

**CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF INVESTMENT POLICY**

**FOR
CURRENCY OVERLAY PROGRAM**

May 19, 2014

This policy is effective immediately upon adoption and supersedes all previous Currency Overlay Program policies. This Policy incorporates the Tactical Management Program, the Externally Managed Currency Overlay Program, the Internally Managed Passive Currency Overlay Program, and the Internally Managed Active Currency Overlay Program.

I. PURPOSE

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

This document sets forth the investment policy ("Policy") for the Currency Overlay Program ("Overlay Program"). The design of this Policy ensures that investors, managers, consultants, and other participants selected by CalPERS take prudent and careful action while managing the Overlay Program. Additionally, use of this Policy assures sufficient flexibility in managing investment risks and returns associated with the Overlay Program.

There are several components to the Overlay Program:

- A. The static hedge ratio;
- B. Tactical management of the hedge ratio (Attachment A); and
- C. Implementation of the Overlay Program through:
 - 1. Externally Managed Currency Overlay Program (Attachment B);
 - 2. Internally Managed Passive Currency Overlay Program (Attachment C); and,
 - 3. Internally Managed Active Currency Overlay Program (Attachment D).

~~The attached sections include the components of the Overlay Program. This section is intended as the explanation of the Overlay Program as a whole, and as the controlling Policy.~~

~~Currency hedges may also be applied to particular strategies. In the event that the currency team may be asked to perform currency functions for other asset classes related to the prudent mitigation of currency risk, this Policy, coupled with any practical considerations specific to those asset classes, will govern unless and until a currency policy specific to those asset classes is approved.~~

~~II. STRATEGIC OBJECTIVE~~

~~The Overlay Program shall be managed to accomplish the following:~~

- ~~A. Lower volatility of Total Fund returns;~~
- ~~B. Increase the long-term return of the Total Fund through active management;~~
- ~~C. Hedge currency risk for particular assets; and~~
- ~~D. Protect CalPERS from incurring large currency losses during the near term (one-to-three years), at reasonable cost, with effective cash flow management in the settlement of derivative positions.~~

~~III. RESPONSIBILITIES~~

- ~~A. CalPERS Investment Staff ("Staff") is responsible for the following:
 - ~~1. All aspects of portfolio management including monitoring, analyzing, and evaluating performance relative to the appropriate benchmark;~~
 - ~~2. Reporting to the Committee no less than annually for externally managed programs and for internally managed programs about the performance of the Overlay Program;~~
 - ~~3. Monitoring the implementation of, and compliance with, the Policy. Staff shall report concerns, problems, material changes and all violations of the Policy at the next Committee meeting, or sooner if deemed necessary. These reports shall include explanations of any violations and appropriate recommendations for corrective action.~~~~

~~4. Asset Allocation Staff shall provide Program information including the target currency hedge by currency to the Currency Portfolio Manager and to the Custodian by the fifth business day prior to month-end.~~

~~B. The **General Pension Consultant** (“Consultant”) is responsible for: monitoring, evaluating, and reporting to the Committee no less than annually, on the performance of the Overlay Program relative to the benchmark and Policy.~~

~~C. The **External Manager** (“Manager”) is responsible for aspects of portfolio management as set forth in each Manager’s contract with CalPERS and shall fulfill the following duties:~~

- ~~1. Communicate with Staff, as needed, regarding investment strategy and investment results.~~
- ~~2. Monitor, analyze, and evaluate performance relative to the agreed-upon benchmark;~~
- ~~3. Cooperate fully with CalPERS Staff, Custodian, and Consultant on requests for information.~~

~~IV. PERFORMANCE OBJECTIVE AND BENCHMARK~~

~~The primary concern shall be risk control with a secondary objective of return.~~

~~There are four separate parts to the Overlay Program and the performance objectives are outlined in the attachments.~~

~~The Policy currency hedge ratio shall be 15%.~~

~~The Total Fund foreign currency exposure is the sum of benchmark foreign currency exposures of portfolios with international benchmarks plus actual foreign currency exposures of portfolios with domestic-only benchmarks. Total Fund international assets in each category as of December 2008 are listed below:~~

~~Benchmark foreign currency weights (assets with international benchmarks)~~

~~A. Public Market Equity~~

~~B. Fixed Income~~

~~C. Inflation Linked Bonds included in the Inflation Linked Asset Class~~

~~D. Real Estate Investment Trusts (REITS) included in the Real Estate Asset Class~~

~~Actual foreign currency exposures (assets with domestic-only benchmarks)~~

~~A. Private Equity (AIM)~~

~~B. Private Real Estate~~

~~C. Infrastructure~~

~~D. Forestland~~

~~The target currency hedge is the product of the Policy currency hedge ratio times the Total Fund foreign currency exposure. The target currency hedge is the aggregate target value of exposure to foreign currencies that is to be converted to the U.S. dollar.~~

~~The aggregate target currency hedge shall be apportioned only to tradable currencies, currencies that can be traded at low cost as determined in advance by the Currency Portfolio Manager. As of December 2008, the thirteen tradable currencies were the following: Australian Dollar, Canadian Dollar, Danish Krone, Euro, Hong Kong Dollar, Israeli Shekel, Japanese Yen, New Zealand Dollar, Norwegian Krone, Singapore Dollar, Swedish Krona, Swiss Franc, and U.K. Pound Sterling.~~

~~Weights of all other currencies shall be converted pro rata to the weights of the tradable currencies.~~

~~V. INVESTMENT APPROACHES AND PARAMETERS~~

~~The risk and return characteristics of currency unhedged international asset returns may differ substantially from those of hedged returns. Therefore, asset allocation analysis will include unhedged asset returns and a currency hedge applied at the total fund, in accordance with the Asset Allocation Strategy Policy.~~

~~The approaches and parameters for each of the four Overlay Programs are included in the attachments.~~

~~VI. DERIVATIVES AND LEVERAGE POLICY~~

~~Any action or transaction not expressly permitted by this Policy is prohibited unless presented to and approved by the Committee.~~

VII. CALCULATIONS AND COMPUTATIONS

Investors, managers, consultants, and other participants selected by CalPERS shall make all calculations and computations on a market value basis, as recorded by CalPERS Custodian.

VIII. 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.

Currency Overlay – Externally Managed

Approved by the Policy Subcommittee: August 11, 1999
 Adopted by the Investment Committee: October 18, 1999
 Attached to the Currency Overlay Program: August 15, 2005

Passive Currency Overlay Program – Internally Managed

Approved by the Policy Subcommittee: March 16, 2001
 Adopted by the Investment Committee: April 16, 2001
 Attached to the Currency Overlay Program: August 15, 2005

Currency Overlay Program – Overarching Policy with Portfolio Attachments

| | |
|--|-------------------|
| Approved by the Policy Subcommittee | June 10, 2005 |
| Adopted by the Investment Committee | August 15, 2005 |
| Revised by the Policy Subcommittee | October 16, 2006 |
| Approved by the Investment Committee | November 13, 2006 |
| Revised by the Policy Subcommittee | April 21, 2008 |
| Approved by the Investment Committee | May 12, 2008 |
| Revised by the Policy Subcommittee | February 17, 2009 |
| Approved by the Investment Committee | March 16, 2009 |
| Administrative changes made due to Policy Review Project | June 16, 2009 |
| Administrative changes to update template format and to align this policy with the Global Derivatives and Counterparty Risk Policy | December 24, 2013 |
| Administrative changes to standardize reporting frequencies to the Investment Committee to “no less than annually” | May 19, 2014 |
| Administrative changes to reflect the Policy Glossary of Terms Update Project | May 19, 2014 |

Attachment A

TACTICAL MANAGEMENT PROGRAM

May 19, 2014

I. ~~PERFORMANCE OBJECTIVE AND BENCHMARK~~

~~A. The primary performance objective for the Tactical Management Program (“Tactical Program”) is to add value over an economic cycle (approximately 3-8 years) over the Program Benchmark.~~

~~The means to accomplish this objective is to have a separate account that holds currency contracts equal to the intended adjustment away from the 15% hedge. The change in the value of these contracts measures performance.~~

~~B. The benchmark for the Tactical Program is specified in the Benchmarks Policy.~~

II. ~~INVESTMENT APPROACHES AND PARAMETERS~~

~~A. Investment Approaches~~

~~A currency staff committee (“Staff committee”), consisting of the Chief Investment Officer, the Senior Investment Officers (“SIO”) of Global Fixed Income, of Asset Allocation, and of Global Equities, and the Senior Portfolio Manager of Fixed Income International Research will seek to identify macro trends based on fundamental factors that have a high probability of success. Studies indicate that observable economic factors known to affect currency markets include, but are not limited to interest rate differentials, trade deficits, GDP growth, inflation, monetary policy, fiscal policy and productivity. These economic factors work slowly over time; therefore, the staff committee time focus will be over a cycle, typically 3 to 8 years. A shorter term approach does not always allow sufficient time for economic fundamentals to work their way through to be reflected in currency values. Therefore, it can be difficult for Managers to focus on long term inputs when those inputs can be overwhelmed by short term issues. The Staff committee will seek to capitalize on CalPERS long term investment nature by focusing on the cyclical nature of developed currencies. A decision to change the actual hedge ratio requires concurrence by at least three of the Staff committee members. The SIO of Asset Allocation is responsible for scheduling meetings and coordinating the decision-making process.~~

~~The variation of the hedge ratio shall be determined by considering the following:~~

- ~~1. Economic fundamentals which work over time;~~
- ~~2. Costs related to the hedge, particularly the cost of carry; and~~
- ~~3. Moves in the hedge ratio would only be made when convincing evidence exists for long term trends. Return on such decisions should be measured over a cycle, which is calculated in years. It is anticipated that there will be infrequent changes.~~

~~B. Specific Parameters~~

~~The Staff committee may vary the actual hedge ratio $\pm 5\%$ with respect to the benchmark currency hedge ratio (implying a permissible range of 10% to 20% for the actual hedge ratio). The Staff committee will discuss at least quarterly.~~

Attachment B

EXTERNALLY MANAGED CURRENCY OVERLAY PROGRAM

May 19, 2014

I. STRATEGIC OBJECTIVES

Lowering the volatility of CalPERS returns is the strategic objective of the External Program.

The External Program shall employ techniques to balance risk reduction with hedging cost and cash flow management. Therefore, it is expected that only under rare circumstances shall the External Program result in a 100% hedged (zero currency volatility) exposure.

II. PERFORMANCE OBJECTIVE AND BENCHMARK

A. Performance Objectives

1. The External Program controls risk rather than generates return. The External Program shall achieve results specific to the prevailing currency market environment as follows:
2. In appreciating foreign currency environments, the External Program shall seek to capture approximately 60% of currency gains;
3. In depreciating foreign currency environments, the External Program shall seek to limit losses to no more than 3% below the fully hedged benchmark; and
4. In flat or trendless environments, the External Program shall approximate the benchmark results.

B. The benchmark for the External Program is specified in the Benchmarks Policy. The External Program benchmark shall be a percentage of the Program Benchmark, fully hedged.

~~III. INVESTMENT APPROACHES AND PARAMETERS~~~~A. Investment Approaches~~

- ~~1. The execution of the External Program shall occur through a program(s)' investments in markets where currency market exposure is relatively predictable. Programs most suitable are passive index funds or semi-active approaches.~~
- ~~2. The External Program shall be implemented through the retention of a Manager(s).~~
- ~~3. The viability of the External Program shall be reviewed continually, with a formal review at least every 5 years.~~

~~B. Specific Parameters~~

- ~~1. The Manager(s) shall operate under a set of specific guidelines outlining their investment philosophies and approaches, representative portfolio characteristics, permissible and restricted securities and procedures, and performance objectives representative of their strategic role within the Overlay Program and the investment risk incurred.~~
- ~~2. The Managers shall comply at all times with CalPERS investment policies including, but not limited to, the following:
 - ~~a. Global Derivatives and Counterparty Risk Policy; and,~~
 - ~~b. Manager-Specific Investment Management Guidelines.~~~~
- ~~3. The Manager(s) shall execute currency transactions in the forward currency markets or in related currency derivative instruments over the long currency positions of the underlying program(s) of assets assigned.~~
- ~~4. The Manager(s) shall monitor their currency positions to avoid leverage.~~

~~IV. DERIVATIVES AND LEVERAGE POLICY~~~~A. Forwards, Options, and Swaps~~

~~All transactions involving derivatives are governed by the Global Derivatives and Counterparty Risk Policy. In addition to the restrictions defined in the Global Derivatives and Counterparty Risk Policy, the following conditions apply specifically to the Externally Managed Program:~~

- ~~1. Leverage shall be avoided as cited in Section III.B.4~~
- ~~2. The External Program may buy or sell non-exchange traded derivatives, which includes over-the-counter forwards, options, and swaps.~~
- ~~3. Bona fide hedging of foreign currency exposure is the only acceptable strategy.~~

Attachment C

INTERNALLY MANAGED PASSIVE CURRENCY OVERLAY PROGRAM

May 19, 2014

I. ~~PERFORMANCE OBJECTIVE AND BENCHMARK~~

A. ~~The primary performance objective for the Internally Managed Passive Currency Overlay Program (“Passive Program”) is to control risk rather than generate return. The Passive Program shall reduce the volatility of total fund returns. Results shall approximate that of the benchmark, within ± 50 basis points in a 12-month period.~~

B. ~~The benchmark for the Passive Program is specified in the Benchmarks Policy. The Passive Program benchmark shall be a percentage of the Program Benchmark, fully hedged.~~

~~Any international program may be passively hedged to reduce risk with the approval of that asset class SIO.~~

II. ~~INVESTMENT APPROACHES AND PARAMETERS~~

A. ~~Investment Approaches~~

~~The Passive Program will be passively managed and will target its share of the Program Benchmark.~~

B. ~~Specific Parameters~~

1. ~~The allocation to the Passive Program shall represent a portion of the total Overlay Program. The percent of assets allocated to the Program shall be determined by considering the following:~~

a. ~~Cost versus expected attained risk reduction versus other alternatives; and~~

b. ~~Optimal impact to the Overlay Program.~~

~~Staff shall conduct the appropriate analyses to support such a recommendation.~~

~~2. The below table specifies allowable hedge ratio ranges:~~

~~**Permissible Hedge Ratio Ranges**~~

| Benchmark | Hedge Ratio Range |
|----------------------|------------------------------|
| 100% | 95% – 105% |

~~3. The Passive Program shall track a fully hedged benchmark that reflects the specific currencies of the underlying equity program as specified in Section II.B.2.~~

~~4. The Passive Program shall execute currency transactions in the forward currency markets or in related currency derivative instruments over the long currency positions of the underlying program(s) of assets assigned to it.~~

~~5. The Passive Program shall monitor its currency positions to avoid leverage. Currency positions taken shall constitute a designated hedge of the international assets identified in the underlying program.~~

~~6. CalPERS shall allow wider tracking error should there be deliberate decisions to redefine the Program Benchmark. This would include, but is not restricted to, the entry or exit of individual countries or the major rebalancing of country weightings.~~

~~7. Implementation of the Passive Program shall comply at all times with CalPERS investment policies including, but not limited to, the following:~~

~~a. Global Derivatives and Counterparty Risk Policy; and~~

~~b. Internal Program Operation Procedures Manual.~~

~~III. DERIVATIVES AND LEVERAGE POLICY~~~~A. Forwards, Options, and Swaps~~

~~All transactions involving derivatives are governed by the Global Derivatives and Counterparty Risk Policy. In addition to the restrictions defined in the Global Derivatives and Counterparty Risk Policy, the following conditions apply specifically to the Passive Program:~~

- ~~1. Leverage shall be avoided as cited in Section II.B.5.~~
- ~~2. The Passive Program may buy or sell non-exchange traded derivatives, which includes over-the-counter forwards, options, and swaps.~~
- ~~3. Bona fide hedging of foreign currency exposure is the only acceptable strategy.~~

Attachment D

~~INTERNALLY MANAGED ACTIVE CURRENCY OVERLAY PROGRAM~~

~~May 19, 2014~~

~~I. PERFORMANCE OBJECTIVE AND BENCHMARK~~

~~A. The primary performance objective for the Internally Managed Active Currency Overlay Program (“Active Program”) is to exceed the benchmark return.~~

~~B. The benchmark for the Active Program is specified in the Benchmarks Policy. The Active Program benchmark shall be a percentage of the Program Benchmark, fully hedged.~~

~~II. INVESTMENT APPROACHES AND PARAMETERS~~

~~A. Investment Approaches~~

~~The objective is to add incremental currency return by implementing various active strategies. Active management styles implemented in the program include:~~

~~1. Fundamental: Over the long run, currency prices deviate from fair value based on cyclical behavior of economies. Fundamental strategies attempt to identify over and undervalued currencies by using various economic indicators such as inflation, growth or trade data.~~

~~2. Technical: Technical strategies attempt to identify markets where prices are moving in clear and predictable trends. Price trends and stress points in currency markets can be identified and exploited using a number of indicators such as moving averages, chart patterns, support and resistance indicators and flow models.~~

~~3. Interest Rate (Carry): Carry strategies seek to anticipate currency movements driven by differences and changes in national interest rates. Overweighting currencies with high yields and underweighting currencies with lower yields tends to produce excess returns.~~

~~4. Volatility: Volatility strategies are used to exploit mispricing in currency options based on varying interpretations of changes in spot prices.~~

B. Specific Parameters

1. Shortfall Risk will be controlled by limiting the negative return to 300 basis points for a rolling 12 month period. A violation of this threshold shall require a review by the Senior Investment Officer of Global Fixed Income to determine if a partial or full liquidation of positions is warranted.
2. Benchmark Risk was reviewed by the Consultant.
3. Currency Risk will be managed by limiting the percentage deviation from the index by the table below. The following table specifies the allowable ranges. The table differentiates between major and minor currency pairs and specifies allowable ranges within which actual allocations can fluctuate. Allowable ranges for major currency pairs are between $\pm 20\%$ of the benchmark weight, while minor currencies can vary between $\pm 10\%$ of the benchmark weights.

Country Currency Allowable Ranges

Major Currency Pairs- Subject to index weights $\pm 20\%$

| Currency | Benchmark country weight* | Permissible Range |
|--------------|---------------------------|-------------------|
| Euro | 33% | 13% – 53% |
| UK Sterling | 17% | -3% – 37% |
| Japanese Yen | 22% | 2% – 42% |

Minor Currency Pairs- Subject to index weights $\pm 10\%$

| Currency | Benchmark country weight* | Range |
|--------------------|---------------------------|------------|
| Canadian Dollar | 7% | -3% – 17% |
| Swiss Franc | 7% | -3% – 17% |
| Australian Dollar | 6% | -4% – 16% |
| Hong Kong Dollar | 4% | -6% – 14% |
| Israeli Shekel | 1% | -9% – 11% |
| Swedish Krona | 2% | -8% – 12% |
| Singapore Dollar | 1% | -9% – 11% |
| Norwegian Kroner | 1% | -9% – 11% |
| Danish Krone | 1% | -9% – 11% |
| New Zealand Dollar | 0.1% | -10% – 10% |

*Benchmark country weights as of December 2008. Total may not sum to 100% due to rounding.

~~Net Program Weight must remain between 0% and 200%, hedged.~~

~~Index currencies and weights will change over time in line with movements in the underlying passive equity index program.~~

- ~~4. Liquidity Risk must be managed in a disciplined manner by maintaining numerous dealing relationships with geographically diverse counterparties.~~
- ~~5. Interest Rate Risk will be controlled by using forward contracts that are within 2 years of the benchmark. Forward currency contracts are a function of domestic relative to foreign country interest rates.~~
- ~~6. Implementation of the Active Program shall comply at all times with CalPERS investment policies including, but not limited to, the Global Derivatives and Counterparty Risk Policy.~~

~~III. DERIVATIVES AND LEVERAGE POLICY~~

~~A. Forwards, Options, and Swaps~~

~~All transactions involving derivatives are governed by the Global Derivatives and Counterparty Risk Policy. In addition to the restrictions defined in the Global Derivatives and Counterparty Risk Policy, the following condition applies specifically to the Active Program:~~

~~The Active Program may buy or sell exchange or non-exchange traded derivatives, which includes over-the-counter forwards, options, and swaps.~~

**CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF INVESTMENT POLICY**

**FOR
LIQUIDITY PROGRAM**

May 19, 2014

This policy is effective immediately upon adoption and supersedes all previous Internally Managed Dollar-Denominated Short-Term Program policies.

I. PURPOSE

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

This document sets forth the investment policy ("Policy") for the Liquidity Program ("LP Program"). The design of this Policy ensures that investors, managers, consultants, and other participants selected CalPERS take prudent and careful action while managing the Programs. Additionally, use of this policy assures sufficient flexibility in managing investment risks and returns associated with this Program.

This Policy is the controlling document for the following Programs:

- A. Attachment A – U.S. Treasury 2-10 year Program ("UST Program");
- B. Attachment B – Internally Managed Dollar-Denominated Short-Term Program ("ST Program").

II. STRATEGIC OBJECTIVE

The LP Programs shall be managed to accomplish the following:

- A. Provide liquid assets that could be converted to cash with little market impact for funding equity oriented ventures during equity market downturns;
- B. Provide a partial hedge to liabilities; and,
- C. Provide diversification benefits.

III. RESPONSIBILITIES

A. CalPERS Investment Staff (“Staff”) is responsible for the following:

1. All aspects of portfolio management and oversight including monitoring, analyzing, and evaluating performance relative to the appropriate benchmark.
2. Reporting on the performance and risk metrics for each individual LP Program to the Committee, no less than annually for externally managed, and for internally managed LP Programs.
3. Monitoring the internal and **external managers** in the implementation of, and compliance with, the Policy. Staff shall report concerns, problems, material changes, and all violations of Guidelines and Policies to the Committee. All events deemed materially important will be reported to the Committee immediately. These reports shall include explanations of any violations and appropriate recommendations for corrective action.

B. The **General Pension Consultant** (“Consultant”) is responsible for:

Monitoring, evaluating, and reporting no less than annually, to the Committee, on the performance of the LP Programs relative to the appropriate benchmarks and the Policy.

IV. PERFORMANCE OBJECTIVE AND BENCHMARK

A. The specific performance objective for each LP Program is detailed in the appropriate attachment.

B. The Benchmark for the LP Program is specified in the Benchmarks Policy.

V. INVESTMENT APPROACHES AND PARAMETERS

The specific Investment Approaches and Parameters for each LP Program are detailed in the appropriate attachment.

Program allocation targets and ranges are listed below. Allocations are expressed as a percentage of the market value of the CalPERS Fund.

Program Allocations

| Component | Target* | Range* |
|-------------------------|---------|---------|
| UST 2-10 Year | 3% | 1% - 5% |
| ST | 1% | 0% - 2% |
| Total Liquidity Program | 4% | 1% - 7% |

*Percentage of the CalPERS Fund

VI. LP PROGRAM CHARACTERISTICS

The LP Program is composed of two portfolios: UST Program and ST Program. The ST Program is designed to have high liquidity to fund the everyday liquidity requirements of the total fund. The UST Program is designed to provide a higher return from yield curve extension over market cycles than the ST Program while also providing for greater diversification to equity markets.

VII. CALCULATIONS AND COMPUTATIONS

Investors, managers, consultants, and other participants selected by CalPERS shall make all calculations and computations on a market value basis as recorded by CalPERS Custodian, unless otherwise provided in attachments.

VIII. 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.

Liquidity Program Policy

| | |
|--|-------------------|
| Approved by the Policy Subcommittee | April 11, 2011 |
| Adopted by the Investment Committee | May 16, 2011 |
| Policy Effective | July 1, 2011 |
| Administrative changes to remove "AAA" rating for U.S. Treasury and U.S. Government Agency Securities | January 12, 2013 |
| Administrative changes to update template format and to align this policy with the Global Derivatives and Counterparty Risk Policy | December 24, 2013 |
| Administrative changes to standardize reporting frequencies to the Investment Committee to "no less than annually" | May 19, 2014 |
| Administrative changes to reflect the Policy Glossary of Terms Update Project | May 19, 2014 |

The following attachment was previously an individual policy, and is now consolidated into the Liquidity Program policy. The dates below reflect the revision history for the document:

| | |
|--|--------------------|
| <u>Attachment B – Dollar-Denominated Short-Term Program – Internally Managed</u> | |
| Approved by the Policy Subcommittee: | September 27, 1996 |
| Adopted by the Investment Committee: | November 18, 1996 |
| Revised by the Policy Subcommittee: | June 11, 2004 |
| Adopted by the Investment Committee: | August 16, 2004 |
| <u>Moved into Low-Duration FI Program Policy as Attachment B:</u> | |
| Approved by the Policy Subcommittee: | April 21, 2008 |

| | |
|---|-------------------|
| Adopted by the Investment Committee: | May 12, 2008 |
| Revised by the Policy Subcommittee: | October 20, 2008 |
| Approved by the Investment Committee: | November 17, 2008 |
| Technical Revision to Delete Lehman from Attachment A3: | December 15, 2008 |
| Administrative changes made due to Policy Review Project: | June 16, 2009 |
| Admin changed due to adoption of Benchmark Policy: | October 30, 2009 |
| Revised by the Policy Subcommittee: | December 13, 2010 |
| Approved by the Investment Committee: | February 14, 2011 |
| Placed in Liquidity Policy | July 1, 2011 |

US TREASURY 2-10 YEAR PROGRAM

May 19, 2014

I. PERFORMANCE OBJECTIVE AND BENCHMARK

The performance objective for the US Treasury 2-10 Year Program (“UST Program”) is to exceed the return of the Barclays Capital 2-10 year US Treasury while maintaining a high level of liquidity.

The benchmark for the UST Program is specified in the Benchmarks Policy.

II. INVESTMENT PARAMETERS

A. Specific Risk

CalPERS manages the following major categories of fixed income risk:

1. Benchmark Risk was determined by the CalPERS Asset Allocation Unit who determines the benchmark was appropriate for the fund given the objective.
2. Interest Rate Risk must be controlled using duration management. Duration will be +/- 10% of the benchmark on an option adjusted basis. Decisions shall be managed using economic analysis.
3. Yield Curve Risk must be managed in a controlled, disciplined fashion by monitoring key rate durations and principal component analysis.
4. Convexity Risk must be managed using option adjusted and scenario analysis.
5. Sector Risk is controlled by using the ranges below

| Sector | BCLL Index | Permitted Ranges |
|---------------|------------|------------------|
| U.S. Treasury | 100% | 90%-100% |
| STIF | 0% | 0%-10% |

6. Credit Risk is controlled as only US Treasury securities are allowed in the portfolio.
7. Structure Risk is minimal as US Treasury securities are predominately non-callable.

~~8. Reinvestment Risk must be managed through cash flow and scenario analysis.~~

~~9. Liquidity Risk is controlled by using the following ranges.~~

| U.S. Treasury Maturities | BCLL Index | Permitted Ranges |
|--|-----------------------|-----------------------------|
| Nominal 2 – 10 year | 100% | 70% – 100% |
| Nominal 0 – 2 year | 0% | 0% – 20% |
| Zeros (Principal and Coupons) | 0% | 0% – 10% |

~~10. Currency Risk is reduced as the portfolio is limited to US Treasury securities which are denominated in US dollars.~~

~~B. Restrictions and Prohibitions~~

~~1. Leverage is prohibited.~~

~~2. Options are prohibited.~~

~~3. Investments in any single STIF shall not exceed 5% of the UST Program during the holding period for such investment.~~

~~C. Authorized Securities~~

~~1. U.S. Treasury (including futures whose deliverable instrument is a U.S. Treasury).~~

~~2. STIF from custodial bank or internal CalPERS STIF.~~

~~IV. DERIVATIVES AND LEVERAGE POLICY~~

~~All transactions involving derivatives and leverage are governed by the Global Derivatives and Counterparty Risk Policy. In addition to the restrictions defined in the Global Derivatives and Counterparty Risk Policy, the following conditions apply specifically to the UST Program.~~

~~A. Financial Futures, Swaps, and Options~~

~~1. Short selling of securities is prohibited, except in financial futures (as outlined in Section IV. A. 4.);~~

~~2. Leverage is prohibited except futures position where there is an associated cash position (which effectively creates a synthetic bond);~~

- ~~3. The Staff may buy or sell the following fixed income related derivatives: financial futures including index swaps, and interest rate swaps; and,~~
- ~~4. Acceptable strategies include bona fide hedges (to help achieve the target durations) and strategies that result in a more efficient method of implementing the investment objectives of the Program.~~

~~B. Restrictions and Prohibitions~~

- ~~1. Uncovered Call writing is prohibited.~~
- ~~2. Speculation or arbitrage between two derivatives is prohibited. If a derivative is more attractively priced than the underlying security, the transaction is considered a substitution.~~

Attachment B

~~INTERNALLY MANAGED DOLLAR-DENOMINATED SHORT-TERM PROGRAM~~

~~May 19, 2014~~

~~I. PERFORMANCE OBJECTIVE AND BENCHMARK~~

~~The performance objective for the Internally Managed Dollar-Denominated Short-Term Program (“ST Program”) is to exceed the benchmark.~~

~~The benchmark for the ST Program is specified in the Benchmarks Policy.~~

~~II. INVESTMENT APPROACHES AND PARAMETERS~~

~~A. Investment Approach~~

~~The goals of the ST Program are to provide liquidity to CalPERS and to maximize investment returns at a prudent level of risk. The investment approach is to identify opportunities in the short end of the yield curve and invest where risks are understood and manageable, while maintaining liquidity, credit quality, weighted-average days to maturity, and diversification as specified in this Policy.~~

~~To ensure liquidity, all ST Program investment transactions shall be made in conjunction with CalPERS projected cash flow needs.~~

~~B. Specific Risk Parameters~~

~~CalPERS shall manage the following major categories of short-term risk:~~

~~1. Benchmark Risk was reviewed by the Consultant who determined that the SSB STIF is the appropriate reference point for the ST Program.~~

~~2. Liquidity Risk must be managed within the context of CalPERS projected cash flow needs.~~

~~3. Interest Rate Risk must be managed using economic analysis, Federal Open Market Committee analysis, and projected cash flow requirements of CalPERS. All securities purchased shall have a maximum final stated maturity of 15 months **except** for the following securities:~~

- ~~a. Callable securities having a high probability of being “called” as projected using option-adjusted and scenario analysis. Callable securities shall have a maximum anticipated time to call of 12 months.~~
 - ~~b. Fixed rate asset-backed securities shall have a maximum projected average life of 15 months and a final stated maturity that does not exceed 5 years.~~
 - ~~c. Floating rate asset-backed securities shall have a maximum projected average life of 3 years and a final stated maturity that does not exceed 5 years.~~
 - ~~d. Corporate and U.S. Government Agency floating rate securities shall have a final stated maturity not exceeding 3 years.~~
 - ~~e. Securities with short-term ratings that are split-rated shall have a maximum final stated maturity of 120 days (including floating rate securities).~~
 - ~~f. Securities rated A2/P2 shall have a maximum final stated maturity of 75 days (including floating rate securities).~~
 - ~~g. Deliveries versus payment repurchase agreements (DVP Repo) and tri-party repurchase agreements are limited to a maximum of 14 days from the trade date to the date of repurchase.~~
 - ~~h. Investments in short-term obligations of issuers domiciled outside the United States shall have a maximum final stated maturity of 120 days.~~
- ~~4. Yield Curve Risk must be managed in a controlled, disciplined fashion by employing break-even and economic analysis.~~
 - ~~5. Credit Risk must be managed with a goal of zero defaults. A downgrading of a security, which causes a violation of the Policy, shall not require an immediate sale if the Senior Investment Officer of Global Fixed Income believes that no further risk of credit deterioration exists, or that the sale diminishes the total rate of return to CalPERS. CalPERS internal research staff and the external rating agencies shall be utilized in analyzing such situations to ensure that an informed decision is made. The following are minimum credit quality standards for each of the sectors:~~

- ~~a. Asset-backed securities must be in the highest rating category for short-term debt obligations (A1+/P1 or A1/P1) or rated on a long-term debt obligation basis by Moody's (Aaa) and S&P (AAA).~~
- ~~b. Broker/dealer securities must be in the highest rating category for short-term debt obligations (A1+/P1 or A1/P1).~~
- ~~c. Domestic money market securities must be in one of the two highest rating categories for short-term debt obligations (A2/P2 or higher). If the security is only rated by one of the credit agencies (S&P or Moody's) then the security must be in the highest rating category for short-term debt obligations (A1+, A1 or P1). All corporate issuers with a short-term rating below A1/P1 shall be monitored by the CalPERS internal research staff annually or as events warrant.~~
- ~~d. Domestic corporate securities (bonds, notes, medium term notes, and floating rate securities) without a short-term debt obligation rating must have a minimum long-term debt obligation rating by Moody's of A2 and by S&P of A.~~
- ~~e. Investments in U.S. Dollar bonds and money market securities issued in the United States by foreign borrowers (Yankee) or U.S. Dollar bonds and money market securities issued outside the United States by domestic or foreign borrowers (Eurodollar) must be debt obligations of companies located in a country with a long-term sovereign rating by Moody's of Aa3 (or higher) and by S&P AA (or higher) and have a short-term rating of A1/P1 (or higher).~~

~~6. Structure Risk must be managed using option-adjusted and scenario analysis.~~

~~7. Reinvestment Risk must be managed through call risk and cash flow analysis.~~

~~C. Authorized Securities~~

~~1. U.S. Treasury and U.S. Government Agencies including U.S. Treasury strips.~~

~~2. Publicly traded domestic corporate bonds, notes, and medium term notes.~~

- ~~3. Asset-backed securities collateralized by credit cards, automobile loans, or leases and agricultural equipment.~~
- ~~4. Publicly and privately traded domestic money market securities.~~
- ~~5. Floating rate securities tied to LIBOR, Fed Funds, Treasury bills and commercial paper indices.~~
- ~~6. State Street Bank Short Term Investment Fund (STIF).~~
- ~~7. Delivery Vs. Payment and Repurchase Agreements and Tri-party repurchase agreements.~~
- ~~8. Broker/Dealer Securities.~~
- ~~9. U.S. Dollar bonds and money market securities issued in the United States by foreign borrowers ("Yankee").~~
- ~~10. U.S. Dollar bonds and money market securities issued outside the United States by domestic or foreign borrowers ("Eurodollar").~~

~~D. Restrictions and Prohibitions~~

- ~~1. Investments in a single issuer (including parent, subsidiary and guaranteed debt) whose securities are rated A1+/P1 or A1/P1, shall not exceed 10% of the ST Program over the holding period for such investments. However, holdings in such issuers with maturities in excess of 7 days shall not exceed 5% of the ST Program. For asset-backed securities, each separate trust (pool of assets) is defined as a separate issuer.~~
- ~~2. Investments in a single issuer (including parent, subsidiary and guaranteed debt) whose securities are split-rated (A2/P1 or A1/P2), shall not exceed 6% of the ST Program over the holding period for such investments. However, holdings in such issuers with maturities exceeding 7 days shall not exceed 3% of the ST Program.~~
- ~~3. Investments in a single issuer (including parent, subsidiary and guaranteed debt) whose securities are rated A2/P2, shall not exceed 4% of the ST Program over the holding period for such investments. However, holdings in such issuers with maturities exceeding 7 days shall not exceed 2% of the ST Program.~~
- ~~4. Aggregate investments in securities split-rated or A2/P2 shall not exceed 30% of the ST Program over the holding period for such investments.~~

- ~~5. Aggregate investments in floating rate securities shall not exceed 50% of the ST Program over the holding period for such investments.~~
- ~~6. Aggregate investments in fixed rate asset-backed securities shall not exceed 25% of the ST Program over the holding period for such investments.~~
- ~~7. Aggregate investments in DVP Repos with maturities exceeding the next business day shall not exceed 20% of the ST Program.~~
- ~~8. Non-dollar denominated securities are prohibited.~~
- ~~9. Collateralized mortgage obligations and mortgage-backed securities are prohibited.~~
- ~~10. Financial futures and options are prohibited.~~

~~E. Counterparty Exposure for DVP Repos~~

- ~~1. The lesser of \$200 million or 25% of the total ST Program can be maintained, with any one counterparty for DVP Repos.~~
- ~~2. The counterparty must be in the highest rating category for short term debt obligations (A1+/P1 or A1/P1). Transactions shall be executed with only domestic brokers. The CalPERS internal research staff shall actively review these brokers.~~
- ~~3. Collateral received on a repurchase agreement must consist of U.S. Treasury or U.S. Government Agency securities with a maximum final stated maturity of 5 years. All collateral must be marked-to-market on a daily basis and maintained at 102% of the amount of funds loaned plus accrued interest.~~

~~III. CALCULATIONS AND COMPUTATIONS~~

- ~~A. Calculations and computations shall be on a mark-to-market or amortized cost method depending on market convention. Securities for which there are market quotations readily available shall be accounted for utilizing the mark-to-market method. When no market quote is available, the amortized cost method shall be used for determining the securities value.~~
- ~~B. For securities with periodic principal payments, the weighted-average days to maturity calculation shall be calculated from the evaluation date to the date of the security's average life.~~

~~C. For floating rate securities, the program weighted-average days to maturity calculation shall be calculated from the evaluation date to the date of the next coupon reset.~~

~~D. References to short-term credit ratings shall be presented with S&P rating first followed by Moody's (i.e., S&P (A1) and Moody's (P1) shall be presented as A1/P1).~~

~~CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF INVESTMENT POLICY~~

~~FOR
LOW DURATION FIXED INCOME PROGRAM~~

~~May 19, 2014~~

~~This policy is effective immediately upon adoption and supersedes all previous Low Duration Fixed Income Program, Dollar-Denominated Fixed Income Limited Duration Program, Dollar-Denominated Fixed Income High Quality Libor Program, Dollar-Denominated Fixed Income Short Duration Program, and Internally Managed Dollar-Denominated Short-Term Program policies.~~

~~I. PURPOSE~~

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

~~This document sets forth the investment policy ("Policy") for the Low Duration Fixed Income Program ("LD Program"). The design of this Policy ensures that investors, managers, consultants, and other participants selected by CalPERS take prudent and careful action while managing the Programs. Additionally, use of this policy assures sufficient flexibility in managing investment risks and returns associated with this Program.~~

~~This Policy is the controlling document for the following Programs:~~

- ~~A. Attachment A – Dollar-Denominated Fixed Income Limited Duration Program;~~
 - ~~1. Attachment A1 – Dollar-Denominated Fixed Income **High Quality LIBOR** Program ("HQL Program");~~
 - ~~2. Attachment A2 – Dollar-Denominated Fixed Income Short Duration Program ("SD Program"); and~~
 - ~~3. Attachment A3 – Dollar-Denominated Fixed Income Low Liquidity Enhanced Return Fund (LLER Program).~~

~~B. Attachment B – Short Duration Programs Comparison.~~

~~II. STRATEGIC OBJECTIVE~~

~~The LD Programs shall be managed to accomplish the following:~~

~~A. Diversify CalPERS overall investment programs;~~

~~B. Dampen the overall risk of CalPERS investment programs; and~~

~~C. Enhance CalPERS total returns.~~

~~III. RESPONSIBILITIES~~

~~A. CalPERS Investment Staff (“Staff”) is responsible for the following:~~

~~1. All aspects of portfolio management and oversight including monitoring, analyzing, and evaluating performance relative to the appropriate benchmark.~~

~~2. Reporting on the performance and risk metrics for each individual LD Program to the Committee, no less than annually for externally managed, and for internally managed LD Programs.~~

~~3. Monitoring the internal and **external managers** in the implementation of, and compliance with, the Policy. Staff shall report concerns, problems, material changes, and all violations of Guidelines and Policies at the next Committee meeting. All events deemed materially important will be reported to the Committee immediately. These reports shall include explanations of any violations and appropriate recommendations for corrective action.~~

~~B. The **General Pension Consultant** (“Consultant”) is responsible for:~~

~~Monitoring, evaluating, and reporting no less than annually, to the Committee, on the performance of the LD Programs relative to the appropriate benchmarks and the Policy.~~

~~IV. PERFORMANCE OBJECTIVE AND BENCHMARK~~

~~A. The specific performance objective for each LD Program is detailed in the appropriate attachment.~~

~~B. The Benchmark for the Low Duration Fixed Income Program is specified in the Benchmarks Policy.~~

~~V. INVESTMENT APPROACHES AND PARAMETERS~~

~~The specific Investment Approaches and Parameters for each LD Program are detailed in the appropriate attachment.~~

~~VI. LIMITED DURATION INVESTMENT PROGRAM CHARACTERISTICS~~

~~Although the HQL Program, SD Program, and LLER Program are designed to be limited-duration in nature, the three investment programs differ in their targeted investment horizon, program objectives, and expected program participants. While the HQL Program is an appropriate investment for numerous CalPERS sub-strategies, the SD Program is designed to be a slightly more aggressively managed limited duration program for participants having a longer investment horizon that allows for higher monthly return volatility in exchange for higher expected long-term alpha. For instance, the SD Program is viewed as an appropriate investment for the “core” portion of the securities lending assets. The LLER Program is designed for participants that require low to no liquidity and will only be appropriate for holdings that are not expected to be liquidated. For instance, the LLER Program is viewed as an appropriate investment for an enhanced equity overlay portfolio when it is a very small allocation of the overall CalPERS Global Equity asset class and thus will not need to be liquidated.~~

~~Given the different investment time horizons, program objectives, and expected program participants, the investment policies that govern the three programs do have some major policy differences and multiple minor differences.~~

The following table summarizes the basic program characteristics.

| | | | |
|---|-------------------------|------------------------|----------------------|
| | High-Quality LIBOR | Short Duration Program | LLER Program |
| Investment Horizon | Less than 30 days | 6–12 months | Hold to Maturity |
| | | | |
| Objective | Medium / High Liquidity | Medium Liquidity | Low Liquidity |
| | Capital Preservation | Total Rate of Return | Total Rate of Return |
| | Total Rate of Return | | |
| | | | |
| Participants | Global Fixed Income | Securities Lending | Enhanced Equity |
| | Domestic Equity | | Global Fixed Income |
| | Securities Lending | | |
| | | | |
| Liquidity Requirement | High | Medium | Low to None |
| | | | |
| Program Duration Constraint | 90-Days Max | 180-Days Max | 270-Days Max |
| WAL Constraint | | | |
| Fixed Rate Securities | 90-Days | 2 Years | 3 Years |
| AAA-Rated Floating-Rate Securities | 5 Years | 7 Years | 10 Years |
| | | | |
| Minimum Credit Quality | | | |
| Structured Securities | AAA | BBB | BBB-at Purchase |

VII. CALCULATIONS AND COMPUTATIONS

Investors, managers, consultants, and other participants selected by CalPERS shall make all calculations and computations on a market value basis as recorded by CalPERS Custodian, unless otherwise provided in attachments.

The HQL Program and SD Program portfolios under this program will be considered in their ramp-up period until the portfolio reaches \$1 billion. During the portfolio ramp-up period, calculation of asset and sector diversification limits (see Attachments) will be based on the assumption of a \$1 billion portfolio size.

The LLER Program portfolio under this program will be considered in its ramp-up period until the portfolio reaches \$2 billion. During the portfolio ramp-up period, calculation of asset and sector diversification limits (see Attachments) will be based on the assumption of a \$2 billion portfolio size. The larger ramp-up period portfolio size relative to the HQL and SD Programs is needed due to the larger security concentration nature of the security purchases in the LLER Program. Larger concentration in fewer securities is prudent as long as the LLER Program represents a small portion of the overall assets for the asset class utilizing the LLER Program.

Given the hold to maturity expectation of holding low liquidity securities in the LLER Program, all security calculations will be performed at time of purchase.

VIII. 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.

Low Duration Fixed Income Program

| | |
|--|-------------------|
| Approved by the Policy Subcommittee | April 21, 2008 |
| Adopted by the Investment Committee | May 12, 2008 |
| Revised by the Policy subcommittee | October 20, 2008 |
| Approved by the Investment Committee | November 17, 2008 |
| Technical Revision to Delete Lehman from Attachment A3 | December 15, 2008 |
| Administrative changes made due to Policy Review Project | June 16, 2009 |
| Administrative changes due to adoption of Benchmarks Policy | October 30, 2009 |
| Revised by the Policy subcommittee | December 13, 2010 |
| Approved by the Investment Committee | February 14, 2011 |
| Administrative changes to update template format and to align this policy with the Global Derivatives and Counterparty Risk Policy | December 24, 2013 |
| Administrative changes to standardize reporting frequencies to the Investment Committee to “no less than annually” | May 19, 2014 |
| Administrative changes to reflect the Policy Glossary of Terms Update Project | May 19, 2014 |

~~The following attachments were previously individual policies and are now consolidated into the Global Fixed Income Program policy. The dates below reflect the revision history for each document~~

Attachment A – Dollar-Denominated Fixed Income Limited-Duration

Dollar-Denominated Fixed Income Short-Duration

Approved by the Policy Subcommittee: June 13, 2003
 Adopted by the Investment Committee: August 18, 2003
 Revised by the Policy Subcommittee: June 11, 2004
 Adopted by the Investment Committee: August 16, 2004

Name changed to Dollar-Denominated Fixed Income Limited-Duration

Revised by the Policy Subcommittee: December 9, 2005
 Adopted by the Investment Committee: February 14, 2006

Attachment B – Dollar-Denominated Short-Term Program – Internally Managed

Approved by the Policy Subcommittee: September 27, 1996
 Adopted by the Investment Committee: November 18, 1996
 Revised by the Policy Subcommittee: June 11, 2004
 Adopted by the Investment Committee: August 16, 2004
 Extracted and placed in new Liquidity Policy as att. July 1, 2011

~~DOLLAR-DENOMINATED FIXED INCOME
LIMITED-DURATION PROGRAM~~

~~May 19, 2014~~

~~I. DOLLAR DENOMINATED FIXED INCOME, LIMITED DURATION
INVESTMENT PROGRAM~~

~~A. The High Quality LIBOR Program (“HQL Program”) is designed to be a limited duration, highly liquid program that can be used by CalPERS Portfolio Managers as a way to invest in a limited duration asset that provides low volatility versus a floating-rate based benchmark.~~

~~1. Uses for the HQL Program include, but are not limited to:~~

- ~~a. a stand-alone asset in the fixed income mortgage portfolio as a proxy for high coupon mortgage pass-throughs;~~
- ~~b. an asset in the securities lending portfolio that will be managed internally;~~
- ~~c. the cash component of mortgage dollar roll transactions;~~
- ~~d. the cash component of interest rate swap transactions; and~~
- ~~e. the cash component of the Equity Dynamic Completion Fund transactions.~~
- ~~f. the cash component of the Synthetic Enhanced Equity Strategy.~~

2. The Policy for the HQL Program is Attachment A1.

B. The Short Duration Program (“SD Program”) is designed to earn a return premium versus traditional limited duration assets through a modest increase in portfolio duration and by purchasing a broader universe of limited duration securities than those typically available to traditional money market portfolios. Expanding the allowable universe of limited duration securities provides the opportunity to increase return by taking advantage of some structural aspects inherent in the limited duration sector. Traditionally there are three strategies that provide incremental alpha opportunities for limited duration investors. These strategies include extending duration out the yield curve, accepting lower liquidity, and investing down the credit spectrum. The SD Program will be designed to take advantage of all three strategies, as well as other strategies that add incremental value, within a controlled manner and will result in a modest increase in risk relative to the HQL Program.

1. Uses for the SD Program include, but are not limited to:

- a. the “core” asset of the internally managed securities lending portfolio;
- b. a stand-alone asset in the fixed income mortgage portfolio as a proxy for high coupon mortgage pass-throughs; and
- c. the cash component of mortgage dollar roll transactions and interest rate swap transactions.

2. The key determinant for the use of the SD Program is the identification of a pool of funds that require less liquidity than that provided by the HQL Program. It is anticipated that the majority of CalPERS sub-strategies desiring limited-duration assets will use both the HQL Program and SD Program at various times depending on liquidity needs.

3. The Policy for the Dollar-Denominated Fixed Income, Short Duration Program is Attachment A2.

C. The Low Liquidity Enhanced Return Program (“LLER Program”) is designed to earn a substantial return premium versus traditional limited duration assets by purchasing a broader universe of limited duration securities than those typically available to traditional money market portfolios. Expanding the allowable universe of limited duration securities provides the opportunity to increase return by taking advantage of some structural aspects inherent in the limited duration sector. Traditionally

~~there are three strategies that provide incremental alpha opportunities for limited duration investors. These strategies include extending duration out the yield curve, accepting lower liquidity, and investing down the credit spectrum. The LLER Program will be designed to take advantage of all three strategies, as well as other strategies that add incremental value, and will result in a substantial increase in risk and illiquidity relative to the HQL and SDF Programs.~~

- ~~1. Uses for the LLER Program include, but are not limited to:
 - ~~a. a stand-alone asset in the fixed income high yield mortgage or high yield asset-backed portfolios; and~~
 - ~~b. the fixed income return component of the Synthetic Enhanced Equity Strategy.~~~~
- ~~2. The key determinant for the use of the LLER Program is the identification of a pool of funds that have no expected liquidity requirement.~~
- ~~3. The Policy for the Dollar-Denominated Fixed Income, Limited Liquidity Enhanced Return Program is Attachment A3.~~

Attachment A1

**~~DOLLAR-DENOMINATED FIXED INCOME
HIGH QUALITY LIBOR PROGRAM~~**

~~May 19, 2014~~

~~I. PERFORMANCE OBJECTIVE AND BENCHMARK~~

~~The performance objective for the Dollar-Denominated Fixed Income High Quality LIBOR Program (“HQL Program”) is to exceed the return of a Federal Funds based index while maintaining a high level of diversification and liquidity.~~

~~The benchmark for the Dollar-Denominated Fixed Income High Quality Libor Program is specified in the Benchmarks Policy.~~

~~II. INVESTMENT APPROACHES AND PARAMETERS~~

~~A. Investment Approach~~

~~Identifying opportunities across limited duration bond market sectors and investing where risks are both understood and manageable while maintaining credit quality, duration, convexity, and liquidity as specified in the High Quality Libor Policy (“Policy”) is the investment approach of the HQL Program. Given the mandate for the HQL Program to be a high liquidity, preservation of capital fund, measured versus a Federal Funds based benchmark, it is expected that AAA rated Floating Rate Securities will represent a majority of the HQL Program holdings.~~

~~B. Specific Risk Parameters~~

~~CalPERS shall manage the following major categories of fixed income risk:~~

- ~~1. Benchmark Risk was reviewed by the Consultant who determined that the Federal Funds based index was the appropriate reference point.~~
- ~~2. Interest Rate Risk will be controlled by limiting duration to not exceed 90 days due to the stable return mandate of the HQL Program. Decisions shall be managed using historical real return relationships and economic analysis.~~

Maturity and Duration Constraints

| Asset | Maturity Limits |
|--|------------------------|
| US Treasury & Govt. Sponsored | 91 days |
| Repurchase Agreements | |
| US Treasury/Agency Collateral | 3 months |
| Non US Treasury/Agency Collateral | 1 month |
| AAA Rated Fixed Rate Structured Securities | 90 day WAL |
| AAA Rated Floating Rate Structured Securities | 5 year WAL |
| Money Market Securities | |
| > = A1/P1 | 90 days |
| < A1/P1 | 35 days |
| Corporate & Yankee Sovereign (AAA rated) | 90 days |
| Corporate & Yankee Sovereign (less than AAA rated) | 35 days |

3. Yield Curve Risk must be managed in a controlled, disciplined fashion by employing break-even, economic analysis, partial duration, and principal component analysis.
4. Convexity Risk must be managed using option-adjusted and scenario analyses.
5. Sector Risk and Asset Risk will be controlled using the below ranges. Based on the economic outlook, historical factors, and break-even analysis, Staff shall estimate the impact on various sectors' and assets' spreads and make allocations accordingly.

Asset and Sector Diversification

| Asset / Counterparty | Diversification Limits |
|--|-------------------------------|
| US Treasury & Govt. Sponsored | No Restriction |
| 2a-7 Money Market Funds | No Restriction |
| State Street Bank's STIF | No Restriction |
| Repurchase Agreements | 25% |
| AAA Rated Structured Securities | 10% |
| Corporate & Yankee Sovereign (AAA rated) | 10% |
| Corporate & Yankee Sovereign (less than AAA rated) | 5% |
| Money Market Securities | |
| > = A1/P1 (next business day maturity) | 15% |
| > = A1/P1 | 10% |
| < A1/P1 (next business day maturity) | 10% |
| < A1/P1 | 5% |

| Sector | Diversification Limits |
|---|------------------------|
| Floating Rate | No Restriction |
| Fixed Rate (greater than 35 day maturity) | 20% |
| US Treasury & Govt. Sponsored | No Restriction |
| 2a-7 Money Market Funds | No Restriction |
| State Street Bank's STIF | No Restriction |
| Repurchase Agreements | No Restriction |
| AAA Rated Fixed Rate Structured Securities | 20% |
| AAA Rated Floating Rate Structured Securities | No Restriction |
| Credit Card Collateral | 75% |
| Auto Collateral | 75% |
| Student Loan Collateral | 75% |
| Any Other Individual Structured Collateral Sector | -50% |
| Any One Corporate Sector | 15% |
| Total Yankee Sovereign Sector | 15% |
| Total Corporate/Yankee Sovereign | 50% |
| Money Market Securities | |
| >= A1/P1 | No Restriction |
| < A1/P1 (next business day maturity) | 50% |
| < A1/P1 | 25% |

~~6. Credit Risk will be controlled by requiring minimum ratings by asset type, outlined in the table below. A downgrading of a security, which causes a violation in the guidelines, shall not require an immediate sale if the Senior Investment Officer of Global Fixed Income believes that no further risk of credit deterioration exists or the sale diminishes the total return to CalPERS. The CalPERS internal research staff and the external rating agencies shall analyze such situations to ensure that an informed decision is made. The following is the minimum quality for each of the sectors.~~

| Asset / Counterparty | Minimum Credit Rating |
|-------------------------------|-----------------------|
| US Treasury & Govt. Sponsored | AAA |
| Repurchase Agreements | A1/P1 |
| Structured Securities | AAA |
| Money Market Securities | A2/P2 |
| Corporate Securities | Baa1/BBB+ |
| Yankee Sovereign Securities | A3/A- |

- ~~7. Structure Risk must be managed using option-adjusted and scenario analysis.~~
- ~~8. Reinvestment Risk must be managed through call risk and cash flow analysis.~~
- ~~9. Liquidity Risk is reduced due to the requirement of the HQL Program's mandate as a liquid, limited duration program, and high liquidity.~~
- ~~10. Currency Risk is reduced by requiring all securities to be denominated in U.S. dollars.~~

~~C. Restrictions and Prohibitions~~

- ~~1. Except for U.S. Treasuries and Agencies, investments in a AAA-rated single issuer with a maturity that exceeds one business day shall not exceed 10% of the HQL Program during the holding period for such investment. Exceptions to this restriction are 2a-7 money market funds, State Street Bank's STIF, and repurchase agreements (See Section II.B.5.) For structured securities, each separate trust (pool of assets) is defined as a separate issuer.~~
- ~~2. Investments in any non-AAA rated single issuer with a maturity that exceeds one business day shall not exceed 5% of the HQL Program during the holding period for such investment.~~
- ~~3. The option-adjusted duration of the HQL Program shall not exceed 90 days.~~
- ~~4. Non-investment grade securities are prohibited.~~
- ~~5. Collateralized Bond Obligation (CBO) and Collateralized Loan Obligation (CLO) investments are prohibited.~~
- ~~6. Tobacco company investments are prohibited.~~
- ~~7. Privately Placed Investment Grade Corporate Bonds are prohibited.~~
- ~~8. Collateralized Mortgage Obligations (CMO) are prohibited.~~

9. ~~Adjustable rate securities, which are not allowed, include but are not limited to, the following:~~
 - a. ~~Inverse floaters, leveraged floaters and any securities whose interest rate reset provisions are based on a formula that magnifies changes in interest rates.~~
 - b. ~~Constant Maturity Treasury (CMT) floaters and securities whose interest rate reset provisions are tied to long-term interest rates so that a change in the slope of the yield curve could result in the value of the instrument falling below par.~~
 - c. ~~Dual Index Floaters and securities whose interest reset provisions are tied to more than one index so that a change in the relationship between these indices may result in the value of the instrument falling below par.~~
 - d. ~~Cost of Funds Index (COFI) floaters, prime floaters, and securities whose interest rate reset provision is tied to an index materially lagging short-term interest rates.~~

~~D. Authorized Securities~~

1. ~~U.S. Treasury and Government Sponsored Securities (including derivative securities whose deliverable instrument is a U.S. Treasury or government obligation) excluding mortgages and mortgage-backed securities (MBS).~~
2. ~~Money market instruments, including obligations of the U.S. Government and its agencies, and domestic money market instruments (Commercial Paper, bank time deposits, Certificates of Deposit, and Banker's Acceptances). Non-domestically domiciled money market issuers must be domiciled in countries defined in the Master Glossary under Yankee Sovereign.~~
3. ~~Repurchase Agreements and Tri-Party Repurchase Agreements (repos and tri-party repos) collateralized at 102% by debt obligations of the U.S. Government or its agencies (this does not include mortgage-backed securities). Repurchase agreements and Tri-Party Repurchase agreements collateralized at 105% by A3/A or higher rated corporate debt or AAA structured securities or commercial paper with a minimum A1/P1 rating. Repurchase agreements and Tri-Party Repurchase agreements collateralized at 105% by common stock of companies included in one of the following indices: Nasdaq composite, Russell 3000, or the S&P 500. Individual common stock concentration is limited to 5% per issuer. Repurchase agreements~~

~~and Tri-Party Repurchase agreements must be marked-to-market daily. Mortgage-backed securities are prohibited. Collateral for Tri-party repurchase agreements must be a minimum of \$1 million in size.~~

~~Guidelines for Eligible Repo Counterparties can be found in the Global Derivatives and Counterparty Risk Policy.~~

- ~~4. Notes, bonds, and debentures issued by the U.S. Government and its agencies, U.S. corporations, Canadian, Supranational, and Yankee Sovereign entities subject to the maturity and credit quality limitations specified in this Policy.~~
- ~~5. Money market funds as defined under SEC Regulation 270.2a-7.~~
- ~~6. Structured securities with a minimum credit rating of AAA, subject to the maturity constraints specified in this Policy.~~
- ~~7. Floating rate and variable rate securities, subject to maturity, credit quality, and reset limitations specified in this Policy. The HQL Program can invest in adjustable rate securities tied to LIBOR, Fed Funds, Treasury Bills, and Commercial Paper Indices.~~
- ~~8. Derivatives, subject to Section IV.~~

~~III. CALCULATIONS AND COMPUTATIONS~~

- ~~A. For securities with periodic principal payments, the weighted-average days to maturity must be calculated from the evaluation date to the date of the security's average life.~~
- ~~B. The HQL Program weighted-average days to maturity must be calculated from the evaluation date to the date of the next coupon reset for floating rate securities.~~

~~IV. DERIVATIVES AND LEVERAGE POLICY~~

~~All transactions involving derivatives and leverage are governed by the Global Derivatives and Counterparty Risk Policy. In addition to the restrictions defined in the Global Derivatives and Counterparty Risk Policy, the following conditions apply specifically to the HQL Program.~~

~~A. Financial Futures, Swaps, and Options~~

- ~~1. Short selling of securities is prohibited, except in financial futures (as outlined in Section IV. A. 4.);~~

- ~~2. Leverage is prohibited except futures position where there is an associated cash position (which effectively creates a synthetic bond);~~
- ~~3. The Staff may buy or sell the following fixed income related derivatives: financial futures including eurodollar futures, total return swaps, index swaps, credit default swaps, interest rate swaps, and over-the-counter options; and~~
- ~~4. Acceptable strategies include bona fide hedges (to help achieve the target durations) and strategies that result in a more efficient method of implementing the investment objectives of the HQL Program.~~

~~**B. Restrictions and Prohibitions**~~

- ~~1. Uncovered Call writing is prohibited.~~
- ~~2. Speculation or arbitrage between two derivatives is prohibited. If a derivative is more attractively priced than the underlying security, the transaction is considered a substitution.~~

Attachment A2

**~~DOLLAR-DENOMINATED FIXED INCOME
SHORT DURATION PROGRAM~~**

~~May 19, 2014~~

~~I. PERFORMANCE OBJECTIVE AND BENCHMARK~~

~~The performance objective of the Dollar-Denominated Fixed Income Short Duration Program (“SD Program”) is to exceed the return of a Federal Funds based index while maintaining a high level of diversification and prudent liquidity.~~

~~The benchmark for Dollar-Denominated Fixed Income Short Duration Program is specified in the Benchmarks Policy.~~

~~II. INVESTMENT APPROACHES AND PARAMETERS~~

~~A. Investment Approach~~

~~Identifying opportunities across limited duration bond market sectors and investing where risks are both understood and manageable while maintaining credit quality, duration, convexity, and liquidity as specified in this Policy is the investment approach of the Short Duration Program. Given the mandate for the SD Program to be a medium liquidity, total rate of return program, measured versus a Federal Funds based benchmark, it is expected that AAA rated Floating Rate Securities will represent a majority of the SD Program holdings.~~

~~B. Specific Risk Parameters~~

~~CalPERS shall manage the following major categories of fixed income risk:~~

- ~~1. Benchmark Risk was reviewed by the Consultant who determined that the Federal Funds based index was the appropriate reference point.~~
- ~~2. Interest Rate Risk must be controlled by limiting the SD Program’s duration to not exceed 180 days and by limiting duration by the asset type through the table below. Decisions shall be managed using historical real return relationships and economic analysis.~~

Maturity and Duration Constraints

| Asset | Floating-Rate Maturity Limits | Fixed Rate Maturity Limits |
|--|--|---------------------------------------|
| US Treasury & Govt. Sponsored | | 2 years |
| Repurchase Agreements | | |
| US Treasury/Agency Collateral | 3 months | |
| Non US Treasury/Agency Collateral | 1 month | |
| AAA Rated Structured Securities | 7 year WAL | 2 year WAL |
| Non-AAA Rated Structured Securities | 5 year WAL | 18 month WAL |
| <i>Note: Mortgage-backed securities maximum WAL calculation to be run at 100 PSA</i> | | |
| Money Market Securities | | |
| > = A1/P1 | | 270 days |
| < - A1/P1 | | 90 days |
| Corporate & Yankee Sovereign (AAA rated) | 5 Years | 2 years |
| Corporate & Yankee Sovereign (less than AAA rated) | 4 Years | 8 months |

3. Yield Curve Risk must be managed in a controlled, disciplined fashion by employing break-even, economic analysis, partial duration, and principal component analysis.
4. Convexity Risk must be managed using option-adjusted and scenario analyses.
5. Sector Risk and Asset Risk will be controlled using the table below. Based on the economic outlook, historical factors, and break-even analysis, Staff shall estimate the impact on various sectors' and assets' spreads and make allocations accordingly.

Asset and Sector Diversification

| Asset / Counterparty | Diversification Limits |
|--|-------------------------------|
| US Treasury & Govt. Sponsored | No Restriction |
| 2a-7 Money Market Funds | No Restriction |
| State Street Bank's STIF | No Restriction |
| Repurchase Agreements | 25% |
| AAA Rated Structured Securities | |
| Less than or = 1.5 year WAL | 15% |
| Greater than 1.5 year WAL | 10% |
| Non-AAA Rated Structured Securities | 5% |
| Corporate & Yankee Sovereign (AAA rated) | 10% |
| Corporate & Yankee Sovereign (less than AAA rated) | 5% |
| Money Market Securities | |
| >= A1/P1 (next business day maturity) | 15% |
| >= A1/P1 | 10% |
| < A1/P1 (next business day maturity) | 10% |
| < A1/P1 | 5% |

| Sector | Sector Limits |
|---|----------------------|
| Floating Rate | No Restriction |
| Fixed Rate (greater than 35 day WAL) | 35% |
| Non-AAA Rated Securities | 50% |
| US Treasury & Govt. Sponsored | No Restriction |
| 2a-7 Money Market Funds | No Restriction |
| State Street Bank's STIF | No Restriction |
| Repurchase Agreements | No Restriction |
| AAA Rated Structured Securities | No Restriction |
| Credit Card Collateral | 75% |
| Auto Collateral | 75% |
| Student Loan Collateral | 75% |
| Home Equity Loan Collateral | 75% |
| Any Other Individual Structured Collateral Sector | 50% |
| Non-AAA Rated Structured Securities | |
| Each Sector (e.g., credit card, auto) | 20% |
| Any One Corporate Sector | 15% |
| Total Yankee Sovereign Sector | 15% |
| Total Corporate/Yankee Sovereign | 50% |
| Money Market Securities | |
| >= A1/P1 | No Restriction |
| < A1/P1 (next business day maturity) | 50% |
| < A1/P1 | 25% |

6. ~~Credit Risk will be controlled by requiring minimum ratings by asset type as outlined in the table below. Credit Risk shall be actively managed on a risk/return basis. A downgrading of a security, which causes a violation in the guidelines, shall not require an immediate sale if the Senior Investment Officer of Global Fixed Income believes that no further risk of credit deterioration exists or the sale diminishes the total return to CalPERS. The CalPERS internal research staff and the external rating agencies shall analyze such situations to ensure that an informed decision is made. The following is the minimum quality for each of the sectors.~~

| Asset / Counterparty | Minimum Credit Rating |
|-------------------------------|------------------------------|
| US Treasury & Govt. Sponsored | AAA |
| Repurchase Agreements | A1/P1 |
| Structured Securities | Baa2 or BBB |
| Money Market Securities | A2/P2 |
| Corporate Securities | Baa1/BBB+ |
| Yankee Sovereign Securities | A3/A- |

7. ~~Structure Risk must be managed using option-adjusted and scenario analysis.~~
8. ~~Reinvestment Risk must be managed through call risk and cash flow analysis.~~
9. ~~Liquidity Risk is reduced through the SD Program's mandate as a limited duration program that will provide prudent liquidity.~~
10. ~~Currency Risk is reduced by requiring all securities to be denominated in U.S. dollars.~~

C. ~~Restrictions and Prohibitions~~

1. ~~Except for U.S. Treasuries and Agencies, investments in a AAA-rated single issuer with a maturity that exceeds one business day shall not exceed 10% of the SD Program during the holding period for such investment. Exceptions to this restriction are 2a-7 money market funds, State Street Bank's STIF, repurchase agreements and structured securities that have average lives less than or equal to 1.5 years (Section II.B.5.) For structured securities, each separate trust (pool of assets) is defined as a separate issuer.~~

- ~~2. Investments in any non-AAA rated single issuer with a maturity that exceeds one business day shall not exceed 5% of the SD Program during the holding period for such investment. For structured securities, each separate trust (pool of assets) is defined as a separate issuer.~~
- ~~3. The option-adjusted duration of the SD Program must not exceed 180 days.~~
- ~~4. Non-investment grade securities are prohibited.~~
- ~~5. Tobacco company investments are prohibited.~~
- ~~6. Privately Placed Investment Grade Corporate Bonds are prohibited.~~
- ~~7. Adjustable rate securities, which are not allowed include, but are not limited to, the following:
 - ~~a. Inverse floaters, leveraged floaters and any securities whose interest rate reset provisions are based on a formula that magnifies changes in interest rates.~~
 - ~~b. Constant Maturity Treasury (CMT) floaters and securities whose interest rate reset provisions are tied to long-term interest rates so that a change in the slope of the yield curve could result in the value of the instrument falling below par.~~
 - ~~c. Dual Index Floaters and securities whose interest reset provisions are tied to more than one index so that a change in the relationship between these indices may result in the value of the instrument falling below par.~~
 - ~~d. Cost of Funds Index (COFI) floaters, and securities whose interest rate reset provision is tied to an index materially lagging short-term interest rates.~~~~

~~D. Authorized Securities~~

- ~~1. U.S. Treasury and Government Sponsored Securities (including derivative securities whose deliverable instrument is a U.S. Treasury or government obligation) excluding mortgages and mortgage-backed securities (MBS).~~

~~2. Money market instruments, including obligations of the U.S. Government and its agencies, and domestic money market instruments (Commercial Paper, bank time deposits, Certificates of Deposit, and Banker's Acceptances). Non-domestically domiciled money market issuers must be domiciled in countries defined in the Master Glossary under Yankee Sovereign.~~

~~3. Repurchase Agreements and Tri-Party Repurchase Agreements (repos and tri-party repos) collateralized at 102% by debt obligations of the U.S. Government or its agencies (this does not include mortgage-backed securities). Repurchase agreements and Tri-Party Repurchase agreements collateralized at 105% by A3/A- or higher rated corporate debt or AAA structured securities or commercial paper with a minimum A1/P1 rating. Repurchase agreements and Tri-Party Repurchase agreements collateralized at 105% by common stock of companies included in one of the following indices: Nasdaq composite, Russell 3000, or the S&P 500. Individual common stock concentration is limited to 5% per issuer. Repurchase agreements and Tri-Party Repurchase agreements must be marked-to-market daily. Mortgage-backed securities are prohibited. Collateral for Tri-party repurchase agreements must be a minimum of \$1 million in size.~~

~~Guidelines for Eligible Repo Counterparties can be found in the Global Derivatives and Counterparty Risk Policy.~~

~~4. Notes, bonds, and debentures issued by the U.S. Government and its agencies, U.S. corporations, Canadian, supranational, and Yankee Sovereign entities subject to the maturity and credit quality limitations specified in this Policy.~~

~~5. Money market funds as defined under SEC Regulation 270.2a-7.~~

~~6. Structured securities with a minimum credit rating of Baa2/BBB. Subject to the maturity constraints detailed in this Policy.~~

~~7. Floating rate and variable rate securities, subject to maturity, credit quality, and reset limitations specified in this Policy. The SD Program can invest in adjustable rate securities tied to LIBOR, Fed Funds, Treasury Bills, and Commercial Paper Indices.~~

~~8. Participation shares in CalPERS construction loan program with BRIDGE Housing Corporation.~~

~~9. CalPERS Asset-Based Loan (ABL) program investments.~~

~~10. Derivatives, subject to the requirements of Section IV.~~

~~III. CALCULATIONS AND COMPUTATIONS~~

~~A. For securities with periodic principal payments, the weighted-average days to maturity must be calculated from the evaluation date to the date of the security's average life.~~

~~B. The SD Program weighted-average days to maturity must be calculated from the evaluation date to the date of the next coupon reset for floating rate securities.~~

~~IV. DERIVATIVES AND LEVERAGE POLICY~~

~~All transactions involving derivatives and leverage are governed by the Global Derivatives and Counterparty Risk Policy. In addition to the restrictions defined in the Global Derivatives and Counterparty Risk Policy, the following conditions apply specifically to the SD Program.~~

~~A. Financial Futures, Swaps, and Options~~

~~1. Short selling of securities is prohibited, except in financial futures (as outlined in Section IV.A.4).~~

~~2. Leverage is prohibited except futures position where there is an associated cash position (which effectively creates a synthetic bond).~~

~~3. Staff may buy or sell the following fixed income related derivatives: financial futures including eurodollar futures, total return swaps, index swaps, credit default swaps, interest rate swaps, and over-the-counter options.~~

~~4. Acceptable strategies include bona fide hedges (to help achieve the target durations) and strategies that result in a more efficient method of implementing the investment objectives of the SD Program.~~

~~B. Restrictions and Prohibitions~~

~~1. Uncovered Call writing is prohibited.~~

~~2. Speculation or arbitrage between two derivatives is prohibited. If a derivative is more attractively priced than the underlying security, the transaction is considered a substitution.~~

**~~DOLLAR-DENOMINATED FIXED INCOME
LIMITED LIQUIDITY ENHANCED RETURN PROGRAM~~**

~~May 19, 2014~~

~~I. PERFORMANCE OBJECTIVE AND BENCHMARK~~

~~The performance objective of the Dollar-Denominated Fixed Income Limited Liquidity Enhanced Return Program (“LLER Program”) is to exceed the return of a one-month LIBOR based index while maintaining a low level of diversification. The low level of diversification within the LLER Program portfolio is balanced by the expectation that the LLER Program will represent a small portion of the overall assets for the asset class utilizing the LLER Program.~~

~~The benchmark for Dollar-Denominated Fixed Income Short Duration Program is specified in the Benchmarks Policy.~~

~~II. INVESTMENT APPROACHES AND PARAMETERS~~

~~A. Investment Approach~~

~~Identifying opportunities across limited duration bond market sectors and investing where risks are both understood and manageable while maintaining credit quality, duration, convexity, and liquidity as specified in this Policy is the investment approach of the LLER Program. Given the mandate for the LLER Program to be a low liquidity, total rate of return program, measured versus a LIBOR based benchmark, it is expected that investment grade rated, Floating Rate Securities, will represent a majority of the LLER Program holdings.~~

~~Given the higher risk, lower liquidity nature of the LLER Program, the portfolio will likely have high security concentrations. Larger concentration in fewer securities is prudent as long as the LLER Program represents a small portion of the overall assets for the asset class utilizing the LLER Program.~~

~~B. Specific Risk Parameters~~

~~CalPERS shall manage the following major categories of fixed income risk:~~

- ~~1. Benchmark Risk was reviewed by the Consultant who determined that the one-month LIBOR based index was the appropriate reference point.~~

- ~~2. Interest Rate Risk must be controlled by limiting the LLER Program’s duration to not exceed 270 days and by limiting duration by the asset type through the table below. Decisions shall be managed using historical real return relationships and economic analysis.~~

~~**Maturity and Duration Constraints**~~

| Asset | Floating Rate Maturity Limits | Fixed Rate Maturity Limits |
|---|--|---------------------------------------|
| AA & AAA Rated Structured Securities | 10 year WAL | 3 year WAL |
| Less than AA Rated Structured Securities | 7 year WAL | 18 month WAL |
| <i>Note: Mortgage-backed securities maximum WAL calculation to be run at 100 PSA</i> | | |
| Corporate & Yankee Sovereign (AA & AAA rated) | 10 Years | 2 years |
| Corporate & Yankee Sovereign (less than AA rated) | 5 Years | 15 months |

- ~~3. Yield Curve Risk must be managed in a controlled, disciplined fashion by employing break-even, economic analysis, partial duration, and principal component analysis.~~
- ~~4. Convexity Risk must be managed using option-adjusted and scenario analyses.~~
- ~~5. Sector Risk and Asset Risk will be controlled using the table below. Based on the economic outlook, historical factors, and break-even analysis, Staff shall estimate the impact on various sectors’ and assets’ spreads and make allocations accordingly.~~

~~Given the higher risk, lower liquidity nature of the LLER Program, the portfolio will likely have large security concentrations. Larger concentration in fewer securities is prudent as long as the LLER Program represents a small portion of the overall assets for the asset class utilizing the LLER Program. Accordingly, during the portfolio ramp-up period, calculation of asset and sector diversification limits will be based on the assumption of a \$2 billion portfolio size. The larger ramp-up period portfolio size relative to the HQL and SD Programs is needed due to the larger security concentration nature of the security purchases in the LLER Program.~~

~~Asset and Sector Diversification~~

| Asset / Counterparty | Diversification Limits |
|---|-----------------------------------|
| AA & AAA Rated Structured Securities | 15% |
| Less than AA Rated Structured Securities | 5% |
| Corporate & Yankee Sovereign | 2% |

| Sector | Sector Limits |
|--|---------------------------|
| Floating Rate | No Restriction |
| Fixed Rate | 25% |
| AA & AAA Rated Securities | No Restriction |
| Less than AA Rated Securities | 25% |

6. ~~Credit Risk will be controlled by requiring minimum ratings by asset type as outlined in the table below. Credit Risk shall be actively managed on a risk/return basis. A downgrading of a security, which causes a violation in the guidelines, shall not require an immediate sale if the Senior Investment Officer of Global Fixed Income believes that no further risk of credit deterioration exists or the sale diminishes the total return to CalPERS. The CalPERS internal research staff and the external rating agencies shall analyze such situations to ensure that an informed decision is made. The following is the minimum quality for each of the sectors.~~

| Asset / Counterparty | Minimum Credit Rating |
|---|----------------------------------|
| All Securities (at time of purchase) | Baa3/BBB-/BBB- |

7. ~~Structure Risk must be managed using option-adjusted and scenario analysis.~~
8. ~~Reinvestment Risk must be managed through call risk and cash flow analysis.~~
9. ~~Liquidity Risk is a low priority given the LLER Program's mandate as a limited duration program that will provide little to no liquidity.~~
10. ~~Currency Risk is reduced by requiring all securities to be denominated in U.S. dollars.~~

C. ~~Restrictions and Prohibitions~~

- ~~1. Investments in a AA & AAA-rated single issuer shall not exceed (at the time of purchase) 15%. For structured securities, each separate trust (pool of assets) is defined as a separate issuer.~~
- ~~2. Investments in less than AA rated single issuer shall not exceed (at the time of purchase) 5%. For structured securities, each separate trust (pool of assets) is defined as a separate issuer.~~
- ~~3. The option-adjusted duration of the LLER Program must not exceed 270 days.~~
- ~~4. Non-investment grade securities (at the time of purchase) are prohibited.~~
- ~~5. Tobacco company investments are prohibited.~~

D. ~~Authorized Securities~~

- ~~1. Notes, bonds, and debentures issued by the U.S. Government and its agencies, U.S. corporations, Canadian, supranational, and Yankee Sovereign entities subject to the maturity and credit quality limitations specified in this Policy.~~
- ~~2. Structured securities subject to the maturity and credit quality constraints detailed in this Policy.~~
- ~~3. Floating rate and variable rate securities, subject to maturity, credit quality, and reset limitations specified in this Policy.~~
- ~~4. Derivatives, subject to the requirements of Section IV.~~

III. ~~CALCULATIONS AND COMPUTATIONS~~

- ~~A. For securities with periodic principal payments, the weighted-average days to maturity must be calculated from the evaluation date to the date of the security's average life.~~
- ~~B. The LLER Program weighted-average days to maturity must be calculated from the evaluation date to the date of the next coupon reset for floating rate securities.~~

IV. DERIVATIVES AND LEVERAGE POLICY

All transactions involving derivatives and leverage are governed by the Global Derivatives and Counterparty Risk Policy. In addition to the restrictions defined in the Global Derivatives and Counterparty Risk Policy, the following conditions apply specifically to the LLER Program.

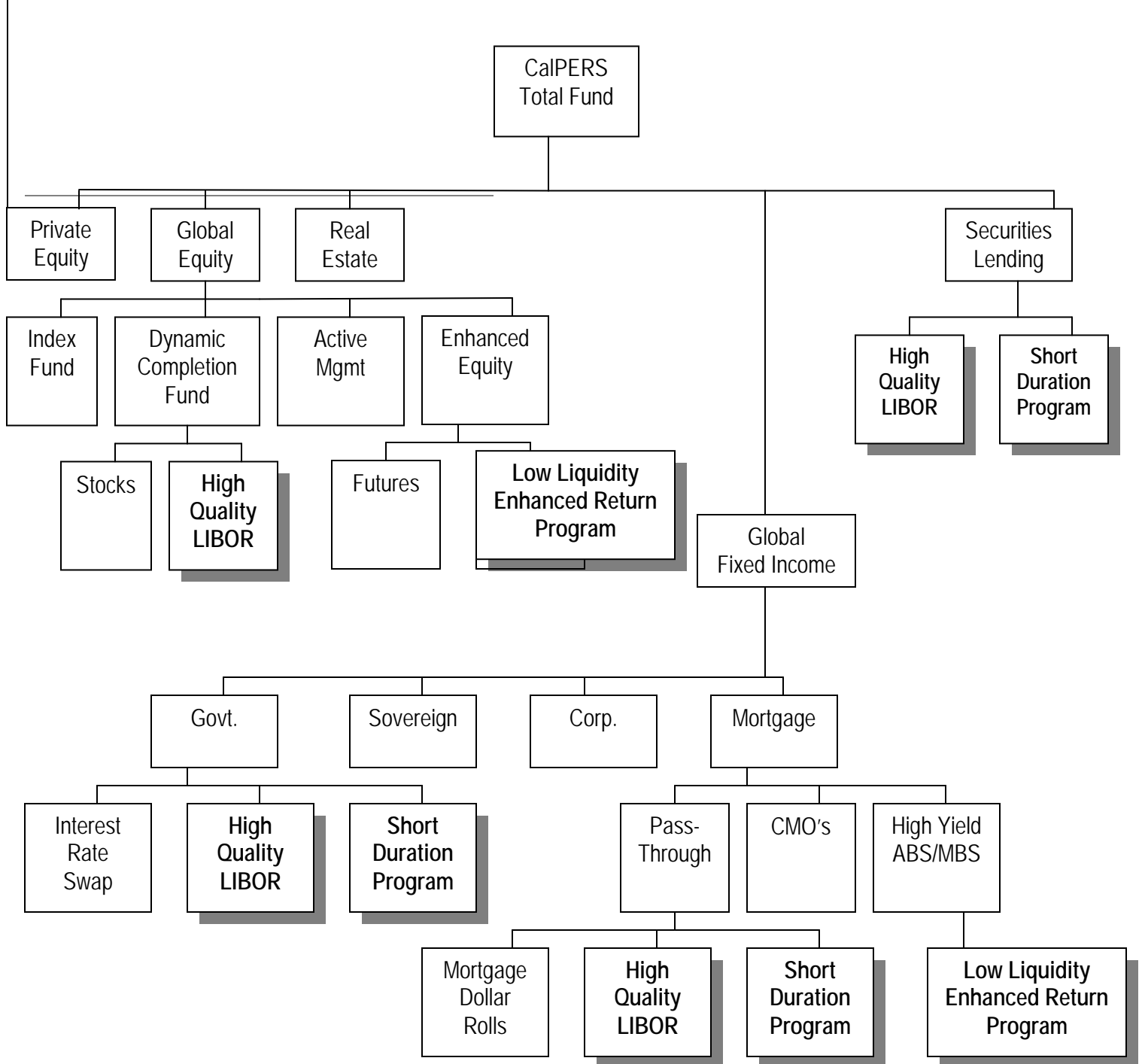
A. Financial Futures, Swaps, and Options

1. Short selling of securities is prohibited, except in financial futures (as outlined in Section IV.A.4).
2. Leverage is prohibited except futures position where there is an associated cash position (which effectively creates a synthetic bond).
3. Staff may buy or sell the following fixed income related derivatives: financial futures including eurodollar futures, total return swaps, index swaps, credit default swaps, interest rate swaps, and over-the-counter options.
4. Acceptable strategies include bona fide hedges (to help achieve the target durations) and strategies that result in a more efficient method of implementing the investment objectives of the LLER Program.

B. Restrictions and Prohibitions

1. Uncovered Call writing is prohibited.
2. Speculation or arbitrage between two derivatives is prohibited. If a derivative is more attractively priced than the underlying security, the transaction is considered a substitution.

SHORT DURATION PROGRAMS COMPARISON



CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF INVESTMENT POLICY

FOR
MULTI-ASSET CLASS PARTNERS PROGRAM

June 24, 2014

This policy is effective immediately upon adoption and supersedes all previous Multi-Asset Class Partners Program Policies.

I. PURPOSE

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

This document sets forth the investment policy ("Policy") for the Multi-Asset Class Partners Program ("MAC" or "Program"). The design of this Policy ensures that investors, managers, consultants, and other participants selected by CalPERS take prudent and careful action while managing the Program. Additionally, use of this Policy assures sufficient flexibility in managing investment risks and returns associated with this Program.

II. STRATEGIC OBJECTIVE

The Program has two strategic objectives, each linked to the development of relationships with external investment managers (the "MAC Partners"):

- A. The Program is intended to provide a total rate of return in excess of the CalPERS target rate of return over a market cycle with lower volatility and downside risk than the CalPERS strategic asset allocation.
- B. The Program should facilitate meaningful information transfer from the MAC Partners to Staff to help Staff develop scalable, sustainable, and efficient methods of increasing the likelihood of meeting CalPERS investment return goals over the long term.

III. RESPONSIBILITIES

- A. CalPERS Investment Staff ("Staff") is responsible for the following:
 - 1. All aspects of portfolio management, including monitoring, analyzing, and evaluating performance relative to the appropriate benchmark.

- ~~2. Reporting to the Committee no less than annually, and more often as necessary or appropriate, about the Program's composition and performance.~~
 - ~~3. Monitoring the implementation of, and compliance with, the Policy. Staff shall report concerns, problems, material changes, and all violations of the Policy at the next Committee meeting, or sooner if deemed necessary. Staff will also report material concerns, problems or changes related to the Policy and Program to the Committee as appropriate. These reports shall include explanations of any violations and appropriate recommendations for corrective action.~~
 - ~~4. Evaluating, selecting, and monitoring the performance of MAC Partners.~~
- ~~B. The **General Pension Consultant** ("Consultant") is responsible for monitoring, evaluating, and reporting to the Committee no less than annually on the performance of the Program relative to appropriate benchmarks and this policy and other applicable CalPERS policies.~~
- ~~C. MAC Partners are responsible for aspects of portfolio management as set forth in each Partner's agreement with CalPERS and shall further fulfill the following duties with respect to knowledge transfer:~~
- ~~1. Communicating with Staff as needed regarding investment strategy and investment results. The Investment Manager is expected to monitor, analyze, and evaluate performance relative to any agreed-upon benchmarks.~~
 - ~~2. Complying with information requests by Staff and other parties.~~
 - ~~3. Presenting to Staff and/or the Committee on Program implementation and other topics as identified by Staff on an ad hoc basis.~~
 - ~~4. Educating Staff, including visits to CalPERS offices and extended training sessions with CalPERS Staff on-site at MAC Partner offices.~~

~~IV. PERFORMANCE OBJECTIVE AND BENCHMARK~~

~~A. Performance Objectives~~

~~The Program shall pursue the following objectives:~~

~~1. Targeted Return~~

~~MAC Partners shall generally be expected to outperform the CalPERS target long-term rate of return over a market cycle (approximately five years).~~

~~2. Targeted Risk~~

~~MAC Partners shall generally be expected to manage Program portfolios with a targeted annualized volatility of no more than, and with lower downside risk than, the CalPERS Total Fund benchmark.~~

~~3. Targeted Liquidity~~

~~MAC Partners shall generally be expected to manage Program portfolios entirely through public market assets (equities, fixed income, commodities, and currencies, including through futures and options) which can be convertible to cash within 90 days in ordinary liquidity conditions.~~

~~B. Benchmark~~

~~The benchmark for the MAC Program is specified in the Benchmarks Policy. Benchmarks for each MAC Partner portfolio shall be established prior to investment and documented in the management agreements with each Partner.~~

~~V. INVESTMENT APPROACHES AND PARAMETERS~~

~~A. Investment Approach~~

~~The Program is designed to identify and invest with managers who have demonstrated the ability to invest across asset classes to create long-term absolute returns consistent with CalPERS rate of return requirements while effectively managing risk.~~

~~MAC Partners may deploy leverage (including implicit leverage through derivatives), short selling of securities, or both. All transactions involving derivatives are governed by the Global Derivatives and Counterparty Risk Policy.~~

~~Program portfolios should focus on management of total risk and on generation of returns independent of broad market movements. This differs from “benchmark-driven investing,” where risk management and return generation are measured by reference to a broad market benchmark; in such instances, most or all of an investment’s total risk may be broad market risk. This does not prevent MAC Partners from including significant exposures to broad market risks, but it does place an emphasis on absolute returns, which are the ultimate determinant of whether CalPERS investment goals are met.~~

~~The long-term performance and risk parameters of the Program encourage Partners to deploy unique investment strategies and styles; the “knowledge transfer” element requires Partners to help Staff determine whether such approaches can be deployed more broadly across the CalPERS total portfolio to improve the likelihood of meeting CalPERS long-term investment goals. MAC Partners should not construct portfolios which resemble simple adherence to the CalPERS strategic asset allocation.~~

~~B. Investment Selection~~

- ~~1. Staff shall develop and maintain selection guidelines for prospective MAC Partners. To ensure conformity to the Committee’s risk and return expectations, these criteria shall be subject to review by Staff and the Consultant.~~
- ~~2. The selection process shall use specific criteria with the objective of identifying and selecting MAC Partner(s) that have, but are not limited to, the following characteristics:~~
 - ~~a. Multiple senior personnel with significant amount of experience managing a broad range of asset classes in diverse market environments.~~
 - ~~b. Breadth of expertise across many investment strategies.~~
 - ~~c. Robust qualitative and quantitative disciplines for risk controls.~~

- ~~d. Sound qualitative and quantitative processes for portfolio construction.~~
- ~~e. Proper alignment of interests with CalPERS.~~
- ~~f. Willingness and ability to maintain a high degree of interaction with CalPERS Staff and the Committee, including but not limited to Committee presentations and CalPERS Staff education.~~
- ~~g. Commitment to providing CalPERS access to the most senior people within their organization.~~
- ~~h. Other relevant characteristics that may apply.~~

~~C. Investment Parameters~~

~~MAC Partners shall operate under specific, written investment guidelines and risk parameters. The guidelines and parameters shall outline the Investment Manager's investment philosophy and approaches, representative portfolio characteristics, permissible and restricted securities and procedures, and a performance objective commensurate with the investment risk to be incurred.~~

~~While the performance objectives and risk parameters for each MAC Partner are generally expected to be similar to those set forth for the total Program, parameters may be adjusted to reflect the varying investment approaches and attributes of each Partner.~~

~~Implementation of this Program shall comply at all times with applicable CalPERS investment policies.~~

~~D. Investment Structuring~~

- ~~1. The Program shall invest with MAC Partners through legal structures such as limited partnerships or limited liability companies (LLCs) which limit potential CalPERS losses to the amount invested. Such legal structures are important because of the potential for MAC Partners to utilize derivatives and leverage.~~
- ~~2. The negotiation of terms and conditions for investments with MAC Partners shall protect the interests of CalPERS and shall address at a minimum the following issues:~~

- ~~a. Alignment of Interests: Vehicle terms including fees shall be negotiated in an effort to align the MAC Partner’s interests with CalPERS. The fee structure, performance objective, risk parameters, restrictions on permitted investments, and other relevant terms shall seek to protect CalPERS in the event of adverse performance results, while ensuring that limited liability status is maintained.~~
- ~~b. Control of Assets: Vehicle terms shall be negotiated to allow CalPERS to terminate relationships and take control of Program assets as Staff deems appropriate.~~
- ~~c. Transparency of Risks and Exposures; Reporting Requirements: Each investment with MAC Partners shall provide complete portfolio and position transparency. In addition, each MAC Partner will be required to provide financial and investment reports which provide Staff adequate information to properly assess and account for performance, fees, expenses, invested capital, and any other items affecting the investment.~~

~~VI. CALCULATIONS AND COMPUTATIONS~~

~~Investors, managers, consultants, and other participants selected by CalPERS shall make all calculations and computations on a market value basis as recorded by CalPERS Custodian.~~

~~VII. 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.~~

| | |
|---|------------------------------|
| Adopted by the Investment Committee | October 15, 2012 |
| Administrative changes to update template format and to align this policy with the Global Derivatives and Counterparty Risk Policy | December 24, 2013 |
| Administrative changes to standardize reporting frequencies to the Investment Committee to “no less than annually” | June 24, 2014 |
| Administrative changes to reflect the Policy Glossary of Terms Update Project | June 24, 2014 |

**CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM
STATEMENT OF INVESTMENT POLICY**

**FOR
SECURITIES LENDING**

July 6, 2015

This policy is effective immediately upon adoption and supersedes all previous Securities Lending policies.

*The policy changes, once adopted and approved, shall apply to any new purchases in the Securities Lending Cash Collateral Pool. Effective July 11, 2013 this policy will govern **legacy commitments** purchased by **external managers** and by CalPERS Fixed Income Unit.*

I. PURPOSE

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

This document sets forth the investment policy ("Policy") for the Securities Lending Program ("Program"). The design of this Policy ensures that investors, managers, consultants, and other participants selected by CalPERS take prudent and careful action while managing the Program. Additionally, use of this Policy assures sufficient flexibility in managing investment risks and returns associated with the management and oversight of the Program.

The Program is comprised of two separate functions; lending both equity and fixed income securities to borrowers and reinvesting the cash collateral posted by borrowers. This Policy is the controlling document for the following functions of the Program:

- A. Attachment A – Lending Guidelines. These apply to the lending/borrowing transaction and is effective for both equity and fixed income securities.
- B. Attachment B – Cash Collateral Reinvestment Guidelines. These apply to the reinvestment of cash collateral received on lending and is effective for reinvestment managers, either in-house or external.
- C. Attachment C – Securities Lending Investment Policy Tracking Log. This attachment will log any changes made to Attachment A or Attachment B.

- ~~2. Providing daily and monthly standardized reports which will include detailed daily lending activity (including but not limited to securities on-loan, market values and collateralization, loan duration, security location and currency, and borrower information) and monthly portfolio level statistics (including but not limited to market values, average on-loan positions, utilization rates rebates, intrinsic earnings, fees, and sell fail statistics).~~

~~C. The **General Pension Consultant** (“Consultant”) is responsible for:~~

~~Monitoring, evaluating, and reporting no less than annually to the Committee, on the performance of the Program relative to the Program’s Strategic Objectives.~~

- ~~3. Cash Collateral Manager Internal is responsible for reporting immediately, orally and in writing, all violations of this Policy.~~
- ~~4. Cash Collateral Manager External is responsible for the following:~~
- ~~5. Notifying Staff immediately, both orally and in writing on all violations of this Policy.~~
- ~~6. Providing daily and monthly standardized reports as specified by Staff. The standardized reports will include but are not limited to security information (including but not limited to cusip, description, par value, market value, duration, yield to maturity, coupon, credit quality, collateral (Repo), location, currency, and broker information), portfolio weighted average life, and monthly portfolio level statistics (including but not limited to reinvestment earnings, rebates and fees).~~

~~IV. VIOLATION REPORTING~~

~~A. The violation reporting process shall be as follows:~~

- ~~1. The lending agents, Cash Collateral Manager External or principal borrower shall report all violations to Staff immediately by telephone, followed by a written notification describing the violation. The internal cash collateral manager shall report all internal cash collateral pool violations immediately to the SIO, Global Fixed Income.~~
- ~~2. Staff shall report in writing, all violations immediately to the SIO, Global Fixed Income.~~
- ~~3. The SIO, Global Fixed Income shall immediately report in writing, any violation to the Chief Investment Officer (“CIO”) and the Chief Operating Investment Officer (“COIO”), and the Chief Compliance Officer (“CCO”).~~

4. ~~The CIO shall determine the appropriate means of further reporting based on his or her judgment of the magnitude, sensitivity, and severity of the violation.~~
 - a. ~~All violations shall be reported to the Committee as part of a quarterly report agenda item on the Committee's regular agenda.~~
 - b. ~~Depending on the violation, and at the discretion of the CIO, reporting may also be made to the Committee as a separate agenda item or as a portion of the CIO Report at the next scheduled Committee meeting. These reports shall include explanations of the violations and appropriate recommendations for corrective action.~~
 - c. ~~If a Policy violation is to be reported to the Committee, the Consultant shall be asked to provide an opinion as to the impact of the Policy violation to the Program and overall fund.~~

B. ~~Violations caused by the sale of assets on loans need not be reported to the Committee unless the following occurs:~~

1. ~~The violation is not returned to compliance within five business days; or,~~
2. ~~The violation exceeds the limits specified for this scenario within the Policy.~~

~~V. PERFORMANCE OBJECTIVE AND BENCHMARK~~

~~CalPERS expects strict conformity with its guidelines and shall let market mechanics determine the demand for securities and resulting incremental income. It is intended that the Program shall generate income primarily from fees from loans and secondarily through a low risk collateral investment strategy.~~

~~VI. CALCULATIONS AND COMPUTATIONS~~

~~Calculations and computations for the Cash Collateral Reinvestment function are included in Attachment B of this Policy.~~

~~VII. 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.~~

Attachments

Attachment A – Lending Guidelines

Attachment B – Cash Collateral Reinvestment Guidelines

Attachment C – Securities Lending Investment Policy Tracking Log

| | |
|--|--------------------|
| Approved by the Policy Subcommittee: | August 12, 1998 |
| Adopted by the Investment Committee: | September 14, 1998 |
| Revised by the Policy Subcommittee: | December 14, 2001 |
| Approved by the Investment Committee: | February 19, 2002 |
| Revised by the Policy Subcommittee: | December 10, 2004 |
| Revised by the Policy Subcommittee: | March 11, 2005 |
| Approved by the Investment Committee: | April 18, 2005 |
| Revised by the Policy Subcommittee: | October 12, 2007 |
| Approved by the Investment Committee: | November 13, 2007 |
| Technical Revision to Approved Borrower’s List: | December 2008 |
| Administrative changes made due to Policy Review Project: | June 16, 2009 |
| Revised by the Policy Subcommittee: | December 14, 2009 |
| Approved by the Investment Committee: | February 16, 2010 |
| Revised by the Policy Subcommittee: | August 16, 2010 |
| Administrative changes made due to Approved Borrowers List Updated: | September 22, 2011 |
| Administrative changes made due to credit rating changes: | November 14, 2011 |
| Administrative changes made to Attachment A and C | May 1, 2012 |
| Administrative changes made to Attachment B and C | July 5, 2012 |
| Administrative changes made to Attachment A and C | August 31, 2012 |
| Administrative changes made to Attachment A, B and C | July 11, 2013 |
| Administrative changes made to Attachment A, B and C | November 14, 2013 |
| Administrative changes to: | March 26, 2014 |
| <ul style="list-style-type: none"> • Update template format and to align this policy with the Global Derivatives and Counterparty Risk Policy • Repurchase agreements, excluding US Treasuries or agencies, maximum term from one month to three months (Attachment B) | |
| Administrative changes to standardize reporting frequencies to the Investment Committee to “no less than annually.” | May 19, 2014 |
| Administrative changes to reflect the Policy Glossary of Terms Update Project | May 19, 2014 |
| Administrative change to Attachment B to permit a Line of Credit with a Systemically Important Financial Market Utility (SIFMU) | October 14, 2014 |
| Administrative changes to Attachment B regarding SIFMU line of credit draws | July 6, 2015 |

Lending Guidelines

I. Lending Guidelines

A. Securities eligible for loan must meet the following criteria:

1. The lending agent may only lend securities and the principal borrower may only borrow securities of issuers headquartered in countries contained in CalPERS Approved Countries for Equity Lending and Fixed Income Lending:

As of March 26, 2014

APPROVED EQUITY LENDING MARKETS

| | | |
|----------------|-------------|------------------|
| Australia | Italy | South Africa |
| Austria | Japan | South Korea |
| Belgium | Luxembourg | Spain |
| Canada | Malaysia | Sweden |
| Czech Republic | Mexico | Switzerland |
| Denmark | Netherlands | Taiwan |
| Finland | New Zealand | Thailand |
| France | Norway | Turkey |
| Germany | Portugal | United Kingdom |
| Hong Kong | Poland | United States of |
| Hungary | Singapore | —America |

APPROVED FIXED INCOME LENDING MARKETS

| | | |
|-----------|-------------|------------------|
| Australia | Germany | Norway |
| Austria | Ireland | Spain |
| Belgium | Italy | Sweden |
| Canada | Japan | Switzerland |
| Denmark | Luxembourg | United Kingdom |
| Finland | Netherlands | United States of |
| France | New Zealand | —America |

2. Securities Lending in International Markets is only permissible if the following conditions are met:

a. Local regulations permit securities lending.

- ~~b. A central depository exists providing free deliveries without penalties.~~
 - ~~c. Settlement guidelines allow for avoidance of transaction delivery failures.~~
 - ~~d. Collateral value is received before or simultaneously with the movement of loaned securities.~~
 - ~~e. The lending of securities does not adversely affect the fund's tax liabilities.~~
 - ~~f. American Depository Receipts (ADR), Global Depository Receipts (GDR), Eurobonds, Yankee Bonds, Exchange Traded Funds (ETF) and dually listed securities may be lent so long as the exchange is located in a country contained in CalPERS Approved Countries for Equity Lending and Fixed Income Lending.~~
- ~~3. Staff shall inform the lending agent or principal borrower or both in writing from which accounts they may lend securities.~~

~~B. Collateralization~~

- ~~1. Initial Margin: The proper amount of collateralization shall be market value times the appropriate percentage for each security type:~~
 - ~~a. Domestic securities – 102%.~~
 - ~~b. Matching currency investment for G10 domiciled issuers – 102%.~~
 - ~~c. All other international securities – 105%.~~
- ~~2. Maintenance Margin: Loan collateral below these specified maintenance levels must be adjusted within the next business day and before the securities being re-lent to the same borrowers.~~
 - ~~a. The maintenance margin is 102% for securities with an initial margin of 102%.~~
 - ~~b. The maintenance margin is 105% for securities with an initial margin of 105%.~~

- ~~3. Non-material Margin Call: Despite the maintenance margin percentages above, non-material margin calls of \$100,000 or less need not be made as long as collateral is 101.5% or more for securities with an initial maintenance margin of 102% and 104.5% or more for securities with an initial maintenance margin of 105%.~~

~~C. Counterparty~~

- ~~1. All borrowers must be explicitly listed in the matrix section of CalPERS Risk Management Counterparty Risk Monitoring report and compliant with the counterparty guidelines in the Global Derivatives and Counterparty Risk Policy and meet certain other financial criteria as determined by CalPERS.~~
- ~~2. Diversification: CalPERS Securities Lending exposure is limited to 25% of the total collateral pool per approved counter party. If CalPERS aggregate assets on loan through both principal and agent programs exceeds 25% of the total collateral pool, no additional lending to that counter party may take place until the exposure is returned below the established limit.⁴~~
- ~~3. If the percentage of loans to any individual counter party exceeds 25% of the portfolio at any given time, it shall be considered a violation.⁴~~

⁴Lending limit applies to all approved counterparties which have not agreed to credit default swap and/or additional collateralization terms.

Cash Collateral Re-Investment Guidelines

I. Collateral Guidelines

All cash collateral managers, both internal and external, shall follow these guidelines explicitly. If, at any time, the cash collateral pool violates these guidelines (e.g., a credit rating downgrade) the cash collateral manager(s) shall immediately notify Staff. Staff will notify the SIO, Global Fixed Income, who shall determine if immediate action is necessary to bring the portfolio into compliance.

A. Permissible Securities

1. Money market instruments, including obligations of the U.S. Government and its agencies, government guaranteed programs, and domestic money market instruments (commercial paper, bank time deposits, certificates of deposit, and banker's acceptances). Non-domestic money market instruments must be on CalPERS Lists of Approved Countries for Equity Lending and Fixed Income Lending, copies of which are included in Attachment A.

a. Asset-Backed Commercial Paper ("ABCP"): Only the following types of ABCP programs are permitted.

(1) Single and multi-seller programs fully supported by institutions. The underlying assets in these programs is not limited due to the full support.

(2) Multi-seller programs partially supported by institutions. No partially supported program may have more than 5% exposure to mortgage-backed securities.

b. The following types of ABCP are excluded:

(1) Securities arbitrage programs;

(2) Partially supported hybrid programs; and,

(3) Extendable programs longer than thirty (30) days.

2. Repurchase Agreements and Tri-Party Repurchase Agreements (repos and tri-party repos) collateralized at 102% by debt obligations of the U.S. Government or its agencies (this does not include mortgage-backed securities), Repurchase agreements and

~~Tri-Party Repurchase agreements collateralized at 105% by A3/A-/A- or higher rated corporate debt or AAA asset-backed securities or commercial paper with a minimum A1/P1/F1 rating. Repurchase agreements and Tri-Party Repurchase agreements collateralized at 105% by common stock of companies included in one of the following indices: Nasdaq composite, Russell 3000, or the S&P 500. Individual common stock concentration is limited to 5% per issuer on settlement date of a repo transaction. If concentration limit breeches 5% during repo term, manager has three business days to restore to 5% limit. Repurchase agreements and Tri-Party Repurchase agreements must be marked-to-market daily. Mortgage-backed securities are prohibited.~~

~~a. Repurchase agreements and Tri-Party Repurchase agreements must be with counterparties explicitly listed in the matrix section of CalPERS Risk Management Counterparty Risk Monitoring report, compliant with the counterparty guidelines in the Global Derivatives and Counterparty Risk Policy and meet certain other financial criteria as determined by CalPERS at time of purchase.~~

~~3. Notes, bonds, and debentures issued or guaranteed by the U.S. Government and its agencies, Canadian, supranational, and foreign sovereign entities subject to the maturity and credit quality limitations specified in the Credit Quality Section.~~

~~4. U.S. Corporate Notes from issuers included in the Barclays Aggregate Index, subject to the maturity and credit quality limitations specified in the Credit Quality Section. Structured Investment Vehicles are prohibited. Any Special Purpose Entity / Vehicle (according to Bloomberg's Security Description page), must be pre-approved by Staff prior to purchase. Any sectors not mentioned expressly herein must be pre-approved by Staff prior to purchase.~~

~~5. Money market funds as defined under SEC Regulation 270.2a-7.~~

~~6. Bank Bonds from CalPERS Credit Enhancement Program.~~

~~7. CalPERS Global Custodian's Short Term Investment Fund ("STIF") or US Government Short Term Investment Fund ("GSTIF").~~

~~8. Asset-backed securities whose underlying loans or receivables are against automobiles (including motorcycle and recreation vehicles), stranded assets, credit cards, Rate Reduction Bonds, Student Loans, dealer floor plans or equipment loans and leases, subject to~~

~~the maturity and credit quality limitations specified in the Credit Quality Section. Any sectors not mentioned expressly herein must be pre-approved by Staff prior to purchase.~~

~~9. Floating rate securities, subject to maturity, credit quality, and reset limitations specified below. The Cash Collateral Investment Portfolio can invest in adjustable rate securities tied to LIBOR, Fed Funds, Treasury Bills, and Commercial Paper Indices. Adjustable rate securities, which are specifically excluded include, but are not limited to, the following:~~

~~a. “Inverse floaters,” “leveraged floaters” and any securities whose interest rate reset provisions are based on a formula that magnifies changes in interest rates.~~

~~b. “Constant Maturity Treasury (CMT) floaters” and securities whose interest rate reset provisions are tied to long-term interest rates so that a change in the slope of the yield curve could result in the value of the instrument falling below par.~~

~~c. “Capped floaters,” “range floaters,” and securities on which interest is not paid above a certain level or cease paying any interest when a certain level is reached.~~

~~d. “Dual index floaters” and securities whose interest reset provisions are tied to more than one index so that a change in the relationship between these indexes may result in the value of the instrument falling below par.~~

~~e. “Cost of Funds Index (“COFI”) floaters,” “prime floaters,” and securities whose interest rate reset provision is tied to an index materially lagging short-term interest rates.~~

~~f. “Auction-Rate” securities.~~

~~10. To help mitigate currency risk, non-U.S. G10 currency may be received as collateral for loaned securities of the corresponding G10 country. The currency must be invested in eligible securities denominated within the same currency and in compliance with CalPERS collateral investment guidelines.~~

~~11. Non-U.S. sovereign debt is acceptable as payment for G10 loaned securities provided the debt is the same country as the loaned security. The investment must be in accordance with CalPERS collateral investment guidelines.~~

~~12. Unless specifically permitted in this Policy, investment in derivatives as defined in the Global Derivatives and Counterparty Risk Policy are prohibited.~~

~~13. Line of Credit with a Systemically Important Financial Market Utility (SIFMU) which is an approved counterparty listed in the matrix section of CalPERS Risk Management Counterparty Risk Monitoring report.²~~

~~B. Maturity and Duration~~

~~1. The duration of the collateral investment portfolio shall not differ from the duration of the outstanding loans by more than 60 days.~~

~~a. The portfolio weighted average duration shall be calculated from the evaluation date to the date of the next coupon reset for floating rate securities.~~

~~b. Loans on an open basis (i.e., can be called by either party on one day notice) are considered one day instruments.~~

~~2. These guidelines are intended to mitigate negative convexity risk (i.e., contraction or extension risk). The lending agent or cash collateral manager or both shall invest in the collateral portfolio with full spirit of this intention.~~

~~3. Fixed-rate notes, bonds, debentures, and asset-backed securities shall have a projected maximum average life of 14 months. Fixed Rate ABS securities must have a final expected maturity (per Bloomberg, using pricing speed indicated in the prospectus which corresponds to the original weighted average life) that does not exceed three years.~~

~~4. All floating rate securities shall have a WAL of 3 years or less.~~

~~5. Repurchase agreements, excluding U.S. Treasury or agencies, shall have a maximum term of three months (95 days). Repo agreements with U.S. Treasury or agencies shall have a maximum term of 6 months.~~

~~6. Money Market Mutual Funds and commingled STIF and GSTIF funds will be considered to have a maturity of one day~~

² ~~The SIFMU Line of Credit, when drawn, requires SIFMU to post collateral, effectively making the draw a Repo transaction. This Repo must meet requirements of Repo defined under Section 2 and 2a of Permissible Securities.~~

C. Credit Quality: Securities must receive the required credit quality level if rated by all ratings agencies. Ratings are required from at least two of the three following Rating Agencies: Standard & Poor’s, Moody’s and Fitch Investor Services. The minimum credit rating per instrument category is as follows:

| Asset Side – Credit Rating | |
|--|--|
| Security | Minimum Credit Rating * |
| US Treasury | No Restriction |
| US Govt. sponsored | Aa3/AA-/AA- |
| Asset backed securities ** | Aa3/AA-/AA- |
| Money Market Instruments (ST Rating) | A2/P2/F2 |
| Non-domestic US dollar denominated securities | Aa3/AA-/AA- |
| Domestic corporate notes, bonds and debentures | Aa3/AA-/AA- |
| Canadian corporate notes, bonds and debentures | Aa3/AA-/AA- |
| Supranational and foreign (excluding Canadian) | Aa3/AA-/AA- |
| Sovereign issues | Aa3/AA-/AA- |
| Financials (Broker Dealers) | Investment in corporate notes, bonds, and/or debentures issued by broker-dealers is specifically prohibited. |
| - | - |
| * The minimum credit rating will not consider enhanced credit from a monoline wrap or guarantee. | |
| ** Or reciprocal short term rating. | |
| <i>Note: Split-rated securities are considered to have the highest of two or more ratings. *Does not apply to Money Market instruments, MM instruments cannot have rating below A2/P2/F2</i> | |

D. Diversification: Following are investment limits for individual issuers and sectors:

| Asset Side – Diversification | |
|--|------------------------------|
| Asset / Counterparty⁴ | Diversification Limit |
| US Treasury & Govt. Sponsored | No Restriction |
| CalPERS Global Custodian's STIF/GSTIF | No Restriction |
| 2a-7 Money Market Funds ⁶ | No Restriction |
| Per Fund | 10% |
| Total Repurchase Agreements | No Restriction |
| Government Repo Agreements | No Restriction |
| Per Issuer ² | 20% |
| Equity Repo Agreements | 50% |
| Per Issuer ² | 10% |
| Total Repo Agreements per issuer | 20% |
| SIFMU Line of Credit | No Restriction |
| Per Issuer | \$2 Billion |
| Money Market Instruments ⁶ | No Restriction |
| Asset-Backed Commercial Paper | 25% |
| Per A1/P1/F1 Issuer ⁴ | 10% |
| Per less than A1/P1/F1 Issuer ⁴ | 5% |
| Total Corporate Sector | 35% |
| Any One Corporate Sector ³ | 15% |
| Individual Issuer ⁵ | 2% |
| Total Asset-Backed Securities (fixed rate) | 10% |
| Total Asset-Backed Securities (floating rate) | 50% |
| Student Loan Sector | 35% |
| Credit Card Sector | 35% |
| Auto Loans/Leases Sector | 35% |
| Other ABS Sector | 20% |
| Individual Master Trust/ABS Issuer Limit | - |
| AAA Less than 1 year | 20% |
| AAA Greater than 1 year | 10% |
| Issuer less than AAA | 5% |
| ¹ Investment in securities issued by broker dealers is specifically prohibited. | |
| ² Except funds or securities carrying explicit government guarantees on Line of Credit draws. | |
| ³ Corporate sector will be determined by CalPERS Fixed Income group trading software classification. | |
| ⁴ Fully-supported ABCP, CP, & Notes are amalgamated per issuer diversification calculations. | |
| ⁵ Individual issuer limit does not apply to money market instruments. | |
| ⁶ Investments in Money Market Funds and/or Instruments must not exceed 10% total ownership of Money Market Fund/Instrument. | |

~~II. Liquidity Guidelines~~

~~A. Liquidity Requirements:~~

- ~~1. Daily: A minimum of 10% of the Securities Lending cash collateral pool must be invested in securities that mature or are subject to a demand feature exercisable within one business day.~~
- ~~2. Weekly: A minimum of 20% of the Securities Lending cash collateral pool must be invested in securities that mature or are subject to a demand feature exercisable within seven business days.~~
- ~~3. Monthly: A minimum of 30% of the Securities Lending cash collateral pool must be invested in securities that mature or are subject to a demand feature exercisable within thirty days.~~

~~If at any point the Liquidity Requirements are not met it will be considered a violation (see the Securities Lending Policy on Violation Reporting). An immediate sale to restore liquidity shall not be required if the SIO, Global Fixed Income believes that asset sales will diminish the total return to CalPERS. The CalPERS internal research staff shall analyze such situations to ensure that an informed decision is made.~~

~~Only purchases consistent with restoring liquidity may be made while in violation.~~

~~III. Leverage Guidelines~~

~~A. In accordance with the Leverage Policy, Staff will monitor and report quarterly to the Risk Management unit the actual leverage for the Program. In the Program, notional leverage is when cash collateral is invested in non-cash-like securities. Cash-like securities are fixed income securities with a maturity of less than 91 days and a credit rating of A1/P1 or better.~~

~~B. Leverage Limit:~~

- ~~1. The maximum notional leverage permissible is 70%. If at any point the notional leverage exceeds 70% a policy violation will be triggered (see the Securities Lending Policy on Violation Reporting). An immediate sale to restore leverage requirements shall not be required if the SIO, Global Fixed Income believes that asset sales will diminish the total return to CalPERS. The CalPERS internal research staff shall analyze such situations to ensure that an informed decision is made.~~

IV. ~~Cash Collateral Allocation~~

~~CalPERS has the ability to allocate Securities Lending cash collateral to a variety of internal programs. The returns of the internal programs will be commensurate with the levels of returns received with external securities lending cash collateral opportunities, all of which fall within the collateral guidelines. CalPERS internal cash collateral manager is excluded from these provisions.~~

- ~~A. Prior to receiving any cash collateral, CalPERS program must provide an internal indemnification to the Securities Lending Program. The internal indemnification will be in the form of a Memorandum of Understanding (“MOU”) between the Securities Lending Program and the internal program.~~
- ~~B. All allocations of Securities Lending cash collateral will be structured to have a maturity no longer than 90 days.~~
- ~~C. When advanced, cash collateral allocation to internal programs will be limited to 20% of the outstanding cash collateral balance for the Program.~~
- ~~D. The SIO, Global Fixed Income, must sign off on each transaction.~~

V. ~~CALCULATIONS AND COMPUTATIONS~~

- ~~A. Investors, managers, consultants, and other participants selected by CalPERS shall make all calculations and computations as follows:
 - ~~1. Money Market Securities shall be accounted for using the amortized cost method.~~
 - ~~2. Non-Money Market Securities shall be accounted for using the marked-to-market method.~~~~

Attachment C

SECURITIES LENDING INVESTMENT POLICY TRACKING LOG

| Effective Date | Update to Investment Policy |
|--------------------|--|
| July 6, 2015 | <ul style="list-style-type: none"> • Administrative changes to Attachment B regarding SIFMU Line of Credit draws |
| October 14, 2014 | <ul style="list-style-type: none"> • Administrative change to Attachment B to permit a Line of Credit with a Systemically Important Financial Market Utility (SIFMU) |
| May 19, 2014 | <ul style="list-style-type: none"> • Administrative changes to standardize reporting frequencies to the Investment Committee to “no less than annually” • Administrative changes to reflect the Policy Glossary of Terms Update Project |
| March 26, 2014 | <ul style="list-style-type: none"> • Administrative changes to update template format and to align this policy with the Global Derivatives and Counterparty Risk Policy. • Administrative change to Repurchase agreements, excluding US Treasuries or agencies, maximum term from one month to three months (Attachment B) |
| November 14, 2013 | <ul style="list-style-type: none"> • Malaysia approved as equity lending country (Attachment A). • Administrative changes to Asset Side – Credit Rating (Attachment B). |
| July 11, 2013 | <ul style="list-style-type: none"> • Administrative changes to harmonize Eligible Repo Counterparties list with CalPERS internal risk monitoring process. • Administrative changes to Asset Side credit rating and diversification limits in Attachment B. |
| August 31, 2012 | <ul style="list-style-type: none"> • Poland approved as equity lending country |
| July 5, 2012 | <ul style="list-style-type: none"> • Eligible Repo Counterparties list and credit ratings updated |
| May 1, 2012 | <ul style="list-style-type: none"> • Administrative changes to harmonize approved borrowers with CalPERS internal risk monitoring process. • Added Eurobonds as an eligible security to be lent in section I. A. 2. F. |
| November 14, 2011 | <ul style="list-style-type: none"> • Administrative changes made due to credit rating changes. |
| September 22, 2011 | <ul style="list-style-type: none"> • Approved Borrowers list updated. • Eligible Repo Counterparties list updated. |
| March 28, 2011 | <ul style="list-style-type: none"> • Taiwan approved as equity lending country. |
| January 21, 2011 | <ul style="list-style-type: none"> • Approved Borrowers list updated and reformatted. • Added Exchange Traded Funds (ETF) as a security eligible for lending as long as exchange is located in a country on the Approved Markets listing. • Czech Republic approved as equity lending country. • Approved Repo counterparties list updated |

Effective Date**Update to Investment Policy**

- | | |
|------------------------------|--|
| March 9, 2010 | • Approved Borrowers list updated. |
| March 23, 2009 | • Hungary approved as equity lending country. |
| February 23, 2009 | • Reconfirmed with external cash manager that they are prohibited from making any term asset purchases without CalPERS prior approval. Term asset is any permissible security as defined by our Policy, with duration greater than 30 days. • Repo concentration limits changed to 10% of fund overnight, 5% if 2 to 30 day duration. |
| November 20, 2008 | • US Treasury Bills approved to be collateralized at 100% of market value. |