California Public Employees' Retirement System
Total Fund Investment Policy

Effective Date

March 16, 2015
This policy is effective immediately upon adoption and supersedes the previous Total Fund Statement of Investment Policy and the consolidated policies listed in the table of contents below.

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A. Introduction

The California Public Employees' Retirement System (CalPERS) Total Fund Investment Policy, adopted by the CalPERS Investment Committee (Committee), sets forth CalPERS investment beliefs and overarching investment purposes and objectives with respect to all its investment programs.

The purpose of this Policy, and each of CalPERS other investment policies (collectively the Policies), is to provide a framework for the management of CalPERS assets. The Policies outline objectives, benchmarks, restrictions and responsibilities so that the Committee, Staff, consultants, managers, members and beneficiaries, and all CalPERS stakeholders clearly understand the objectives and policies of CalPERS investment program. The Policies also encourage effective communication, facilitate transparency and compliance, and provide a framework for reporting back to the Committee, as appropriate.

The Policies set forth the guidelines which the Committee deems to be appropriate and prudent in consideration of the needs of and the legal requirements applicable to CalPERS investment program. The Policies provide criteria against which investment results will be measured and serve as a review document to guide ongoing operations and oversight. The Policies also are intended to ensure that the Committee is fulfilling its fiduciary responsibilities in the management of CalPERS investments.

The Committee intends for the Policies to be a dynamic document and will review them from time to time. Policies will be modified periodically to reflect the changing nature of CalPERS assets and investment programs, benefit and structural changes, and economic conditions. The Policy applies to all CalPERS investments and supersedes any related references within asset-class and Program policies.

In addition, the Committee has delegated to the Staff certain authority that pertains to the ongoing management and administration of CalPERS assets and various investment programs.

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Total Fund Investment Policy Overarching Statements

B. Strategic Objective

The overall objective of CalPERS investment program is to generate returns at an appropriate level of risk to provide members and beneficiaries with benefits as required by law. This will be accomplished through a carefully planned and executed long-term investment program that efficiently and effectively allocates and manages the assets of CalPERS.

The Policies have been designed to allow CalPERS to achieve a long-term total return. As such, prudent risk-taking is appropriate within the context of overall diversification to meet CalPERS long-term investment objectives. The assets of CalPERS will be broadly diversified to minimize the effect of short-term losses within any investment program. Consistent with California Constitution, Article XVI, section 17, all of CalPERS investment activities, and all investment transactions, shall be designed and executed solely in the interest of, and for the exclusive purposes of providing benefits to, participants and their beneficiaries, minimizing employer contributions thereto, and defraying reasonable expenses of administering the system.

C. Program Specific Investment Policies

In addition to this overarching Total Fund Investment Policy, there are other policies that focus on program-specific aspects of the CalPERS investment program. It is intended that those policies be read in conjunction with this Policy.

D. Responsibil-ities

Details regarding various levels of responsibility for all programs are provided in the following appendices:

1. Reporting to the Investment Committee
2. Investment Responsibilities

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E. Performance Objective & Benchmark	Specifically: A. The assets of CalPERS will be invested with the objective of achieving a long term rate of return that meets or exceeds CalPERS actuarial rate of return. B. CalPERS will seek to maximize the returns for the level of risk taken; C. CalPERS will seek to achieve a return that exceeds the Policy Index; and D. CalPERS will seek to invest its assets efficiently, bearing in mind the impact of management and transaction costs on the return of the assets. Benchmarks for Total Fund, Programs and Asset Classes are listed in Appendix 5.
F. Computations & Calculations	Staff, investors, managers, consultants, and other participants selected by CalPERS shall make all calculations and computations based on a market value and holdings details as recorded by CalPERS Custodian.
G. Glossary of CalPERS Specific Terms	***Italicized*** terms appearing in the Policy are CalPERS specific in nature and are defined in the CalPERS Specific Glossary of Terms.
H. Policy Document History	See Appendix 7 for historical details of Investment Committee adoption and revisions of this policy.

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Total Fund Investment Policy

Total Fund Investment Policy Sections

I. Investment Beliefs

Purpose

This Policy requires that CalPERS develop and maintain a set of Investment Beliefs. Managing the CalPERS investment program requires exercising judgment in the face of considerable uncertainty. The Investment Beliefs provide a framework for exercising judgment and making investment decisions. Investment Beliefs:

- Provide a basis for strategic management of the investment portfolio
- Inform organizational priorities
- Ensure alignment between the Committee and Staff
- Guide development of CalPERS culture

Investment Beliefs also provide context for CalPERS actions. They reflect CalPERS values and acknowledge CalPERS responsibility to sustain its ability to pay benefits for generations. The Investment Beliefs also acknowledge the critical importance of a strong and durable economy in achieving CalPERS objectives.

The Investment Beliefs are not a checklist to be applied by rote to every decision. They are a guide for making judgmental decisions that often require balancing multiple, inter-related decision factors.

The Investment Beliefs are included as Appendix 3.

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Total Fund Investment Policy Sections

II. Asset Allocation Strategy

Purpose

Asset Allocation involves establishing asset class allocation policy targets and ranges, and managing asset class allocations within their policy ranges. CalPERS recognize that over 90% of the variation in investment returns of a large well-diversified pool of assets can typically be attributed to asset allocation decisions.

The performance objective is to achieve positive active asset allocation returns over rolling five-year periods.

The Asset Allocation Program shall be managed with the objective of seeking:

A. A rate of total return sufficient to meet or exceed the actuarial rate of return within prudent levels of risk and liquidity;

B. Sufficient diversification to minimize the risk of significant loss in any single investment and preserve capital to the extent possible;

C. That the asset class policy ranges approved by the Committee are adhered to, and that any rebalancing is performed efficiently and prudently;

D. Adequate liquidity to meet cash needs; and,

E. Positive returns through any active asset allocation decisions subject to policy ranges and risk limits.

Investment Approaches & Parameters

Strategic

A. Asset Class Policy Targets and Ranges
Policy asset class targets are listed in Appendix 4.

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Total Fund Investment Policy Sections

II. Asset Allocation Strategy (continued)

Investment Approaches & Parameters (continued)

Strategic (continued)

B. Strategic Asset Allocation Process
Staff may also recommend to the Committee changes in the policy targets and ranges.

C. Asset Class Criteria
A financial or real asset type shall be considered as an asset class if it has a risk, return, and correlation profile sufficiently different from existing CalPERS asset classes, and if its inclusion or exclusion materially affects the expected risk and return of CalPERS total return.

1. Criteria for consideration when evaluating an asset class shall include the following:
   a. Strategic role of the asset class in the asset liability management (ALM) framework based on fundamental characteristics and risk and return drivers.
   b. Sufficient size, liquidity, and cost efficiency to permit CalPERS to invest meaningful amounts in that asset class, and have a material effect on CalPERS return.
   c. Availability of sufficient internal or external investment and technical expertise to ensure prudent implementation of an investment in that asset class.
   d. Presence of diversification, return enhancement, liquidity provision, or some other readily identifiable attribute sufficiently different from other asset classes and which enhances CalPERS ability to achieve the strategic objectives outlined above.
   e. Acceptance by other large pension plan sponsors as a feasible and meaningful asset class, or in the absence of such acceptance, academic support for its inclusion.
   f. Availability of sufficient data, history, or expertise to assess the feasibility and benefit of the asset class to CalPERS, by means of a measurable investment outcome. Further, the asset class must have a basis for developing expected investment returns, risks, and correlations for the purposes of the financial study.

2. An asset class may be approved for investment provided it meets the above criteria, and the Committee has had the opportunity for sufficient education to enable it to fulfill its fiduciary responsibility in making such an approval.

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Total Fund Investment Policy Sections

II. Asset Allocation Strategy (continued)

Investment Approaches & Parameters (continued)

Strategic (continued)

3. Once CalPERS approves an asset class for investment, as part of the Program, the investment may only be made in accordance with a policy reviewed and approved by the Committee for that asset class. Such a policy shall specify the investment guidelines and provide for the monitoring of that asset class.

Implementation

A. An asset allocation mix will be determined for each Trust with targets and ranges based on a periodic ALM review.

B. Asset class allocations shall be managed to seek compliance with existing policy ranges. Allocations may temporarily deviate from policy ranges due to extreme market volatility. If an asset class allocation exceeds the policy range, Staff shall return the asset allocation to within its policy range in a timely manner, with the exact time period primarily dependent on transaction costs and liquidity.

   For Global Equity and Global Fixed Income, the cumulative adjustment of the asset class weighting by Staff shall not exceed 50% of the policy range of the asset class within any quarter without advance Committee consent.

B. Accounts may be established and used to adjust asset class allocations within policy ranges, or to return asset allocations that have exceeded a policy range to within the policy range.

C. Managers may be retained for Program implementation subject to policy asset allocation ranges.

D. The active asset allocation return will be measured and included in the Total Fund return and reported to the Committee no less than annually.

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II. Asset Allocation Strategy (continued)

Investment Approaches & Parameters (continued)

Implementation (continued)

E. Target Tracking Error
The Asset Allocation Program will be managed within a target forecast annual tracking error to the Policy benchmark of 0.75% using the CalPERS Risk Management System. This implies that over any one-year period, there will be a less than 5% probability that the active asset allocation return will be less than negative 1.2%. The CalPERS Total Fund shall be managed with a target forecast annual tracking error of 1.5%, inclusive of active asset allocation and other active management decisions, using the CalPERS Risk Management System.

For both of the above tracking error statistics, Staff will evaluate forecast values against subsequent realized values over rolling three-year periods.

F. ***External Manager*** Investment Guidelines for the Asset Allocation Program:
   1. Manager Selection
      a. Managers retrained in the Program shall have recognized expertise in active asset allocation.
      b. The selected managers shall be registered or appropriately exempt from registration, with the Securities and Exchange Commission (SEC) or an equivalent regulatory body, in the case of a manager based outside of the United States.
      c. Managers shall be selected in accordance with the applicable California laws and regulations, and CalPERS policy.

   2. Investment Manager Guidelines
      Managers shall operate under guidelines that describe their specific investment strategies, representative portfolio characteristics, permissible and non-permissible activities, restrictions on the purchase of certain securities, benchmark and performance objectives.

      Implementation of this Program shall comply at all times with manager-specific investment management guidelines in addition to all applicable CalPERS investment policies.

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II. Asset Allocation Strategy (continued)

Derivatives & Leverage

A. Strategies
Financial futures contracts, forward contracts, swaps, options, combinations of these derivatives, exchange traded funds, and structured notes may be used in the Program for the following purposes:

1. Adjust asset class allocations, within approved policy ranges
2. Minimize the investment effect of average cash balances held in cash equivalents accounts by overlaying asset class derivatives.

B. Risks
Any use of derivatives to adjust asset class allocations shall comply with this Policy.

C. Leverage
Asset Allocation management shall be in compliance with the Leverage section of this Policy.

1. Exposure Limit
Derivative exposure used in the Program is limited to amounts that maintain all asset class allocations within their approved ranges.

2. Collateral
Collateral for all derivatives used in the Program shall consist of cash or Investment Grade fixed income securities.

3. Prohibited Uses
This Policy authorizes only activity expressly designed to either overlay cash with exposure to another asset class or adjust portfolio asset class allocations within policy ranges. It does not authorize any other derivative trading purpose nor does it alter derivatives activity authorization given under other approved Policy documents.

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III. Benchmarks

Purpose

The Policy ensures that investors, managers, consultants, and other participants selected by CalPERS take prudent and careful action when selecting program benchmarks and managing the benchmark modification process. The CalPERS benchmarks assure sufficient flexibility in managing investment risks and returns associated with managing Program benchmarks. Each asset class and related components shall have a benchmark specified in the Benchmarks Policy. Asset class benchmarks shall be set by the Committee. The purpose of a benchmark is to establish target investment exposures, and to provide a relative measure to gauge whether a particular investment strategy is meeting stated goals and objectives.

CalPERS benchmarks shall be established to manage total portfolio risk and return characteristics. Staff shall establish controls for the selection and modification of benchmarks.

Performance Objective & Benchmark

A. The performance objective is for the various asset classes and programs to meet or exceed their respective benchmarks in a manner that is consistent with the risk parameters established for such asset class or program.

B. The benchmark for individual programs or strategies for Total Fund, Asset Allocation, and Asset Class Policies are listed in Appendix 5.

Investment Approaches & Parameters

In the event that benchmark modification needs to be considered, staff or a member of the Committee may bring the matter before the Committee for due diligence and consideration. This due diligence will include:

A. Analysis by staff, in consultation with third-party experts, that the indicators are evidenced and have the potential to adversely impact the benchmark performance.

B. Analysis of the expected effect of the benchmark modification on the total portfolio risk/return characteristics.

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IV. Risk Management

Purpose

Risk management is central to managing the assets of CalPERS and to achieving the strategic objectives. A framework for risk management is established through the adoption of investment policies for total fund strategic asset allocation, individual asset classes and portfolios with appropriate benchmarks and reasonable risk limits for the implementation of the program. The level of risk assumed will be monitored and reported using selected risk metrics as required in the Policy.

This Policy does not require the elimination of risk but instead strives to achieve a balance between risk and return. CalPERS must take on risk to achieve desired levels of return. The objective is to ensure that economic and investment risk taken is prudent and properly managed with collaborative input from each asset class.

The Risk Management program is not intended to manage other risks that CalPERS faces, including operational risks and legal risks. These risks are managed by other units within CalPERS and are addressed within their separate policies.

The Risk Management program shall be managed with the objective of accomplishing the following:

A. Provide an integrated process for overall investment risk management at both the Total Fund and Asset Class level ;

B. Identify, measure, and communicate investment risks across the Total Fund and within each Asset Class; and,

C. Monitor investment returns as well as risk to determine if risks taken are adequately compensated.

D. Ensure appropriate organizational independence of risk measurement systems and functions from investment decision making functions

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Total Fund Investment Policy Sections

IV. Risk Management (continued)

Investment Approaches & Parameters

A. Investment Risk Management Framework
CalPERS Investment Risk Framework is established through this Policy and is expected to evolve over time in alignment with industry best practices. The framework will address the identification, measurement, assessment, and ongoing monitoring of investment risk.

B. Risk Management and Assessment
Investment Risk is assessed using appropriate and consistent industry standard methodologies established at the Total Fund and within each Asset Class.

C. Risk Limits and Guidelines
1. Total Fund tracking error limits (both total and active allocation) are specified in the Asset Allocation Strategy section and will be monitored and managed as identified risks within the overall Investment Risk Framework.

2. The leverage report shall document the amount of leverage in each asset class relative to the leverage limit established in each asset class policy.

3. The counterparty report establishes guidelines for each investment counterparty based on credit default swap spreads which will be used to monitor trends in the credit quality of each counterparty.

4. A "what-if" risk analysis will be performed for any investment that exceeds a Senior Investment Officer delegated authority. Staff will also perform a "what-if" risk analysis upon the request of other Investment Office Staff or the Committee.

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Total Fund Investment Policy Sections

V. Global Derivatives and Counterparty Risk

Purpose

The Policy is intended to provide a strategic framework for governance of the use of derivatives and derivatives strategies by the CalPERS Investment Office across both internally and externally managed portfolios. The policy is intended to ensure that CalPERS has effective operational, risk management and compliance controls when using derivatives within the investment process.

This Policy outlines the issues that must be addressed for each derivatives strategy, whether internally or externally managed, in regard to guidelines, development of procedures and operational requirements.

Policy Scope

A. Benefit Plans/Trusts Covered under the Policy
This Policy applies to the use of derivatives by CalPERS within all CalPERS trusts and benefit plans.

B. All sections of this Policy shall apply to the use of derivatives by Investment Staff and external managers operating under Investment Management Agreements (IMAs).

C. Limited Liability Entity or Registered/Commingled Fund managers may be required to provide information to Staff on derivatives trading activities within each entity in order for CalPERS to comply with applicable aggregation or position limit regulations and reporting requirements.

Investment Approaches & Parameters

A. Derivatives under this Policy include, without limitation:
1. Futures contracts
2. Options
3. Options on futures contracts
4. Forward contracts
5. Swap agreements
6. Security based swap agreements
7. Swap contracts with embedded options
8. Instruments or contracts intended to manage transaction or currency exchange risk in purchasing, selling or holding investments

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Total Fund Investment Policy Sections

V. Global Derivatives and Counterparty Risk (continued)

Investment Approaches & Parameters (continued)

Spot Foreign Exchange transactions with settlement date up to T+5 shall be exempt from this Policy.

Cash transactions in any asset class are not derivatives. Derivatives, as defined in this Policy, shall not be construed to include a broad range of securities, such as Collateralized Mortgage Obligations (CMOs) and convertible bonds.

B. Derivatives Application Permitted
Derivatives may be used to efficiently manage the Total Fund portfolio or individual sub portfolios risk and return characteristics.

C. Derivatives Application Not Permitted
Derivative applications may only be used to invest in asset classes that are consistent with CalPERS Total Fund Investment Policy and Asset Allocation Strategy asset categories, implementation strategies, and risk-return characteristics.

Derivatives shall not be used to avoid or subvert existing delegated authorities or investment policy limits.

D. Derivatives Control Procedures
Staff shall adopt documented control procedures that cover the following areas:

1. Accounting and Performance measurement for derivatives
2. Risk Management – procedures for evaluating the use of derivatives and monitoring market risk exposure, liquidity needs, and counterparty risk limits
3. Operational Risk – procedures that establish a process for evaluating operational activities associated with derivatives to ensure the use of proper systems, controls, staffing, and staff qualifications
4. Regulatory Compliance – procedures for ensuring compliance with any regulations in conjunction with derivatives activities undertaken by CalPERS

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VI. Global Derivatives and Counterparty Risk (continued)

Investment Approaches & Parameters (continued)

E. Derivatives Risk Limitations

Staff must reference the Investment Office Derivatives and Counterparty Risk Procedures Manual, and asset class investment policies for additional limitations specific to their portfolios inclusive of cash and derivatives instruments.

Managers should reference their IMA including Investment Guidelines for risk limitations specific to their portfolio or to the asset class or trust for which they are managing investments.

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VI. Investment Leverage

Purpose

The purpose of the Policy is to set forth a framework for comprehensively identifying, measuring, managing, and reporting various forms of leverage.

The Policy is intended to set limits and standards on the use of leverage that reasonably balance investment flexibility with risk management.

The Policy is also intended to result in greater consistency across investment units, and in greater ability of the Committee to direct policies concerning leverage.

Investment Approaches & Parameters

See Appendix 6, Summary of Permissible and Prohibited Types of Leverage, for parameter details.

A. Use of leverage is prohibited unless expressly permitted in this Policy.

B. Direct debt, except for unsettled loss positions on non-exchange traded contracts, is prohibited unless authorized by the Committee for a defined purpose.

C. A capital commitment or credit enhancement program does not represent leverage or direct debt as these are considered contingent liabilities.

D. Any Program that permits the use of recourse debt or notional leverage shall include the following risk management guidelines:
   1. A limit on the amount of recourse debt
   2. Diversification requirements and due diligence standards will be considered in the investment decision on the assets with recourse debt

E. Recourse debt is prohibited for programs that may not have complete transparency on all investment positions. The maximum potential loss on these positions shall be the amount of investment.

F. The use of currency swaps does not result in notional leverage because the swaps merely convert exposure from one currency to another.

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Total Fund Investment Policy Sections

VII. Divestment

Purpose

This section sets forth CalPERS policy (Policy) for responding to external or internal initiatives to cause CalPERS to sell investments or refrain from making additional investments (Divesting) for the purpose of achieving certain goals that do not appear to be primarily investment-related, such as promoting social justice (Divestment Initiatives). Typically, Divestment Initiatives focus on companies that do business in a specified country, are engaged in a specified industry, or in specific practices deemed undesirable by federal and state law (*e.g.*, human rights violations) (Targeted Companies).

CalPERS investment in a company does not necessarily signify that it approves of the company's policies, products, or actions. CalPERS, nevertheless, wants companies in which it invests to meet high corporate governance, ethical, and social standards of conduct. The Committee believes that this generally will promote superior long-term investment performance

CalPERS Board of Administration (Board) and its Staff have fiduciary duties of loyalty and prudence, pursuant to the California Constitution, Article XVI, Section 17, and Government Code (GC) Section 20151, to invest "with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with those matters would use in the conduct of an enterprise of a like character and with like aims." (GC Section 20151(c).)

These fiduciary obligations generally forbid CalPERS from sacrificing investment performance for the purpose of achieving goals that do not directly relate to CalPERS operations or benefits. Divesting appears to almost invariably harm investment performance, such as by causing transaction costs (e.g., the cost of selling assets and reinvesting the proceeds) and compromising investment strategies.

In addition, there appears to be considerable evidence that Divesting is an ineffective strategy for achieving social or political goals, since the usual consequence is often a mere transfer of ownership of divested assets from one investor to another. Investors that divest lose their ability as shareowners to influence the company to act responsibly.

This Policy, therefore, generally prohibits Divesting in response to Divestment Initiatives, but permits CalPERS to use constructive engagement, where consistent with fiduciary duties, to help Divestment Initiatives achieve their goals.

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VII. Divestment (continued)

Statement of Policy

CalPERS will undertake constructive engagement in support of Divestment Initiatives to the extent the Committee determines to be appropriate or as required by law, but CalPERS will not sell investments in Targeted Companies or refrain from investing in them in response to Divestment Initiatives except as follows:

A. CalPERS will sell Targeted Company investments or refrain from making them to the extent investment in the Targeted Company is imprudent and inconsistent with fiduciary duties. CalPERS recognizes that the prudence of an investment may depend on its purpose. For example, it might be imprudent to retain an investment in an actively managed portfolio, but prudent to retain it in an indexed portfolio or as part of a long-short absolute return strategy.

B. To the extent required by law and consistent with fiduciary duties, CalPERS will comply with federal and constitutional California state laws that require Divesting.

C. This Policy does not require CalPERS to re-examine investment policies and practices in effect when this Policy was adopted to determine whether they were influenced by Divestment Initiatives or have or will result in Divesting.

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VIII. Opportunistic Program

Purpose

The Program enables greater investment in assets perceived to be substantially undervalued, and the Policy specifies guidelines to manage the concurrent risks. The Program also permits the establishment of innovative portfolios.

Performance Objective & Benchmark

The performance objective is to outperform the Program benchmark over rolling three-year periods, net of all Program costs and fees.

Investment Approaches & Parameters

A. Allocation
The market value of Program investments shall not exceed 3% of the Total Fund. A violation of this limit shall be restored in a timely manner not to exceed three months, with the exact time period primarily dependent on transaction costs and liquidity.

B. Diversification Guidelines
The market value of Program non-publicly traded investments (excluding fixed income securities) shall not represent more than 1.5% of the Total Fund.

The market value of any Program strategy or type of asset shall not exceed 2% of the Total Fund.

The aggregate market value of Program assets of a single country other than the United States shall not exceed 1% of the Total Fund.

C. External Manager Investment Guidelines
Program investments may be managed internally, or by external managers, or by a combination of internal and external managers.

1. Manager Selection
The selected managers shall be registered, or appropriately exempt from registration, with the Securities and Exchange Commission.

2. Investment Manager Guidelines
Manager guidelines shall not conflict with any CalPERS investment policy.

Implementation of this Program shall comply at all times with the Manager guidelines and all CalPERS investment policies.

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IX. Plan Level and Asset Class Transition Portfolios

Purpose

The design of this Policy ensures that CalPERS staff take prudent and careful action while performing transitions, and to establish appropriate controls and approvals governing transitions. Plan level and asset class transitions shall separate the cost and performance impacts on investment programs or asset classes, related to cash or security movements and transactions not associated with the on-going investment management of affected portfolios. Transitions activity can be implemented using transition portfolios or an Allocation Costs Capture System (ACCS).

A. Plan Level Transition may be established for any asset class for the purpose of achieving asset allocation or total fund related investment objectives. Plan Level Transition Portfolio usage may be initiated by the Committee, or by the Chief Investment Officer (CIO) or designated Staff operating within their respective delegated authority. All transaction costs and investment performance for these portfolios flows directly to the Total Fund, outside an individual asset class. Plan Level Transition Portfolios may only be used for one or more of the following purposes:

   1. Rebalance of Asset Classes to achieve Asset Allocation objectives
   2. Raise or invest cash at the Total Fund level
   3. Trade to effectuate Total Fund investment objectives

Plan level transitions may be accomplished through the use of designated plan level transitions portfolios or through the use of ACCS.

B. Asset Class Transition may be established within any asset class for the purpose of achieving asset class specific objectives. The SIO from the specific asset class may initiate the use of an Asset Class Transition Portfolio after receiving approval from the CIO or COIO in advance. An Asset Class Transition Portfolio may be used by designated Staff of the specific asset class operating within his or her delegated authority. All transaction costs and investment performance associated with the use of the Asset Class Transition Portfolio will flow to the asset class level. Asset Class Transition Portfolios may only be used for one or more of the following purposes:

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IX. Plan Level and Asset Class Transition Portfolios (continued)

Purpose (continued)

1. Terminate and fund external asset managers within the asset class;
2. Rebalance of strategies and investment managers within an asset class; or,
3. Raise or invest cash within the asset class.

Asset class transitions may be accomplished through the use of designated asset class transitions portfolios or through the use of ACCS.

C. Transition Portfolios shall be subject to additional oversight in order to:

   1. Establish a control structure to ensure and validate Transition Portfolio transactions are executed as intended; and,
   2. Confirm that the Transition Portfolios are used for a permitted purpose and in the manner set forth by this and other related Investment Policies.

Investment Approaches & Parameters

All assets within the Transition Portfolios will be held by the CalPERS Custodian and all transactions will follow CalPERS established execution and settlement procedures.

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X. Role of Private Asset Class Board Investment Consultants

Purpose

The Policy defines the roles of the ***Private Asset Class Board Investment Consultants***.

Private Asset Class Board Investment Consultant responsibilities are detailed in Appendix 2, Investment Responsibilities.

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XI. Custody Management

Strategic Objective

This Policy shall ensure the safe, efficient, and accurate custody of CalPERS assets. To carry out this Policy, CalPERS will contract with custodial firms with sufficient financial strength to protect the interests of CalPERS. Contracted custodians (Custodian) will be required, at a minimum, to demonstrate a long-term credit rating of Moody's A1 and S&P A+ (U.S. firms) or a similar measure of financial strength (non-U.S firms).

Custodian Duties

The Custodian shall provide daily custodial, accounting, performance and reporting services for eligible assets held in CalPERS name, in a manner consistent with industry standards. The Custodian shall provide services for any assets held by additional agents or sub-custodians appointed by CalPERS or the Custodian.

The Custodian shall register all of CalPERS assets in the name of CalPERS or as required by the depository provided books and records, which are maintained by the Custodian. The Custodian shall maintain documentation to substantiate CalPERS ownership and chain of control for all assets.

The Custodian shall have a comprehensive system, acceptable to CalPERS, of selecting and evaluating sub-custodians and monitoring their internal control structures, performance and financial conditions.

Eligible foreign sub-custodians are entities that are incorporated or organized under the laws of a country other than the United States and meet the following criteria:

A. Qualified foreign banks or majority-owned direct or indirect subsidiaries of U.S. banks or bank holding companies.

B. Securities depositories or clearing agencies that act as systems for the central handling of securities or equivalent book entries in the countries that are regulated by foreign financial regulatory authorities.

C. Securities depositories or clearing agencies that act as transnational systems for the central handling of securities or equivalent book entries.

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XI. Custody Management (continued)

Custodian Duties (continued)

The Custodian shall provide assurances, through a third-party review acceptable to CalPERS, that internal controls are sufficient to protect CalPERS assets.

Custodian shall adhere to US/Global accounting standards necessary for CalPERS to conform to its required financial reporting standards.

Custodian must offer a robust technology platform with a strong control and security environment. Technology and data must be able to interface with multiple other systems supporting CalPERS business.

Custodian must have a global presence, supporting and providing services for international investments across the globe.

A. Fiduciary Relationship
   Custodians, sub-custodians, and agents shall acknowledge their fiduciary relationship with CalPERS. They shall discharge each of their duties therein and exercise each of their powers (as those duties and powers are defined herein), with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters uses in the conduct of an enterprise of a like character and with like aims. The Custodian is required to contractually inform all sub-custodians and agents of this fiduciary relationship.

B. Ethics and Conflicts of Interest
   Custodians shall comply with CalPERS policies and procedures, as amended from time to time, relating to ethics and conflicts of interest.

C. Custodian Liability
   The Custodian shall be fully liable for any loss to, or diminution in, the value of the Fund resulting from the Custodian's own acts or omissions. This liability shall extend to the acts or omissions of the Custodian's agents and sub-custodians.

CalPERS may, at its discretion, limit the liability of the Custodian when doing so does not compromise the rights of CalPERS or the safety or security of CalPERS assets.

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XII. Terminated Agency Pool

Purpose

This document sets forth the investment policy (Policy) for the Terminated Agency Pool (Program).

The Program shall be managed to minimize the likelihood of the Program becoming underfunded and to immunize against the forecasted liabilities. For the purpose of this Policy, "immunization" is to match cash flows closely for at least the next 30 years and to address inflation risk adequately. Program liabilities refer to benefit payments and Program expenses.

Investment Approaches & Parameters

A. The Program shall be managed to closely match the projected future benefit payments and to minimize the likelihood of the Program becoming underfunded. The Program will be utilized to:

1. Match, to the extent practicable, the cash flows of the assets to the liability cash flows across maturities for at least the next 30 years and across a range of inflation scenarios.

2. Invest a portion of the program assets in such a way as to ensure that cash flows beyond 30 years can be met across a range of inflation scenarios provided that assets can be reinvested at the lesser of current market returns or the 5^{th} percentile of historic market returns.

3. Maintain adequate liquidity to meet unanticipated cash flow needs.

4. Invest assets not needed for 1, 2, or 3 above in a diversified portfolio similar to the regular asset allocation for the rest of the Public Employees' Retirement Fund ("PERF").

5. Ensure that Program rebalancing and restructuring is performed efficiently and prudently.

6. Re-evaluate the asset allocation every three years or as needed if a significant change occurs in assets and liabilities as a result of the addition of a new terminated agency.

California Public Employees’ Retirement System

Total Fund Investment Policy Sections

XII. Terminated Agency Pool (continued)

Investment Approaches & Parameters (continued)

B. Approach

A three-step allocation process will be applied:

1. Use U.S. Treasury Securities in Separate Trading of Registered Interest and Principal of Securities (STRIPS), Treasury Inflation Protected Securities (TIPS) and cash to closely match the forecasted benefit payments
2. Use cash or cash equivalents to provide sufficient liquidity for the forecasted cash flows in the next two years
3. Keep the remaining surplus invested with the rest of the PERF

C. Program Structure/Parameters

CalPERS Custodian may employ a unitized fund structure to maintain separate and distinct historical records and to produce individual net asset values of all investments.

D. Rebalancing

The Investment Office and Actuarial Office will collaborate to monitor the funded status of the Program and to rebalance the recommended portfolio as the liabilities are updated. Rebalancing involves adjusting the portfolio asset allocation to ensure that the cash flow of assets closely match the latest forecasted liabilities as provided by the Actuarial Staff.

E. Restrictions, Prohibitions and Authorized Securities

Authorized securities for the “immunization” and surplus segments are indicated in the following table.

Segment	Authorized Securities
“Immunization”	U.S. Treasury STRIPS U.S. Treasury TIPS Cash or cash equivalents
Surplus	All securities included within the rest of the PERF

Appendix 1
Reporting to the Investment Committee

The following tables provide details regarding reporting to the Investment Committee by:

- Investment Office Staff
- ***General Pension Consultant***
- Private Asset Class Board Investment Consultants

Investment Office Staff			
Program	**Responsible Party**	**Report Content**	**Frequency**
Total Fund	All Programs	Staff shall report concerns, problems, material changes and all violations to the policy in writing. These reports shall include explanations of any violations and appropriate recommendations for corrective action.	No less than Annually or more frequently if needed
Investment Beliefs	All Programs	Staff shall report investment program strategy and its consistency with the Investment Beliefs.	No less than annually
Asset Allocation	Asset Allocation	Staff shall report asset class allocations relative to their targets and ranges, as well as investment performance results of each asset class and benchmark returns. Allocations may temporarily deviate from policy ranges due to extreme market volatility and will be reported.	Monthly
		Staff shall report program allocations, returns, risks, and activity.	No less than annually
		Staff shall report a comprehensive Asset Allocation Strategy analysis coincident with the review of actuarial methods and assumptions to be presented for review and approval of policy target asset class allocations and ranges.	Every 4 years
		Staff shall present a market valuation-based analysis at the midpoint of the 4-year review cycle, or as needed in response to market conditions or changes impacting the capital market assumptions.	At midpoint of 4-year cycle or as needed
Benchmarks	Asset Allocation	Staff shall report any benchmark changes.	No less than annually

California Public Employees' Retirement System
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Investment Office Staff (continued)			
Program	**Responsible Party**	**Report Content**	**Frequency**
Risk Management	Risk Management	Staff shall report CalPERS investment risks and associated returns.	No less than annually
		Staff shall provide input and consulting on the design of risk reports used to measure and monitor risk. Reports should reflect the key risks identified as part of the overall risk framework.	No less than annually
		Volatility – Staff will report on both forecasted total risk and tracking error, measured as one standard deviation for the next year. These measures will be reported for each asset class and the total Fund. In addition, staff will document the accuracy of risk forecasts for the Total Fund. Staff will accomplish this by presenting the history of monthly forecast and realized risk for both total risk and tracking error.	No less than annually
		Leverage – Staff will provide a report of recourse debt, non-recourse debt and notional leverage by asset class and the total Fund. The report will also include capital commitments for the illiquid asset classes.	No less than annually
		Currency Risk – Staff will provide a report summarizing both actual portfolio and benchmark currency exposures of the Total Fund.	No less than annually
		Counterparty Risk – Staff will report on counterparty exposure, summarizing net amounts owed to or due from CalPERS investment counterparties. The report will include credit default swap spreads and credit ratings for use in determining when exposure to individual counterparties is to be limited.	No less than annually
		Concentration Risk – Staff will aggregate exposures across asset classes to create measures of concentration including industries, countries, and security issuer. This information will be presented for both the total fund portfolio and policy benchmark.	No less than annually
		Stress Testing –Staff will be responsible for the specification of stress test and provide a periodic report which estimates the potential loss of market value to the total Fund portfolio if certain economic events or historical scenarios were to occur.	No less than annually
		Liquidity Risk – During times of market stress, staff will report on the risk that assets cannot trade at or near the previous market price because of inadequate trading volume for particular instruments. Liquidity risk may also be evaluated based on capital commitments and debt restructuring requirements.	No less than annually
		Scenario Analysis – Staff will review the impact on total risk and tracking error of proposed new strategies or shifts in existing investments. The risk analysis will be performed at the asset class and Total Fund levels.	No less than annually

Investment Office Staff (continued)			
Program	**Responsible Party**	**Report Content**	**Frequency**
Leverage	Asset Allocation / Risk Mgmt Unit	Staff shall report recent estimates by asset class on recourse debt, non-recourse debt, and notional leverage. Leverage for the Currency, Credit Enhancement, and Securities Lending Programs shall be reported separately from asset class leverage.	No less than annually
		Staff shall report the amount of debt previously classified as recourse that CalPERS paid in the prior year.	No less than annually
Divestment	Global Governance	Staff shall review and report the results of the divestment process (divestment decisions) along with providing appropriate recommendations to the Committee.	No less than annually
Opportunistic	All Programs	Staff shall report on program investments, returns, risks, and activity.	No less than annually
Plan Level & Asset Class Transition Portfolios	Investment Servicing Division	Staff shall report on the usage of the Transition Portfolios.	No less than annually
Targeted Investments Program	Targeted Investments Program	Document CalPERS total fund investment presence in California via a comprehensive examination of CalPERS California-based investments across asset classes and the resulting ancillary benefits from these investments. The report will assess local jobs created or supported, investments in communities of interest such as low- to moderate-income communities, areas with high unemployment, and rural communities, and the broader economic impacts resulting from CalPERS investments statewide.	Annually
Terminated Agency Pool	Asset Allocation	Staff shall report the current market value of assets and an analysis of the adequacy of the current Program allocation to meet the forecasted Program liabilities.	No less than annually
		Staff shall provide a comprehensive asset allocation analysis at least once every 4 years or sooner if there is a significant change of funded status.	At least once every 4 years

General Pension Consultant		
Program	**Report Content**	**Frequency**
Total Fund	Consultant shall report on the effectiveness of the Risk Management and Asset Allocation Programs, as well as use of Benchmarks relative to the policy.	No less than annually
Global Derivatives & Counterparty Risk	Consultant shall report the performance of portfolios to ensure that any derivative use does not have a long-term harmful effect on the portfolio.	No less than annually
Opportunistic	Consultant shall report the performance of the program.	No less than annually

Private Asset Class Board Investment Consultants		
Program	**Report Content**	**Frequency**
Private Asset Classes	Review and provide an opinion letter to the committee on investment policies and delegations of authority.	As needed
	Review and provide an opinion letter to the Committee on strategic and annual plans.	As needed
	Provide a report to the Committee on forecasts of asset class returns for total fund asset allocation purposes.	No less than annually
	Provide a report to the Committee that includes an analysis of market developments, market conditions, and macro level view of market opportunities.	No less than annually
	Provide a report to the Committee regarding investment performance and portfolio risk and attribution analysis; monitor and report on deviations from policy benchmark performance and long-term expected performance.	No less than annually
	Review and provide an opinion letter to the Committee on appropriateness of asset class benchmarks	No less than annually
	Provide an opinion letter to the Committee on investments above staff's delegation of authority.	As needed
	Perform annual review of major asset class sub-component programs and provide an opinion letter to the Committee on performance, risk, manager selection and monitoring processes, and on internal control processes and staffing.	No less than annually
	Perform annual review of the program and provide an opinion letter to the Committee on performance, risk, manager selection and monitoring processes, and on internal control processes and staffing.	No less than annually

Appendix 2
Investment Responsibilities

The following tables provide details regarding investment related responsibilities for the:
- Investment Committee
- Investment Office Staff
- Actuarial Office Staff
- General Pension Consultant
- Private Asset Class Board Investment Consultants
- External Manager

Investment Committee		
Program	**Responsible Party**	**Responsibility**
Total Fund	Investment Committee	Approve adoption of and oversee compliance with Investment Policies designed to achieve CalPERS strategic objectives.
		Review policy recommendations made by Staff.
		Approve asset classes for investment and set a policy target allocation, permissible range, and benchmark for each asset class, expressed as a percentage of total assets.
		Set Total Fund policy benchmarks.

Investment Office Staff		
Program	**Responsible Party**	**Responsibility**
Total Fund	All Programs	Periodically review the policies and make recommendations to the Committee regarding new policy development, policy revisions, repeals, and any other aspect that the Staff considers pertinent.
		Engage with other asset class Staff, consultants, and other pertinent parties to seek advice and counsel regarding investment strategy and investment results.
		Develop and maintain up-to-date procedures for the use and compliance with policies.
		Implement and adhere to all policies.
		All aspects of program portfolio management, including investment transactions, use of leverage, and monitoring, analyzing, and evaluating performance relative to the appropriate benchmark.
		Manage CalPERS asset class allocations within policy ranges approved by the Committee, in accordance with policy guidelines.
		Modify benchmarks as applicable.
Investment Beliefs	Asset Allocation	Facilitate a periodic review of the Investment Beliefs in conjunction with the Strategic Asset Allocation process.
Asset Allocation	Asset Allocation	Provide recommendations to the Committee concerning the identification of asset classes and selection of asset class benchmarks and policy targets and ranges based on periodic asset liability management (ALM) review.
		Determine adjustments in asset class allocations, and direct rebalancing account activity and fund transfers across asset classes.
		For program tracking errors and CalPERS total fund tracking errors, staff will evaluate forecast values against subsequent realized values over rolling 3 year periods.

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Investment Office Staff (continued)		
Program	**Responsible Party**	**Responsibility**
Risk Management	Risk Management	Select, maintain and enhance the risk management tools used by the program to provide analyses that inform and support the investment actions of the entire CalPERS Investment Staff.
		Provide consulting to Investment Office Capital Allocation and Risk Governance Committees regarding investments being contemplated, current investment risks and the attribution of risk and return.
		Provide consulting on the development of Investment Office Policies, Procedures and Guidelines with respect to the measurement, assessment and management of risk.
		Provide consulting on the design of processes and reports used to measure and monitor risk.
Global Derivatives & Counterparty Risk	Risk Management	Monitor the implementation of and compliance with the policy including due diligence and oversight of derivatives activities by External Managers, Limited Liability Entities, or Registered/Commingled Fund vehicles.
		Monitor and evaluate the use of derivatives and counterparty risk exposures across CalPERS to ensure the appropriate investment risk controls are in place.
	Risk Management /Asset Class Staff	Exercise thorough due diligence in assessing the scope of each Limited Liability Entity or Registered/Commingled Fund Manager's use of derivatives, their purpose, experience of the fund Manager's staff in managing these positions, inherent leverage and the Manager's systems, controls and operations in determining appropriateness of these entities for CalPERS investment.
		Evaluate periodically (no less than annually) for any changes in the use of derivatives at each Limited Liability Entity or Registered/Commingled Fund to reaffirm the appropriateness of these investments at inception.
Opportunistic	CIO & SIOs	Determine clear assignment of investment management responsibility for each program asset.
	CIO	Pre-approve all terms of any transfer of assets between a program account and another CalPERS account.
Plan Level & Asset Class Transition Portfolios	Investment Servicing Division	Maintain control of the movement of cash and securities at the CalPERS Custodian.
Role of Private Asset Class Board Investment Consultants	Private Equity and Real Assets	For investment transactions within staff's delegated authority, staff will analyze the transaction and make the investment decision.
		For investment transactions exceeding staff's delegated authority, staff will analyze the transaction and provide a recommendation to the Committee.
Custody Management	Investment Servicing Division	Notify Custodian in writing of the appointment, suspension, or termination of any investment manager.
		Develop and recommend to the Committee the criteria and methodology of Custodian selection, consistent with CalPERS enterprise-wide competitive solicitation and contracting procedures.
		Ensure that all original investment documents including deeds, titles, partnerships, and insurance contracts are safeguarded in accordance with CalPERS enterprise-wide Business Continuity Plan.
Terminated Agency Pool	Asset Allocation	Ensure that program rebalancing and restructuring is performed efficiently and prudently on an annual basis.
		Re-evaluate the asset allocation every 4 years or as needed if a significant change occurs in assets and liabilities as a result of the addition of a new terminated agency.
		Create an internally managed account to hold the assets of the program.

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Actuarial Office Staff		
Program	**Responsible Party**	**Responsibility**
Terminated Agency Pool	Actuarial Staff	Provide a forecast of liabilities.
		Recalculating pool liabilities when new agencies are added to the program.

General Pension Consultant		
Program	**Responsible Party**	**Responsibility**
Total Fund	General Pension Consultant	Provide independent review, analysis, and recommendations regarding the development and revision of policies to ensure overall consistency, use of best practices, a system-wide approach, and implementation of CalPERS policies.
Benchmarks	General Pension Consultant	Monitor and evaluate the appropriate use of benchmarks performance of the Total Fund and Programs relative to the policy.
		Review and recommend approval of all requests for benchmark replacements and modifications that impact the CalPERS Policy benchmarks.

Private Asset Class Board Investment Consultants (PACBIC)					
Program	**Transaction Type/Size**	**Independent Due Diligence Report (not PACBIC)**	***Prudent Person Opinion*** **(not PACBIC)**	**PACBIC Transaction Role**	**Opinion to the Board**
Private Equity	Fund Investments	SIO discretion	N/A	SIO discretion	N/A
	Co-Investment	SIO discretion	N/A	SIO discretion	N/A
	Customized Investment Accounts that invest alongside other similarly structured funds in the same investments	SIO discretion	N/A	SIO discretion	N/A
	Customized Investment Accounts with an individual mandate that does not invest alongside other similarly structured funds in the same investments or a Direct Investment	N/A	Required	SIO discretion	N/A
	>Staff Delegated Authority	N/A	Required	Required	Required
Real Assets	≤ $50 million	N/A	SIO discretion	SIO discretion	N/A
	>$50 Million	N/A	Required	SIO discretion	N/A
	>Staff Delegated Authority	N/A	Required	Required	Required

1. Except as noted below, the PACBIC shall not:
    a. Manage assets for CalPERS
    b. Perform work for Staff on special projects
    c. Provide opinions to Staff regarding specific investment transactions
2. In limited circumstances, the PACBIC may be engaged for roles enumerated above if the PACBIC possesses unique knowledge or expertise that is not available through other providers. Such an arrangement must be approved by the Committee prior to engagement. In situations where adequate time is not available to request Committee approval, staff may request approval from the Chair of the Committee. Upon approval of the request, staff will notify the other Committee members.

External Manager		
Program	**Responsible Party**	**Responsibility**
Global Derivatives & Counterparty Risk	External Manager	Operate under Investment Management Agreements (IMAs).
		Communicate with Staff as needed regarding investment strategy and investment results.
		Cooperate fully with CalPERS Staff, Custodian, and General Pension Consultant concerning requests for information.

Appendix 3
Investment Beliefs

October 14, 2013

I. Liabilities must influence the asset structure.

A. Ensuring the ability to pay promised benefits by maintaining an adequate funding status is the primary measure of success for CalPERS.

B. CalPERS has a large and growing cash requirement and inflation-sensitive liabilities; assets that generate cash and hedge inflation should be an important part of the CalPERS investment strategy.

C. CalPERS cares about both income and appreciation components of total return.

D. Concentrations of illiquid assets must be managed to ensure sufficient availability of cash to meet obligations to beneficiaries.

II. A long time investment horizon is a responsibility and an advantage.

Long time horizon **requires** that CalPERS:

A. Consider the impact of its actions on future generations of members and taxpayers.

B. Encourage investee companies and external managers to consider the long-term impact of their actions.

C. Favor investment strategies that create long-term, sustainable value and recognize the critical importance of a strong and durable economy in the attainment of funding objectives.

D. Advocate for public policies that promote fair, orderly and effectively regulated capital markets.

Long time horizon **enables** CalPERS to:

A. Invest in illiquid assets, provided an appropriate premium is earned for illiquidity risk.

B. Invest in opportunistic strategies, providing liquidity when the market is short of it.

C. Take advantage of factors that materialize slowly such as demographic trends.

D. Tolerate some volatility in asset values and returns, as long as sufficient liquidity is available.

III. CalPERS investment decisions may reflect wider stakeholder views, provided they are consistent with its fiduciary duty to members and beneficiaries.

A. As a public agency, CalPERS has many stakeholders who express opinions on investment strategy or ask CalPERS to engage on an issue. CalPERS preferred means of responding to issues raised by stakeholders is engagement.

B. CalPERS primary stakeholders are members / beneficiaries, employers and California taxpayers as these stakeholders bear the economic consequences of CalPERS investment decisions.

C. In considering whether to engage on issues raised by stakeholders, CalPERS will use the following prioritization framework:

1. Principles and Policy – to what extent is the issue supported by CalPERS Investment Beliefs, Principles of Accountable Corporate Governance or other Investment Policy?
2. Materiality – does the issue have the potential for an impact on portfolio risk or return?
3. Definition and Likelihood of Success – is success likely, in that CalPERS action will influence an outcome which can be measured? Can we partner with others to achieve success or would someone else be more suited to carry the issue?
4. Capacity – does CalPERS have the expertise, resources and standing to influence an outcome?

IV. Long-term value creation requires effective management of three forms of capital: financial, physical and human.

A. Governance is the primary tool to align interests between CalPERS and managers of its capital, including investee companies and external managers.

B. Strong governance, along with effective management of environmental and human capital factors, increases the likelihood that companies will perform over the long-term and manage risk effectively.

C. CalPERS may engage investee companies and external managers on their governance and sustainability issues, including:

1. Governance practices, including but not limited to alignment of interests.
2. Risk management practices.
3. Human capital practices, including but not limited to fair labor practices, health and safety, responsible contracting and diversity.
4. Environmental practices, including but not limited to climate change and natural resource availability.

V. CalPERS must articulate its investment goals and performance measures and ensure clear accountability for their execution.

A. A key success measure for the CalPERS investment program is delivery of the long-term target return for the fund.

B. The long time horizon of the fund poses challenges in aligning interests of the fund with Staff and external managers.

C. Staff can be measured on returns relative to an appropriate benchmark, but Staff performance plans should include additional objectives or key performance indicators to align Staff with the fund's long-term goals.

D. Each asset class should have explicit alignment of interest principles for its external managers.

VI. Strategic asset allocation is the dominant determinant of portfolio risk and return.

A. CalPERS strategic asset allocation process transforms the fund's targeted rate of return to the market exposures that Staff will manage.

B. CalPERS will aim to diversify its overall portfolio across distinct risk factors / return drivers.

C. CalPERS will seek to add value with disciplined, dynamic asset allocation processes, such as mean reversion. The processes must reflect CalPERS characteristics, such as time horizon and size of assets.

D. CalPERS will consider investment strategies if they have the potential to have a material impact on portfolio risk and return.

VII. CalPERS will take risk only where we have a strong belief we will be rewarded for it.

A. An expectation of a return premium is required to take risk; CalPERS aims to maximize return for the risk taken.

B. Markets are not perfectly efficient, but inefficiencies are difficult to exploit after costs.

C. CalPERS will use index tracking strategies where we lack conviction or demonstrable evidence that we can add value through active management.

D. CalPERS should measure its investment performance relative to a reference portfolio of public, passively managed assets to ensure that active risk is being compensated at the Total Fund level over the long-term.

VIII. Costs matter and need to be effectively managed.

A. CalPERS will balance risk, return and cost when choosing and evaluating investment managers and investment strategies.

B. Transparency of the total cost to manage the CalPERS portfolio is required of CalPERS business partners and itself.

C. Performance fee arrangements and incentive compensation plans should align the interests of the fund, Staff and external managers.

D. CalPERS will seek to capture a larger share of economic returns by using our size to maximize our negotiating leverage. We will also seek to reduce cost, risk and complexity related to manager selection and oversight.

E. When deciding how to implement an investment strategy, CalPERS will implement in the most cost effective manner.

IX. Risk to CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error.

A. CalPERS shall develop a broad set of investment and actuarial risk measures and clear processes for managing risk.

B. The path of returns matters, because highly volatile returns can have unexpected impacts on contribution rates and funding status.

C. As a long-term investor, CalPERS must consider risk factors, for example climate change and natural resource availability, that emerge slowly over long time periods, but could have a material impact on company or portfolio returns.

X. Strong processes and teamwork and deep resources are needed to achieve CalPERS goals and objectives.

A. Diversity of talent (including a broad range of education, experience, perspectives and skills) at all levels (Board, Staff, external managers, corporate boards) is important.

B. CalPERS must consider the government agency constraints under which it operates (e.g., compensation, civil service rules, contracting, transparency) when choosing its strategic asset allocation and investment strategies.

C. CalPERS will be best positioned for success if it:

1. Has strong governance.
2. Operates with effective, clear processes.
3. Focuses resources on highest value activities.
4. Aligns interests through well designed compensation structures.
5. Employs professionals who have intellectual rigor, deep domain knowledge, a broad range of experience and a commitment to implement CalPERS Investment Beliefs.

Appendix 4
Asset Allocation Targets & Ranges

The targets and ranges are effective July 1, 2014.

Asset Class	Policy Target	Interim Target	Policy Range Relative to Target
Growth	59%	61%	+/- *7%*
Global Equity	47%	51%	+/- 7%
Private Equity	12%	10%	+/- 4%
Income - Global Fixed Income	19%	19%	+/- 5%
Real Assets	14%	12%	+/- 5%
Real Estate	11%	10%	+/- 5%
Infrastructure & Forestland	3%	2%	+/- 2%
Inflation	6%	6%	+/-3%
Liquidity	2%	2%	+/-1%
Total Fund	100%	100%	N/A

Appendix 5
Investment Benchmarks
June 24, 2014

Table 1: Total Fund Policy Benchmarks

The total fund policy benchmark is the average return of the asset class benchmark indices weighted by asset class benchmark allocations plus the benchmark return of the total fund currency overlay program. The fund benchmark return is the return attributable to the target asset class allocations. Staff employs active strategies in an effort to achieve a fund portfolio return that exceeds the fund benchmark return.

Asset Class	Benchmark	Policy Weight	Interim Target Weight
Growth	84%Public Equity benchmark + 16% Private Equity benchmark	59.0%	61.0%
Income	90% Barclays Long Liabilities + 10% Barclays International Fixed Income Index GDP weighted ex-US	19.0%	19.0%
Inflation Assets	75% ILB benchmark + 25% Commodities benchmark	6.0%	6.0%
Real Assets	83% Real Estate benchmark + 8.5% Infrastructure benchmark + 8.5% Forestland benchmark	14.0%	12.0%
Liquidity	75% Barclays Treasury 2-10 yr. + 25% 1 mo. T-bill	2.0%	2.0%

Interim target weights were approved by the Committee effective July 1, 2014. During the transition of implementing the approved strategic policy targets, interim weights will be used to calculate the total fund policy benchmark through June 30, 2015.

The following categories do not have referenced benchmarks; therefore, they are not listed in the appendix: Investment and Risk Management, Ethics, Operations and Shareowner Activities.

Table 2: Asset Allocation (and Trust Funds) Policies
Program Benchmarks

Policy	Program	Benchmark
Asset Allocation Strategy (Public Employees' Retirement Fund)		Policy Index
California Employers' Retiree Benefit Trust (CERBT) Fund		The benchmark for each asset allocation fund is a weighted benchmark determined by weighting each asset class benchmark by its policy target.
	Global Equity	MSCI ACWI IMI (Net)
	U.S. Fixed Income	Barclays Long Liability Index
	TIPS	Barclays U.S. TIPs Index, Series L
	Commodities	S&P GSCI Total Return Daily
	REITs	FTSE EPRA/NAREIT Developed Liquid (Net)
Judges' Retirement System Fund	Cash Equivalents	91-day Treasury Bill
Judges' Retirement System II Fund		The benchmark for each asset allocation fund is a weighted benchmark determined by weighting each asset class benchmark by its policy target.
	Global Equity	CalPERS Custom FTSE Global Composite
	U.S. Fixed Income	Barclays Long Liability Index
	TIPS	Barclays U.S. TIPs Index, Series L
	Commodities	S&P GSCI Total Return Daily
	REITs	FTSE EPRA/NAREIT Developed Index

Policy	Program	Benchmark
Legislators' Retirement System Fund		The benchmark for each asset allocation fund is a weighted benchmark determined by weighting each asset class benchmark by its policy target.
	Global Equity	CalPERS Custom FTSE Global Composite
	U.S. Fixed Income	Barclays Long Liability Index
	TIPS	Barclays U.S. TIPs Index, Series L
	Commodities	S&P GSCI Total Return Daily
	REITs	FTSE EPRA/NAREIT Developed Index
Long-Term Care Fund		The benchmark for each asset allocation fund is a weighted benchmark determined by weighting each asset class benchmark by its policy target.
	Global Equity	MSCI ACWI IMI (Net)
	U.S. Fixed Income	Barclays Long Liability Index
	TIPS	Barclays U.S. Treasury Inflation Protected Securities(TIPS) Index
	Commodities	S&P GSCI Total Return Daily
	REITs	FTSE EPRA/NAREIT Developed Liquid (Net)
Public Employees' Health Care Fund	U.S. Fixed Income	Barclays U.S. Aggregate Bond Index
Supplemental Income Plans (Core Funds)		The performance of each individual investment fund will be evaluated against its appropriate asset class benchmark.

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Policy	Program	Benchmark
Supplemental Income Plans CalPERS Target Retirement Date and POFF Funds		The benchmark for each asset allocation fund is a weighted benchmark determined by weighting each asset class benchmark by its policy target.
	U.S. Equity	Russell 3000 Index
	International Equity	MSCI ACWI ex-USA IMI Index (Net)
	U.S. Fixed Income	Barclays U.S. Aggregate Bond Index Barclays U.S. 1-3 Year Government/Credit Bond Index
	Real Assets	The benchmark is a weighted benchmark consisting of: Dow Jones-U.S. Select REIT Index; Dow Jones-UBS Roll Select Commodity Index; S&P Global Large MidCap Commodity and Resources Index; Barclays U.S. TIPS Bond Index
	Cash Equivalents	BofA Merrill Lynch U.S. 3-Month Treasury Bill Index

Table 3: Asset Class Policies
Program Benchmarks

Policy	Program	Benchmark
GROWTH POLICIES		
Growth	Total Growth	84%Public Equity benchmark +16% Private Equity benchmark
Public Equity	Total Public Equity	FTSE CalPERS Global (All-World, All Capitalization) customized to exclude Board directed divestments
Private Equity (PE)	Total Private Equity	(67% FTSE U.S. TMI + 33% FTSE AW ex U.S. TMI) +3% lagged one quarter.
INCOME POLICIES		
Currency Overlay	Currency Overlay Program	CalPERS Currency Overlay Benchmark
Global Fixed Income Program	Dollar-Denominated Fixed Income Program	Barclays Long Liabilities Index.
	International Fixed Income Program	Barclays International Fixed Income Index GDP weighted ex-US
Low Duration Fixed Income Program	Dollar-Denominated Fixed Income ***High Quality LIBOR*** (HQL) Program	Federal Funds based index
	Dollar-Denominated Fixed Income Short Duration Program	Federal Funds based index
	Internally Managed Dollar-Denominated Short-Term Program	Total rate of return of the State Street Bank Short-Term Investment Fund after investment management fees.
Treasury Inflation Protected Securities (TIPS)		Barclays Group Real: U.S. TIPS Index

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Policy	Program	Benchmark
INFLATION ASSETS POLICIES		
Inflation Assets	Overall Program	75% ILB benchmark + 25% Commodities benchmark
	Commodities Program	Standard & Poor's GSCI Total Return Index
	Inflation-Linked Bond Program	ILB Custom Index: Blend of 67% Barclays Global Inflation-Linked U.S. and 33% Barclays Universal Government Inflation Linked Bond Index ex-US.
REAL ASSETS POLICIES		
Real Assets	Total Real Assets	83% Real Estate benchmark + 8.5%Infrastructure benchmark + 8.5% Forestland benchmark.
	Real Estate Program	Exceed (net of fees) NCREIF ODCE
	Infrastructure Program	Consumer Price Index +4%, lagged one quarter
	Forestland Program	NCREIF Timberland
LIQUIDITY POLICIES		
Liquidity Program	Total Liquidity Program	75% Barclays Treasury 2-10 yr. + 25% 1 mo. T-bill
MULTI ASSET CLASS POLICIES		
Multi Asset Class Partners Program	Multi Asset Class Program	Absolute 7.5%
ABSOLUTE RETURN STRATEGIES POLICIES		
Absolute Return Strategies	Absolute Return Strategies Program	**1 yr Treasury Note + 5%**

Appendix 6
Summary of Permissible and Prohibited Types of Leverage

Program	Notional Leverage	Non-Recourse Debt	Recourse Debt
Forestland	Prohibited	Permissible: Loan-to-Value ratio (Non-Recourse + Recourse) shall not exceed 50%	Prohibited
Global Equity	Permissible: Shall not exceed 10% of the Global Equity market value.	Permissible	Prohibited
Global Fixed Income	Permissible: Shall not exceed 10% of the Global Fixed Income market value.	Prohibited	Prohibited
Infrastructure	Prohibited	Permissible: Loan-to-Value ratio (Non-Recourse + Recourse) shall not exceed 65%	Prohibited
Liquidity	Prohibited	Prohibited	Prohibited
Low Duration Fixed Income Program	Prohibited	Prohibited	Prohibited
Opportunistic	Permissible	Permissible	Prohibited
Private Equity	Permissible	Permissible: Some investments may use non-recourse debt (leverage) which may increase the volatility of returns.	Permissible: Subscription Financing allowed providing that Total Recourse Debt Allocated shall not exceed 15% of the lower of the current Net Asset Value or the target Net Asset Value of the Portfolio.
Real Estate	Prohibited	Permissible: Loan-to-Value ratio (Non-Recourse + Recourse) shall not exceed 50%	Permissible: • Two types of recourse debt are allowed: Subscription Financing and Credit Accommodation • Loan-to-Value ratio (Non-Recourse + Recourse) shall not exceed 50% • Total Recourse Debt Allocated shall not exceed 10% of the lower of the current Net Asset Value or the target Net Asset Value of the Portfolio.
Securities Lending	Permissible: Shall not exceed 70% of the Program.	Prohibited	Prohibited

Appendix 7
Total Fund Investment Policy Document History

Adopted by the Investment Committee	March 16, 2015

The following polices were incorporated in the Total Fund Investment Policy and were repealed on March 16, 2015:

- Total Fund Statement of Investment Policy
- Investment Beliefs
- Asset Allocation Strategy
- Benchmarks
- Risk Management Program
- Global Derivatives and Counterparty Risk
- Leverage
- Divestment
- Opportunistic Program
- Plan Level and Asset Class Transition Portfolios
- Role of Private Asset Class Board Investment Consultants
- Custody Management
- Economically Targeted Investments
- Terminated Agency Pool