preparation of final statements in accordance with methods other than U.S. GAAP, such as International Financial Reporting Standards. In these instances, the necessary adjustments to U.S. GAAP are made for the Systems' accounting and performance records. Private Credit investment valuations will be reported as of the last investment statement available, adjusted for intra-valuation date contributions, withdrawals, distributions, consummated sales and purchases as reported by the general partner/investment manager. For example, December 31, 2013 reported values will be recorded in the financial statements based on the most recently available statements which could be based on the September 30, 2013, October 31, 2013, November 30, 2013 or December 31, 2013 valuation adjusted for the transactions previously stated (such as contributions, etc.). At no time should the lag between the reporting date and statement date be greater than a calendar quarter. Also, as soon as the December 31, 2013 final statement is received, it will be recorded in the financial statements which could be January 31, 2014, February 28, 2014 or, at the latest, March 31, 2014. For fiscal year end, the financial statements will be held open for approximately 60 days in order to accommodate recording the June 30 value from the June 30 investment statements.

The External Private Credit Advisor(s) and/or Staff will review the quarterly valuations. If the External Private Credit Advisor(s) becomes aware of significant events or market fluctuations that are not reflected in the general partner's reporting or disagrees with a valuation, additional research will be performed and adjustments to the valuations will be made as warranted by the Advisor(s). In the rare instance that the Advisor(s) and General Partner of a private investment dispute a valuation, the System will record the value based on the Advisor's recommendation. The Advisor(s) and Staff will maintain written documentation of all adjustments and related supporting documentation.

If Staff becomes aware of significant events or market fluctuations that are not reflected in the general partner's reports, such items will be reported to the External Private Credit Advisor(s) for review and consultation as discussed above.

Appendix D

Private Risk Assets: Real Estate Implementation Manual

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

I. Introduction

On January 12, 2004, the Board of Trustees of The Public School and The Public Education Employee Retirement Systems of Missouri (hereinafter collectively referred to as 'PSRS/PEERS' or 'Systems') approved a 5.0 percent target allocation to Real Estate. At the October 30, 2006 Board meeting, the funded target allocation to Real Estate was increased to 7.5 percent of the total Systems' assets as a result of an Asset Allocation Study. At the June 14, 2016 Board meeting, the funded target allocation to Real Estate was increased to 9.0 percent of the total Systems' assets as a result of an Asset Allocation Study. At the June 8, 2009 Board meeting, the Private Real Estate asset class was moved into the Private Risk Assets composite and Public Real Estate securities were eliminated from the Real Estate composite. Additionally, Infrastructure was formally moved into the Private Real Estate asset class allocation.

The allocation to Private Real Estate investments shall be viewed as a separate asset class for inclusion in the Systems' overall investment portfolios. Though the current Private Real Estate target allocation is 9.0% of total plan assets, given their structural nature (e.g. cash flows), investments in Private Real Estate will require an over-commitment factor in order to maintain the 9.0 percent target allocation. The allocation to Private Real Estate from a total fund perspective is designed to provide exposure to a diversified portfolio of institutional quality investments that will provide meaningful, risk-adjusted returns (comprised of income and appreciation), reduce volatility, act as a hedge against inflation, preserve capital and act as a diversifier to the overall PSRS/PEERS investment portfolio. In order to achieve these objectives, the portfolio will be constructed utilizing a combination of Core and Non-Core real estate[2]. The parties responsible for the Systems' Private Real Estate allocation – that is, the Board, Executive Director, Investment Staff and Real Estate Consultant (referred to as 'Consultant' or 'Advisor') – recognize the need to establish, maintain and follow a tailored strategy in order to address the complexity of the asset class and to manage its unique risk/return and liquidity characteristics. On September 13, 2004, the Board originally adopted the policies and procedures for real estate set forth in this Implementation Manual.

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[1] *Effective 7/1/2013, all assets are held in the Missouri Education Pension Trust (MEPT) for the exclusive benefit of PSRS and PEERS. PSRS and PEERS continue to own their respective share of the commingled invested assets.*

[2] *A full definition of each sub-asset class is contained in Section III.A – Private Real Estate Categories. The target allocations and ranges are shown in Section IV.A – Guidelines for Sub-Asset Class Allocations.*

II. Statement of Purpose of Implementation Manual

The Implementation Manual provides formal documentation of the investment policies and procedures for the Private Real Estate allocation and is incorporated into the Systems' Investment Policy as Appendix D. The document serves as a reference point for the management of all Private Real Estate assets by providing a clear definition of the strategies, philosophies, objectives, and general practices and also gives guidance to those responsible for overseeing and administering the program. The Implementation Manual is intended to serve in conjunction with the Investment Policy. The development and maintenance of the Implementation Manual is the responsibility of the Investment Staff. Any revisions to the policies and procedures set forth herein must be approved by the Board of Trustees. The Implementation Manual may be revised at any time and will be formally reviewed at least annually.

III. Investment Philosophy

The Systems' allocation to Private Real Estate shall be treated as a separate and distinct asset class within the Total Fund structure with a customized set of objectives, strategies and guidelines. The Private Real Estate allocation is intended to add diversification to the entire PSRS/PEERS portfolio. The specific objectives of the Private Real Estate allocation will be to optimize yield and return, preserve capital and enhance portfolio value across market cycles. The risks associated with Private Real Estate will be viewed both in isolation and within the context of the Private Risk Assets Composite as well as the Total Fund.

A. Private Real Estate Categories

The Private Real Estate program will be comprised of two components – Core and Non-Core property types.

Core property type – Core investments include existing, substantially leased income-producing properties located principally in metropolitan areas that exhibit reasonable economic diversification. Core properties typically exhibit the following characteristics:

- Predictable income flows with a high proportion of anticipated total return arising from current income and cash flow;
- At least 80 percent leased upon purchase of the asset;
- Located in an economically diversified metropolitan area;
- Credit quality tenants and a staggered lease maturity schedule;
- Quality construction and design features;
- Reasonable assurance of a broad pool of potential purchasers upon disposition;
- Properties requiring quality asset and portfolio management but not requiring specialized operating expertise;
- Investment structures using all cash or limited leverage. Leverage is typically under 30 percent for core properties; and
- Long-term total return expectations for investments within the Core property type are generally in the range of 7% to 9% before fees.

<u>Non-Core property types</u> – Non-Core investments represent those properties and/or investment strategies that require specialized acquisition and management expertise or skill to mitigate the business and leasing risk that may be associated with individual investments. Non-Core investments have greater associated risk compared to Core investments.

At the lower end of the risk spectrum, this category includes value added investment strategies executed at the property level. These investments are comprised of institutional quality traditional property types which offer the opportunity to enhance value through lease-up, rehabilitation or repositioning of the properties typically located in developed markets (e.g. U.S./Europe). The investment strategy is to cure the identified deficiency through an intensive capital expenditures program, increase cash flow from the property, and either hold the property as a Core investment or sell the property to capture the premium related to the value enhancement. Investments also may include specialized property types with or without operating elements which also require unique or specialized management expertise, such as hotels or senior housing, as well as structured finance investments such as mezzanine loans or B notes. Lower risk investments in the Non-Core spectrum typically include assets of medium risk and the use of leverage up to 65% loan-to-value. Long term total return expectations for investments at this risk level are generally in the range of 8% to 12%, before fees.

At the higher end of the risk spectrum, the Non-Core category includes opportunity funds, development funds, international investments and specialized investments. These funds seek to capitalize on the tactical opportunities, mispricing or distress in the real estate and capital markets and are willing to assume additional risk. One or more of the following typically categorizes these riskier Non-Core funds: development or extensive redevelopment; non-traditional investment vehicles (e.g., non-performing loans); entity level investments; or recapitalization of assets or investment companies. These investments may also include funds with specific exposure within international and emerging markets. Management of these investments requires sophisticated capital market and real estate skills. The expected returns (and risks) vary widely among these investments but expected returns are generally in excess of 15%, before fees.

The Non-Core category also includes a broad range of investments and risk/return relationships that do not fit into other categories. Some are relatively low risk, while others, such as public to private transactions similar to private equity or venture capital investments, possess greater inherent risk because of the significant operating component of the returns. These types of investments require specialized management expertise to underwrite, operate and dispose.

Additional investments within the Non-Core sector may also include infrastructure. Infrastructure is expected to provide consistent returns and cash flows by a direct or indirect equity stake in a business that typically owns and/or operates an infrastructure asset. Infrastructure assets are typically hard physical assets with a long duration (such as toll roads) that provide services in markets with limited-to-no direct competition and with high barriers to entry.

B. Investment Structures

The Systems will primarily utilize open-end commingled funds for Core Private Real Estate exposure. Open-end commingled funds provide more immediate access to a diversified portfolio of properties and greater liquidity than separate account investing. Other forms of Core Private Real Estate investments may be utilized if market conditions warrant, including closed-end commingled funds, separate accounts and joint ventures.

Due to the unique characteristics of the Non-Core portion of the real estate market, a wide variety of investment structures will be utilized. Approved structures include open- and closed-end commingled funds, separate accounts, joint ventures, partnerships or portfolio acquisitions and co-investments. By allowing a wide variety of potential structures, PSRS/PEERS will be appropriately positioned to take advantage of market inefficiencies and opportunities.

C. Risk Management

Clearly defined processes and procedures are the primary risk management tools within the Private Real Estate asset class. Additionally, the Systems shall maintain a prudent level of diversification by establishing and adhering to asset class targets and ranges for Core and Non-Core Real Estate. In addition, the Systems shall prudently diversify the Private Real Estate portfolio by investment strategy, investment structure, property type, property life cycle, degree of leverage and geographic and economic region in order to avoid undue concentration in any category. In addition, consideration will be given to minimizing the potential impact of cyclical changes in the economy, financial and/or real estate markets.

In order to reduce external asset manager risk, PSRS/PEERS will adhere to a rule that it will not exceed 25 percent of a manager's assets within a given product type. Furthermore, developing and following a careful strategy with regard to the timing and diversification of asset commitments and placements will result in the prudent management of the overall Private Real Estate portfolio.

Additionally, the following specific risk management policies will be monitored:

- International investments will be limited to 40 percent of the Systems' Private Real Estate allocation on a fully funded basis. The Investment Staff may explicitly hedge non-dollar currency exposure within the Real Estate composite through the use of derivative instruments;
- No individual property shall constitute more than 5 percent of the Private Real Estate allocation; and
- No single firm shall manage more than 25 percent of the Private Real Estate allocation.

Staff will review the Audited Financial Statements of Private Real Estate managers on an annual basis. The report will be reviewed in its entirety for material information. Documentation of such review, as well as each audit report, will be maintained electronically.

D. Leverage

The Systems acknowledge that leverage, when prudently applied and with consideration of the risk/reward tradeoff associated with its use, has the potential to enhance value within the Private Real Estate portfolio. Accordingly, the Systems explicitly allow for the utilization of leverage within the Private Real Estate portfolio. While the use of leverage can increase the volatility of real estate returns, as compared to unleveraged real estate, utilizing leverage is expected to enhance returns, primarily through lowering the overall cost of capital for the investment vehicles.

As a risk management procedure, the Systems have established a maximum portfolio-wide private leverage policy of 45-55% with a target of 50%. This range will allow PSRS/PEERS to capture some of the benefits of using leverage without dramatically increasing expected risk or reducing the diversification benefits of real estate. From time to time, market conditions may cause the portfolio to be below or in breach of this policy. If the policy is in breach for a period of more than four quarters, PSRS/PEERS' Staff must propose a course of action to bring the Systems back into the range of compliance. Decisions related to the use of leverage will typically be made at the investment manager level.

E. Performance Objective

The Private Real Estate allocation will seek to outperform the NCREIF Fund Index – Open End Diversified Core Equity (NFI-ODCE) net of fees over a rolling five-year period.[3] The NFI-ODCE is a capitalization-weighted index based on each funds' net invested capital. The NFI-ODCE is a levered gross and net of fee time-weighted return index consisting of Open-end Core Funds. Open-end Funds are defined as infinite-life vehicles consisting of multiple investors who have the ability to enter or exit the fund on a periodic basis, subject to contribution and/or redemption requests, thereby providing a degree of potential investment liquidity.

F. Total Fund Target Allocation

A target allocation of 9.0 percent has been established for Private Real Estate. However, it can take several years from the time a commitment to invest in a real estate vehicle is first made to the time the assets are actually placed. Additionally, distributions from existing investments often occur before all assets are fully invested. As such, a comprehensive commitment strategy is necessary to ensure the target allocation is maintained. Therefore, the Systems will over-commit to the asset class, primarily within

[3] Since the portfolio's inception in 2005, the benchmark consisted of a portfolio weighted combination of the NPI and NAREIT Equity Index, on a gross of fees basis. Since 2Q09, the portfolio's benchmark was the NPI. Longer time periods consist of a blend of these benchmarks and the time they were in place. The NFI-ODCE Index will be reflected in the benchmark as of 1Q16 going forward.

the non-core sector, in order to maintain the 9.0 percent Private Real Estate target allocation. The Investment Staff will monitor the actual and committed exposure to the asset class closely. It is anticipated that the actual allocation to Private Real Estate (as a percentage of total plan assets) may vary based on total plan asset growth and based on the cash flow attributes of the underlying real estate partnerships.

IV. Implementation

A. Guidelines for Sub-Asset Class Allocations

Target allocations to the various categories of Private Real Estate will be reviewed at least annually with the Board of Trustees, Staff and Real Estate Consultant. The Systems have developed the following sub-asset class targets and ranges:

	Broad Target Allocation	Sub Target Allocation	Funded Range
Core Real Estate	45.0%	45.0%	30.0% - 85.0%
Non-Core Real Estate	55.0%	50.0%	0.0% - 70.0%
Infrastructure		5.0%	0.0% - 10.0%
TOTAL	100.0%	100.0%	

The sub-asset class targets represent longer-term investment objectives. Due to the timing of investment decisions (specifically during implementation), the actual sub-asset class allocations may differ substantially from the targets, within the range specified for each category. Additionally, the Systems may from time to time overweight certain sub-asset classes within the Private Real Estate allocation to improve the strategy's risk/return profile or to take advantage of unique investment opportunities that are time sensitive.

The above sub-target allocations are contemplated under the existing asset allocation. In the event risk/return metrics and/or the total real estate allocation changes as a result of a revised allocation policy, the above sub-target allocation will be confirmed by Staff and the Real Estate Consultant.

B. Guidelines for Manager Allocations

Monitoring the allocations to each manager and, when necessary, making strategic changes to those allocations to take advantage of market and investment management opportunities are important components of Staff's responsibilities in managing the Private Real Estate allocation. It is possible, at times, that a manager may be under contract with the Systems but will not manage any assets. Such a situation would be based on the Systems' manager allocation strategies. The initial allocations and all reallocations are based on a careful assessment of the relative risk and return potential for each manager. The Investment Staff is responsible for documenting the rationale for actions taken in accordance with this policy.

C. Diversification

Individual real estate strategies can appear risky when viewed in isolation. When carefully reasoned combinations of diverse investment strategies are viewed in the aggregate, the resulting portfolios can produce a return pattern over time that exhibits very favorable risk/return characteristics. With that goal in mind, the Staff, with the assistance of the Real Estate Consultant, will give careful consideration to manager combinations through the incorporation of sophisticated risk management techniques. This intensive analysis of the way in which individual portfolios perform within a larger real estate composite will be part of the manager search process and the ongoing evaluation of the Private Real Estate program.

D. Delegation of Manager Hiring and Termination Decisions

The Board of Trustees has delegated to the Investment Staff and Real Estate Consultant all manager hiring and termination decisions. The Executive Director, Chief Investment Officer and Real Estate Consultant must unanimously agree upon all manager hiring and termination decisions in writing. The Staff will inform the Board in writing at least one week prior to the execution or within 72 hours of the termination of a contract with an external service provider. The specific details regarding the Systems' external hiring and termination procedures are described in Appendix III, Service Provider Hiring, Retention and Termination Policy.

E. Use of External Legal Counsel

The negotiation of legal agreements with external service providers providing real estate management services can be complex. The Systems will employ external legal counsel as necessary to ensure the prudent development of executable contracts with providers of real estate management services. The Investment Staff and Internal Legal Counsel will be responsible for the retention of qualified external legal counsel.

F. Valuation

All investments will be valued in accordance with U.S. generally accepted accounting principles (U.S. GAAP) as noted in the Investment Policy. U.S. GAAP requires investments to be reported at fair value on a trade date basis.

Private Real Estate investments' fair value will be determined using accepted industry valuation methods. Staff and the External Real Estate Consultant will review the valuation methods via a variety of data which may include offering documents, annual audited financial statements, independent appraisals, due diligence inquiries and other relevant data. Offering documents may allow preparation of final statements in accordance with methods other than U.S. GAAP, such as International Financial Reporting Standards. In these instances, the necessary adjustments to U.S. GAAP are made for the Systems' accounting and performance records. Most real estate investment valuations will be reported as of the last investment statement available adjusted for intra-valuation date contributions, withdrawals, distributions, consummated sales and purchases as reported by the general partner/investment manager. For example, December 31, 2012 reported values will be recorded in the financial statements based on the most recently available statements which could be based on the September 30, 2012, October 31, 2012, November 30, 2012 or December 31, 2012 valuation adjusted for the transactions previously stated (such as contributions, etc.). At no time should the lag between the reporting date and statement date be greater than a calendar quarter. Also, as soon as the December 31, 2012 final statement is received, it will be recorded in the financial statements which could be January 31, 2013, February 28, 2013 or, at the latest, March 31, 2013. For fiscal year end, the financial statements will be held open for approximately 60 days in order to accommodate recording the majority of June 30 values from the June 30 investment statements.

The External Real Estate Consultant and Staff review the quarterly valuations. If the External Real Estate Consultant or Staff become aware of significant events or market fluctuations that are not reflected in the general partner's reporting or disagrees with a valuation, additional research will be performed and adjustments to the valuations made as warranted by Staff. In the rare instance that Staff and the General Partner of a real estate investment dispute a valuation, the System may request outside expertise for further analysis. Staff will maintain written documentation of all adjustments and related supporting documentation.

Appendix E

Private Risk Assets: Private Equity Implementation Manual

The Public School
and
The Public Education Employee Retirement Systems of Missouri[1]

I. Introduction

On January 15, 2002, the Board of Trustees of The Public School and The Public Education Employee Retirement Systems of Missouri (hereinafter collectively referred to as 'PSRS/PEERS' or 'Systems') approved a 3.0 percent target allocation to Private Equity as part of a comprehensive asset allocation review.[2] On January 12, 2004, the Board reaffirmed the 3.0 percent objective. The Private Equity target allocation was increased to 5.0 percent at the December 12, 2005 Board meeting and was increased to 7.5 percent on October 30, 2006. At the Board meeting on October 27, 2008, the Private Equity target allocation was increased again to 10.5 percent. At the June 14, 2016 Board meeting, the target allocation to Private Equity was increased to 12.0 percent of the Systems' total assets as a result of an Asset Allocation Study.

Private Equity is viewed as a separate asset class for inclusion in the Systems' overall investment portfolios. Investments in Private Equity differ substantially from the Systems' public markets asset classes (Public Risk Assets and Safe Assets) in part because they are typically very long-term in nature, not publicly traded, relatively illiquid, and offer the potential for substantially higher returns (along with a commensurate level of risk). The three broad Private Equity sub-asset classes are buyouts, venture capital and debt-related financial instruments.[3] Exposure to the Private Equity sub-asset classes will be achieved by making investments with Private Equity Partnerships identified, selected and monitored through one or more of the following: fully-discretionary[4] limited partnership fund-of-funds (separate account and/or commingled basis), and advisory relationship(s) with qualified service providers. Private equity advisory firms, private equity fund-of-funds managers, and managers specializing in private equity secondary investments represent the primary types of external service

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[1] *Effective 7/1/2013, all assets are held in the Missouri Education Pension Trust (MEPT) for the exclusive benefit of PSRS and PEERS. PSRS and PEERS continue to own their respective share of the commingled invested assets.*

[2] *Private Equity refers to investments in private companies and non-publicly traded securities that are typically both sourced and made through domestic and Non-U.S. pooled private equity partnerships, including funds with the following types of investment focus: acquisitions and buyouts (large, medium and small), venture capital (late-stage and early-stage), distressed debt, subordinated debt, distressed mortgage products, certain forms of direct lending, equity expansion capital, growth equity, special situations, restructuring/recovery and others investing broadly in the private equity asset class.*

[3] *A full definition of each sub-asset class is contained in Section III.B - Private Markets Categories. The target allocations and ranges are shown in Section IV.A - Guidelines for Sub-Asset Class Allocations.*

[4] *The term fully-discretionary refers to the delegation of Private Equity Partnership selection to the service provider.*

providers that offer investment structures or services falling under these categories to large institutional investors such as PSRS/PEERS.[5] Exposure to the three Private Equity sub-asset classes may also be achieved by making additional direct investments into underlying portfolio companies through the Systems' Private Equity Co-Investment Program.[6/7]

A strategy of over-commitment to the asset class will be followed in order to reach and maintain the 12.0 percent target allocation over a prudent period of time. The parties responsible for the Systems' Private Equity allocation – that is, the Board, Executive Director, Investment Staff and External Private Equity Advisor(s)[8] (referred to as 'Advisor(s)' or 'Consultant(s)') - recognize the need to establish, maintain and follow a tailored strategy in order to address the complexity of the asset class and to manage its unique risk/return and liquidity characteristics. On April 9, 2002, the Board originally adopted the policies and procedures for Private Equity set forth in this Implementation Manual. The most recent revisions to this document were adopted by the Board on December 12, 2016.

II. Statement of Purpose of Implementation Manual

The Implementation Manual provides formal documentation of the investment policies and procedures for the Private Equity allocation and is incorporated into the Systems' Investment Policy as Appendix E. The document serves as a reference point for the management of all Private Equity assets by providing a clear definition of the strategy's philosophies, objectives, and general practices and also gives guidance to those responsible for overseeing and administering the program. The Implementation Manual is intended to serve in tandem with the Investment Policy. The development and maintenance of the Implementation Manual is the responsibility of the Investment Staff. Any revisions to the policies and procedures set forth herein must be approved by the Board of Trustees. The Implementation Manual may be revised at any time and will be formally reviewed annually.

III. Investment Philosophy

The Systems' allocation to Private Equity shall be treated as a separate and distinct asset class within the Total Fund structures of PSRS and PEERS with a customized set of objectives, strategies and guidelines. The Private Equity allocation is intended to enhance long-term Total Fund returns and provide diversification without substantially changing the overall objectives and risk profile of the Systems' portfolios. For risk management and for other purposes, the characteristics and risks associated with Private Equity will be viewed both in isolation and within the context of the Total Fund.

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[5] *The use of Specialized Investment Advisors is also covered in Section III.*

[6] *A full description of the Private Equity Co-Investment Program is contained in Section III.H – Private Equity Co-Investment Program.*

[7] *It is expected that most Private Equity Co-investments will fall under the sub-asset class category of buyouts.*

[8] *Pathway Capital Management (Pathway) is the Systems' current Primary External Private Equity Advisor, or 'Primary Advisor'. Albourne Partners also provides Private Equity Advisory Services to PSRS/PEERS.*

A. Performance Objectives

Based on the Systems' general beliefs and expectations regarding the level of returns that can be generated from a carefully developed and implemented private equity program, the performance objective for the Private Equity allocation is to achieve a net-of-fees return that is 300 basis points above the return of the Russell 3000 Index over rolling ten-year periods. Additionally, where information is available for the total portfolio and the sub-asset classes, PSRS/PEERS will measure returns against median and top quartile performance for the appropriate vintage year, as provided by a third party source. These comparisons will serve as a secondary measure of the success of the Private Equity allocation by measuring the ability of the strategy's investments with general partners to add value within the asset class. Long-term returns for the Private Equity Program will also be measured against a custom benchmark comprised of the Russell 3000 Index and MSCI AC World Free Ex-U.S. Index that reflects the actual longer-term allocation split between U.S. and Non-U.S. private equity investments within the Private Equity Program.

B. Private Markets Categories

The Private Equity asset class is comprised of investment opportunities not typically included within the public equity and fixed income markets. Private Equity investing provides financing for start-up companies, private middle market companies, firms in financial distress, public and non-public firms and facilitates investments by general partners seeking acquisition financing and growth equity capital. Both equity and debt-related financial instruments that tend to be private in nature are commonly held within a Private Equity portfolio. Private Equity investments can be classified into three basic sub-asset class categories:

- Venture Capital
- Buyouts
- Debt-Related

Investments in the sub-asset classes can be made in the U.S. or outside this country. In total, the allocation to Non-U.S. Private Equity investments will not exceed 40.0 percent of the overall Private Equity target allocation. The three sub-asset class categories provide for the grouping of diverse Private Equity investment opportunities and are described in more detail below.

- Venture Capital – Provides start-up or expansion capital to young or rapidly growing companies with the expectation of achieving high rates of return. Includes seed stage, early stage, later stage, and expansion stage investments. Realizations from venture capital investments typically occur in years five-twelve.
- Buyouts – Involves the purchase of a control position (majority or minority) or non-control position in an established company using equity (or equity and debt) in order to assume an ownership position and either full control or a measure of control over its assets and operations. Buyout strategies include acquisitions, add-on acquisitions, growth financing, and restructuring and re-capitalizations. Realizations typically occur in years four-ten. Strategies may be either broadly-

based across industries or they may be specific to a certain industry or market segments (typically referred to as special situations).

- Debt-Related – Investments in a debt instrument, which provides current yield, often with equity participation (usually warrants) referred to as an 'equity kicker.' Primary strategies are distressed debt, bankruptcy restructurings, mortgage-related investing,mezzanine debt, and broad direct lending. Returns are generally realized in years three-eight. Various types of special situations investing are often included in this category.

C. Risks of Investing in Private Markets

Along with the potential for higher returns, Private Equity entails a greater level and number of unique risks when compared to public equities and fixed income. As a matter of prudent policy, the Systems (often working in conjunction with its External Private Equity Advisors) will strive to identify and understand the risks associated with each Private Equity investment before any assets are committed. Some of the primary risk characteristics of the Private Equity asset class that differentiate it from the risks associated with publicly traded investments are as follows:

- Return volatility is higher. The volatility of returns from Private Equity can be high since investments are relatively concentrated, because funds are often allocated to emerging and unproven companies, and due to the general nature of the asset class. It takes three-twelve years before a typical investment is fully realized. In the interim, the value of the investment tends to follow a J-curve pattern, meaning that in the first several years the value of the investment may be less than the sum of committed capital. This is due to the fact that many successful investments are valued conservatively at cost (which approximates market value), while write-downs of unsuccessful ventures and management fees reduce the overall market value. Gains are realized in later years as investments are harvested. The 'J-curve' is managed through prudent policies, along with diversification across both investment types and vintage year.
- Investments are relatively illiquid. The illiquid nature of Private Equity can result from the form of the asset or security itself, or it can be a function of the investment structure being utilized (e.g., a limited partnership). Notwithstanding the fact that illiquidity is generally a fundamental characteristic of the asset class and a partial source of the expected return premium, the Systems will ensure that investments provide the maximum liquidity practical through sound policies and a clear understanding of each investment vehicle and its exit strategy.
- Private Markets are inefficient. Since Private Markets are less efficient than public markets and because reliable information is difficult to obtain, professional expertise and a substantial time commitment is necessary to identify and manage the unique and complex risk characteristics of the Private Equity asset class. Due to its inefficient nature, the return dispersion between good and bad Private Equity investments is substantially greater than the dispersion between the returns of publicly traded securities and, as a result, professional expertise and resources are more likely to give an investor an advantage. PSRS/PEERS recognizes that long-term strategic relationships with qualified service providers and a well-

crafted, continually monitored Private Equity investment strategy is critical to long-term success.

- <u>Very little public information is available</u>. Due to the fact that Private Equity securities are not publicly traded, there is no readily available, unbiased pricing source for these investments. Thus, interim period valuations are difficult to ascertain, and are, to a great degree, subjective in nature. Consequently, pricing and performance measurement prior to realization of gains are less reliable than in the traditional publicly traded asset classes. The Systems will continually work to establish the processes and procedures necessary to reasonably monitor performance on a quarterly basis, and to assess valuations of assets held in the Private Equity portfolio.

<u>D. Risk Management</u>

Clearly defined policies and procedures for making and monitoring Private Equity investments are an important component of risk management. Within the scope of appropriate and well-defined policies, diversification and a rigorous Private Equity Partnership and investment selection process are the primary risk management tools. The Systems will maintain a prudent level of diversification through the establishment and adherence to appropriate sub-asset class targets and ranges. In addition, diversification will be across vintage years, investment strategies, industries and external service providers. In order to reduce risk, PSRS/PEERS will adhere to a rule that it will not exceed 25.0 percent of a Private Equity Partnership's or manager/advisor's assets within a given fund or product offering. Within the advisory portion of the Private Equity allocation, investments made to any single Private Equity Partnership shall not exceed $150 million on an aggregate cost basis. Developing and following a careful strategy with regard to the timing and diversification of asset commitments and placements will assist in managing overall risk and, specifically, the 'J-curve' effect. International investments will be limited to 40.0 percent of total Private Equity commitments. The Investment Staff may explicitly hedge non-dollar currency exposure within the Private Equity composite through the use of derivative instruments.

Staff will review the Audited Financial Statements of private equity managers on an annual basis. The report will be reviewed in its entirety for material information. Documentation of such review, as well as each audit report, will be maintained electronically.

<u>E. Private Equity Partnership Commitment Strategy</u>

Private Equity Partnership selection is a critical part of a successful Private Equity program, along with the annual pace of partnership commitments. The Systems strive to identify and commit assets to Private Equity Partnerships that will perform over the long-term in the top quartile of a universe of similar service providers and to diversify those selections across vintage years in a prudent manner that achieves and maintains the 12.0 percent target allocation.

Based on the Systems' overall asset level, the assumed rate of growth in assets, the Private Equity target allocation, and other factors, the Investment Staff determines and periodically presents to the Board an annual Private Equity Partnership commitment target, usually covering a period of one-to-three years. The target represents a strategy to realize and maintain the target allocation within prudent periods of time. Actual commitments each year will vary from the annual Private Equity Partnership commitment target based on many factors, including the level of high-quality investment opportunities available in a given year.

PSRS/PEERS will gain exposure to Private Equity Partnerships through both Primary Private Equity commitments and Private Equity Secondary investments[9]. Primary Private Equity commitments represent the 'core' of the Systems' Private Equity Program.[10] The Private Equity Secondary investment strategy was approved by the Board on June 12, 2006 to complement the core component of the Systems' Private Equity strategy, that is, original primary commitments to high-quality partnerships investing in buyouts, venture capital, and debt-related opportunities.

F. Use of Specialized External Advisors and Investment Structures

Recognizing that Private Equity strategies generally require focused knowledge, expertise, deal flow, industry contacts, and the ability to negotiate favorable terms, the Systems will employ specialized advisors to assist in the development and implementation of the Private Equity Program.

Due to the unique characteristics of the Private Equity asset class, a number of investment structures may be utilized. Exposure to the Private Equity sub-asset classes will be primarily achieved by making investments with Private Equity Partnerships identified, selected and monitored through one or more of the following: fully-discretionary limited partnership fund-of-funds on a separate account basis (for example, the Missouri Teachers/Pathway Funds managed by Pathway), fully-discretionary limited partnership fund-of-funds on a commingled basis (for instance, Lexington Capital Partners VI, L.P. and Pantheon Global Secondary Fund III), and advisory portfolios where Staff works closely with the Systems' External Private Equity Advisors (Pathway and Albourne). By allowing a wide variety of investment structures, PSRS/PEERS will be appropriately positioned to take advantage of market opportunities.

Additionally, specialized firms may be employed for distribution management services and external legal counsel will be utilized as needed. It is expected that specialized investment advisors employed by the Systems will work closely with the Investment Staff in order to develop a clear understanding of all investments placed and to assist Staff in developing a greater level of expertise with regard to the asset class.

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[9] *Managers that make Private Equity Secondary investments purchase existing interests in buyout, venture capital and debt-related partnerships in both domestic and non-U.S. markets through negotiated secondary transactions. Such transactions are referred to as 'secondary's' because the purchase and sale of the asset is occurring a second time following its original issuance. Typically, a secondary transaction will occur after 50-100 percent of the committed capital has been invested in portfolio companies, with the age of secondary interests at the time of purchase averaging four to six years.*

[10] *Private Equity Secondary service providers typically have the discretion to invest modest amounts through primary partnership commitments.*

G. Delegation of Investment Partnership Hiring and Termination Decisions

The Board of Trustees has delegated to the Investment Staff and External Private Equity Advisor(s) all Private Equity Partnership hiring and termination decisions within the advisory portion of the PSRS/PEERS Private Equity allocation. The Executive Director, Chief Investment Officer and one External Private Equity Advisor must unanimously agree upon all Private Equity Partnership hiring and termination decisions in writing before the execution of an official contract. The specific details regarding the Systems' external hiring and termination procedures are described in Appendix III, Service Provider Hiring, Retention and Termination Policy.

Within the advisory portion of the Private Equity allocation, investments made to any single Private Equity Partnership shall not exceed $150 million on an aggregate cost basis. Additionally, in order to reduce Private Equity Partnership risk, PSRS/PEERS will adhere to a rule that it will not own more than 25.0 percent of the outstanding equity interests of any single investment opportunity.

The Board of Trustees has also delegated to the Investment Staff hiring and termination decisions related to fully-discretionary limited partnership fund-of-funds on a separate account and commingled basis. The decision by the Board to delegate this decision-making to Staff was originally made at the June 12, 2006 Board meeting and was reaffirmed at the October 30, 2006 Board meeting. All hiring decisions under this policy must be approved in writing by both the Chief Investment Officer and the Executive Director. Furthermore, a contract will not be executed until one week after the Investment Staff has provided a full review of the investment opportunity to the Board.

H. Private Equity Co-Investment Program

On January 13, 2014 the Board of Trustees approved changes to the Private Equity Implementation Manual that direct PSRS/PEERS in the development and implementation of a Private Equity Co-Investment Program (Co-Investment Program). The Co-Investment Program is expected to further advance the goals and objectives of the overall Private Equity Program by obtaining additional exposure to underlying portfolio company investments through direct equity investments made on a side-by-side basis with private equity funds where PSRS/PEERS has an existing relationship.[11] Co-investments serve to increase PSRS/PEERS' exposure to the Private Equity asset class with little or no additional fees and/or performance carry paid to the underlying private equity partnerships. The objective of the Co-Investment Program is to leverage existing, high-quality relationships with private equity managers in order to increase commitments to the asset class in a format that does not materially increase overall risk, while simultaneously helping to lower fees and performance carry. All decisions made regarding the Private Equity Co-Investment Program shall be consistent with the overall performance objectives, risk management practices, total plan target allocation, and commitment strategy for the overall Private Equity Program. While the Private Equity Co-Investment Program is expected to increase the investment concentration in certain underlying portfolio company investments and may marginally increase illiquidity, the

[11] *The existing relationship can reside in either PSRS/PEERS advisory portfolios or in fully discretionary limited partnership fund-of-funds.*

Co-Investment Program is not expected to materially change the overall risk profile of the PSRS/PEERS Private Equity Program. Annual commitments by PSRS/PEERS to Private Equity Co-Investments will vary year-to-year, but will be consistent with the overall commitment strategy for the Private Equity Program.

The Investment Staff and External Private Equity Advisor(s) or fully discretionary limited partnership fund-of-funds service provider(s) (referred to as Co-Investment Service Providers), will work together to implement Private Equity Co-Investment portfolios. All Co-Investments will be made through a limited partnership or limited liability company structure established jointly by PSRS/PEERS and Co-Investment Service Provider(s) and managed by Co-Investment Service Provider(s), where the purpose is to make Co-Investments offered by sponsors of private equity funds where PSRS/PEERS is currently invested. While the Co-Investment Service Provider(s) will be primarily responsible for implementing specific Co-Investment processes and making investment decisions related to specific underlying portfolio company investments, the Investment Staff shall maintain due diligence processes and rights, and may retain 'veto' authority for any and/or all potential Co-Investment opportunity for any reason. The Investment Staff does not need approval from the Board of Trustees or the Executive Director to 'veto' Co-Investment opportunities or to work with Co-Investment Service Providers to determine the appropriate allocation size to individual co-investment opportunities.

The Investment Staff, working with Co-Investment Service Provider(s), is responsible for developing a full set of Investment Guidelines, restrictions, and risk management procedures for Private Equity Co-Investment portfolios. These guidelines, restrictions and risk management practices will be codified in the limited partnership or limited liability company documents or within a service provider's Investment Guidelines. Additionally, no Co-Investment in any one individual company will exceed $25 million and no more than $70 million will be invested through the Co-Investment Program in underlying portfolio companies associated with one private equity partnership on an aggregate cost basis. For performance reporting purposes, the Private Equity Co-Investment Program will be viewed in both isolation and within the context of the total private equity portfolio.

I. Total Fund Target Allocation

A target allocation of 12.0 percent has been established for Private Equity. However, it can take several years from the time a commitment to invest in a private equity vehicle is first made to the time the assets are actually placed. Additionally, distributions from existing investments often occur before all assets are fully invested. As such, a comprehensive commitment strategy is necessary to ensure the target allocation is reached within a reasonable time period. As part of its implementation strategy, the Systems will over-commit to the asset class initially in order to attain the 12.0 percent target in a prudent time frame. The Investment Staff and External Private Equity Advisor(s) will monitor the actual and committed exposure to the asset class closely. As the Private Equity program matures, it is anticipated that the actual allocation to Private Equity (as a percentage of total plan assets) may vary based on total plan asset growth and based on the cash flow attributes of the underlying private equity partnerships.

IV. Implementation

A. Guidelines for Sub-Asset Class Allocations

Target allocations to the various categories of Private Equity will be reviewed at least annually with the Board of Trustees, Staff and Primary External Private Equity Advisor. The Systems have developed the following sub-asset class targets and ranges:

Sub-Asset Classes[12]	Lower Range	Allocation Policy Target	Upper Range
Venture Capital	10.0%	20.0%	40.0%
Buyouts	40.0%	70.0%	80.0%
Debt-Related	0.0%	10.0%	35.0%

The sub-asset class targets represent longer-term investment objectives. Due to the timing of investment decisions, the actual sub-asset class allocations may differ from the targets, within the ranges specified for each category. Additionally, the Systems may from time to time overweight certain sub-asset classes within the Private Equity allocation to improve the strategy's risk/return profile or to take advantage of unique investment opportunities that are time sensitive. Over time, PSRS/PEERS will invest consistently to gain the proper exposure to the sub-asset classes, with an eye towards finding the most attractive investment opportunities with the best possible terms first, and fulfilling the target allocations second. While the Systems will execute a prudent opportunistic approach in order to secure the best investments and terms, specific market timing will generally not occur within the asset class.

B. Private Equity Partnership Selection Process

The basic process followed by the External Private Equity Advisor(s), working in conjunction with the Investment Staff, to manage the process of Private Equity Partnership selection is outlined below:

- Screen Private Equity Partnership investment opportunities for compatibility with the goals, objectives and guidelines established by PSRS/PEERS,
- Conduct an examination of the investment opportunity, including the general partners' investment experience and track record,

[12] *The Systems elected not to categorize international as a sub-asset class. Instead, investments made outside the U.S. will be included in one of the appropriate sub-asset class categories shown here. In the aggregate, International exposure will not exceed 40 percent of the total Private Equity allocation.*

- Complete a review of offering documents and additional materials and conduct interviews as appropriate,
- Scrutinize key provisions relating to fees and expenses, allocation of profits, losses, distributions, voting rights, general partner withdrawals and exit clauses, and
- Develop an overall assessment of the suitability of the investment opportunity.

<u>Selection Criteria for Private Equity Partnerships</u>

In order to receive consideration for an assignment with the Systems, a Private Equity Partnership must meet certain minimum criteria. In addition to the basic requirements specified here that apply to all potential Private Equity Partnership selection decisions, a Private Equity Partnership must also comply with any additional criteria defined by the Investment Staff and External Private Equity Advisor that have been established for a particular assignment. The minimum criteria for the selection of Private Equity Partnerships are outlined below:

- Demonstrated knowledge of the Private Equity market segment(s) which the Private Equity Partnership is considering for investment,
- Clearly-defined, repeatable investment process,
- Experienced and diverse management team,
- Demonstrated performance record of adding value in the asset class,
- Track record of quality access/deal flow,
- Clear and accurate communication with investors,
- Good references, and
- Willingness to accept terms that result in the appropriate alignment of interests.

In addition, a Private Equity Partnership must have a sufficient level of assets under management so that the addition of funds from PSRS/PEERS will not cause the assets of the Systems to exceed 25.0 percent of the Partnership's total assets in the product offering.

<u>C. Use of External Legal Counsel</u>

The negotiation of legal agreements governing the terms for investors in Private Equity Partnerships can be complex. The Systems will employ external legal counsel as necessary to ensure the prudent development and execution of contracts with external service providers in the Private Equity area. The Investment Staff and Internal Legal Counsel will be responsible for the retention of qualified external legal counsel.

<u>D. Ongoing Private Equity Partnership Monitoring and Evaluation</u>

The External Private Equity Advisor(s) and Investment Staff have responsibility for the ongoing monitoring and evaluation of Private Equity Partnerships employed by the Systems. The Investment Staff will rely upon a broad body of information and data, including that received from the General Partners and from the External Private Equity

Advisor(s). Examples of duties related to the ongoing monitoring and evaluation of Private Equity Partnerships include, but are not limited to, the following:

- Conduct periodic meetings with the general partners/managers,
- Serve on partnership advisory boards if invited and as deemed appropriate,
- Review of amendments to partnership agreements,
- Measure and evaluate partnership return data and financial reports,
- Respond to notices of calls for capital contributions,
- Manage the distributions of public stocks by partnerships, and
- Develop action plans in those situations where PSRS/PEERS or the External Private Equity Advisor become aware that the activities of a partnership are not in conformance with applicable governing documents.

E. Valuation

All investments will be valued in accordance with U.S. generally accepted accounting principles (U.S. GAAP) as noted in the Investment Policy. U.S. GAAP requires investments to be reported at fair value on a trade date basis.

Private equity investments' fair value will be determined quarterly using accepted industry valuation methods. Staff and the External Private Equity Advisor(s) will review the valuation methods via a variety of data which may include offering documents, annual audited financial statements, due diligence inquiries and other relevant data. Offering documents may allow preparation of final statements in accordance with methods other than U.S. GAAP, such as International Financial Reporting Standards. In these instances, the necessary adjustments to U.S. GAAP are made for the Systems' accounting and performance records. Private equity investment valuations will be reported as of the last investment statement available, adjusted for intra-valuation date contributions, withdrawals, distributions, consummated sales and purchases as reported by the general partner/investment manager. For example, December 31, 2013 reported values will be recorded in the financial statements based on the most recently available statements which could be based on the September 30, 2013, October 31, 2013, November 30, 2013 or December 31, 2013 valuation adjusted for the transactions previously stated (such as contributions, etc.). At no time should the lag between the reporting date and statement date be greater than a calendar quarter. Also, as soon as the December 31, 2013 final statement is received, it will be recorded in the financial statements which could be January 31, 2014, February 28, 2014 or, at the latest, March 31, 2014. For fiscal year end, the financial statements will be held open for approximately 60 days in order to accommodate recording the June 30 value from the June 30 investment statements.

The External Private Equity Advisor(s) and/or Staff will review the quarterly valuations. If the External Private Equity Advisor(s) becomes aware of significant events or market fluctuations that are not reflected in the general partner's reporting or disagrees with a valuation, additional research will be performed and adjustments to the valuations will be made as warranted by the Advisor(s). In the rare instance that the Advisor(s) and General

Partner of a private investment dispute a valuation, the System will record the value based on the Advisors' recommendation. The Advisor(s) and Staff will maintain written documentation of all adjustments and related supporting documentation.

If Staff becomes aware of significant events or market fluctuations that are not reflected in the general partner's reports, such items will be reported to the External Private Equity Advisor(s) for review and consultation as discussed above.