1. Investment Guidelines and Performance Measurement Standards for Private Equity Portfolios

The responsibility for making recommending investment managers to be used for all alternative investments is delegated to PERA's consultant for alternative investments unless the Board delegates this responsibility to the general investment consultant.

A. Introduction

The following investment guidelines govern the implementation of the Private Equity Program.

B. Investment Objective

The investment objective of the Private Equity Program is to enhance the total fund performance through the investment in non-publicly traded securities by generating a long-term rate of return that exceeds that of publicly traded equities. Private equity investments are illiquid and long-term in nature.

Given the above investment objective, the performance of the Private Equity Program will be compared against the following benchmarks:

- Over the long-term (5-10 years), performance of the Private Equity Program is expected to exceed the PERA U.S. Equity asset class benchmark by 3%, net of fees and expenses.
- Over the medium-term (3-5 years) after the program is fully invested, performance of the Private Equity Program is expected to exceed the return of the Venture Economics Pooled IRR for the respective vintage years.
- Over the short-term (program's first 3 years), the Private Equity Program will be incorporated into the PERA policy index at its actual weight and performance.
- Individual partnerships will be compared to the appropriate Venture Economics Universe category, adjusted for vintage year.

C. Investment Guidelines

(1) Private Equity Investments: Investment is authorized in vehicles that invest in a broad array of various non-publicly traded securities, including but not limited to:

- *Buyout Investments* include investments in acquisitions, growth equity, recovery investments, subordinated debt, and special situations (a category which represents a diversified strategy across many sub-categories). Investments are made across the market capitalization spectrum and typically involve the purchase of a control position (primarily majority positions, with some minority positions) in an established company and may include the use of leverage. Investments are typically made in years one through six and returns typically occur in years three through ten. Investments may be made in companies that are either U.S. or non-U.S. domiciled.

- *Venture Capital Investments* include investments in companies in a range of stages of development from start-up/seed-stage, early stage, and later/expansion stage. Investments are typically made in years one through six and returns typically occur in years four through ten. Investments may be made in companies that are either U.S. or non-U.S. domiciled.
- *Distressed Debt Investments* include investments in the debt instruments of companies which may be publicly traded or privately held that are financially distressed and are either in bankruptcy or likely candidates for bankruptcy. Typical holdings are senior and subordinated debt instruments and bank loans. Equity exposure is acceptable as debt positions are often converted to equity during the bankruptcy reorganization process. Investments are typically made in years one through five and returns typically occur in years three through ten. Investments may be made in companies that are either U.S. or non-U.S. domiciled.

(2) Private Equity Investment Targets: For the Private Equity Program, the targeted and range of investment exposures to the various private equity investment categories are shown in the following table:

Style	Target	Minimum	Maximum
Buyout	55%	30%	70%
Venture Capital	20%	10%	30%
Non-U.S.	15%	5%	25%
Distressed Debt	10%	0%	20%
Total	100%		

Note: The Non-U.S. exposure refers to where the partnership or other vehicle is domiciled rather than to where the underlying investments are domiciled.

It is recognized that it may take three to five years for the Private Equity Program to be fully invested and that there may be deviations from the previously mentioned targets during the initial funding period.

(3) Investment Vehicles: The vehicles for private equity investments are typically private equity limited partnerships, but may also include other entities such as limited liability companies or offshore corporations. These investment vehicles may invest in any type of security throughout the capital structure.

(4) Industry/Geographic Concentration: PERA shall endeavor to limit the potential for any one investment to negatively impact the long-term results of the Private Equity Program by investing across a variety of industries and geographic locations. For investments in venture capital, it is recognized that opportunities may be most readily available in a relatively limited number of industries.

(5) Investment Vehicle Concentration: PERA shall not comprise more than 20% of any one investment vehicle, and any one investment vehicle may not comprise more than 8% of the Private Equity Program once it is fully invested, calculated on a committed capital basis. The optimum number of investment vehicles in the portfolio and the maximum exposure to any one investment vehicle varies with time and will be evaluated as part of the annual plan for the Private Equity Program.

(6) Investment Timing: PERA shall strive to limit the potential for any one investment to negatively impact the long-term results of the Private Equity Program by investing across business cycles and vintage years. Investments shall be selected with the goal of gaining exposure to the array of financing stages by opportunistically exploiting the best investments at different stages of the business cycle.

(7) Liquidity: Private equity investments are illiquid and typically have expected holding periods of 10-12 years. Investments are typically held until maturity and selling prior to maturity may result in realizing a sales price that reflects a discount to fair market value. Liquidity risk is managed by minimizing the possibility of forced sales that may arise from exceeding maximum exposure limits or lowering asset allocation targets to private equity investments.

(8) Distributed Securities: PERA shall ordinarily direct the sale of securities distributed by its investment vehicles as soon as practically possible and strive to not impair the value of the security.

(9) Performance Evaluation: The individual investment vehicle performance, as measured by the internal rate of return, will be evaluated compared to the performance of respective peer universes and vintage years, as provided by Venture Economics, a recognized private equity services provider. **It is recognized that immature private equity investments will ordinarily have a "J-curve effect" whereby there are low to negative returns in the initial years due to the payment of investment management fees during a period when investments are typically carried at cost and returns have not been realized.**

D. Monitoring

Through the monitoring process, PERA and consultant will extend the initial due diligence into a formal monthly (as applicable), quarterly, semi-annual, and annual process which regularly seeks to determine whether the manager is meeting the Private Equity Program's investment objectives and other requirements. In the broadest sense, the monitoring process is intended to determine whether the initial reasons for selecting the strategy and investment vehicle remain valid. The monitoring process should disclose whether there has been any material deviation from the investment philosophy and process; the personnel responsible for managing the investment vehicle are still in place; the organization continues to be stable; performance and risk meet expectations; and the investment vehicle manager adheres to its investment and other requirements. The underlying principle of the monitoring program is to determine whether all risks to which PERA is exposed through the use of outside investment advisors have been identified, understood, and, to the extent possible, controlled. The monitoring process focuses on four areas:

- Compliance with reporting and valuation requirements;
- Continuity of investment philosophy and process;
- Stability of personnel and organization; and
- Performance and risk management.

The Director of Investments and consultant will aggregate investment vehicle data and perform analysis on the overall private equity portfolio, paying careful attention to individual investment vehicle allocations and strategy/sector concentrations to strive to achieve proper diversification across the Private Equity Program. The Director of Investments and consultant also will conduct due diligence with the respective investment vehicle managers to understand the underlying drivers of performance. Additionally, the Director of Investments and consultant shall conduct portfolio reviews and on-site due diligence as necessary. Site visits will also be performed to confirm that appropriate infrastructure is in place to support the investment process. The Director of Investments and consultant shall provide the PERA Board with regular performance reports and advise the PERA Board of other matters as appropriate.

2. Investment Guidelines and Performance Measurement Standards for Absolute Return Portfolios (Hedge Funds)

A. Introduction

The following investment guidelines govern the implementation of the Absolute Return Program.

B. Investment Objective

The investment objective of the Absolute Return Program is to utilize a portfolio of hedge funds to achieve positive returns with a degree of independence from movements in equity and fixed income markets and independent of traditional performance benchmarks. Hedge funds represent a distinctive investment style that is different from traditional, long-only funds. A fundamental difference is that hedge fund managers emphasize absolute, rather than relative returns, and they may also use a wider range of investment techniques, such as leverage, short selling and derivatives to achieve their objectives. A portfolio of hedge funds is expected to deliver an absolute return with a risk level between that of stocks and bonds. The portfolio should also have a low correlation with other asset classes and therefore help diversify PERA. As such, the objective of the Absolute Return Program is to reduce the volatility of the PERA total fund while continuing to maximize returns in a variety of market environments.

Given the above investment objective, the performance of the Absolute Return Program will be compared against the following benchmarks:

- Over the long-term (3-5 years), performance of the Absolute Return Program is expected to exceed LIBOR by 4%, net of fees and expenses.
- Over the short-term, performance of the Absolute Return Program is expected to exceed the HFRI Fund-of-Funds Composite Index, net of fees and expenses.

C. Investment Guidelines

(1) Hedge Fund Styles: Investment is authorized in hedge funds that use a broad array of various hedge fund styles, including but not limited to:

- *Market Neutral strategies* such as equity market neutral, fixed income arbitrage, and convertible bond arbitrage.
- *Event Driven strategies* such as risk arbitrage, merger arbitrage, distressed debt, credit and other event-driven strategies.
- *Equity long/short strategies* where there is combination of long and short positions primarily in publicly traded equities, with a net market exposure less than that of the overall equity market. Strategies may be focused on U.S., non-U.S., and/or specialty mandates.

- *Global Macro strategies* such as all market portfolios, opportunistic long-only, managed futures, currency, dedicated short selling strategies or other specialty strategies.
- *Multi-strategies* where hedge funds invest using a combination of previously described strategies.

(2) Hedge Fund Investment Targets: For the Absolute Return Program, the targeted and range of investment exposures to the various hedge fund styles are shown in the following table:

Style	Target	Minimum	Maximum
Market Neutral	5%	0%	20%
Event Driven	30%	20%	40%
Equity Long/Short	30%	20%	45%
Global Macro	5%	0%	20%
Multi-Strategy	30%	20%	50%
Total	100%		

Note: Event Driven includes event driven, credit and distressed debt strategies.

(3) Investment Vehicles: The vehicles for hedge fund investments are typically separate accounts and/or a variety of commingled vehicles, such as limited partnerships, limited liability companies, or offshore corporations. **Funds-of-funds investment vehicles may be used for up to 20% (1/5) of the hedge fund strategic allocation target of 5% of total fund assets.**

(4) Investment Constraints: No more than 15% of the Absolute Return Program's market value of assets may be invested in any single multi-strategy hedge fund, and no more than 10% of the Absolute Return Program's market value of assets may be invested in any single strategy (Market Neutral, Event Driven, Equity Long/Short, Global Macro) hedge fund. During the investment period the weightings to individual funds and exposures may temporarily exceed the limits previously indicated. In addition, the weightings to individual funds and exposures may temporarily exceed the limits previously indicated to the extent that lock-up periods or other liquidity restrictions with respect to a hedge fund prevent an immediate reallocation.

(5) Liquidity: Individual hedge fund investments may have specified liquidity parameters defining lock-up periods and withdrawal frequency. Liquidity risk is managed by monitoring and maintaining a schedule of the liquidity of the individual hedge funds and aggregating it at the total Absolute Return Program level.

(6) Benchmark: The performance of individual hedge funds will be evaluated compared to their expected return premium over LIBOR (300-500 basis points) over trailing 5 year periods, net of all fees and expenses, as well as their respective peer universe over shorter time periods, as measured by a recognized hedge fund index provider.

D. Monitoring

Through the monitoring process, PERA and consultant will extend the initial due diligence into a formal monthly, quarterly, semi-annual, and annual process which regularly seeks to determine whether the manager is meeting the Absolute Return Program's investment objectives and other requirements. In the broadest sense, the monitoring process is intended to determine whether the initial reasons for selecting the strategy and manager remain valid. The monitoring process should disclose whether there has been any material deviation from the investment philosophy and process; the personnel responsible for management of the fund or product are still in place; the organization continues to be stable; performance and risk meet expectations; and the manager adheres to its investment and other requirements. The underlying principle of the monitoring program is to determine that all risks to which PERA is exposed through the use of outside investment advisors have been identified, understood, and, to the extent possible, controlled. The monitoring process focuses on four areas:

- Compliance with reporting and valuation requirements;
- Continuity of investment philosophy and process;
- Stability of personnel and organization; and
- Performance and risk management.

The Director of Investments and consultant will aggregate manager data and perform analysis on the overall hedge fund portfolio, paying careful attention to individual hedge fund allocations and strategy/sector concentrations to strive to achieve proper diversification across the Absolute Return Program. The Director of Investments and consultant also will conduct due diligence with the respective hedge funds to understand the underlying drivers of performance. Additionally, the Director of Investments and consultant shall conduct portfolio reviews and on-site due diligence as necessary. Site visits will also be performed to confirm that appropriate infrastructure is in place to support the investment process. The Director of Investments and consultant shall provide the PERA Board with regular performance reports and advise the PERA Board of other matters as appropriate.

3. Investment Guidelines and Performance Measurement Standards for Real Assets and Real Estate Portfolios

A. Introduction

The following investment guidelines govern the implementation of the Real Assets and Real Estate Program.

B. Investment Objective

The investment objective of the Real Assets and Real Estate Program is to enhance the total fund performance through the investment in non-publicly traded securities by generating a long-term rate of return that exceeds CPI by 6%. Real Assets and Real Estate investments, with the exception of publicly traded securities, are expected to be very illiquid and long-term in nature.

Given the above investment objective, the performance of the Real Assets and Real Estate Investments Program will be compared against the following benchmarks:

- Real Estate Investment Trusts are expected to exceed the return of the NAREIT Equity Index.
- Real Estate Partnerships are expected to exceed the return of the NCREIF Index by 3%.
- Commodities are expected to exceed the return of the appropriate commodities index.
- Timber is expected to exceed the return of the NCREIF Timber Index.
- Energy Partnerships are expected to be in the first quartile of the comparable Venture Economics Universe, adjusted for vintage year.

C. Investment Guidelines

(1) Real Assets and Real Estate: Investment is authorized in vehicles that invest in a broad array of various publicly traded and non-publicly traded securities, including but not limited to:

- *Real Estate Investment Trusts (REITS)* include equity investments in publicly traded securities of a company dedicated to owning, and in most cases, operating income producing real estate, such as apartments, shopping centers, offices and warehouses.
- *Real Estate Partnerships* include investments in private vehicles (e.g. limited partnerships or limited liability companies) that have an ownership interest in direct real estate properties, either income-producing or non-income producing. The investment strategies may include those defined as "value-added" or "opportunistic". "Value added" strategies derive their return from both income and appreciation while "opportunistic" strategies derive their return primarily through appreciation.

(6) Investment Timing: PERA shall strive to limit the potential for any one investment to negatively impact the long-term results of the Real Assets and Real Estate Program by investing across business cycles and vintage years. Investments shall be selected with the goal of gaining exposure to the array of financing stages by opportunistically exploiting the best investments at different stages of the business cycle.

(7) Liquidity: Private investment vehicles are illiquid and typically have expected holding periods of 10-12 years. Investments are typically held until maturity and selling prior to maturity may result in realizing a sales price that reflects a discount to fair market value. Liquidity risk is managed by minimizing the possibility of forced sales that may arise from exceeding maximum exposure limits or lowering asset allocation targets to private equity investments.

(8) Distributed Securities: PERA shall ordinarily direct the sale of securities distributed by its investment vehicles as soon as practically possible and strive to not impair the value of the security.

(9) Performance Evaluation: The individual investment vehicle performance, as measured by the internal rate of return, will be evaluated compared to the performance of respective peer universes and vintage years, as provided by Venture Economics, a recognized private equity services provider. **It is recognized that immature private equity investments will ordinarily have a "J-curve effect" whereby there are low to negative returns in the initial years due to the payment of investment management fees during a period when investments are typically carried at cost and returns have not been realized.**

D. Monitoring

Through the monitoring process, PERA and consultant will extend the initial due diligence into a formal monthly (as applicable), quarterly, semi-annual, and annual process which regularly seeks to determine whether the manager is meeting the Private Equity Program's investment objectives and other requirements. In the broadest sense, the monitoring process is intended to determine whether the initial reasons for selecting the strategy and investment vehicle remain valid. The monitoring process should disclose whether there has been any material deviation from the investment philosophy and process; the personnel responsible for managing the investment vehicle are still in place; the organization continues to be stable; performance and risk meet expectations; and the investment vehicle manager adheres to its investment and other requirements. The underlying principle of the monitoring program is to determine whether all risks to which PERA is exposed through the use of outside investment advisors have been identified, understood, and, to the extent possible, controlled. The monitoring process focuses on four areas:

- Compliance with reporting and valuation requirements;
- Continuity of investment philosophy and process;
- Stability of personnel and organization; and

- *Commodities* include investments in futures and/or swaps on individually traded commodities or indexes comprising groups of commodities like the Goldman Sachs Commodity Index ("GSCI") or Dow Jones – AIG Commodity Index ("DJ-AIGCI"). Commodities may be used as an overlay strategy on Treasury Inflation Protected Securities (TIPS) or other publicly traded instruments.
- *Timber Partnerships* include investments in private vehicles (e.g. limited partnerships or limited liability companies) that have an ownership interest in properties where the majority value of the property is derived from income producing timber.
- *Energy Partnerships* include investments in private vehicles (e.g. limited partnerships or limited liability companies) that have an ownership interest in energy related businesses. Investments may include those across the industry spectrum from upstream (e.g. exploration and production), to midstream (e.g. processing and transportation), to downstream (e.g. refining and distribution).

(2) Real Assets and Real Estate Targets: For the Real Assets and Real Estate Program, the targeted and range of investment exposures to the various categories, when fully invested, are shown in the following table:

Style	Target	Minimum	Maximum
Real Estate Partnerships	37.5%	30%	45%
REITS	12.5%	5%	20%
Commodities	12.5%	7%	18%
Timber	12.5%	7%	18%
Energy Partnerships	25%	20%	30%
Total	100%		

It is recognized that it may take three to five years for the non-publicly traded investments to be fully made and that there may be deviations from the previously mentioned targets during the initial funding period.

(3) Investment Vehicles: The vehicles for the private real assets and real estate investments are typically in a partnership format, but may also include other entities such as limited liability companies or offshore corporations. These investment vehicles may invest in any type of security throughout the capital structure.

(4) Industry/Geographic Concentration: PERA shall endeavor to limit the potential for any one investment to negatively impact the long-term results of the Real Asset and Real Estate Program by investing across a variety of industries and geographic locations.

(5) Investment Vehicle Concentration: PERA shall not comprise more than 20% of any one investment vehicle, and any one investment vehicle may not comprise more than 10% of the Real Assets and Real Estate Program once it is fully invested, calculated on a committed capital basis. The optimum number of investment vehicles in the portfolio and the maximum exposure to any one investment vehicle varies with time and will be evaluated as part of the annual plan for the Private Equity Program.

- Performance and risk management.

The Director of Investments and consultant will aggregate investment vehicle data and perform analysis on the overall private equity portfolio, paying careful attention to individual investment vehicle allocations and strategy/sector concentrations to strive to achieve proper diversification across the Private Equity Program. The Director of Investments and consultant also will conduct due diligence with the respective investment vehicle managers to understand the underlying drivers of performance. Additionally, the Director of Investments and consultant shall conduct portfolio reviews and on-site due diligence as necessary. Site visits will also be performed to confirm that appropriate infrastructure is in place to support the investment process. The Director of Investments and consultant shall provide the PERA Board with regular performance reports and advise the PERA Board of other matters as appropriate.