

**TEACHER RETIREMENT SYSTEM OF TEXAS MEETING
BOARD OF TRUSTEES
AND
POLICY COMMITTEE**

(Committee Chair and Members are Subject to Change at the September Board Meeting - Mr. Barth, Chairman; Ms. Clifton; Mr. Colonna; Mr. Kelly; & Mr. McDonald, Committee Members)

AGENDA

**September 13, 2012 – 10:15 a.m.
TRS East Building, 5th Floor, Boardroom**

1. Consider the approval of the proposed minutes of the July 20, 2012 committee meeting – Committee Chair.
2. Discuss and consider authorizing for public comment publication in the *Texas Register* proposed amendments to the following TRS rules in Subchapter A, Retiree Health Care Benefits (TRS-Care), Chapter 41, Health Care and Insurance Programs, of Title 34 of the Texas Administrative Code – Clarke Howard and Betsey Jones:
 - A. Rule § 41.2, relating to additional enrollment opportunities;
 - B. Rule § 41.5, relating to payment of contributions; and
 - C. Rule § 41.7, relating to effective date of coverage.
3. Consider updating the Policy Review Schedule – Rebecca Merrill.
4. Discuss and consider recommending to the Board proposed amendments to the Investment Policy Statement and review policy history – Jase Auby, Brady O’Connell and Steve Voss, Hewitt EnnisKnupp.
5. Discuss and consider recommending to the Board proposed amendments to the Board’s General Authority Resolution (TRS 477) – Dennis Gold and Sylvia Bell.

NOTE: The Board of Trustees (Board) of the Teacher Retirement System of Texas will not consider or act upon any item before the Policy Committee (Committee) at this meeting of the Committee. This meeting is not a regular meeting of the Board. However, because a quorum of the Board may attend the Committee meeting, the meeting of the Committee is also being posted as a meeting of the Board out of an abundance of caution.

Tab 1



Minutes of the Policy Committee
July 20, 2012

The Policy Committee of the Board of Trustees of the Teacher Retirement System of Texas met on July 20, 2012, in the boardroom on the Fifth Floor of the East Building of TRS offices located at 1000 Red River Street, Austin, Texas 78701. The following committee members were present:

Committee members present:

Todd Barth, Chair
Charlotte Clifton
Joe Colonna
David Kelly
Eric McDonald

Other board members present:

Karen Charleston
Chris Moss
Anita Palmer
Nanette Sissney

TRS executives and other staff present:

Brian Guthrie, Executive Director
Ken Welch, Deputy Director
Conni Brennan, General Counsel
T. Britton Harris IV, Chief Investment Officer
Jerry Albright Deputy Chief Investment Officer
Amy Barrett, Chief Audit Executive
Janet Bray, Director of Human Resources
Howard Goldman, Director of Communications
Dinah Arce, Senior Auditor, Internal Audit
Jase Auby, Chief Risk Officer
Ashley Baum, Chief of Staff to the Chief Investment Officer
Sylvia Bell, Director of Investment Operations
Patricia Cantú, Director – Investment Business Management
Mary Chang, Assistant General Counsel
Tina Carnes, Assistant General Counsel
Chris Cutler, Director of Network Infrastructure and Support
Dennis Gold, Assistant General Counsel
Brian Gomolski, Senior Investment Auditor
Dan Herron, Communications Specialist
Janis Hydak, Managing Director – Macro, Risk, Quant and Thematic Strategies
Rebecca Jackson, Human Resources Generalist
Dan Junell, Secretary to the Board and Assistant General Counsel
Eric Lang, Managing Director – Real Assets
Lynn Lau, Assistant Secretary to the Board and Program Specialist

Scot Leith, Manager of Investment Accounting
Hugh Ohn, Director of Investment Audit and Compliance
Liz Oliphint, Manager – Benefit Processing
David Powell, Intern
David Veal, Incoming Chief of Staff to the Chief Investment Officer
Angela Vogeli, Assistant General Counsel
Susan Wade, Director of Professional Development - Investments
Tim Wei, Assistant General Counsel
Dale West, Managing Director – External Public Markets

Outside counsel, consultants, contractors, representatives of associations and organizations, and members of the public present:

Steven Huff, Reinhart Boerner Van Deuren, s.c., Fiduciary Counsel
Brady O’Connell, Hewitt EnnisKnupp, Investment Counsel
Steve Voss, Hewitt EnnisKnupp, Investment Counsel
Philip Mullins, former trustee & Texas State Employees Union
Ronnie Jung
Ted Melina-Raab, Texas American Federation of Teachers
Tim Lee, Texas Retired Teachers Association
Ann Fickel, Texas Classroom Teachers Association
John Grey, Texas State Teachers Association
Craig teDuits, State Street
Mark Schafer, State Street
Joyce Dardonis, State Street
Jim Baker, Unite Here
Tathata Lohachitkul, Albourne

With a quorum of the committee present, the meeting convened at 8:06 a.m.

1. Consider the approval of the proposed minutes of the June 7, 2012 committee meeting – Todd Barth.

On a motion by Mr. McDonald, seconded by Mr. Kelly, the committee approved the proposed minutes of the June 7, 2012 meeting as presented.

2. Receive an update on and discuss proposed amendments to the Investment Policy Statement – Jase Auby.

Mr. Auby presented the proposed amendments to the Investment Policy Statement (IPS). He summarized the minor changes intended to improve document readability, clarify the list of authorized public markets investments, and reflect the restructuring of the external private markets team.

Mr. Auby explained in detail the substantive changes. Mr. Auby explained the proposed removal of tenor limits on over-the-counter (OTC) derivatives. He said the tenor limits were originally put in place to control risk, but the board’s Risk Management Committee and the

Investment Management Division's (IMD's) risk management team had assumed that function. Responding to a question from Mr. Barth, Mr. Voss of Hewitt EnnisKnupp (HEK) stated that tenor limits do not typically appear in the investment policies of HEK's other public fund clients and do not necessarily control risk. Mr. Voss stated that TRS' current risk controls surpassed tenor limits in controlling risk. He confirmed for Mr. Colonna that IMD is capable of extending the term of derivatives beyond the current five-year tenor limit. Mr. Auby said that derivatives market liquidity was expanding to ten-year terms and that the Trust should be able to access that liquidity. Mr. Auby confirmed for Mr. Barth that the current risk controls had taken into account the longer-term derivatives. Mr. Auby confirmed for Mr. Kelly that the term "tenor" as used in the IPS means "maturity."

Mr. Auby explained the proposed removal of the real assets funding transition process. He stated that the process originally was designed to gradually raise the real assets portfolio allocation from 5 percent to 15 percent, as approved by the board in 2008, by commensurately lowering the TIPS, commodities, and REIT allocations. He noted that the passive REIT allocation had now been reduced to zero. He confirmed for Mr. Kelly that REITs could still be purchased as part of the Real Assets Portfolio if necessary. He noted that the purpose of using REITs was to tactically allocate between public and private real assets to achieve the best investment value.

Concerning the proposed change regarding follow-on investments, Mr. Auby stated that it would require that any investments occurring within six months after a prior investment must be considered to be part of that prior investment. He explained that if the total investment, including the follow-on, exceeded the limit, then IMD must obtain board approval. Both Mr. Kelly and Mr. Barth concurred with the proposed practice.

Mr. Auby concluded his presentation by laying out the plan to present the final proposed IPS for the board to consider in September.

3. Review the Performance Incentive Pay Plan and discuss possible plan amendments for adoption at a future meeting – Brian Guthrie, Janet Bray, Britt Harris, and Jerry Albright.

Mr. Guthrie reviewed the history of the Performance Incentive Pay Plan (plan) since its inception in October 2007.

Ms. Bray summarized the plan and its proposed adoption for the next performance period. She described the plan's purpose, philosophy, background, key components, and effectiveness. She stated that the plan is highly aligned with members' interests. She said the plan is based primarily on value added in excess of the passive benchmarks or the peer group comparators or both. She stated that performance compensation is paid over two years and only when the overall trust had a positive return. When trust returns are negative, she said, payouts are deferred. She noted that payouts are forfeited if an employee leaves TRS or willfully violates an approved risk constraint. She provided scenarios to explain how the payouts are calculated. She described the quantitative and qualitative components used in evaluating performance. The quantitative components, she said, were based on the performance of the total plan and the

employee's investment area as well as the employee's collaborative efforts outside his or her primary investment area. She explained the factors used in calculating the quantitative components. The qualitative component, she said, was based on the employee's work performance as considered by peers and managers. She stated that the performance period ran from October 1 through September 30. She noted that the maximum payouts ranged between 5 percent and 125 percent of base salary. Higher seniority and responsibility, she said, resulted in higher percentage payouts.

Ms. Wade further explained how the qualitative component, or productivity rating, was determined. She said it was based on six factors—candor, curiosity, accountability, leadership, teamwork and contribution to constructive work environments. She stated that the composite rating was based on 360 degree feedback from close work associates, manager ratings, and management committee review and collaboration.

Ms. Bray reviewed the competitiveness of the IMD performance pay. She stated that, based on the 2010 McLagan Compensation Survey, payouts to investment staff were competitive with the lowest quartile of private sector performance pay and were about half of what smaller private funds typically paid. She said that in four out of the five years leading up to the implementation of TRS' first performance pay plan, the trust fund was in the lower-success quartiles; in four out of the five years after implementation, the fund had performed in the top quartiles. Responding to Mr. Kelly's question about the five-year average performance of the fund since the first pay plan was implemented, Mr. Harris said that the fund had performed in the 27th percentile over the five-year period.

Ms. Wade presented the plan's impact on recruitment and retention. In response to a question from Mr. Barth, Ms. Wade stated that the turnover period for state government over the past five years had been about 16 percent on average and the IMD turnover rate was about 8 percent. She stated that McLagan estimated that the turnover rate among high-quality investment firms was about 10 percent. Mr. Guthrie noted that staff had informally assessed the turnover rate of peer funds and found the median to be about 7.8 percent, with TRS being near the median. Compared with the rest of the state government, he said, TRS' overall turnover rate was much lower. Ms. Wade stated that the plan had helped add a significant number of professionals over the past five years, with about three-fourths of additional staff coming from the private sector and a significant number of new employees relocating from out of state. She noted that the internship program continued to be an important recruiting resource. She stated that IMD's morale and engagement had been excellent according to the recent survey conducted by the School of Social Work of the University of Texas for state agencies in Texas. She noted a high degree of cultural alignment in IMD. Ms. Wade also briefly profiled several key IMD leaders recruited during the past few years: Britt Harris, Jase Auby, Mohan Balachandran, Sylvia Bell, Rich Hall, and Dale West.

In conclusion, Mr. Harris stated that attracting and retaining talented investors was essential for the trust fund's long-term success. He said that the performance pay plan was fully aligned with the benefits received by TRS members. He stated that TRS competes with the private sector in recruiting the best people and compensation had been a major issue attracting them to TRS and retaining them. Mr. Harris stated that the design of the overall compensation scheme for investment staff took into account TRS as a public sector fund. Therefore, he said,

TRS' base pay was about what the highest quartile of public sector funds paid, while performance pay was targeted at the lowest quartile of private funds. He stated that regular review of the plan and member groups' opinions were constructive.

Mr. Harris addressed several changes suggested by member groups. Concerning a suggestion to eliminate the productivity ranking to avoid subjective evaluations, he stated that productivity was critical to investment performance. He said that the productivity ranking was based on a careful examination of the feedback from the peer group, the manager, and the management committee. Concerning a suggestion to require an added value of at least 20 basis points before incentive pay could be earned, Mr. Harris stated that he was not aware of that as an industry practice. He added that such a practice might hurt TRS' ability to recruit and retain talented investment professionals. He stated that lowering the maximum award opportunity likewise would hurt TRS' competitiveness in dealing with the private sector. Concerning a suggestion to limit incentive compensation to the individuals directly involved in making key investment decisions, Mr. Harris stated that teamwork was one of the key cultural values among investment staff. He stated that the maximum award for clerical and support staff was five percent, which boosted those employees' productivity and helped decision makers perform their duties.

Mr. Kelly inquired about the consequence of not having the plan and if there is any room for improving the current plan. Ms. Bray stated that eliminating the plan would potentially cause high turnover rates. To improve the plan, Ms. Bray stated that perhaps the plan could be extended to the entire agency for the same mission. Per Mr. Barth's request, Mr. Harris explained the two key determining factors for performance: passive benchmark component and the peer group component developed by Wilshire Trust Universe Comparison Services (TUCS). Mr. Harris concurred with Mr. Barth's observation that the benchmark component focused primarily on how well a strategy was executed, while the peer group component focused on the value of the overall strategy. Mr. Albright stated that other benefits such as the division culture, location, and reputation also contributed to the success in recruiting and retaining talent investment employees. Ms. Sissney commented that the fact that 73 percent of the new investment employees came from the private sector indicated that the current plan was competitive. Mr. Kelly highlighted the importance of regularly reviewing the benchmarks. Mr. Voss confirmed that the benchmarks were reviewed annually in conjunction with the Investment Policy Statement (IPS) to ensure they were appropriate. He confirmed that the current benchmarks were appropriate and did not require any changes at the moment. Mr. Gold noted that one proposed change to the plan would incorporate by reference the performance benchmarks adopted in the IPS, so that any changes to the benchmarks in the IPS would be automatically incorporated into the plan.

Mr. Barth recapped that staff's recommendation was to adopt a plan for the next performance period like the current one, with the minor proposed changes reflected in the redlined version presented to the committee. He said that a final draft would be presented to the committee in September for consideration of a recommendation to the board.

The meeting adjourned at 9:22 a.m.

Tab 2



M E M O R A N D U M

To: TRS Policy Committee and TRS Board of Trustees

From: Wm. Clarke Howard, TRS Assistant General Counsel

Copy: Brian Guthrie, TRS Executive Director
Ken Welch, TRS Deputy Director
Conni Brennan, TRS General Counsel

Date: August 23, 2012

Re: Proposed Amendments to 34 Texas Administrative Code (TAC),
TRS-Care Rules §§ 41.2, 41.5 and 41.7

Authorization to Publish Proposed Rule Amendments

Staff requests that the committee authorize public comment publication of proposed amendments to TRS-Care rules §§ 41.2, 41.5 and 41.7, which address, respectively, additional enrollment opportunities, payment of contributions, and effective dates of coverage. This agenda item is not to consider final adoption of these proposed amendments. Rather, this item is to consider authorizing staff to publish the proposed amendments to TRS-Care rules §§ 41.2, 41.5 and 41.7 in the *Texas Register* for public comment. The public will have at least 30 days to comment on the proposed rule amendments. After the public comment period, the rule amendments will be brought before the committee and the full board to consider final adoption, most likely during the December 2012 meetings. Attached to this memorandum is the marked rule texts for your review.

Summary of Proposed Amendments

While a number of the proposed rule amendments include changes to improve the clarity of the rules, the most substantive amendments are proposed mainly to address the upcoming introduction of the TRS-Care Medicare Advantage (medical) plans and the TRS-Care Medicare Part D (drug) plans.

1. Addition of the New Medicare Advantage Plans and the New Medicare Part D Plans.

Currently, there is only one medical plan and one drug plan offered in each level of coverage in TRS-Care. Thus, a reference to the TRS-Care 2 level of coverage was a clear reference to the medical plan and the drug plan offered at this level of coverage. The same can also be said with regard to the TRS-Care 3 level of coverage. However, with the introduction of the new TRS-Care Medicare Advantage (medical) plans and the new TRS-Care Medicare Part D (drug) plans on January 1, 2013, for the first time, there will be several available medical plans and several available drug plans within both the TRS-Care 2 and TRS-Care 3 levels of coverage. Consequently, unlike in the past, there will be the need, beginning on January 1, 2013, to distinguish between the plans offered under the TRS-Care 2 and TRS-Care 3 levels of coverage and the levels of coverage themselves.

Further, not all individuals enrolled in TRS-Care at the TRS-Care 2 and TRS-Care 3 levels of coverage will be able to, under law, enroll in the new TRS-Care Medicare Advantage (medical) plans and the new TRS-Care Medicare Part D (drug) plans.

Consequently, to address the above noted distinctions, staff is proposing clarifying language: (1) in subsections (a)(5), (a)(6), and (a)(7) of TRS-Care rule 41.2, which addresses the opportunities to enroll in TRS-Care that are in addition to the initial enrollment opportunities described in TRS-Care rule 41.1; and (2) in subsections (e) and (h)(3)(B) of TRS-Care rule 41.5, which addresses the payment of contributions in TRS-Care.

2. Special Enrollment Opportunities.

With the passage of time, there is no longer a need to distinguish between the special enrollment events that occurred on or before August 31, 2011 and those that occurred or will occur on or after September 1, 2011. In light of the need to make the changes to TRS-Care rule 41.2, noted above, staff recommends that TRS take advantage of this opportunity to also make the deletions found in subsection (b) of TRS-Care rule 41.2. These deletions simplify this subsection by removing references to special enrollment events "that occur" on or before August 31, 2011; such events can no longer take place.

The same can also be said with regard to the deletions proposed in subsection (g) of TRS-Care rule 41.7, which addresses the effective dates of coverage under TRS-Care. The changes to this subsection are consistent with the above noted deletions found in subsection (b) of TRS-Care rule 41.2.

3. Non-substantive changes to enhance clarity.

There are a handful of proposed amendments that are non-substantive in nature, yet enhance the clarity of certain TRS-Care rules. These non-substantive proposed amendments include those marked changes found in subsection (d) of TRS-Care rule 41.2, in subsection (h)(3)(C) of TRS-Care rule 41.5, and in subsections (m) and (n) of TRS-Care rule 41.7.

Requested Action

Staff requests that the committee authorize public comment publication in the *Texas Register* of the proposed amendments to TRS-Care rules 41.2, 41.5, and 41.7, as described in this memorandum and the attached marked rule texts.

CHAPTER 41. HEALTH CARE AND INSURANCE PROGRAMS

Subchapter A. Retiree Health Care Benefits (TRS-Care)

RULE § 41.2. Additional Enrollment Opportunities

(a) Age 65 Additional Enrollment Opportunity. "Eligible participants," as defined in paragraph (1) of this subsection, have an additional enrollment opportunity in TRS-Care as described in this subsection when they become 65 years old (the "Age 65 Additional Enrollment Opportunity").

(1) For purposes of this subsection, the term "eligible participants" means:

(A) all TRS service retirees who are enrolled in TRS-Care;

(B) dependents, as defined in Insurance Code, §1575.003, who are enrolled in TRS-Care and who are eligible to enroll in TRS-Care in their own right as a TRS service or disability retiree; and

(C) surviving spouses, as defined in Insurance Code, §1575.003 who are enrolled in TRS-Care.

(2) Those eligible participants who are enrolled in TRS-Care on August 31, 2004, and who become 65 years old after that date have the Age 65 Additional Enrollment Opportunity on the date that they become 65 years old.

(3) Those eligible participants who enroll in TRS-Care after August 31, 2004, and who become 65 years old after the date of their enrollment have the Age 65 Additional Enrollment Opportunity on the date that they become 65 years old.

(4) The Age 65 Additional Enrollment Opportunity for those eligible participants who enroll in TRS-Care after August 31, 2004, and who are 65 years old or older when they enroll in TRS-Care runs concurrently with the initial enrollment period as set out in §41.1 of this title (relating to Initial Enrollment Periods for the Health Benefits Program Under the Texas Public School Retired Employees Group Benefits Act (TRS-Care)).

(5) An eligible participant who is not enrolled in Medicare Part A at the time of his or her Age 65 Additional Enrollment Opportunity can enroll:

(A) in any plan, for which he or she is eligible under law, located in the next-higher TRS-Care coverage tier (level of coverage), as determined by TRS-Care, and

(B) add dependent coverage in any plan, for which the dependent is eligible under law, located in that same coverage tier (level of coverage).

(6) An eligible participant who is enrolled in Medicare Part A at the time of his or her Age 65 Additional Enrollment Opportunity can enroll:

(A) in any plan, for which he or she is eligible under law, located in any TRS-Care coverage tier (level of coverage), and

(B) add dependent coverage in any plan, for which the dependent is eligible under law, located in that same coverage tier (level of coverage).

(7) An eligible participant, at the time of his or her Age 65 Additional Enrollment Opportunity, can:

(A) choose to remain in the same TRS-Care coverage tier (level of coverage),

(B) enroll in any plan, for which he or she is eligible under law, located in that same TRS-Care coverage tier (level of coverage), and

(C) add dependent coverage in any plan, for which the dependent is eligible under law, in that same coverage tier (level of coverage).

(8) The period to enroll in TRS-Care pursuant to the Age 65 Additional Enrollment Opportunity for eligible participants described in paragraph (2) or (3) of this subsection expires at the end of the later of:

(A) the 31st day following the last day of the month in which the eligible participant becomes 65 years old; or

(B) the 31st day after the date printed on the notice of the additional enrollment opportunity sent to the eligible participant at the eligible participant's last-known address, as shown in the TRS-Care records.

(b) Special Enrollment Opportunity.

~~(1) For a special enrollment event that occurs on or after September 1, 2011, a~~An individual who becomes eligible for coverage under the special enrollment provisions of the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191, 110 Stat. 1936 (1996)), including a dependent whose coverage under TRS-Care was waived due to the existence of other coverage for the dependent during the Age 65 Additional Enrollment Opportunity described in subsection (a) of this section, may elect to enroll in TRS-Care.

~~(2) For a special enrollment event that occurs on or before August 31, 2011, except as provided in the exceptions found in subparagraphs (A) -- (C) of this paragraph, an individual who becomes eligible for coverage under the special enrollment provisions of the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191, 110 Stat. 1936 (1996)), including a dependent whose coverage under TRS-Care was~~

~~waived due to the existence of other coverage for the dependent during the Age 65 Additional Enrollment Opportunity described in subsection (a) of this section, may elect to enroll in TRS-Care.~~

~~—(A) In no event may an individual who is already enrolled in TRS-Care elect a different plan, for himself or any eligible dependents, but may only add eligible dependents for coverage under the individual's existing plan selection upon the occurrence of a special enrollment event.~~

~~—(B) In no event may a TRS retiree enroll in TRS-Care as a result of a special enrollment event applicable to his dependent.~~

~~—(C) In no event, as a result of a special enrollment event applicable to the dependent, may the dependent of a TRS retiree enroll in TRS-Care if the TRS retiree is not enrolled in TRS-Care.~~

(23) The enrollment period for an individual who becomes eligible for coverage due to a special enrollment event shall be the 31 calendar days immediately after the date of the special enrollment event. To make an effective election, a completed TRS-Care application must be received by TRS within this 31-day period.

(c) Enrollment Opportunity Established by TRS. If an eligible TRS retiree or his eligible dependent does not have either an Age 65 Additional Enrollment Opportunity or a special enrollment event, then he may enroll in TRS-Care only during a subsequent enrollment period established by TRS.

(d) This section does not affect the right of a TRS service retiree or surviving spouse enrolled in a TRS-Care coverage tier [\(level of coverage\)](#) to drop coverage, select a lower coverage tier [\(level of coverage\)](#), or drop dependents at any time.

RULE § 41.5. Payment of Contributions

(a) Retirees, surviving spouses, and surviving dependent children or their representative (collectively, "participants") shall pay monthly contributions as set by the trustee for their and their dependents' participation in TRS-Care.

(b) To be eligible for TRS-Care coverage, a participant must authorize the trustee in writing to deduct the contribution amount from the annuity payment. After such authorization, the trustee may deduct the amount of the contribution from the annuity payment.

(c) If the amount of the contribution is more than the amount of the annuity payment, the participant will be billed directly by TRS or the TRS-Care administrator for the entire contribution amount.

(d) Failure to timely pay the full amount of a required contribution for coverage of a dependent or a surviving dependent child will result in termination of coverage for the dependent or surviving dependent child at the end of the month for which the last contribution was made.

(e) Failure to timely pay the full amount of a required contribution for coverage of a retiree or a surviving spouse enrolled in [a TRS-Care 2 plan](#) or [a TRS-Care 3 plan](#) will result in termination of coverage in [the TRS-Care 2 plan](#) or [the TRS-Care 3 plan](#), as applicable, and enrollment in TRS-Care 1 for the retiree or surviving spouse, resulting in a decrease in coverage at the end of the month for which the last contribution was made. The retiree or surviving spouse will not be able to change his or her TRS-Care coverage tier ([level of coverage](#)) unless and until the retiree or surviving spouse has an additional enrollment opportunity as set out in §41.2 of this title (relating to Additional Enrollment Opportunity) or some other opportunity under Insurance Code, §1575.161.

(f) A disability retiree whose annuity payments are forfeited under §31.36 of this title (Relating to Forfeiture of Disability Retirement Annuity Payments Due to Excess Compensation) shall pay the total monthly cost of coverage, as determined by the trustee, attributable to the participation of that disability retiree and the dependents of that disability retiree during the months for which the disability retiree's annuity payments are forfeited. A disability retiree shall pay the total monthly cost of coverage starting with the calendar month for which the first annuity payment is forfeited. The disability retiree shall continue to pay the total monthly cost of coverage for each month of coverage in which the annuity payment for that month is forfeited in accordance with §31.36 of this title. Nothing in this section shall be construed to prevent TRS from collecting the total monthly cost of coverage for months in which annuities should have been but were not forfeited if TRS determines that a disability retiree knowingly failed to report compensation as required and the failure resulted in payment of annuities by TRS that the disability retiree was not eligible to receive.

(g) Notwithstanding subsections (d) and (e) of this section, a disability retiree whose annuity payments are forfeited under §31.36 of this title who fails to timely pay the full amount of a required contribution for coverage attributable to his participation or that of his dependents, including but not limited to amounts found due and owing pursuant to a TRS determination that a disability retiree knowingly failed to report compensation as required and the failure resulted in payment of annuities by TRS that the disability retiree was not eligible to receive, shall have coverage under TRS-Care for himself and his dependents suspended unless TRS-Care receives full payment of all costs of coverage currently due and owing within thirty-one (31) days after TRS-Care mails written notice to the disability retiree of the current amount due and owing. Under such circumstances, the suspension of coverage will be effective at midnight of the last day of the month in which TRS-Care mailed the above written notice to the disability retiree of the current amount due and owing. During such a suspension, coverage under TRS-Care will cease and the costs of coverage for TRS-Care will no longer accrue.

(h) If TRS resumes payment of an annuity to a disability retiree whose coverage has been suspended as described in subsection (g) of this section, the following shall apply:

(1) Such disability retiree shall pay, no later than the last day of the month in which TRS resumes annuity payments to the disability retiree, all costs of coverage due and owing attributable to the participation of that disability retiree and the dependents of that disability retiree, including past due amounts for coverage prior to the suspension and the costs of coverage for all months during which the disability retiree's annuity payments are resumed, if any.

(2) Upon payment, reinstatement of TRS-Care coverage shall be effective the first day of the earliest month for which the disability retiree's annuity payments are resumed.

(3) If payment in full of all required contributions then due and owing is not timely received by TRS-Care, then notwithstanding subsections (d) and (e) of this section:

(A) TRS-Care coverage for the dependents of that disability retiree shall be terminated effective the last day of the month in which coverage was suspended under subsection (g) of this section;

(B) TRS-Care coverage for the disability retiree enrolled in [a TRS-Care 2 plan](#) or [a TRS-Care 3 plan](#) prior to the suspension, as applicable, will terminate effective the last day of the last month during which the disability retiree's coverage was suspended and the disability retiree will be enrolled in TRS-Care 1, effective the first day of the earliest month for which the disability retiree's annuity payments are resumed following the suspension, resulting in a decrease in coverage; and

(C) TRS-Care coverage for the disability retiree enrolled prior to the suspension in TRS-Care 1 will resume effective the first day of the earliest month for which the disability retiree's annuity payments are resumed following the suspension. The disability retiree will not be able to change his TRS-Care coverage tier ([level of coverage](#)) or add dependents unless and until the disability retiree has an additional enrollment opportunity as set out in §41.2 of this title (relating to Additional Enrollment Opportunity) or some other opportunity under Insurance Code, §1575.161.

RULE § 41.7. Effective Date of Coverage

(a) Except as allowed by subsection (c) of this section, for TRS members who take a service or disability retirement and enroll in coverage during their initial enrollment period as described in §41.1 of this title (relating to Initial Enrollment Periods for the Health Benefits Program Under the Texas Public School Retired Employees Group Benefits Act (TRS-Care)), the effective date of coverage is:

(1) the first day of the month following the effective date of retirement if the application for coverage is received by TRS-Care on or before the effective retirement date; or

(2) the first day of the month following the receipt of the application for coverage by TRS-Care if the application is received after the effective retirement date but within the initial enrollment period.

(b) A TRS member who takes a service or disability retirement and enrolls in coverage during his or her initial enrollment period may, at any time during his or her initial enrollment period, make changes to his or her coverage elections. The effective date of coverage for the new elections is the first day of the month following receipt by TRS-Care of the application requesting the change in coverage.

(c) Regardless of the date a TRS member submits his application for retirement, if a TRS member enrolls in coverage during his initial enrollment period as described in §41.1 of this title, the TRS member may defer the effective date of coverage described in subsection (a) of this section for himself and his eligible dependents to the first day of any of the three (3) months immediately following the month after the effective date of retirement. This deferment period runs concurrent with, and does not extend, the enrollment period as described in §41.1 of this title. In no event may a TRS member defer the effective date of TRS-Care coverage to a date prior to the date upon which TRS-Care receives the application for coverage from the TRS member.

(d) The effective date of coverage for a surviving spouse or for a surviving dependent child is the first day of his or her eligibility if TRS-Care receives an application within the initial enrollment period as described in §41.1 of this title and the deceased participant had the surviving spouse or the surviving dependent child enrolled in TRS-Care before the participant died.

(e) If the surviving spouse or the surviving dependent child was not enrolled in TRS-Care immediately preceding his or her becoming eligible for coverage, the effective date of coverage will be, at the election of the surviving spouse or the surviving dependent child, either the first day of the month following:

(1) TRS-Care's receipt of an application during the initial enrollment period as described in §41.1 of this title; or

(2) the month of the death of the deceased TRS service or disability retiree or deceased active TRS member, provided TRS-Care receives an application during the initial enrollment period as described in §41.1 of this title.

(f) The effective date of coverage for an eligible dependent who is enrolled under a retiree's or surviving spouse's TRS-Care coverage during the initial enrollment period is the same date as the retiree or surviving spouse's effective date of coverage unless the dependent is enrolled after the retiree's effective retirement date and after the retiree has enrolled but within the initial enrollment period, in which case the dependent's

effective date of coverage will be the first day of the month following TRS-Care's receipt of the application to enroll the dependent.

(g) The ~~effective date of coverage for a special enrollment event is determined as follows:~~

~~(1) For a special enrollment event that occurs on or after September 1, 2011, the effective date of coverage for an eligible individual who is enrolled in TRS-Care as a result of a special enrollment event, as described in §41.2(b)(1) of this chapter (relating to Additional Enrollment Opportunities), is the date specified under the provisions of the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191, 110 Stat. 1936 (1996)).~~

~~(2) For a special enrollment event that occurs on or before August 31, 2011, the effective date of coverage for an eligible individual who is enrolled under a retiree's or surviving spouse's TRS-Care coverage as a result of a special enrollment event, as described in and limited by §41.2(b)(2) of this chapter, is the date specified under the provisions of the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191, 110 Stat. 1936 (1996)).~~

(h) The effective date of coverage for a retiree, a surviving spouse, and an eligible dependent described in §41.2(a)(2) or (3) of this title who submit an application within the time period described by §41.2(a)(8) of this title is:

(1) the first day of the month following the retiree's or surviving spouse's 65th birthday if the application for coverage is received by TRS-Care on or before the retiree's or surviving spouse's 65th birthday; or

(2) the first day of the month following the receipt of the application by TRS-Care if the application is received after the retiree's or surviving spouse's 65th birthday but within the enrollment period.

(i) Except as provided in subsections (l), (m), and (n) of this section, the effective date of changes in coverage due to the acquisition of Medicare is the first of the month following the date of TRS-Care's receipt of a copy of the participant's or dependent's Medicare card.

(j) Except as provided in subsections (l), (m), and (n) of this section, the effective date of reduction in coverage shall be the first day of the month following TRS-Care's receipt of a signed request for reduced coverage.

(k) A retiree, surviving spouse, or surviving dependent child may cancel any coverage by submitting the appropriate cancellation notice to TRS-Care. Cancellations will be effective on:

(1) the first day of the month following the date printed on the notice of cancellation form ("notice date") sent to the retiree at the retiree's last known address, as shown in the TRS-Care records, if TRS-Care receives the completed notice of cancellation within fourteen days of the notice date; or

(2) the first day of the month following TRS-Care's receipt of the retiree's completed notice of cancellation form if the form is received more than fourteen calendar days after the notice date; or

(3) the first day of the month following TRS-Care's receipt of a written request to cancel coverage from a surviving spouse or from or on behalf of a surviving dependent child.

(l) Where a participant who has Medicare Part A coverage incorrectly enrolls in an insurance coverage option that provides for coverage without corresponding Medicare Part A coverage and payment is made by Medicare and TRS-Care in a manner that violates the provisions of Chapter 1575, Insurance Code, which requires TRS-Care to be secondary to Medicare, TRS may seek the recovery of funds paid in violation of Chapter 1575 and may make the effective date of the correct coverage retroactive to the first day of the earliest month for which recovery of such overpaid funds is possible under Medicare rules.

(m) Where a participant who has Medicare Part A coverage incorrectly enrolls in a TRS-Care coverage option that provides for coverage without corresponding Medicare Part A [coverage](#) and there is no claim made upon TRS-Care or the legitimate claim is less than the amount of overpaid contributions, TRS-Care may refund or credit the amount due to the participant and may make the effective date of the correct coverage retroactive to when the participant was first enrolled in both Medicare and TRS-Care to a maximum retroactive period of twelve months, including the month in which proof of Medicare Part A [coverage](#) is received by TRS-Care.

(n) Upon TRS-Care's discovery that a participant does not have Medicare Part A coverage and is incorrectly enrolled in a TRS-Care coverage option that requires Medicare Part A coverage, TRS-Care will contact the participant and advise the participant that the cost of coverage and the coverage will be adjusted prospectively effective the first day of the next month unless a copy of a Medicare card showing [Medicare](#) Part A coverage is received prior to that date. Claims will be paid based upon the coverage in effect at the time the services were provided. Any claims already paid as if [Medicare](#) Part A were in effect will not be adjusted.

Tab 3

August 30, 2012

MEMORANDUM

TO: Board of Trustees

FROM: Rebecca Merrill

TRS Board Bylaws Subsection 3.1.5(c) provides that the Policy Committee is to adopt and follow a plan of review for each fiscal year to ensure that all written TRS Board policies are reviewed periodically. To accomplish this requirement, the committee has adopted the Policy Review Schedule (“Schedule”), which provides for the regular review of all written board policies and is to be adopted every September. Included in your materials are a “marked” and a “clean” copy of the Schedule. The “marked” copy shows any changes from the last adoption of the schedule, and the “clean” copy is the version staff is proposing for adoption at the committee meeting.

I would like to call your attention to a few proposed changes. First, please note that staff proposes amending the Schedule to review the Performance Incentive Pay Plan, the Investment Policy Statement, and the TRS-477 every two years. Adopting a biennial review for these items on the schedule does not prohibit the Board from taking up these, or any other items on the Schedule, before the adopted review date. It is within the Board’s discretion to take up and review any policy item earlier than the adopted deadline.

Additionally, in December 2011, the Board adopted the Board of Trustees Ethics Policy and the Trustee Position Description. The adoption of these policies superseded the former Trustee Governance and Ethics Policy and its associated forms. Accordingly, staff removed the Ethics Compliance Statement for Trustees and the Disciplinary Action Disclosure Statement from the policy review schedule.

Finally, the Schedule is only adopted at the Policy Committee level. Therefore, at the September meeting, the Policy Committee will consider updating the Schedule but will not make a recommendation on the matter to the full Board.

**TEACHER RETIREMENT SYSTEM OF TEXAS
POLICIES AND GUIDELINES
POLICY REVIEW SCHEDULE**

APPROVED BY THE POLICY COMMITTEE SEPTEMBER ~~15, 2011~~ 13, 2012

BOARD POLICIES	STAFF SPONSOR	APPROXIMATE INTERVAL BETWEEN COMPREHENSIVE REVIEWS	DATE OF LAST POLICY COMMITTEE COMPREHENSIVE REVIEW ¹	DATE TO BEGIN NEXT REVIEW ²	REQUIRED APPROVAL
ADMINISTRATIVE					
Rules of the Board of Trustees – Rule Review	Legal; Finance; Benefits	4 years ³	Chapter 53: March 2010 ⁴ Chapters 21-51: December 2010 ⁵	Chapter 53: June 2013 ⁶ Chapters 21-51: April 2014 ⁷	Board

¹ Reviews scheduled or rescheduled to begin and to end at the meeting when the current Policy Review Schedule is approved are assumed to have been completed at that meeting, so that date is shown in this column, "Date of Last Policy Committee Comprehensive Review."

² Initial review and discussion of the applicable policy occurs at the Board committee level on or about the date listed. Reviews may continue throughout one or more subsequent meetings. The next review is scheduled for the nearest next quarterly meeting, when the Policy Committee would normally meet, if the review cycle falls between quarterly meetings.

³ Section 2001.039, Gov't Code, requires a comprehensive rule review every 4 years.

⁴ The Chapter Review Date under *Texas Register* rule 1 TAC § 91.74(b) for Chapter 53 of TRS' rules is March 4, 2010, the date TRS filed the adopted review notice stating that the review of the chapter was complete. Accordingly, the next Adopted Review notice for Chapter 53 must be filed by March 3, 2014. (Under § 1.11(c) of S.B. 178 (76th Leg., 1999), as construed by *Texas Register* rule 1 TAC § 91.74(b), the "effective date" of an initially reviewed existing rule in Chapter 53 is September 4, 2009, the date the proposed review notice was published in the *Texas Register* (34 TexReg 6127). See Act of May 27, 1999, 76th Leg., R.S., S.B. 178, ch. 1499, § 1.11(c), sec. 2001.039, 1999 Tex. Gen. Laws 5164, 5167. The existing rules in Chapter 53 that were initially reviewed under the review that began September 4, 2009 are §§ 53.15-53.19.) During the review of Chapter 53, new rule § 53.20 was adopted to be effective October 29, 2009 (34 TexReg 7340).

⁵ The Chapter Review Date for Chapters 21-51 of TRS' rules is December 28, 2010. Accordingly, the next Adopted Review notice for Chapters 21-51 must be filed by December 27, 2014. (The "effective date" of an initially reviewed existing rule in Chapters 21-51 under § 1.11(c) of S.B. 178 (76th Leg., 1999) is May

BOARD POLICIES	STAFF SPONSOR	APPROXIMATE INTERVAL BETWEEN COMPREHENSIVE REVIEWS	DATE OF LAST POLICY COMMITTEE COMPREHENSIVE REVIEW¹	DATE TO BEGIN NEXT REVIEW²	REQUIRED APPROVAL
Mission Statement	Executive Director; Legal	2 years	February 2010 <u>December 2011</u>	April 2012 <u>November 2013</u>	Board
ADMINISTRATIVE (CONT'D)					
At Will Employment	Human Resources; Legal	5 years	September 2010	September 2015	Board
Authority to Approve Benefit and Refund Payments	Benefits; Legal	5 years	June 2010	June 2015	Board
Authorization to Approve and Sign Vouchers	Financial; Legal	3 years	April 2010	April 2013	Board
Performance Incentive Pay Plan	Executive Director; Investments; Human Resources; Legal	3 -2 years	September 2010 <u>2012</u>	September 2013 <u>2014</u>	Board

14, 2010, the publication date of the proposed review notice for Chapters 21-51 (35 TexReg 3862).) During the review of Chapters 21-51, the following new rules were adopted to be effective April 1, 2011: §§ 25.77 (36 TexReg 1833), 29.7 (36 TexReg 1993), 29.81 (36 TexReg 1996), and 29.82 (36 TexReg 1996).

⁶ The date to begin the next rule review of Chapter 53 based on the lead time needed to timely complete the review.

⁷ The date to begin the next rule review of Chapters 21-51 based on the lead time needed to timely complete the review.

BOARD POLICIES	STAFF SPONSOR	APPROXIMATE INTERVAL BETWEEN COMPREHENSIVE REVIEWS	DATE OF LAST POLICY COMMITTEE COMPREHENSIVE REVIEW¹	DATE TO BEGIN NEXT REVIEW²	REQUIRED APPROVAL
Policy on Negotiated Rulemaking and Alternative Dispute Resolution	Executive Director; Legal	5 years	June 2008	June 2013	Board
<u>Resolution Regarding Correction of Errors and Other Edits</u>	<u>Executive Director</u>	<u>5 years</u>	<u>February 2012</u>	<u>April 2017</u>	<u>Board</u>

BOARD POLICIES	STAFF SPONSOR	APPROXIMATE INTERVAL BETWEEN COMPREHENSIVE REVIEWS	DATE OF LAST POLICY COMMITTEE COMPREHENSIVE REVIEW ¹	DATE TO BEGIN NEXT REVIEW ²	REQUIRED APPROVAL
BOARD GOVERNANCE & ETHICS					
Bylaws of the Board of Trustees	Legal	4 years	September 2010	September 2014	Board
Trustee Governance and Ethics Policy <u>and Position Description</u>	Legal	4 years	December 2011	December 2015	Board
Ethics Compliance Statement for Trustees (for use with the Trustee Governance and Ethics Policy)	Legal	4 years	December 2011	December 2015	Board
Disciplinary Action Disclosure Statement (for use with the Trustee Governance and Ethics Policy)	Legal	4 years	December 2011	December 2015	Board
Trustees External Communication Policy	Communications	5 years	April 2009 ⁸	April 2014	Board
Board Training Policy	Executive Director; Human Resources	4 years	December 2010 ⁹	December 2014	Board

⁸ The Trustees External Communication Policy was first adopted April 2009.

⁹ This Board Training Policy was first adopted December 2010.

BOARD POLICIES	STAFF SPONSOR	APPROXIMATE INTERVAL BETWEEN COMPREHENSIVE REVIEWS	DATE OF LAST POLICY COMMITTEE COMPREHENSIVE REVIEW¹	DATE TO BEGIN NEXT REVIEW²	REQUIRED APPROVAL
EMPLOYEE & VENDOR ETHICS					
Employee Ethics Policy	Legal	4 years	October 2009 ¹⁰	December 2013	Board
Conflict of Interest Disclosure Statement (for use with the Employee Ethics Policy)	Legal	4 years	October 2009	December 2013	Board
Ethics Compliance Statement for Employees (for use with the Employee Ethics Policy)	Legal	4 years	October 2009	December 2013	Board
Disciplinary Action Disclosure Statement (for use with the Employee Ethics Policy)	Legal	4 years	October 2009	December 2013	Board
Designation of Key Employees	Executive Director	2 years	April 2010-2012	April 2012-2014	Board
Code of Ethics for Contractors	Legal	4 years	September 2010	September 2014	Board
Contractor Annual Ethics Compliance Statement	Legal	4 years	September 2010	September 2014	Board
Expenditure Reporting Memorandum	Legal	4 years	September 2010	September 2014	Board

¹⁰ This Employee Ethics policy was first adopted October 2009.

BOARD POLICIES	STAFF SPONSOR	APPROXIMATE INTERVAL BETWEEN COMPREHENSIVE REVIEWS	DATE OF LAST POLICY COMMITTEE COMPREHENSIVE REVIEW¹	DATE TO BEGIN NEXT REVIEW²	REQUIRED APPROVAL
Expenditure Reporting Form for Contractors	Legal	4 years	September 2010	September 2014	Board
Disclosure Statement for Brokers and Financial Advisors and Financial Providers	Legal	4 years	September 2010	September 2014	Board
INVESTMENTS					
Investment Policy Statement	Investments	3 <u>2</u> years	September 2010 <u>2012</u>	September 2013 <u>2014</u> ⁺⁺	Board
Soft Dollar Policy	Investments	3 years	December 2010	December 2013	Board
Proxy Voting Policy	Investments	3 years	September 2010	September 2013	Board
Securities Lending Policy	Financial; Investments	3 years	December 2010	December 2013	Board
Investment Authority Resolution (TRS 477)	Financial; Investments	2 years	December 2010 <u>2012</u>	December 2012 <u>2014</u>	Board

⁺⁺ ~~The Policy Committee (at the September 2011 committee meeting) expressed a preference to review the IPS in Dec. 2012 at the same time as the TRS 477.~~

**TEACHER RETIREMENT SYSTEM OF TEXAS
POLICIES AND GUIDELINES
POLICY REVIEW SCHEDULE
APPROVED BY THE POLICY COMMITTEE SEPTEMBER 13, 2012**

BOARD POLICIES	STAFF SPONSOR	APPROXIMATE INTERVAL BETWEEN COMPREHENSIVE REVIEWS	DATE OF LAST POLICY COMMITTEE COMPREHENSIVE REVIEW¹	DATE TO BEGIN NEXT REVIEW²	REQUIRED APPROVAL
ADMINISTRATIVE					
Rules of the Board of Trustees – Rule Review	Legal; Finance; Benefits	4 years ³	Chapter 53: March 2010 ⁴ Chapters 21-51: December 2010 ⁵	Chapter 53: June 2013 ⁶ Chapters 21-51: April 2014 ⁷	Board

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² Initial review and discussion of the applicable policy occurs at the Board committee level on or about the date listed. Reviews may continue throughout one or more subsequent meetings. The next review is scheduled for the nearest next quarterly meeting, when the Policy Committee would normally meet, if the review cycle falls between quarterly meetings.

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⁴ The Chapter Review Date under *Texas Register* rule 1 TAC § 91.74(b) for Chapter 53 of TRS' rules is March 4, 2010, the date TRS filed the adopted review notice stating that the review of the chapter was complete. Accordingly, the next Adopted Review notice for Chapter 53 must be filed by March 3, 2014. (Under § 1.11(c) of S.B. 178 (76th Leg., 1999), as construed by *Texas Register* rule 1 TAC § 91.74(b), the "effective date" of an initially reviewed existing rule in Chapter 53 is September 4, 2009, the date the proposed review notice was published in the *Texas Register* (34 TexReg 6127). See Act of May 27, 1999, 76th Leg., R.S., S.B. 178, ch. 1499, § 1.11(c), sec. 2001.039, 1999 Tex. Gen. Laws 5164, 5167. The existing rules in Chapter 53 that were initially reviewed under the review that began September 4, 2009 are §§ 53.15-53.19.) During the review of Chapter 53, new rule § 53.20 was adopted to be effective October 29, 2009 (34 TexReg 7340).

⁵ The Chapter Review Date for Chapters 21-51 of TRS' rules is December 28, 2010. Accordingly, the next Adopted Review notice for Chapters 21-51 must be filed by December 27, 2014. (The "effective date" of an initially reviewed existing rule in Chapters 21-51 under § 1.11(c) of S.B. 178 (76th Leg., 1999) is May

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Mission Statement	Executive Director; Legal	2 years	December 2011	November 2013	Board
ADMINISTRATIVE (CONT'D)					
At Will Employment	Human Resources; Legal	5 years	September 2010	September 2015	Board
Authority to Approve Benefit and Refund Payments	Benefits; Legal	5 years	June 2010	June 2015	Board
Authorization to Approve and Sign Vouchers	Financial; Legal	3 years	April 2010	April 2013	Board
Performance Incentive Pay Plan	Executive Director; Investments; Human Resources; Legal	2 years	September 2012	September 2014	Board

14, 2010, the publication date of the proposed review notice for Chapters 21-51 (35 TexReg 3862).) During the review of Chapters 21-51, the following new rules were adopted to be effective April 1, 2011: §§ 25.77 (36 TexReg 1833), 29.7 (36 TexReg 1993), 29.81 (36 TexReg 1996), and 29.82 (36 TexReg 1996).

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Policy on Negotiated Rulemaking and Alternative Dispute Resolution	Executive Director; Legal	5 years	June 2008	June 2013	Board
Resolution Regarding Correction of Errors and Other Edits	Executive Director	5 years	February 2012	April 2017	Board
BOARD GOVERNANCE & ETHICS					
Bylaws of the Board of Trustees	Legal	4 years	September 2010	September 2014	Board
Trustee Ethics Policy and Position Description	Legal	4 years	December 2011	December 2015	Board
Trustees External Communication Policy	Communica- tions	5 years	April 2009 ⁸	April 2014	Board
Board Training Policy	Executive Director; Human Resources	4 years	December 2010 ⁹	December 2014	Board

⁸ The Trustees External Communication Policy was first adopted April 2009.

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Employee Ethics Policy	Legal	4 years	October 2009 ¹⁰	December 2013	Board
Conflict of Interest Disclosure Statement (for use with the Employee Ethics Policy)	Legal	4 years	October 2009	December 2013	Board
Ethics Compliance Statement for Employees (for use with the Employee Ethics Policy)	Legal	4 years	October 2009	December 2013	Board
Disciplinary Action Disclosure Statement (for use with the Employee Ethics Policy)	Legal	4 years	October 2009	December 2013	Board
Designation of Key Employees	Executive Director	2 years	April 2012	April 2014	Board
Code of Ethics for Contractors	Legal	4 years	September 2010	September 2014	Board
Contractor Annual Ethics Compliance Statement	Legal	4 years	September 2010	September 2014	Board

⁹ This Board Training Policy was first adopted December 2010.

¹⁰ This Employee Ethics policy was first adopted October 2009.

BOARD POLICIES	STAFF SPONSOR	APPROXIMATE INTERVAL BETWEEN COMPREHENSIVE REVIEWS	DATE OF LAST POLICY COMMITTEE COMPREHENSIVE REVIEW¹	DATE TO BEGIN NEXT REVIEW²	REQUIRED APPROVAL
Expenditure Reporting Memorandum	Legal	4 years	September 2010	September 2014	Board
Expenditure Reporting Form for Contractors	Legal	4 years	September 2010	September 2014	Board
Disclosure Statement for Brokers and Financial Advisors and Financial Providers	Legal	4 years	September 2010	September 2014	Board
INVESTMENTS					
Investment Policy Statement	Investments	2 years	September 2012	September 2014	Board
Soft Dollar Policy	Investments	3 years	December 2010	December 2013	Board
Proxy Voting Policy	Investments	3 years	September 2010	September 2013	Board
Securities Lending Policy	Financial; Investments	3 years	December 2010	December 2013	Board
Investment Authority Resolution (TRS 477)	Financial; Investments	2 years	December 2012	December 2014	Board

Tab 4



Investment Policy Modifications History

Brian Guthrie
Jase Auby
September 2012

Investment Policy Statement Modifications History

- The Investment Policy Statement was substantially re-written during a series of Board meetings in 2007
- Since 2007, modifications have been proposed to the Policy Committee each year
 - In addition, each year Hewitt EnnisKnupp and Dr. Keith Brown have written memoranda analyzing the proposed modifications
- This presentation summarizes the modifications made by category and also attaches a list of the most significant modifications made each year
 - The attached list will be updated and maintained in the future as additional modifications are proposed and implemented

Investment Policy Statement Modification Types

- Investment Policy Statement modifications are typically in one of the following categories:
 - Asset Allocation
 - Including transition to accommodate ramp-up of External Private Markets
 - Delegated Authority
 - 2007 Statutory Changes
 - Derivatives
 - External Managers
 - Hedge Funds
 - Benchmark
 - Board Reporting
 - Other

Asset Allocation

Asset Class	Adoption Date					
	2007	2008	2009	2010	2011	2012
US Large Cap	30%	20%	8%	20%	18%	18%
US Small Cap	5%	5%	5%	5%	2%	2%
World Equity	--	15%	33%	--	--	--
Non-US Developed	15%	8%		15%	15%	15%
Emerging Markets	5%	5%	6%	10%	10%	10%
Directional HF	--	--	--	--	5%	5%
Private Equity	5%	7%	8%	10%	12%	12%
Long UST	10%	12%	15%	15%	13%	13%
Stable Value HF	4%	--	--	--	4%	4%
Intermediate UST	5%	3%	--	--	--	--
Absolute Return	--	4%	4%	4%	0%	0%
Cash	1%	1%	1%	1%	1%	1%
Global Inflation Linked	10%	5%	--	--	--	--
US TIPS	--	5%	8%	8%	5%	5%
Real Assets	5%	6%	8%	8%	13%	15%
Commodities	3%	2%	2%	2%	0%	0%
REITS	2%	2%	2%	2%	2%	--
Total	100%	100%	100%	100%	100%	100%

- New Asset Allocation established (2007)
- Portfolio transition process introduced and modified (ramp-up of Private Equity and Real Assets) (2007-2012)
- Credit added to Absolute Return (2008)
- Use of World Equity Benchmark (combination of USLC, Non-US Developed and EM benchmarks) (2008, 2009, 2010)
- Removal of Global Inflation Linked bonds (2009)
- Addition of Directional Hedge Funds (2011)
- Removal of REITS (2012)

Delegated Authority

% of Trust	2006	2007	2008	2009	2010	2011	2012
Internal							
Public Equities	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Fixed Income	(1)	(1)	(1)	(1)	(1)	(1)	(1)
External Long Only							
First Investment	NA	1%	0.5%	0.5%	0.5%	0.5%	0.5%
Follow On	NA	NA	1%	1%	1%	1%	1%
Re-Balancing ⁽²⁾	NA	NA	0.6%	0.6%	0.6%	0.6%	0.6%
Hedge Funds							
First Investment	Board List ⁽³⁾	(1)	0.25%	0.5%	0.5%	0.5%	0.5%
Follow On	NA	NA	1% ⁽⁴⁾	1%	1%	1%	1%
Re-Balancing ⁽²⁾	NA	NA	0.08%	0.08%	0.08%	0.18%	0.18%
Private Equity							
First Investment	\$150 mmm	0.5%	0.25%	0.5%	0.5%	0.5%	0.5%
Follow On	1.5x First Allocation	1%	1% ⁽⁴⁾	1%	1%	1%	1%
Re-Balancing ⁽²⁾	NA	NA	NA	NA	0.20%	0.24%	0.24%
Real Assets							
First Investment	Board List ⁽⁵⁾	0.5%	0.25%	0.5%	0.5%	0.5%	0.5%
Follow On	\$150 mm	1%	1% ⁽⁴⁾	1%	1%	1%	1%
Re-Balancing ⁽²⁾	NA	NA	NA	NA	0.16%	0.26%	0.30%
Emerging Manager	\$100 mm (PE)	⁽⁶⁾	⁽⁶⁾	\$1.3 bn	\$1.65 bn	\$1.65 bn	\$1.65 bn

General Restrictions

- Manager limitations of 3% per investment center
- Manager limitations of 6% of total TRS portfolio
- Advisor must agree with Investment Division recommendation
- All Policy limits (risk/allocation) apply
- IIC Approval required on all external investments
- Board notification required on all external investments

(1) Do not have per investment limits and are instead managed according to overall asset allocation and risk parameters

(2) Re-balancing for each portfolio is 2% of the portfolio per month. Percentages in the table are presented as a % of total Trust. For example, External Public Long Only can be up to 30% of the Trust. Accordingly, 2% of 30% is 0.6% per month.

(3) Board approved the list of managers and there was a maximum limit of 0.5% to any one manager

(4) 2008 policy also had limits on second investments of 0.5%

(5) Board approved the list of managers and there was a maximum limit of 0.75% to any one manager

(6) Same as for non-emerging manager portfolios

Delegated Authority

- Excerpt from September 2008 presentation by the Investment Division to the Board

Investment Division Authority: EnnisKnupp Survey Findings

- The survey showed that the majority of the peers selected by the Board use a system of delegation very similar to what TRS currently employs
- **Investment Authority:** Delegation from the Board to Staff the authority to hire and fire investment managers

Fund	Assets	Authority
CalPERS	\$237b	Yes
CalSTRS	\$170b	Yes
NY Common	\$155b	No
Florida SBA	\$163b	Yes
NY City	\$127b	unavailable
NY State Teachers	\$103b	No
Wisconsin Investment Board	\$94b	Yes
Ohio PERS	\$70b	Yes
New Jersey Division of Investment	\$82b	Yes
Texas ERS	\$27b	No
UTIMCO	\$23b	Yes

Delegates Authority to Staff	Comments on Level of Authority
<ul style="list-style-type: none"> ▪ CalSTRS 	CIO retains full authority
<ul style="list-style-type: none"> ▪ CalPERS 	Staff has full authority
<ul style="list-style-type: none"> ▪ New Jersey 	Policy only referenced alts. Staff granted full authority.
<ul style="list-style-type: none"> ▪ UTIMCO 	Staff operates with limits similar to TRS
<ul style="list-style-type: none"> ▪ Florida SBA 	Staff has full authority; however, Board recently intervened.
<ul style="list-style-type: none"> ▪ Ohio PERS 	Staff has full authority; reports out to Board once search is concluded
<ul style="list-style-type: none"> ▪ Wisconsin Investment Board 	Staff has full authority

Delegated Authority

- Delegation of external Investment Authority to the Investment Division established (2007)
 - Delegate rebalancing authority to External Public Markets (2008)
 - Increase External Private Markets authority to be the same as External Public Markets authority (2009)
 - Delegate rebalancing authority to External Private Markets (2010)
 - Consolidate redundant descriptions of all delegated external manager authority to one place (Appendix B) and provide example calculations (2011)
 - Increase wait time from three months to six months for follow-on investments (2012)
 - Clarify Special Investment Opportunity authority (add the Chairman of the Board, only one investment allowed prior to Board re-authorization) (2012)
- IIC Established (2008)
 - Create Deputy CIO position (2008) and extend Deputy CIO authority to match CIO authority in certain instances (2010)
 - Add process to add and remove IIC members (2010)
 - Add Executive Director to the IIC (2011)

2007 Statutory Changes: Derivatives

- Derivatives authorized by the Legislature in 2007
 - Derivatives and overlay policy and guidelines established (2007)
 - Removal of notional cap and increase tenor limits (2008)
 - Allow short-dated currency forwards to be transacted without an ISDA agreement (2010)
 - Allow derivatives to reference physical commodities if cash settled (2010)
 - Clarify that derivatives overlay authority applies to individual portfolios as well as total fund (2011)
 - Adjust currency derivatives limits (limits do not apply to hedging activities and hedging an investment to align with its benchmark) (2011)
 - Statutory sunset date extended from 2012 to 2019 (2011)
 - Derivative tenor limits removed (2012)
 - Add centrally cleared derivatives (2012)

2007 Statutory Changes: External Managers and Hedge Funds

- External managers allocation up to 30% of the Trust authorized by the Legislature in 2007
 - External Public Markets policy and guidelines established (2007)
 - Statutory sunset date extended from 2012 to 2019 (2011)

- Hedge Funds limited to 5% by the Legislature in 2007
 - Add detailed Hedge Fund definition (2008)
 - Add 5% Directional Hedge Funds (2011)
 - Statutory sunset date extended from 2012 to 2019 (2011)

Benchmark

- Combine certain US Large Cap, Non-US Developed and Emerging Markets portfolios into one benchmark (MSCI All-Country World) (2008, 2009)
- Remove transition benchmark but continue to provide for allocation flexibility given ongoing Real Assets transition (2010)
- Decompose 33% MSCI All-Country World benchmark into its components – US Large Cap, Non-US Developed and Emerging Markets (2010)
 - As a result of the decomposition, there were two USLC benchmarks – remove one and keep the other (2010)
- Changed public equity benchmarks from Russell to MSCI (2009)
- Changed private equity benchmark from Russell to State Street Private Equity Index (2009)
- Changed Global TIPS benchmark to US TIPS (2009)
- Changed all Real Assets benchmarks to NCREIF ODCE (2009)

Board Reporting

- Redesigned Board reporting to reflect new structure with a focus on increased transparency (2007)
 - Investment performance, policy compliance, asset allocation, External Private, External Public, derivatives, risk limits, liquidity, operations
- Add the monthly and quarterly Transparency Reports process (2009)
- Add additional External Private Markets reporting (2009)
- Add policy, questionnaire and reporting on use of placement agents (2009)
- Add reporting on staffing (2010)

Other

- Risk policy established with risk parameters and reporting requirements (2007)
 - Updated the tracking error budget (2008, 2009)
- F/X Policy established with Policy Hedge Ratios set at 0% (2008)
- Liquidity Policy introduced and authorized External Funding Authority (2008)
- Global Best Ideas portfolio established benchmarked to MSCI All Country World (2008)
- Permitted use of REITS and MLPs within Real Assets (2008)
- Introduced Sudan and Iran restrictions (2008) and delegated authority to approve exceptions to the Iran restricted list to the IIC (2011)
- Emerging Managers added to the Policy (2009) with clarifications in 2010 and 2012
- Add Placement Agents policy and questionnaire (2009)
- TRS 477 first attached (2009) and updated (2010, 2011, 2012)
- Allow the IMD to appoint advisors for the External Public, Hedge Fund, Private Equity and Real Assets portfolios with approval of the Board (2010)
- Policy Bands
 - Allow temporary expansion of Policy Bands from +/-5% to +/-10% (2010)
 - Increase Public Equity Policy Band from +/-5% to +/-7% (2011)
- Convert External Private Markets into the Real Assets and Private Equity areas (2012)

Appendix

- Excerpts from past presentations to the Policy Committee as adjusted to reflect the form finally adopted



Memorandum

Teacher Retirement System of Texas

To: Board of Trustees

From: Brian Guthrie
Jase Auby

Date: September 13, 2012

Re: History of the Investment Policy Statement

Listed below are excerpts from presentations from the Investment Division to the Policy Committee of the Board. Each excerpt highlights changes to the Investment Policy Statement that were presented at time of proposal as amended to reflect the final version adopted by the Policy Committee. In the future, we will revise and keep this memorandum up to date each time the Investment Policy Statement is modified.

2012

Changes that will be highlighted to the Committee are in **blue**.

1. **Improve document readability.**
 - a. Add an Executive Summary [Article 1].
 - b. Standardize section labeling [Various].
 - c. Consolidate redundant language [Various].
 - d. Move Placement Agents Addendum [Article 12].
2. **Remove Real Assets Portfolio transition process** [Section 1.6]. Now that the Real Assets portfolio transition is complete, the transition process language is no longer required.
3. **Clarify that the list of Public Markets Authorized Investments is for both internal and external portfolios** [Section 2.2]. The list of Authorized Investments for the Internal Public Markets portfolios is also used by the External Public Markets portfolios. This clarification re-labels the list of Authorized Investments to make this clear.
4. **Adjust document to reflect restructuring of External Private Markets** [Article 3]. The External Private Markets investment area has now been divided into the Private Equity and Real Assets investment areas.
5. **Remove derivatives tenor limits** [Section 8.6].
6. **Add centrally cleared derivatives** [Section 8.8]. Dodd-Frank has mandated the certain OTC derivatives be centrally cleared.
7. **Increase follow-on investment waiting period from three months to six months** [Appendix B]. Increase the waiting period and clarify the existing language describing the authority limits.

8. **Attach revised Authority Resolution (TRS 477)** [Appendix E].
9. **Clarify Special Investment Opportunity authority** [Appendix B]. Clarify the process for determining whether or not an investment can be made in a Special Investment Opportunity.

2011

Changes that were highlighted to the Committee are in **blue**.

1. **Use of New Hedge Fund Authority.** [Section 1.6, p. 6]. Add a 5% allocation to Directional Hedge Funds benchmarked to HFRI Fund of Funds Composite and change Stable Value Hedge Funds benchmark to HFRI Fund of Funds Conservative.
2. **Increase Private Equity.** [Section 1.6, p. 6]. Increase Private Equity from 10% to 12% and fund the allocation from US Large Cap. In addition, widen the “bands” for Global Equity to +/-7% to accommodate the increase in Private Equity size.
3. **Adjust Currency Derivatives Limits.** [Section 7.3, p. 21]. Clarify that the currency derivatives notional limit restrictions apply only to active currency tilts of the portfolio and do not apply as part of the Policy Hedge Ratio passive hedging regime or to uses of currency derivatives to align an investment to its benchmark.
4. **Add Executive Director IIC Authority.** [Section 1.3, p. 4]. Add the Executive Director as a non-voting observer of the IIC with the power to veto any investment if the Executive Director deems a veto to be in TRS’ best interest.
5. **Clarify Opportunities List Reporting to the Board.** [Section 1.7, p. 7]. Conform description of investment opportunities reporting to the Board to match the new Transparency Report method of reporting in which the Board is provided with upcoming IIC agendas and proposed transaction tear sheets.
6. **Clarify Public Equity Limit.** [Section 2.3, p. 11]. Clarify 20% limit on holding equity of a public company.
7. **Delegate Iran Authority to the Investment Division.** [Section 2.3, p. 11]. Delegate the Board’s authority to provide exceptions to the Iran scrutinized list to the IIC.
8. **Clarify Emerging Managers Use of Prudence Letters.** [Section 2.7, p. 14]. Modify prudence letter requirement to reflect the use of sub-managers within the Emerging Managers program.
9. **Clarify Derivatives Overlay Authority.** [Section 7.1, p. 21]. Clarify that derivatives overlay portfolios can be implemented in connection with individual portfolios or investments in addition to the Total Trust level.
10. **Clarify Role of Legal Counsel.** [Section 9.7, p. 27]. Add clarification to the role of Legal Counsel.
11. **Include Health Insurance Programs.** [Article 10, p. 28]. Make clear that the Policy governs the TRS health insurance programs in addition to the pension trust fund.
12. **Incorporate 2011 Statute Changes.** [Various]. Increase the sunset date of the External Managers and Derivatives Authority to 2019 (from 2012) and increase Hedge Fund limit from 5% to 10%.
13. **Clarify IIC Approval Authority.** [Appendix B]. Clarify calculation of IIC Approval Authority and move all approval authority language to Appendix B.

2010

Changes that were highlighted to the Committee are in **blue**.

1. **Operation of the Internal Investment Committee [Section 1.3c]**. Clarification to allow for addition/removal of IIC members
2. **Anticipate Statute Changes [Various Sections]**. Allow (1) sunset provision references to September 1, 2012, (2) 5% limit on Hedge Funds and (3) 30% limit on external management to be automatically revised if the Texas Legislature changes the Government Code.
3. **Policy Benchmark [Section 1.6]**
 - a. Remove the Transition Benchmark from Policy and adopt the Long Term Benchmark with flexibility to accommodate the ongoing Real Assets transition.
 - b. Decompose the 33% allocation to the World Equity benchmark into its three component parts – US Large Cap (14%), Non-US Developed (15%) and Emerging Markets (4%).
 - c. Change the current standalone US Large Cap benchmark to be the same as the US Large Cap component of World Equity.
 - d. Clarify label of Inflation Linked Bonds.
 - e. Allow for Policy Bands to be temporarily expanded from +/-5% to +/-10%.
 - f. Add Bloomberg Tickers.
4. **Derivatives Referencing Commodities [Various Sections]**. Allow derivatives to reference physical commodities if cash settled.
5. **Board Reporting [Section 1.7g]**
 - a. Revise the description of derivatives reporting to match the reporting currently provided to the Board.
 - b. Add additional reporting on staffing of key employees.
6. **Conform Language [Section 2.4]**. Conform language concerning 30% limit on external management to match the similar language in Section 2.8(b).
7. **IMD Advisors [Sections 2.7c, 3.3]**. Allow the Investment Management Division the authority to appoint its advisors to the External Public Markets and Private Markets portfolios with approval of the Board.
8. **Execution Authority [Sections 2.7d, 3.4, Appendix F]**. Update document execution authorities.
9. **Rebalancing Authority [Section 3.4]**. Grant to External Private Markets the same rebalancing authority already granted to External Public Markets in Section 2.7h.
10. **Deputy CIO Authority [Various Sections]**. In certain instances, allow the Deputy CIO similar authority to the CIO.
11. **Exchange-Traded Swap Agreements [Section 7.2]**. In anticipation of a move to exchange trading, allow exchange-traded swap agreements in addition to over-the-counter swap agreements.
12. **Short Dated Currency Forwards [Section 8.4]**. Allow currency forwards to be transacted without an ISDA Master Agreement.
13. **Special Investment Authority [Appendix B]**. Clarify what is meant by “ratify” in the Special Investment Opportunity authority.
14. **Emerging Managers [Appendix D]**
 - a. Change definition of emerging managers to have assets under management of \$2 billion.
 - b. Remove restriction on number of Fund of Funds mandates.
15. **Placement Agents [Placement Agent Addendum]**

- a. Change reporting period to semi-annually.
- b. Clarify the meaning of “registered” when applied to Placement Agents.

2009

A presentation to the Policy Committee together with changes made in session resulted in the following significant changes to the Policy Statement:

1. **Strategic Asset Allocation [Section 1.6].** The Asset Liability Study conducted by Ennis Knupp and internal staff affirmed TRS’ long-term asset allocation. The changes shown in the IPS reflect minor improvements to the implementation of that same long-term strategy. The Investment Division continues to research a regime-based approach dynamic asset allocation. Results of this work will be presented to the Board in the October meeting.
 - a. *Global Equity*– We created a permanent allocation to a global mandate benchmarked to the MSCI All-Country World Index and filled by our current Internal Public Markets portfolio and new global external managers. The Global Equity benchmark we are proposing is identical to the mix of US Large Cap, US Small Cap, Emerging markets and International Developed markets, and Private Equity assets we have currently. These asset classes will continue to be bound with a maximum and minimum dollar allocation and downside risk limits.
 - b. *Stable Value*– We reduced the minimum allocation of US Treasuries to 0% from 10% and increased the maximum allocation on Absolute Return to 20% from 15%. This will allow us to continue to opportunistically invest in the dislocated credit strategies we have discussed with the Board.
 - c. *Real Return*– We combined the Real Estate and Other Real Asset long-term allocation of 10% and 5% into one 15% allocation to Real Assets all benchmarked to NCREIF ODCE. This will allow the Real Asset team more flexibility to allocate asset across all opportunities they oversee. Additionally, we have changed the inflation linked allocation from Global to US; reducing the currency risk the global allocation introduced. Additionally, US Tips provide improved liquidity to the Fund at reduced transaction costs.
2. **Year 3 Transition Policy [Appendix C – since removed].** We proposed a year 3 transition benchmark that mirrors the changes we made to the long-term asset allocation above and moved us closer to our long-term benchmark allocation to the private market assets. Overall, the transition to our new strategic asset allocation is 80% complete. The majority of the remaining transition is focused in our allocation to Real Assets as this represented the largest shift from our prior strategic asset allocation.
3. **Emerging Manager Program [New Article 6].** TRS reinforces our commitment to small and emerging managers by embedding the Emerging Manager program in the IPS. The extensive achievements the Fund has made in its Private Equity emerging manager program, including being named the Public Plan of the Year by Opal Financial Group will be augmented by new strategies in the Real Asset and public equity markets. Additionally, Stuart Bernstein, chief of staff to the CIO, has been named to lead the Emerging Manager program across the Fund.
4. **Tracking Error [Appendix A].** We updated the tracking error appendix of the IPS to mirror our actual management of the Fund’s active risk budget. Namely, other than IPMs Global Best Idea’s portfolio, all internally managed portfolios (Treasuries, Tips and all equities portfolios overseen by SRRM held in transition for external managers) need no targeted or neutral tracking error as they are run passively. Additionally, the work we have done over the last year certifying and hiring external US managers highlights the need for higher tracking error neutral targets than

first anticipated. For instance, the US small cap program will focus on engaging activist managers given the risk adjusted returns of core small cap managers compared to the passive alternatives such as swaps or lendable exchange traded funds. Total Fund's active risk will continue to be bounded by a tracking error and downside risk limit.

5. **Investment Staff Approval Authority [Appendix B].** We updated Appendix B to standardize staff approval authority across the division and added clarifying language regarding the calculation of the limits. Total potential exposure to any one manager organization will continue to be limited to 6% across the Total Fund.
6. **Placement Agents.** The board added a placement agent policy and questionnaire to the investment policy.

2008

A presentation to the Policy Committee together with changes made in session resulted in the following significant changes to the Policy Statement:

1. **Decision Structure and Delegation to Investment Division.**
 - a. Internal Investment Committee (IIC) and Transparency. IIC established and comprised of senior management. Purpose determined, prudent processes established, communication/transparency developed. Deputy CIO position established.
 - b. Delegation of Investment Authority. Appendix C added to IPS to specify staff authority and concentration limits, with an exception for Special Investment Opportunities.
2. **Modifications to Strategic Allocation**
 - a. Credit Strategies to Absolute Return Category, Place 4% allocation to hedge funds into a broader category (Absolute Return) with various non-hedge fund credit investments.
 - b. Creation of a Value Added Real Estate benchmark.
3. **Transition Benchmark** - Second year transition benchmark introduced and changes to mirror modification to Strategic Allocation.
4. **F/X (Currency) Policy.** Proposal to implement an F/X policy with policy hedge ratios initially set to 0%.
5. **Liquidity Policy** introduced and authorized External Funding Authority.
6. **Modifications to Tracking Error Limits.**
7. **Global Best Ideas.** Consolidation of current internal equity portfolios.
8. **Changes to the Board Reporting section 1.7.**
9. **Real Assets.** Permitted use of REITs and MLPs.
10. **Changes to Derivatives Policy.** Removal of notional cap (20%) and increase of tenor limit.
11. **Sudan/Iran.** Introduced policy language.
12. **Leverage.** All discussion moved to a central location, all uses remain in accordance with the Fund's asset allocation and risk parameters

2007

During 2007, the IMD presented a new Investment Policy Statement to implement changes the Board and Investment Division had discussed during prior meetings, including the Board's education sessions in Fredericksburg:

1. **New Legal Investment Authority.** 2007 Legislature authorizes derivatives and 30% delegation to external managers and limits hedge funds to 5% of the portfolio.
2. **New Asset Allocation.** Introduced a new asset allocation strategy, policy ranges and benchmarks.
3. **Special Consultant.** Investment Training and Consulting Institute (Barbara Davison) advised TRS and the board about new policy provisions for derivatives and delegation to external managers.
4. **Functional Areas.** Reorganized the document to reflect new functional roles within the investment organization (i.e., internally managed portfolio, externally managed portfolio, private markets portfolio, overlay portfolio, derivatives, and risk management/oversight).
5. **Derivatives Policy.** Added a new section to the policy addressing uses and authority for derivatives to implement new legal authority in statutes. Investment Training and Consulting Institute advised TRS about the policy.
6. **Risk Management and Reporting.** Introduced detailed risk parameters and reporting requirements.
7. **External Management.** Introduced operating guidelines for the newly created externally managed portfolio to implement new legal delegation authority in statutes. Investment Division received discretion to allocate up to 1% of the TRS fund to a single external manager, and up to 30% of the TRS fund to external managers.
8. **Investment Authority for Private Investments.** Set forth new guidelines that give staff greater authority to approve private equity, real estate, external manager, and hedge fund investments. Investment Division received authority to invest up to 0.5% of the TRS fund in new private equity and real estate opportunities, and up to 1.0% in follow-on opportunities. Larger investments required Board authorization. Staff had authority to invest up to 5% of the TRS fund in hedge funds.
9. **External Advisors and Consultants.** The IPS delegates authority to engage external advisors and consultants to the investment staff “subject to the approval of the board.”
10. **Advisor Concurrence Requirement Modified.** If the staff and the consultant do not agree, a private investment opportunity can be presented to the Private Markets Committee and the Board. Before this change, non-concurrence vetoed a proposed investment. The policy also permitted advisors’ work product to address only the prudence of an investment, as opposed to recommending it.
11. **Glossary.** Created a separate glossary document to clarify numerous terms within the document.

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Proposed Modifications to Investment Policy

Jase Auby
Chief Risk Officer
September 2012

Agenda

- The Investment Management Division (“IMD”) is today proposing modifications to the Investment Policy Statement (“IPS”) to the Policy Committee
- This presentation highlights the key modifications and provides a full list of the recommended modifications
 - Compared to recent years, this year’s amendment process has resulted in a relatively small number of recommended modifications
 - Since the July presentation on interim progress to the Policy Committee, three new modifications have been added to the initial list of six
- Additional items enclosed for your review and reference are:
 1. Memorandum from Hewitt EnnisKnupp
 2. Memorandum from Dr. Keith Brown
 3. Revised IPS (marked copy)
 4. Revised IPS (clean copy)
 5. Board Resolution to amend the IPS

Proposed Modifications

- The IMD proposes nine modifications to the IPS
- Five of the modifications are **highlighted** and presented with further discussion herein

Modification Number	Description
1	Improve document readability <ol style="list-style-type: none">Add an Executive SummaryStandardize section labelingConsolidate redundant languageMove Placement Agents Addendum
2	Remove Real Assets Portfolio transition process
3	Clarify that the list of Public Markets Authorized Investments is for both internal and external portfolios
4	Adjust document to reflect restructuring of External Private Markets
5	Remove derivatives tenor limits
6 *	Add centrally cleared derivatives
7	Increase follow-on investment waiting period from three months to six months
8 *	Attach revised Authority Resolution (TRS 477)
9 *	Clarify Special Investment Opportunity authority

* Modifications six, eight and nine are newly added since the July 2012 interim report to the Policy Committee

Modification 2

Remove Real Assets Portfolio Transition Process

Background Information

- The Real Assets funding transition process is now complete as the Real Assets portfolio is expected to be fully funded at 15% in 2013

Proposal

- This proposal removes two Real Assets transition items that are no longer required:
 1. The process that progressively raises the real assets portfolio allocation as it becomes fully funded
 - This process works by automatically lowering the TIPS, Commodities and REITs allocations as Real Assets funds up to 15%
 2. The temporary passive REITs allocation which the transition process has now lowered to a 0% allocation

Reviewed by:

- | | |
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| <input checked="" type="checkbox"/> HEK | <input checked="" type="checkbox"/> Audit |
| <input checked="" type="checkbox"/> Keith Brown | <input checked="" type="checkbox"/> Legal |

Modification 5

Remove Derivatives Tenor Limits

Background Information

- The 5 year tenor limit on over-the-counter (OTC) derivatives was written into the IPS in 2008 at inception of the Trust's use of OTC derivatives
 - Tenor limits are atypical in most investment policies
 - The five year tenor limit was initially implemented to appropriately reflect that the pending implementation was in its early stages and unproven at TRS
 - At that time, neither IMD's risk management function nor the Board's Risk Management Committee were fully formed
- The IMD's risk controls and other management processes have since progressed beyond the need for a simple tenor limit
 - The usage of derivatives has now been successfully implemented at TRS for four years and the IMD has exhibited sound and prudent risk management and monitoring
 - Risk for derivatives is managed systematically as a part of the overall risk management process for the Trust
 - Use of derivatives is regularly reported to the Risk Committee of the Board
 - Trust derivatives were the subject of an internal audit in 2010 and an independent fiduciary review in 2011 and no significant weaknesses were identified

Reviewed by:

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| <input checked="" type="checkbox"/> Keith Brown | <input checked="" type="checkbox"/> Legal |

Modification 5 (continued)

Remove Derivatives Tenor Limits

Background Information (continued)

- The IMD needs the ability to access the most liquid portion of the OTC derivatives markets, which can extend beyond the current five-year tenor limit

Proposal

- Remove derivatives tenor limits

Modification 6

Add Centrally Cleared Derivatives

Background Information

- The Trust currently uses two types of derivatives contracts:
 1. OTC contracts between TRS and a counterparty executed using International Swaps and Derivatives Association (“ISDA”) documentation and
 2. Exchange-traded contracts executed using agreements with futures commission merchants who engage futures exchanges on the Trust’s behalf
- The Dodd-Frank Wall Street Reform and Consumer Protection Act mandates that certain types of OTC contracts be centrally cleared using a central counterparty (a “CCP”)
 - As a result, the covered OTC derivatives will be executed using newly created clearing systems that are similar to the existing futures exchange systems
- The IMD supports the Dodd-Frank central clearing mandate and anticipates that it will:
 - Reduce counterparty risk
 - Increase liquidity
 - Increase transparency

Proposal

- Add centrally cleared derivatives

Reviewed by:

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| <input checked="" type="checkbox"/> Keith Brown | <input checked="" type="checkbox"/> Legal |

Modification 7

Increase Follow-on Investment Waiting Period from Three Months to Six Months

Background Information

- The IMD is restricted to 0.5% invested in an initial investment and 1.0% for each follow-on investment

Proposal

- Increase the existing waiting period between investments from three months to six months
- Clarify the language that specifies that any investments occurring within six months after a prior investment must be considered to be part of that prior investment

Example

- If an initial investment was 0.2% and two months later a follow-on investment is 0.4%, then the initial test would need to be recalculated and the resulting 0.6% would exceed the 0.5% threshold
- The IMD would either need to obtain Board approval for the 0.4% follow-on investment or would need to make a follow-on investment of 0.3% or less

Reviewed by:

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| <input checked="" type="checkbox"/> HEK | <input checked="" type="checkbox"/> Audit |
| <input checked="" type="checkbox"/> Keith Brown | <input checked="" type="checkbox"/> Legal |

Modification 9

Clarify Special Investment Opportunity Authority

Background Information

- The Trust may invest up to \$1 billion in a “Special Investment Opportunity” without consideration by the Board if a rapid response to the opportunity is required and it is not practicable to present the opportunity for consideration by the Board
- The CIO and the Executive Director will consult with the Chairman of the Investment Committee to determine whether or not it is practicable to present to the Board
- At a subsequent Board meeting, the Board will then re-authorize the Special Investment Opportunity authority

Proposal

- In addition to the Chairman of the Investment Committee, also consult the Chairman of the Board to determine whether or not it is practicable to present to the Board
- Require that only one investment (and not multiple investments) can be made prior to the reauthorization by the Board of the Special Investment Opportunity authority

Reviewed by:

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| <input checked="" type="checkbox"/> HEK | <input checked="" type="checkbox"/> Audit |
| <input checked="" type="checkbox"/> Keith Brown | <input checked="" type="checkbox"/> Legal |

Full List of Modifications

1. **Improve document readability.**
 - a. Add an Executive Summary [Article 1].
 - b. Standardize section labeling [Various].
 - c. Consolidate redundant language [Various].
 - d. Move Placement Agents Addendum [Article 12].
2. **Remove Real Assets Portfolio transition process** [Section 1.6]. Now that the Real Assets portfolio transition is complete, the transition process language is no longer required.
3. **Clarify that the list of Public Markets Authorized Investments is for both internal and external portfolios** [Section 2.2]. The list of Authorized Investments for the internal public markets portfolios is also used by the external public markets portfolios. This clarification relabels the list of Authorized Investments to make this clear.
4. **Adjust document to reflect restructuring of External Private Markets** [Article 3]. The External Private Markets investment center has now become the Private Equity and Real Assets investment centers.
5. **Remove derivatives tenor limits** [Section 8.6].
6. **Add centrally cleared derivatives** [Section 8.8]. Dodd-Frank has mandated the certain OTC derivatives be centrally cleared.
7. **Increase follow-on investment waiting period from three months to six months** [Appendix B]. Increase the waiting period and clarify the existing language describing the authority limits.
8. **Attach revised Authority Resolution (TRS 477)** [Appendix E].
9. **Clarify Special Investment Opportunity authority** [Appendix B]. Clarify the process for determining whether or not an investment can be made in a Special Investment Opportunity.

Reviewed by:

- | | |
|---|---|
| <input checked="" type="checkbox"/> HEK | <input checked="" type="checkbox"/> Audit |
| <input checked="" type="checkbox"/> Keith Brown | <input checked="" type="checkbox"/> Legal |

Memo

To: **Board of Trustees and Policy Committee, Teacher Retirement System of Texas**

Cc: Brian Guthrie, Britt Harris, Jase Auby

From: Brady O'Connell, Steve Voss

Date: August 14, 2012

Re: Review of TRS Investment Policy

Comments

We recommend the Board of Trustees adopt the suggested revisions presented to the Policy Committee on September 13th as part of the annual review of the TRS investment policy. As you are aware, the review was comprehensive in scope and involved the Board and Policy Committee earlier than in similar reviews in the past.

We have had complete and full access to IMD professionals, including Jase Auby, and have been involved as various proposed changes and enhancements to policy were being contemplated. Our involvement in the process provides us an excellent vantage point from which to form our views and opinions and ultimately advise the Board.

Process Overview

While it is formally reviewed once a year, the review of the Investment Policy Statement (IPS) is really something that goes on informally throughout the year. During recent years, the IMD led the process of reviewing the document, working with advisors, audit, legal, and others to identify suggested changes and put those forth to the Board for consideration. The review this year was slightly different in that the Board was more actively involved in the process. The following events have occurred during the year as part of the process:

- February: Britt Harris leads a review of Board Decision Making touching on asset allocation, delegation, legislative authority, the transition plan and other issues
- April: Jase Auby reviews IMD Process Approval and Authority. HEK presents an overview of the importance of investment policy
- June/July: HEK conducts background calls with Trustees

- July: Jase Auby introduces proposed changes to IPS at Policy Committee
- September: Final changes to be submitted to the Board; opinions from advisors provided; Board to review and consider for approval.

Key Elements of Policy

In our April presentation, we observed that the TRS investment policy includes all critical elements of an effective investment policy statement, and is thorough in those aspects of policy we believe are most important: asset allocation and rebalancing, benchmarks, risk management, monitoring and reporting, and governance/delegation.

These elements of policy are critical because they speak to some of the key risks faced by boards in setting policy. As we stated earlier this year, the major risks inherent in setting investment policy fall in the following categories:

- **Delegation**: inadequate reporting or oversight; roles not properly understood or delegated; and the wrong people at the wrong level making investment decisions
- **Asset Allocation**: failure to meet long term return target; and asset allocation that is outside the allowable ranges set forth in policy
- **Derivative/Risk Management**: inappropriate or unintended derivative usage; too much or too little risk taken through derivative usage

The IPS, including the proposed revisions, continues to contain all critical elements and in our opinion should be considered a best in class example of a comprehensive investment policy statement. While a comprehensive policy is desired, it can be somewhat intimidating to readers not accustomed to such documents. The addition of an executive summary does a good job of highlighting the major issues in policy in a more concise manner.

Specific Changes

Below we provide a summary of our view on the significant changes being proposed (as well as changes that are new since July). We do not formally comment on changes that are mostly administrative or clerical in nature but we are supportive of modifications that improve readability. ***We support all of the changes that have been proposed and recommend the Board adopt the investment policy statement as presented.***

- 2. Remove Real Assets portfolio transition language.** Given the Real Asset portfolio has reached its target funding level set years ago (as private market assets were increased over time to meet the higher target), the language related to how assets are to be invested during the ramping up period is no longer necessary. Publicly traded real estate investment trusts (REITs), which had been used as a proxy for private market real estate, are removed as an asset class (but will remain eligible as an investment on a more tactical basis).
- 4. Adjust to reflect restructuring of External Private Markets.** IPS is modified to reflect the splitting of Private Equity and Real Assets from the broader Private Markets which included both. This change was driven by the change in the IMD structure that follows the departure of Steve LeBlanc, who oversaw the combined Private Markets group. This is a minor change, but it does illustrate how organizational changes can impact the IPS.
- 5. Remove derivatives tenor limit.** While at first blush, this may seem like a significant reduction in the controls in place for derivative usage, we are comfortable with this change for several reasons. First, based on a review of the policies of peer pension funds, including caps on the tenor or maturity of swap contracts is *not* common or best practice. Second, the cap of 5 years that is in current policy may prevent TRS from transacting in the most liquid part of the credit default swap market (so it may actually increase risk as currently written). Third, we do not think the tenor cap will actually have any risk mitigation impact. Fourth, counterparty risk is one of the key risks of the over-the-counter swap market and this is addressed well in Article 8 of the IPS (section 8.8).
- 6. Add centrally cleared derivatives [New since July].** This modification is interesting because it reflects the evolving regulatory landscape. In the wake of the financial crisis, there has been a move to add more transparency to the over-the-counter (OTC) derivatives market (basically agreements between two parties that can be hard to track and aggregate). Financial reform legislation requires some of the OTC derivatives to be centrally cleared, with a clearinghouse serving as a middleman of sorts allowing for easier transparency and aggregation of positions and also assisting in counterparty risk management (clearing houses typically reduce counterparty risk by guaranteeing the position of each party to a transaction). The proposed modification clarifies that if a swap is centrally cleared then an ISDA (which governs OTC transactions) is not needed, but clearing agreements are.

- 7. Increase follow on waiting period.** Delegation of the authority to hire and fire managers is a key element policy that has certain limits placed around that authority. One such limit is the amount that can be committed to investments without explicit Board approval. That limit is currently 0.5% for an initial investment and 1.0% for “follow on” or incremental investments. This change increases the time period allowed between the initial allocation and the incremental or follow on investments from 3 months to 6 months. This change is meant to prevent follow-on investments too soon after initial investments that may appear to be circumventing the restriction on the 0.5% initial investment. Any follow-on allocation within 6 months of an initial allocation would need to be brought to the Board for approval if it resulted in the combined amount exceeding the 0.5% initial threshold.
- 8. Attach revised Authority Resolution (TRS 477) [New since July].** A clerical change (or potential change if the resolution is adopted in September), but since we have not commented on it previously we do here. The appendix will be updated to include the most recent Authority Resolution. This appendix is an important articulation of the Board’s delegation authority to various members of the TRS executive and investment team. Earlier in this memorandum we mentioned that the lack of clear delegation can be a risk in investment policy. The inclusion of this resolution makes it clear what authority the Board has granted and to whom it has been granted so we think this is a helpful part of the IPS.

Summary

Broadly speaking, we think the TRS Investment Policy Statement is comprehensive and effective. It is reviewed on an annual basis and modifications are necessary to reflect changes in investment strategy, the structure of TRS and the IMD, regulatory changes, legislative changes, and even more mundane things like administrative changes. Given the critical nature of the IPS in dictating the future direction of the investment portfolio, we think the high level of attention this document receives is warranted.

This policy review has involved more direct Board participation earlier in the review process. It still involved the Board’s advisors and various groups within TRS (IMD, legal, audit, etc.) but we heard directly from the Board on areas of concern to you. The Board has raised questions and comments regarding various aspects of reporting—one area of the policy that is not changing. While we think Section 1.7 of the policy lists all the necessary items that are or should be of concern to the Board, we recognize this may not be provided in the format or frequency that is desired. Rather than changing the policy to address this, we recommend the Board work with advisors and the IMD to modify current reporting practices as we do think that between the monthly transparency reports,

reports from advisors, and regular Board meeting materials, the elements articulated in 1.7 are covered. We also note that the July 2012 Transparency Report has been changed to include private market transactions by vintage year, a direct result of questions raised by the Board at the July meeting.

We recommend the Board adopt the changes proposed in the IPS. Relative to some of the more significant changes we have seen to investment policy, such as the 2008 annual review, these changes are all relatively modest and represent incremental as opposed to sea change.



DEPARTMENT OF FINANCE
THE UNIVERSITY OF TEXAS AT AUSTIN

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MEMORANDUM

To: Board of Trustees
The Teacher Retirement System (TRS) of Texas

From: Keith C. Brown
Advisor to the TRS Board

Re: Proposed Changes to the TRS Investment Policy Statement

Date: August 15, 2012

I have reviewed the several changes to the Investment Policy Statement (IPS) that have been proposed recently by the Investment Management Division (IMD). *Overall, I endorse these modifications and recommend their adoption.*

In what follows below, I have only included discussion on the four (of eight) proposed changes that have been deemed by the IMD staff to be the most consequential. (Note: For the sake of clarity, the headers for the various entries are those used in the notes accompanying the IMD's "Proposed Modifications to Investment Policy" presentation to the Board of July 31, 2012.)

- *Remove Real Assets Portfolio Transition Process (Modification #2)*

The primary effect of this modification is to remove from the IPS all language dealing with the process of "ramping up" the Real Assets portion of the overall portfolio to its target allocation of 15%. As the IMD staff expects to reach this target sometime in 2013, they have deemed the transition process to be complete for the purposes of benchmarking investment performance to the long-term target weight. Consequently, this adjustment to the IPS is appropriate to make at this time since it is not expected that the policy will be revised again for at least a year.

One immediate implication of this change is that the explicit listing for REIT investments (as part of the Real Return asset group) has also been removed. Of course, the IMD can still invest in REIT securities as a tactical position within the Real Assets allocation

“budget”, but such an investment will now contribute to the overall tracking error for the Fund to the extent that REITs are not perfectly correlated with the NCREIF ODCE benchmark. The IMD can also invest in REITs in the Global Equity asset group since those securities appear in some of the MSCI equity benchmarks.

- *Remove Derivatives Tenor Limits (Modification #5)*

As currently written, the IPS imposes two restrictions on the use of over-the-counter (OTC) derivative contracts with respect to their maturities (i.e., “tenors”): (i) OTC interest rate swaps may not have tenors exceeding 30 years, or shorter based on market liquidity; and (ii) the tenor of all other OTC derivatives may not exceed five years. This proposal would remove any mention of tenor limits from the IPS.

At first glance, this modification would seem to be removing a potentially important mechanism for controlling the risk exposure associated with using derivatives in managing the TRS portfolio. However, I do not think that this is the case. In fact, my view is that tenor limits on derivatives are an increasingly outmoded and reasonably ineffective price risk control device that are superseded at TRS by the other “macro” risk controls on the entire portfolio, such as the tracking error restrictions. Tenor limits also may help control liquidity risk if longer-dated derivatives contracts are not as widely traded as shorter-dated contracts, but this is a fairly indirect approach as well.

This change would nominally grant more flexibility to the IMD staff, but I don't think that it represents a diminution of institutional control for the Board. Further, since the IPS does not contain tenor limits on securities in the physical portfolio, the removal of tenor restrictions on derivatives cannot be used as a back door way to violate those limits (e.g., if the longest-term bond you can only hold is, say, five years, you could couple a five-year security with a longer-term swap contract in order to convert it into the equivalent of a ten-year bond for price exposure purposes). So, this change would not create a mismatch in the IPS with respect to the intentions of how the physical and synthetic (i.e., derivative-adjusted) parts of the portfolio should be managed.

On the other hand, the continued presence of tenor limits at the current level (i.e., five years) does restrict the implementation of certain investment strategies, such as those related to tactical asset allocation investing. While the needs of the IMD could probably be accommodated by simply lengthening the tenor limits already in place—as was suggested in an earlier version of this proposal—that sort of “quick fix” is probably not the best way to manage the policy design process if there is not a compelling reason to have a restriction of this nature in the first place.

Ultimately, then, I think that while this change will give staff more operational flexibility, it should just allow them to implement what they can invest in any way, but in a more cost-effective manner. However, I do think that monitoring staff's on-going derivative useage could become a somewhat more involved function for the Risk Committee. Assuming the proposed change is adopted, it might be beneficial to re-

examine the form and content of the derivatives reporting that the Board receives in the light of this adjustment and make some modifications or enhancements as necessary.

- *Add Centrally Cleared Derivatives (Modification #6)*

As part of the new Dodd-Frank reform measures, certain OTC derivatives contracts that previously operated under ISDA agreements between two counterparties will now be subject to a centralized clearing procedure. This proposal simply modifies the IPS to include language that recognizes this fact.

More than anything, this amendment does little more than acknowledge that, going forward, some OTC derivatives will be settled more like exchange-traded contracts. Arguably, this should enhance the safety of holding and trading these positions by reducing counterparty risk (at least to the extent that the central counterparty's risk of default is lower than that of the contract end users). It may also promote more price transparency in the marketplace, but this may depend on the extent to which the terms of the affected contracts become standardized.

- *Increase Follow-On Investment Waiting Period From Three Months to Six Months (Modification #7)*

This modification increases the waiting period between an initial investment with an external manager and follow-on investments with the same manager from three to six months. It also makes clear that any additional investment occurring within six months of the original will be considered to be part of the original for commitment limit purposes.

This change, which I understand to have been requested by the Board, clearly enhances the set of restrictions under which the IMD staff operates. However, given that the Board can approve special situations as it deems prudent, it is not clear that the additional constraint imposed by this adjustment will have a material impact on the investment operations.

Lastly, I have also reviewed the new IPS language associated with each of the remaining four proposed modifications. Most all of these changes can be viewed as being either procedural or clarifying in nature. The only one that is somewhat different in this regard is Modification #1, which was aimed at improving the presentation style and "readability" of the IPS document. A useful addition to the front-end of the document is the new Executive Summary, which nicely captures the essence of the entire policy. However, the admonishment listed at the top of this preamble bears repeating: "*This Executive Summary is not intended to replace, and must be read in conjunction with, the Investment Policy Statement. In the event of a conflict between the Executive Summary and the Investment Policy Statement, the Investment Policy Statement shall govern.*"

Blue numbered boxes herein correspond to the proposed changes as numbered in the accompanying presentation



INVESTMENT POLICY STATEMENT
 (Adopted September ~~15~~¹, ~~2011~~²⁰¹² to be effective October 1, ~~2011~~²⁰¹²)

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~~INVESTMENT POLICY STATEMENT
(Adopted September 15, 2011 to be effective October 1, 2011)~~



This Executive Summary is not intended to replace, and must be read in conjunction with, the Investment Policy Statement. In the event of a conflict between the Executive Summary and the Investment Policy Statement, the Investment Policy Statement shall govern.

Total Fund and Portfolio Design

The Investment Policy Statement provides a formal plan for investing pension trust fund and health insurance program assets. The policy defines the roles and responsibilities of the Investment Division and other parties within that plan.

The Internal Investment Committee is established and assigned the authority to review and approve investments. The IIC's authority is limited by the size of the investments it can approve without also obtaining approval from the Board. The limitations are 0.5% for initial allocations, 1% for follow-on allocations, 3% total to any one organization in each of External Public Markets, Private Equity, Real Assets and 6% total to any one organization in the total Trust with each of the foregoing percentage stated as a percentage of the Total Trust and calculated at time of investment. In addition, the CIO has Special Investment Opportunity authority of up to \$1 billion. See "Appendix B – IIC Approval Authority and Manager Organization Allocation Limits."

The Trust's objectives are to (a) control risk and (b) achieve a long-term rate of return that exceeds (i) the assumed actuarial rate of return adopted by the Board, (ii) inflation plus 5% and (ii) the Trust's Policy Benchmark. The Trust is subject to a "prudent person" standard of care under the Texas Constitution.

See "Article 1 – Total Fund and Portfolio Design."

Asset Allocation

<u>Asset Class</u>	<u>Target</u>
<u>Global Equity</u>	
<u>US Large Cap</u>	<u>18%</u>
<u>US Small Cap</u>	<u>2</u>
<u>Non-US Developed</u>	<u>15</u>
<u>Emerging Markets</u>	<u>10</u>
<u>Directional Hedge Funds</u>	<u>5</u>
<u>Private Equity</u>	<u>12</u>
<u>Stable Value</u>	
<u>US Treasuries</u>	<u>13%</u>
<u>Absolute Return</u>	<u>0</u>
<u>Stable Value Hedge Funds</u>	<u>4</u>
<u>Cash</u>	<u>1</u>
<u>Real Return</u>	
<u>Global Inflation Linked Bonds</u>	<u>5%</u>
<u>Real Assets</u>	<u>15</u>
<u>Commodities</u>	<u>0</u>
<u>Total</u>	<u>100%</u>

In addition to the target, each asset class has minimum and maximum allocations which, with certain exceptions, are +/-5% around the target allocation.

See "Section 1.6 – Total Fund Asset Mix and Benchmarks."



Measurement and Reporting	Investment performance, policy compliance, asset allocation, external investments activities, derivatives usage, risk limits, liquidity, leverage, private markets strategy, staffing, use of placement agents and other information will be monitored and reported to the Board. See “Section 1.7 – Total Fund Measurement and Reporting Criteria.”
Public Markets Portfolios	<p>The portfolios are authorized to invest in publicly traded or Rule 144A (either through an exchange or over-the-counter) assets such as equities, exchange-traded funds, equity-linked notes, options, futures, swaps, forwards, corporate debt, sovereign or sovereign-sponsored entity debt (including US Treasuries), mortgage-backed securities, collateralized mortgage obligations, commercial mortgage-backed securities, asset-backed securities, any investment in one of the public markets benchmarks, mutual funds, closed end funds, structured notes, structured credit transactions, repurchase transactions, State of Texas pooled investment funds, foreign currencies, short sales, local access products and other investments. See “Section 2.2 – Public Markets Portfolios Authorized Investments.”</p> <p>Certain restrictions apply to the internally managed portfolios including restrictions on (a) the amount of equity of any company that can be held (not more than 20%), (b) investments linked to a prurient interest in sex, (c) investments linked to Sudan and (d) investments linked to Iran.</p> <p>See “Section 2.3 – Public Markets Portfolios Restrictions.”</p>
External Public Markets Portfolio	<p>The portfolio is comprised of (a) externally managed public investments that do not qualify as Hedge Funds (limited to less than 30% of the Trust), (b) Hedge Funds (limited to less than 10% of the Trust) and (c) other absolute return portfolios (includes credit-sensitive investments). Hedge Fund is defined in Section 2.6.</p> <p>Any Board member can require that any investment in the External Public Markets Portfolio be submitted for consideration to the Board. The Investment Division can engage advisors and consultants with respect to the portfolio, allow short positions, engage in overlay strategies, rebalance the portfolio and terminate managers within the portfolio. The separate account investments within the portfolio will adhere to the Sudan and Iran restrictions. See “Section 2.7 – Authorized Investments for the External Public Markets Portfolio” and “Section 2.8 – External Public Markets Portfolio Restrictions.”</p>
Private Markets Portfolio	General principles of investing in private markets apply to both the Private Equity and Real Assets portfolios. The Investment Division is authorized to engage advisors and consultants, authorize commitments to be funded over an extended period of years, serve on limited partner or investment advisory committees, engage in rebalancing and engage in overlay strategies. Investments will be submitted to the Board for authorization if the appropriate consultant or advisor does not concur with the investment or at the request of any Board member. The Investment Division can transfer, withdraw or terminate its investments. In certain circumstances, restrictions apply to the portfolios regarding investments linked to a prurient interest in sex, Sudan and Iran. See “Article 3 – Private Markets Portfolios.”
Private Equity Portfolio	The portfolio makes investments either through funds or directly in equity, equity-rights securities, preferred stock, convertible securities, debt obligations, warrants, rights, options and other investments. Private equity strategies are often classified as venture capital, mezzanine, buyout, emerging markets and special situation. See “Article 4 – Private Equity Portfolio.”
Real Assets Portfolio	The portfolio makes investments either through funds or directly in equity, debt, rights, warrants or other investments in real estate, infrastructure, timber, agriculture,



oil and gas, mortgage-related investments, real estate investment trusts, master limited partnerships, non-fixed assets and other opportunistic investments in real assets. Real estate investments are often classified as core, core-plus, value-added and opportunistic. Non-real estate investments are restricted to 5% or less of the Total Fund. See “Article 5 – Real Assets Portfolio.”

Emerging Managers Program

The Investment Division will make a good-faith effort to invest a target allocation of \$1.65 billion with qualified emerging managers in the External Public Markets Portfolio, Private Equity Portfolio and the Real Assets Portfolio. Emerging managers can include, but are not limited to, minority, women, and disabled veteran-owned or -controlled organizations generally with less than \$2 billion assets under management or a performance track record of less than five years. See “Article 6 – Emerging Managers Program” and “Appendix C – Emerging Managers.”

Overlay Portfolios

Overlay Portfolios are designed to manage risk, asset allocation, and market exposures through futures, options, swap agreements, or forward agreements. Overlay Portfolios may be implemented in connection with the Total Fund or with any investment or portfolio within the Total Fund. Overlay portfolios are restricted by the asset allocation limits of the Trust. In addition, certain uses of currency overlays are restricted to less than (a) 5% to all non-US dollar currencies, (b) 2% to any one developed market currency (except the US dollar) and (c) 1% to any emerging market currency, each calculated as a percentage of the Trust. See “Article 7 – Overlay Portfolios.”

Derivatives

Derivatives are authorized only if they efficiently manage and reduce the risk of the overall investment portfolio. Derivatives can be used to (a) implement investment strategies in a lower cost or efficient manner, (b) efficiently manage the Total Fund portfolio, (c) construct portfolios that could not be efficiently constructed using cash market securities, (d) hedge and control risks and (e) facilitate transition trading.

Over-the-counter derivatives may not have a tenor of greater than six years (or, thirty years in the case of interest rate swaps). Derivatives may only invest in legally permissible policy asset categories and may not be used to circumvent the asset allocation or other policy restrictions. All use of derivatives must be properly documented. All over-the-counter derivatives must be executed using ISDA documentation or, if centrally cleared, clearing agreements. All counterparties must have a credit rating of at least A- (Standard & Poor’s or Fitch) or A3 (Moody’s). In addition, the net market value of derivatives positions with any counterparty may not exceed \$500 million (calculated net of collateral) and may not exceed 5% of the total market value of the Fund (without consideration of collateral).

See “Article 8 – Authorized Uses of Derivatives.”

Risk Management

The Investment Division will monitor and manage risk of the Total Fund Portfolio including:

Market Risk –will be managed and measured using at a minimum a quantified estimate of downside risk (e.g., value-at-risk), asset allocation limits, private markets holdings analysis, and a quantified estimate of risk relative to the benchmark (tracking error).

Foreign Exchange Risk – will be managed according to a Policy Hedge Ratio established by the Board. The current Policy Hedge Ratio is set a 0%.

Credit Risk – the primary sources of credit risk are derivatives counterparty risk (mitigated by credit provisions in the derivatives documentation), the risk from repurchase agreements (limited to 5% of the Trust market value) and securities



lending.

Liquidity Risk – a prudent liquidity management will be established to ensure that the Fund maintains ample liquidity to meet its funding commitments, especially disbursements of benefits and TRS investment activities.

Leverage Risk – the permitted uses of leverage are defined. Leverage will not be used to exceed the asset allocation ranges of the policy.

Other managed risks include operations risk, settlement risk and legal risk.

Compliance cure periods or corrective action plan periods established for violations of policy or other compliance limits are 90 days for passive violations (a violation due to changing market or credit conditions) and 15 days for active violations (a violation due to entering into an agreement or investment that breaches a policy limit at inception or thereafter through failure to monitor).

See “Article 9 – Risk Management and Oversight.”

Health Insurance Program

Authorized investments for the Health Insurance Program Portfolio are conservative, short-term securities consistent with the guidelines employed by the Ceomptroller when investing Sstate funds. See “Article 10 – Health Insurance Program Portfolio.”

Political Contributions; Improper Influence; Placement Agents and Finders

The purpose of this policy is to ensure the integrity of all TRS investment transactions and conformity with the highest fiduciary, ethical, and legal standards by all parties involved. All investment decisions made by the Board and the Investment Division must be based solely on the merits in conformity with fiduciary standards and applicable law. All investment decisions and recommendations must be free of impropriety or improper influence and the appearance of either. The Investment Division shall obtain full disclosure of all matters having the potential to harm TRS’s reputation or the integrity of TRS’s investment processes, or that could constitute unethical or unlawful conduct during the investment due diligence process. Neither TRS nor any TRS investment shall be burdened with or liable for any Placement Fee. Adequate disclosure must be made in connection with any investment in the form of “Appendix F – Political Contributions; Improper Influence; Placement Agents and Finders Questionnaire.”

See “Article 11 -- Political Contributions; Improper Influence; Placement Agents and Finders.”

Tracking Error

Neutral tracking error targets are established for certain portfolios of the Trust:

<u>Internal</u>	
<u>Equity (Global Best)</u>	<u>100 bp</u>
<u>External</u>	
<u>Equity (US; Large-Cap)</u>	<u>300 bp</u>
<u>Equity (US; Small-Cap)</u>	<u>500</u>
<u>Equity (International; Developed, EAFE)</u>	<u>300</u>
<u>Equity (International; Emerging Markets)</u>	<u>300</u>
<u>Equity (World Equity)</u>	<u>300</u>
<u>Stable Value Hedge Funds</u>	<u>400</u>
<u>Directional Hedge Funds</u>	<u>600</u>
<u>Total Public Fund Tracking Error</u>	<u>100</u>

In addition, Total Global Inflation Linked and Total Public Fund have maximum tracking error limits of 200 bp and 300 bp, respectively. See “Appendix A – Tracking



Error Neutral (in annualized basis points).”

Authority

The employee titles in the Investment Group are specified and three types of investment authority are described including (i) general authority for investment matters, (ii) over-the-counter derivatives contracts and (iii) transfers of funds or assets; fund or account redemptions and withdrawals. In addition, the employees of the Financial Group, Executive Group and Trading Group are also specified and their authority is described. See “Appendix E – Authority Resolution (TRS 477).”



ARTICLE 1 – TOTAL FUND AND PORTFOLIO DESIGN

1.1. Introduction

The Teacher Retirement System of Texas (“TRS”) administers a pension trust fund and other health insurance programs for retirees and certain active public education employees under State of Texas constitutional and statutory provisions. TRS is governed by a Board of Trustees (the “Board”). TRS provides service and disability retirement benefits and death and survivor benefits for Texas public education employees and their beneficiaries. Benefits are funded by state and member contributions and investment returns.

1.2. Purpose and Design

The purpose of this Investment Policy Statement (this “Policy”) is to provide a formal plan for investing pension trust fund and health insurance program assets to achieve defined investment objectives consistent with the TRS mission statement adopted by the Board and with applicable law.

This Policy also defines the roles and responsibilities of the various entities involved in the investment process and facilitates internal and external communication of investment policy.

The appendices to this Policy are incorporated into and form part of this Policy for all purposes. Capitalized terms not defined in this Policy have the meanings assigned to them in the “TRS Glossary of Investment Terms” (“Glossary”), which definitions are also incorporated into and form part of this Policy for all purposes. Modifications to the appendices or the Glossary that would have a substantive effect on this Policy require Board consideration and adoption.

1.3. Roles of Board, Staff, and Advisors

The Board has the primary fiduciary responsibility for investing TRS trust assets in accordance with Article XVI, Section 67 of the Texas Constitution and with applicable law. The Board establishes investment objectives and policy, obtains expert advice and assistance, and oversees the employment of a qualified and competent investment staff (“Investment Division”) and legal staff. The Board also monitors the actions of staff and advisors to ensure compliance with its policies. The Board has a Policy Committee of the Board (“Policy Committee”), an Investment Management Committee of the Board (“IMD Committee”) and a Risk Management Committee of the Board (“Risk Management Committee”), each of which is a standing committee of the Board charged with those responsibilities set forth in the Bylaws of the Board. The Board and the Investment Division are assisted by outside investment consultants and internal and external legal counsel.

- a. Investment Counsel (“Investment Counsel”) selected by the Board provides education, advice, commentary, and discussion as requested at Board meetings, assists with development and review of investment policies and procedures, performs due diligence and recommends managers or investments, reports on the progress of the Fund in meeting its investment objectives, and compares the performance of the portfolio to established benchmarks. The Investment Division and Investment Counsel provide information as needed to assist the consulting actuary in performance of actuarial services.
- b. The Investment Division has fiduciary responsibilities delegated by the Board under applicable law. Investment Division manages the Fund according to the Board's policies, advises and informs the Executive Director and the Board about investments, and recommends modifications to this Policy. The Investment Division executes all transactions, performs risk-management functions, and prepares investment reports.
- c. The Internal Investment Committee (“IIC”) is hereby established to review, consider, and authorize proposed external manager engagements and investments as required by this Policy for the External Public Markets Portfolio and the Private Markets Portfolios. Additionally, the IIC will manage the foreign exchange policy hedge ratios (set forth in Appendix D) and review as needed.



The permanent IIC membership ~~comprises~~ consists of the Chief Investment Officer (“CIO”), the Deputy CIO, the Chief Risk Officer (“CRO”), and the Investment Division Senior Managing Directors (“SMD’s”). The CIO will establish procedures and guidelines for the operations of the IIC. The IIC procedures and guidelines may provide that the CIO may appoint and remove select Directors as non-permanent voting members to the IIC. The IIC procedures and guidelines will define a quorum and establish the vote required to authorize an investment or external manager engagement or, if required by this Policy, recommend an investment or external manager engagement to the Board, which vote may not be less than a majority of the then-incumbent IIC members present and voting at a meeting at which a quorum is present. The CIO shall have the power to veto any investment or delegation of investment discretion authorized or recommended by the IIC pursuant to a vote of its members. Termination of a member's TRS employment terminates IIC membership as of the date the employee or TRS gives notice of termination, as the case may be.

The Executive Director or his designee may attend any meeting of the IIC, and the Investment Division shall deliver to the Executive Director copies of all IIC materials, analyses, correspondence, and agendas as and when delivered to IIC members or other TRS employees. The Executive Director is not a member of the IIC, however, acting in his or her capacity as the chief executive officer and chief administrative employee of TRS as set forth in the Board's Bylaws, the Executive Director shall, after consultation with the CIO, have the power to veto any investment or delegation of investment discretion proposed for IIC consideration or authorized or recommended by the IIC pursuant to a vote of its members whenever he deems such veto to be in TRS' best interest. When this Policy requires that the Board authorize an investment or an engagement of an external manager, the IIC shall vote on whether to recommend such investment or engagement to the Board. The results of the vote shall be reported to the Board in the materials provided to the Board for consideration.

- d. All proposed changes to this Policy will be reviewed by the legal staff for compliance with state and federal laws regarding fiduciary responsibility, investment prudence, ethics compliance, and other applicable standards or requirements before submission to the Policy Committee. Except as authorized by the Executive Director, proposed changes to this Policy will first be presented to the Policy Committee, which will consider recommending the proposed changes to the Board. The Board may consider and adopt proposed changes that have not been considered by the Policy Committee. This Policy shall be reviewed at least once every three years.

1.4. Total Fund Objectives

In this Policy, the total or overall investment portfolio includes all assets invested by TRS to provide retirement, death, health, and disability benefits administered by the system, including cash and cash equivalents (the “Total Fund” or the “Fund”) and will be structured and managed to achieve the following objectives:

- a. Control risk through proper diversification of asset classes and by establishing long-term risk and return expectations; and
- b. As applicable to the pension plan, achieve a long-term rate of return that:
 - i. Exceeds the assumed actuarial rate of return adopted by the Board;
 - ii. Exceeds the long-term rate of inflation by an annualized 5%; and
 - iii. Exceeds the return of a composite benchmark of the respective long-term normal asset mix weighting of the major asset classes.

1.5. Total Fund Investment Standard

Article XVI, Section 67(a)(3) of the Texas Constitution and Section 825.301, Government Code, states that the standard of care for TRS investments is a “prudent person” standard. Section 825.301, Government Code, provides that Section 117.004(b), Property Code, applies to TRS investment decisions. Section 117.004(b) generally states that the determination of the prudence of a single investment decision will be made taking into consideration the investment of all of the assets of the trust, or the assets of the collective investment vehicle, as the case may be, rather than a consideration as to the prudence of the single investment of the trust, or the single investment of the collective investment vehicle, as the case may be.

All investments made by the Total Fund must be in “securities” as defined in Government Code Section 825.301(a) provided, however, that until September 1, 2019, TRS may buy and sell those instruments set forth in Section 825.301(a-1), Government Code, to efficiently manage and reduce the risk of the overall investment portfolio.



The Board and the Investment Division may obtain the assistance and advice of external investment experts, including external managers operating under Agency Agreements, and other investment counselors or consultants as needed.

1.6. Total Fund Asset Mix and Benchmarks

The Investment Division will assist the Board in engaging in an asset-liability study for the pension plan at least once every five (5) years to review asset classes, return-risk assumptions, and correlation of returns with applicable benchmarks and across asset classes. A key objective of the asset-liability study shall be the development through statistical modeling techniques of a diversified portfolio that specifies ranges of prudent portfolio exposures and a “long-term normal” position for each asset class. The normal portfolio mix will represent the portfolio that is expected to meet the Board’s actuarial return objectives for the pension plan within the risk tolerances specified herein.

Each asset class allocation percentage has a “long-term normal” position within the overall portfolio and a maximum and minimum range around that normal allocation. All percentages refer to market value.

Each asset class is described by an associated benchmark that describes, in general terms, the opportunity set and return characteristics associated with the asset class. For certain private or more complex asset classes the benchmark serves as a proxy for expected returns rather than an approximation of the actual investments that will characterize that component of the portfolio. Those benchmarks, along with the allocation ranges, are identified in the table on the following page, and are referred to as the “Policy Benchmarks.” The portfolio transition which started on October 1, 2007 for Real Assets is ongoing with a long term target for Real Assets of 15%. Adjustments to the benchmark to accommodate the transition for Real Assets are described in footnote 3 in the table below.

[Table appears on following page]



Asset Class	Benchmark	Bloomberg Ticker	Minimum Range ¹	Maximum Range ¹	Target
Global Equity:					
US Large Cap	MSCI USA Standard	GDDUUS	13%	23%	18%
US Small Cap	MSCI USA Small Cap	GCUDUS	0%	7%	2%
Non-US Developed	MSCI EAFE and Canada	NDDUEC	10%	20%	15%
Emerging Markets	MSCI EM	NDUEEGF	5%	15%	10%
Directional Hedge Funds	HFRI Fund of Funds Composite	HFRIFOF	0%	10%	5%
<i>Total Public Equity</i>	<i>Target-weighted Blend</i>		<i>45%</i>	<i>55%</i>	<i>50%</i>
Private Equity	State Street Private Equity Index – lagged one quarter		7%	17%	12%
Total Global Equity	Target-weighted Blend		55%	69%	62%
Stable Value:					
US Treasuries	Barclays Capital (BarCap) Long Treasury Index	LUTLTRUU	0%	20%	13%
Absolute Return (Including Credit Sensitive Investments) ²	3 Month LIBOR + 2%	USCOTR03 (plus 2%)	0%	20%	0%
Stable Value Hedge Funds	HFRI Fund of Funds Conservative	HFRIFOFC	0%	10%	4%
Cash	Citigroup 90-day US Treasury	SBMMTB3	0%	5%	1%
Total Stable Value	Target-weighted Blend		13%	23%	18%
Real Return:					
Global Inflation Linked Bonds	BarCap US Treasury TIPS index	LBUTTRUU	0%	10%	5% ³
Real Assets	NCREIF ODCE - lagged one quarter		5%	20%	15% ³
Commodities ⁴³	Goldman Sachs Commodity Index	SPGCCITR	0%	5%	0% ³
REITS	MSCI US REIT	RMS-G	0%	5%	0%³
Total Real Return	Target-weighted Blend		15%	25%	20%
TOTAL PLAN	Target-weighted Blend				100%

[Notes to table appear on following page]



Notes to table on prior page

¹ With respect to the maximum range and minimum range, the CIO may increase any maximum range by 5% or decrease any minimum range by 5% (but may not decrease a minimum range below zero) if the CIO concludes in a writing delivered to the Executive Director and to the Board of Trustees stating the action taken and the reasons why the CIO believes that such increase or decrease would be in the best interests of TRS; provided, the maximum range for Total Global Equity may not be increased above 69%. Before taking action, the CIO must request comments from the Chairman of the appropriate Board Committee and TRS consultants and advisors. The Board, at the next succeeding Board meeting, must authorize the increase or decrease if the CIO proposes that the changes continue in effect after such Board meeting. The CIO will notify the Compliance Officer of any such change to a maximum or minimum range. If the Board does not authorize the continuation of the change to a maximum or minimum range after the next succeeding Board meeting, the Investment Division shall use best efforts to rebalance the portfolio to bring the asset classes within the ranges in the table above within 90 days.

² Absolute Return is a broad category that includes all assets that have a high probability of generating a positive absolute return regardless of market conditions over a one to three year period.

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³ ~~On October 1 of each year, the Target for Real Assets for the succeeding twelve months will be reset by the CIO to the averaged funded level of Real Assets for such succeeding twelve months as projected by the Real Assets investment management team (rounded to the nearest whole percentage); provided, the Target for Real Assets may not be more than 15%. Any decrease to the Target for Real Assets below 15% will result in an equivalent amount of increase allocated to the Targets for first, REITS (until REITS is 2%), second, Commodities (until Commodities is 2%) and, third, Global Inflation Linked Bonds. Any increase or decrease to the target level for each asset class will also be applied to the minimum and maximum range level for that asset class; provided, the minimum range level may not be reduced below 0%.~~

⁴³ Except as specifically provided in Article 5.2, investments in commodities are limited to instruments that constitute a security or an authorized derivative that is either underlain by a financial instrument or, if underlain by a physical commodity, is cash settled. Direct investments in physical commodities are prohibited.

1.7. Total Fund Measurement and Reporting Criteria

The Investment Division will deliver reports to the Board (and the appropriate Board committee, as applicable) adequate to indicate whether the Total Fund is meeting its objectives and that will permit the Board to monitor each portfolio for compliance with this Policy. The Board will establish performance and risk measurement and attribution standards for the Total Fund, each asset class, and component portfolios.

The following comparisons and reviews will be performed quarterly (unless otherwise noted) and presented to the Board:

- a. **Investment Performance** – Investment performance for the Total Fund and each component portfolio, net of external management fees (if applicable); will be compared with their respective benchmark indices. Fund performance will be judged primarily by comparisons to long-term (3, 5 and 10 year) Policy Benchmark returns.
- b. **Monitoring of compliance with Policy** - Portfolios will be reviewed for compliance with the requirements set forth in this Policy. The Investment Compliance Officer will have overall responsibility for compliance monitoring. However, if considered necessary, TRS will hire external parties to obtain assistance regarding compliance monitoring. To ensure independence in compliance monitoring the Investment Compliance Officer or external parties hired will not be given the authority to trade securities. To ensure ongoing compliance with this Policy and completeness of disclosures to the Board regarding compliance, the Investment Compliance Officer has authority to require certifications from applicable IIC members or [a SMD Managing Directors](#) disclosing known compliance violations. The Investment Compliance Officer reports all known compliance exceptions to the Board at the next meeting of the Board.
- c. **Asset class exposures and weightings** – The exposure of cash and derivative instruments to each asset class will be aggregated and compared with their respective long-term and transition benchmarks and with the authorized ranges around those benchmarks. Hedge Fund exposure will be reported relative to its statutory limit, if applicable.
- d. **External investments under consideration** – For any external investment under consideration by the Investment Division (including hedge funds, external managers, real asset and private equity investments), [the Investment Staff Division](#) will provide the Board the following information prior to the date of the applicable IIC meeting:
 - i. Name of the investment vehicle and investment manager;
 - ii. Total fund or strategy size;



- iii. TRS investment amount under consideration;
 - iv. Investment strategy;
 - v. Names of the external manager or fund principals;
 - vi. Projected TRS commitment or funding date;
 - vii. Placement agent or firm sponsoring the offering or engagement, if any;
 - viii. Prospective fees;
 - ix. Other TRS investments with the firm; and
 - x. Historical fund or manager performance.
- e. **External investments activities** – The Investment Staff Division will provide the Board with a list of all external investments, including any additions, withdrawals, transfers or terminations, on at least a semi-annual basis.
 - f. **Derivatives** – The Investment Division shall provide a comprehensive report of all outstanding derivative applications (including derivative types, counterparties, notional amounts, and fair values) used by internal managers and external managers under Agency Agreements on at least a semi-annual basis.
 - g. **Risk limit** – The Investment Division will report at least semi-annually the Total Fund and benchmark total estimated risk relative to the upper and lower bounds corresponding to the maximum and minimum downside risk measures that could be achieved through the asset allocation limits in this Policy.
 - h. **Liquidity** – The Investment Division will report at least semi-annually to the Board the use of external liquidity funding mechanisms.
 - i. **Leverage** – The Investment Division will report the Gross and Net Leverage derived from internal derivative use, internal short sales, external managers, Hedge Funds, and leverage resulting from use of external liquidity funding mechanisms as outlined in the Liquidity Policy on at least a semi-annual basis.
 - j. **Transparency report** – The Investment Division will provide a transparency report to the Board that may be used to disclose any of the required information mentioned above. This report may be delivered in electronic or physical formats.
 - k. **Private Markets Long-Term Strategy** – The Investment Division will review with the Board its long-term strategy for the Private Equity and the Real Asset portfolios at least every three years. This review will include information on target sub-strategy allocation, return, risk and liquidity expectations. Tactical deviations from this long-term strategy will be reviewed on an annual basis.
 - l. **Staffing** – The Investment Division will provide an update no less than annually reporting on the staffing of key employees in the division, including turnover, transfers and the creation of new positions.
 - m. **Placement Agent Disclosures** – The investment staff Investment Division shall compile all responses to the placement agent questionnaire (Appendix F) for the purposes of Article 11, including for emerging manager investments, and report the results to the Board at least semi-annually. Each response shall include the questionnaire information as of the date the IIC approved the investment. Reports shall include the amounts and recipients of any political contribution or Placement Fee and the relationship of the recipients to the Placement Agent or Texas Elected Official, as applicable.
 - n. **Other information** – Any other information or reports as the Board may request or require from time to time.

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1.8. Total Fund Portfolio Implementation and Design

The Total Fund investment portfolio is characterized by the following functional areas-portfolios that are charged with the implementation of day-to-day portfolio management activity:

- a. Internal Public Markets Portfolios;
- b. External Public Markets Portfolios;
- c. Private Markets Portfolios;
- d. Overlay Portfolios; and



- e. Risk Management and Oversight.

The objectives, authority and limitations of each of these functional areas, and the authorized uses of derivatives, are described throughout the remainder of this Policy.

ARTICLE 2 –PUBLIC MARKETS PORTFOLIOS

#3 2.1. ~~Internal~~ Public Markets Portfolios Objectives

The Public Markets Portfolios are comprised of the Internal Public Markets Portfolios and the External Public Markets Portfolios. The primary objectives of the ~~Internal~~ Public Markets Portfolios (the “IPM Portfolios”) are to manage publicly-traded, marketable securities and related instruments, in accordance with the risk parameters established by the permitted asset allocation ranges of this Policy, to meet or exceed the performance of the Policy Benchmark, as allocated to the ~~IPM~~ Public Markets Portfolios. The ~~IPM~~ Internal Public Markets Portfolios will serve as the primary vehicles through which transition management will be performed and proxy portfolios will be managed vis-à-vis the unfunded Private Equity, Real Assets, and External Manager Portfolios, and Hedge Fund portions of the Fund.

#3 2.2. Public Markets Portfolios Authorized Investments ~~for Internal Public Markets Portfolios~~

The ~~IPM~~ Public Markets Portfolios are authorized to invest in the securities described as follows:

- a. Equity securities of all companies traded or listed on a national exchange in the U.S. or in countries in the MSCI ACWI ex-US benchmark, and any component security of a Policy Benchmark.
- b. Common stocks, preferred stocks, convertible bonds, rights, warrants, units and depositary receipts (“DRs”) that trade publicly or pursuant to Rule 144A of the Securities and Exchange Commission (the “SEC”), without regard to the issuer’s principal place of business or jurisdiction of incorporation or organization (such securities are sometimes referred to in this Policy as “Authorized Equity Securities”), including common or preferred stock issued in initial public offerings (“IPOs”).
- c. Exchange-traded funds (“ETFs”) and closed-end funds tracking an applicable benchmark (or a significant subset or sector of a benchmark) if listed on a U.S. stock exchange or market or on a stock exchange or market in a country in which TRS is authorized to buy and sell securities.
- d. Exchange-listed or private placement equity-linked notes intended to track authorized international equity securities or indices, and registered index funds in any country index series intended to track its respective country index, provided that the country is in the Policy Benchmark.
- e. Exchange-traded futures contracts, options contracts, and options on futures contracts in order to efficiently manage or reduce the risk of the overall investment portfolio, or both, in accordance with this Policy and applicable law.
- f. Over-the-counter swap and option agreements, including but not limited to total return swaps, interest rate swaps, credit default swaps, and currency swaps, to efficiently manage or reduce the risk of the overall investment portfolio, or both. The Fund may also use forward agreements and any other instrument commonly used by institutional investors to manage institutional investment portfolios, in accordance with this Policy and applicable law.
- g. Evidence of indebtedness and securities that evidence an ownership interest in debt obligations that are issued, insured, guaranteed by, supported by, or based on the credit of the following:
 - i. The United States (“U.S.”) or any U.S. agency, department, or government sponsored enterprise (“GSE”);
 - ii. The debt obligations of states, municipalities or any state agency of the United States of America;
 - iii. Corporations chartered by the United States or any state thereof; and
 - iv. Foreign governments, supranationals, subnationals, and corporations chartered by foreign governments.
- h. Agency and non-agency mortgage-backed securities.
 - i. Collateralized mortgage obligations (“CMO”).
 - j. Commercial mortgage-backed securities (“CMBS”).
 - k. Asset-backed securities (“ABS”).



- l. All securities and all types of securities that are either included in the applicable benchmark or that will be added to the benchmark as of the announcement date of their future inclusion.
- m. Mutual funds, closed-end funds, exchange traded funds, structured notes, limited partnerships, commingled funds, or any other security types that:
 - i. Are intended to track or replicate the returns of the Policy Benchmark or a portion thereof or that are intended to reduce the overall tracking error of the portfolio; or
 - ii. Invest in non-dollar fixed income instruments that are predominantly investment grade quality; or
 - iii. Invest in bank loans that are predominantly investment grade quality; or
 - iv. Actively invest in a dynamic portfolio of high yield securities.
- n. Passive funds, structured credit basket transactions, or trusts containing high-yield fixed income securities selected according to defined parameters and, if the investment contract, offering documents, or prospectus requires distribution to TRS of securities held by fund or trust under specified circumstances, such securities.
- o. Repurchase and triparty repurchase transactions.
- p. Investments in State of Texas pooled investment funds.
- q. Foreign currencies that may be required to settle security transactions denominated in those foreign currencies and any authorized instrument or contract intended to manage transaction or currency exchange risk in purchasing, selling or holding investments.
- r. Short sales as authorized and limited by Article 2.7 for the Externally Managed Public Assets Portfolio.
- s. Local Access Products, including equity-linked certificates, participation notes, and low-exercise price call warrants which replicate the performance of an underlying security, index, or market for which investment in the local market or in the ADRs or GDRs, or the total return swap market would be difficult or costly, or both.

In addition to the foregoing, the [HPM-Public Markets](#) Portfolios are authorized to engage in overlay strategies in accordance with the guidelines set forth in Article 7. Overlay strategies may not be used to circumvent the asset allocation parameters, risk guidelines, or any other controls otherwise established by this Policy.

2.3. Internal Public Markets Portfolio Restrictions

- a. Not more than 20% of the outstanding equity securities of a single class of any company may be purchased. In calculating this 20% limit, any amounts that are held in the EPM Portfolios and which are also deemed to be beneficially held by TRS for purposes of Section 13 of the Securities Exchange Act of 1934, including equity securities held in a separate account (or a commingled account in which TRS is deemed to be the beneficial owner for purposes of Section 13 of such act), shall be included.
- b. TRS will not invest in securities of any company that derives a significant portion of its revenues from products or services intended exclusively to appeal to a prurient interest in sex through explicit depictions of sexual activity. These include, but are not limited to, sexually explicit films, videos, publications, and software; topless bars and strip clubs; and explicit sexually-oriented telephone and Internet services. The restriction does not apply to pooled investment vehicles, provided that the Investment Division shall engage with the managers of such vehicles and use commercially reasonable efforts during due diligence to determine whether such vehicles invest in any company that would not be eligible for direct investment by TRS.
- c. Except as required by fiduciary duties created by the Texas Constitution or other applicable law, TRS will comply with Chapter 806, Government Code relating to prohibition on investments in Sudan, including reporting requirements on investments in listed companies and on decisions to cease divestment, remain invested, or reinvest in listed companies. Additionally, TRS will avail itself of the protection afforded by the U.S. Sudan Accountability and Divestment Act. To the fullest extent allowed by law and consistent with fiduciary duties, TRS will treat direct holdings in investments in companies with active business operations in Iran in a similar manner to investments in listed companies in Sudan. TRS will use the Iran scrutinized list of companies subject to the Iran Sanctions Act, or any successor legislation, as maintained by a governmental body or a reputable private organization and which is available in June of each year. If, in order to comply with the fiduciary duties created by the Texas Constitution, the IIC determines that divestment of or a ban on investments in companies on the Iran list would be imprudent under the circumstances because alternative investments to the listed companies do not offer commensurate return with no



greater risk or commensurate risk with the same or greater return, the IIC may exempt companies from the Iran list and authorize investment in the securities of those companies.

- d. The IPM Portfolio shall conform to the tracking error target prescribed in Appendix A.

2.4. External Public Markets Portfolio

The component portfolios of the External Public Markets Portfolio (the “EPM Portfolio”) are:

- a. The External Manager Portfolio, which consists of:
- i. Commingled or other private investment funds which are not determined to be Hedge Funds as defined by Section 2.6 of this Policy, and
 - ii. Separate accounts managed or advised by external managers operating under an Agency Agreement with TRS.
- b. The Hedge Fund Portfolio.
- c. The Other Absolute Return Portfolio including Credit Sensitive Investments.

The CIO will determine the proper mix of assets allocated for internal management under the parameters of the IPM Portfolio and those to be allocated to the External Manager Portfolio component of the EPM Portfolio. In no event shall the aggregate allocation to external managers pursuant to Agency Agreements exceed 30 percent (or a different percentage of not more than 50 percent if a different percentage is specified in the Government Code) of the Total Fund at the time of investment, as specified in Section 825.301 (a-2), Government Code.

This preceding paragraph does not affect the target allocation and the range of allocation for the Hedge Fund Portfolio, which shall not exceed 10% of the Total Fund, or such lesser or greater percentage as allowed by applicable law and Section 2.7 of this Policy.

2.5. External Public Markets Portfolio Objectives

The primary objective of the EPM Portfolio is to invest in publicly-traded marketable securities, commingled funds, Hedge Funds, and related instruments, in accordance with the asset allocation parameters of this Policy, to meet or exceed the performance of the Policy Benchmark over a 5 to 10 year market cycle as allocated to the EPM Portfolio. The EPM Portfolio will employ a wide variety of investment and trading strategies with varying levels of liquidity and leverage. It is expected that some strategies will involve more concentrated, shorter term investments as well as those that are longer term in nature and thus will generally have more tracking error than expected within the IPM Portfolio, while other investments will have less correlation, beta and volatility and thus will offset the overall volatility of the EPM Portfolio and the Total Fund.

2.6. Hedge Fund Defined

In this Policy, “Hedge Fund” means a private, commingled investment vehicle with the following general characteristics, as set forth in Section 825.3012, Government Code:

- a. Is not registered as an investment company;
- b. Issues securities only to accredited investors or qualified purchasers under an exemption from registration; and
- c. Engages primarily in strategic trading of securities and other financial instruments.

“Hedge Fund” includes a private investment fund of funds or other commingled vehicle that itself invests in Hedge Funds. An investment in a Hedge Fund issuing securities to TRS does not involve a delegation of investment discretion to an external manager for the External Manager Portfolio, including for purposes of the statutory limit on delegation to external managers, and the assets of a Hedge Fund are not TRS assets.

For the purposes of complying with Section 825.3012, Government Code, the Investment Division shall use the following criteria to analyze and determine whether a private investment fund is “primarily engaged in strategic trading” and should be classified as a hedge fund:

[\[Table appears on following page\]](#)



Criteria “Strategic Trading of Securities”	Characteristics Non-Hedge Fund	Characteristics Potential Hedge Fund
1. Variability in Asset Class Concentration	Asset allocation typically stays the same throughout a market cycle, as shown by historical practice	Unconstrained; asset class mix can change dynamically in response to market conditions or as opportunities arise
2. Beta to underlying index specified for the particular mandate	Generally higher levels of beta (e.g., 0.75+)	Often less beta (e.g., <0.75)
3. Securities Traded	Primarily publicly-traded securities	Typically public or private instruments, and often with some illiquid (e.g., “side pockets”) investments segregated for accounting and incentive fee purposes
4. Leverage	Gross leverage less than 250% <i>and</i> net leverage 75% to 125%	Unconstrained by policy and practice – managers often unwilling to commit to constraints
5. Short sales of company-specific securities (i.e., non-derivatives)	Typically <50% gross short	Shorting of company-specific securities is integral to investment strategy or process, with gross short positions exceeding 50%
6. Use of Derivatives	Limited use of derivatives (notional is less than 100% of contributed capital)	Derivatives are integral to strategy or process (notional value greater than 100% of contributed capital)
7. Transparency	Generally position-level transparency for investor	Risk-level transparency, but little or no position-level transparency
8. Liquidity	Limited use of lock-ups, short or no notice period; frequent (e.g., monthly) or no redemption windows	Often lock-ups, withdrawal fees, notice periods exceeding 30 days and/or less frequent redemption windows than monthly; gates and ability to suspend redemptions can extend redemption for years or frustrate liquidity goals
9. Performance Fees	May charge performance fees, but often over asset class hurdle	Generally, manager charges management and performance or incentive fees, or both, but usually with no asset class hurdle

In this Section 2.6:

Beta is a measure of an asset’s volatility in relation to a specific market or risk factor, as observed over a market cycle; the measure of an asset's risk in relation to the market (for example, the S&P500) or to an alternative benchmark or factors. Generally, the return of a security with a beta of 1.5 will be, on average, 1.5 times the market return.

Leverage is a condition in which the net potential monetary exposure of an obligation exceeds the value of the underlying assets supporting the obligation. **Net Leverage** is calculated as the difference between (A) the sum of (i) the market value of all long cash market positions, (ii) the notional value of all long derivative positions, and (B) the sum of (i) the absolute market



value of all short cash market positions, and (ii) the absolute notional value of all short derivative positions divided by (C) the net market value of the fund. **Gross Leverage** is the total of (A) the sum of (i) the market value of all long cash market positions, (ii) the notional value of all long derivative positions, (iii) the absolute market value of all short cash market positions, and (iv) the absolute notional value of all short derivative positions divided by (B) the net market value of the fund. For option based instruments, notional value may be calculated using hedge ratios to derive a delta-equivalent exposure.

Proposed investments in funds classified as Hedge Funds will be reported to the Board of Trustees (and appropriate Board committee, as applicable) quarterly. If the criteria examined do not clearly indicate, based on at least a preponderance of criteria, how a fund should be classified for statutory purposes, Investment Division may elect to present the pertinent information to the IIC for consideration of classification. Further, if the application of any one or more of the criteria for leverage, short sales, and derivatives, standing alone, would classify the fund as a Hedge Fund, but the preponderance of criteria would classify the fund as a non-Hedge Fund, the Investment Division may either decline to authorize the investment or may elect to present the pertinent information to the IIC for consideration of the classification of the fund and, if applicable, authorization for investment.

Prior to investment, the CIO will determine whether each Hedge Fund is a Stable Value Hedge Fund or a Directional Hedge Fund by reference to factors such as investment strategy, underlying investments, correlation, beta, leverage, expected return and expected risk.

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2.7. External Public Markets Portfolio Authorization Authorized Investments for External Public Markets Portfolio

- a. **Approval Authority – Hedge Fund Portfolio, External Manager and Other Absolute Return Portfolios** - The IIC is hereby authorized to approve investments in the External Public Markets Portfolio in accordance with the guidelines set forth in Section 2.5. The limits are defined and set forth in Appendix B of this Policy apply to allocations and commitments by the External Public Markets Portfolio.

The Investment Division may authorize an allocation to an external manager even if the external manager will invest the assets in a commingled fund or funds or a tax-qualified collective trust managed by an Affiliate of the external manager, provided, however, that the Investment Division shall determine whether any such commingled fund should be classified as a Hedge Fund for purposes of Section 825.3012, Government Code.

- b. **Board Consideration** - If a Board member desires that any Hedge Fund investment or external manager strategy mandate on the list delivered to the Board under Section 1.7 be submitted for consideration by the Board, the Board member should notify the Executive Director and the CIO sufficiently in advance to permit completion of due diligence and consideration by the Board before the anticipated closing date.
- c. **External Public Markets Advisors and Consultants** - The Investment Division is authorized to engage one or more qualified external advisors (each, an “Advisor”) to assist and advise the Investment Division with respect to investment opportunities within the EPM Portfolio. Each Advisor engaged by the Investment Division must be approved by the CIO and the Board. The applicable advisor or consultant will provide a prudence letter or letter of recommendation for all opportunities presented to the IIC unless an exception has been made by the CIO. Notwithstanding the foregoing, IIC consideration and approval of a sub-manager of an external manager who manages sub-managers does not in any event require a separate, additional prudence letter or letter of recommendation from an Advisor; provided, further, that such external manager of sub-managers (i) is fully liable for any action or omission of the sub-manager as if the action or omission had been taken by such external manager and (ii) recommends the engagement of the sub-manager in writing to the IIC. For avoidance of doubt, this paragraph does not prohibit the CIO from requesting a separate prudence letter from an Advisor with respect to the IIC’s consideration of a sub-manager to be recommended by a manager.
- d. **Authority to Execute Documents and Agreements for the External Public Markets Portfolio** - The general authority resolution adopted by the Board on August 13, 2010 and designating those officers authorized to execute documents and attached as Appendix E is incorporated in this Investment Policy. Should the Board supersede such resolution, such superseding resolution shall be incorporated in this Investment Policy and replace the superseded resolution as Appendix E as of the effective date of the superseding resolution.
- e. **Allocation measurement** - Only the net long position of each external manager, fund vehicle, separate account, or Hedge Fund will be counted against the asset allocation policy; however, both long and short positions will be modeled (through proxies if necessary) to calculate Total Fund risk.



- f. **Short positions limit** - In addition to investments authorized under Section 2.2, the External Public Markets Portfolio may hold short positions in securities listed on a national exchange or U.S. treasuries. The aggregate short positions exposure of the External Public Markets Portfolio may not exceed 25% of the market value of the External Public Markets Portfolio without the prior written consent of the CIO. In no event may the aggregate short positions exposure of the External Public Markets Portfolio exceed 50% of the market value of the External Public Markets Portfolio, nor may any short sale or position violate the laws or rules of any jurisdiction or exchange in or on which the applicable Securities are traded or listed.
- g. **Overlay strategies** – The External Public Markets Portfolio is authorized to engage in overlay strategies in accordance with the guidelines set forth in Article 7. Overlay strategies may not be used to circumvent the asset allocation parameters, risk guidelines, or any other controls otherwise established by this Policy.
- h. **Rebalancing Authority** – Subject to the limits set forth in this Policy, the CIO, Deputy CIO or the head of External Public Markets may add funds to previously approved investments for the purposes of rebalancing or adjusting risks. Such additional investments or allocations shall not, on a monthly basis, exceed 2% of the Hedge Fund Portfolio, External Manager Portfolio, or Other Absolute Return Portfolio (as appropriate) per investment. This subsection does not affect or limit the authority of the Investment Division to withdraw funds from approved investments.
- i. **Termination Authority** - The CIO, Deputy CIO or the head of External Public Markets may transfer, withdraw or terminate interests in the EPM Portfolio, provided that the action does not result in a material, unwaived breach of the terms and conditions of the applicable investment agreements.

2.8. External Public Markets Portfolio Restrictions

- a. Agency Agreements, considered in the aggregate, may not be used to circumvent the asset allocation parameters, risk guidelines, or any other controls otherwise established by this Policy, including the provisions of Section 2.2.
- b. The Investment Division may delegate management of not more than 30% (or a different percentage of not more than 50% if a different percentage is specified in the Government Code) of the market value of the assets of the Total Fund to external managers pursuant to Agency Agreements. For avoidance of doubt, this restriction does not apply to assets held by funds (including Hedge Funds) which limit the liability of TRS to the capital contributed and any distributions that TRS might be legally obligated to contribute or repay to the fund.
- c. The Investment Division is authorized to invest up to 10% (unless extended by law, this authority reverts to 5% on September 1, 2019) of the Total Fund in Hedge Funds as defined in Section 2.6. Compliance with the statutory limit is to be determined at the time TRS executes subscription documents for each Hedge Fund investment or additional investment.
- d. Each Agency Agreement with an external manager shall specify the applicable policies, risk controls, portfolio characteristics, reporting requirements, requirements or restrictions, including criteria for determining quality of investments or the use of standard debt rating services.
- e. Each Agency Agreement with an external manager shall terminate on or before September 1, 2019; provided, however, that an Agency Agreement may include provisions for optional renewal or extension of the agreement by the Investment Division beyond September 1, 2019 that are contingent on amendment of TRS statutes to authorize such agreements after that date.
- f. Each Agency Agreement shall require the external manager to comply with TRS restrictions and investments relating to direct holdings in companies having active business operations in Sudan or Iran, including divestment. TRS will comply with any requirements imposed by Section 806.057 of the Government Code relating to notification, requests, or action involving indirect holdings in funds containing listed companies.

#1b

2.9. External Public Markets Portfolio Conflicts of Interest

Conflicts of interest, including the appearance of conflicts, in the selection and engagement of external investment managers will be avoided at all times. Potential or actual conflicts of interest must be evaluated during due diligence and after engagement under applicable ethics policies and statutory provisions, including without limitation Sections 825.211 and 825.212, Government Code, which do not apply to Hedge Fund managers in that capacity. The Investment Division will develop guidelines and procedures to identify actual or potential conflicts of interest affecting external managers to be engaged pursuant to Agency Agreements. The Investment Division shall employ reasonable diligence to identify conflicts of interest affecting TRS trustees, employees and advisors with respect to all private investments.



ARTICLE 3 - PRIVATE MARKETS PORTFOLIOS

3.1. Private Markets ~~Component~~ Portfolios

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The ~~component portfolios of the~~ Private Markets Portfolios are (1) the Private Equity Portfolio (the “PE Portfolio”) and (2) the Real Assets Portfolio (the “RA Portfolio”). The Board shall approve the respective long-term normal allocation and the range of allocation for each ~~component~~ portfolio. ~~The Private Markets Portfolio has the following investment objectives:~~

- ~~a. Provide a long-term rate of return in excess of the return of the Policy Benchmark for each authorized Private Markets investment strategy;~~
- ~~b. Provide diversification to the Total Fund; and~~
- ~~e. Provide for enhanced returns and diversification within the Private Markets Portfolio by allocating assets among the various Private Asset strategies.~~

3.2. Private Markets ~~Portfolios Authorization~~ Portfolio Guidelines

The Private Markets Portfolios ~~is are~~ authorized to invest in the asset classes specified in this Policy and may hold and exercise rights, options and warrants attached to securities relating to an investment by the Private Markets Portfolios.

Funding of committed capital in either the PE Portfolio or the RA Portfolio will occur over an extended time period and may take several years before the total allocation to each asset class is fully invested. Because an individual investment may begin to return capital to the investor prior to the full funding of the investor’s commitment, the outstanding invested capital of the investment might at times be substantially less than the total commitment. In recognition of the above characteristics unique to the PE and RA Portfolios, a “committed” allocation to both private equity and real assets may exceed the respective allocation targets authorized. It will not be a violation of this Policy if changes in the market values of the ~~P~~public ~~A~~assets ~~P~~portfolios or the Private Markets Portfolios cause the market value of the Private Markets Portfolios to exceed the upper limit of the allocation ranges established in this Policy.

3.3. Private Markets Investment Process

Private Markets External Advisors and Consultants

The Investment Division is authorized to engage one or more Advisors to assist and advise the Investment Division with respect to investment opportunities within the Private Markets Portfolios. Each Advisor engaged by the Investment Division to provide investment advice with respect to private equity, real estate, and other real assets investments must be approved by the CIO, ~~either~~ the head of Private ~~Equity or the head of Real Assets (as appropriate),~~ Markets and the Board. Subject to the direction of the ~~Private Markets~~private equity or real assets ~~investment S~~staff, ~~as appropriate (each, the a~~ “Private Markets Team”), Advisor duties may include, but are not limited to, the following:

#4

- a. Performing due diligence on specific Private Markets investment opportunities assigned by ~~the a~~ Private Markets Team;
- b. Providing research related to private equity and real assets markets and opportunities, economic conditions, and performance expectations;
- c. Assisting ~~the a~~ Private Markets Team, upon request, in identifying potential Private Markets investment opportunities;
- d. Providing, upon request, written recommendations to ~~the a~~ Private Markets Team regarding investments for the Private Markets Portfolios; and
- e. Assisting ~~the a~~ Private Markets Team in the negotiation of required investment contracts and legal documentation.
- f. Providing a prudence letter or letter of recommendation for all opportunities presented to the IIC unless an exception has been made by the CIO.

To the extent an Advisor is directed by ~~the a~~ Private Markets Team to perform due diligence on an investment opportunity, such due diligence will be performed in accordance with prudent underwriting objectives established by ~~the a~~ Private Markets Team for the TRS Private Equity and Real Assets programs. Each investment opportunity must meet these prudent underwriting standards in order to merit inclusion within the respective portfolios.



3.4. Private Markets Authorization of Investments for Private Markets Portfolios

Investment Authority.

#1c. Green language moved from Article 4

The limits defined and set forth in Appendix B of this Policy apply to allocations and commitments by the Private Equity Markets Portfolios.

If, after due diligence by either of the Advisor and the Investment Division, the Advisor and the Investment Division do not concur on whether a ~~Private Equity~~ private markets investment within the Investment Division's discretion should be submitted to the IIC made, the Investment Division may elect to present the opportunity to the appropriate Board committee for consideration of a recommendation to the Board to authorize the investment. Unless the Board authorizes an investment, a proposed investment may not be made without the concurrence of both the Investment Division and the Advisor.

Private equity markets opportunities that will be considered for investment include the following: primary investments in any legally permissible investment vehicle, including limited liability entities (usually limited partnerships), co-investments, secondary investments, commingled funds, separate accounts, hybrid structures investing in equity or debt, joint ventures, secondary market transactions, entity-level investing or other off-market investments, new and emerging managers, and opportunistic investments (e.g., investments in the management entity of a private equity markets investment firm or sponsor, public-to-private transactions, and the acquisition of business development company or investment trust assets).

To the extent a Board member desires that any private equity markets investment opportunity submitted for consideration by the IIC be also submitted for consideration by the trustees, the Board member should notify the Executive Director and the CIO sufficiently in advance to permit completion of due diligence and consideration by the Board and by the appropriate Board committee, as applicable, before the anticipated closing date.

The CIO, Deputy CIO or either the head of Private Markets Equity or the head of Real Assets (as applicable) may transfer, withdraw or terminate interests in the Private Equity Markets Portfolios in accordance with the investment documents, provided that the action does not breach any agreement to which TRS is legally bound.

#1c Private Equity Portfolio Commitment Authorization. Each private equity investment must be authorized as required by the provisions, guidelines, and limitations established in this Policy.

Real Assets Portfolio Commitment Authorization. Each real assets investment must be authorized as required by the provisions, guidelines, and limitations established in this Policy. ~~The Real Assets Portfolio may invest in any legally permissible investment vehicle, including separate accounts, commingled funds, and other hybrid investment structures investing in real assets equity or debt, which may include joint ventures, co-investments, secondary market transactions, entity level investing or other off-market investments.~~ Any structure in which TRS invests shall meet established legal requirements.

#4 Limited Partner or Investor Advisory Committees. When approved by the CIO or either the head of Private Equity or the head of Real Assets (as appropriate) Markets, ~~PE and RA Investment Staff~~ Private Markets Team members may serve as investor representatives on the advisory committee of any private equity or real assets investment vehicle to which TRS has committed capital.

Authority to Execute Documents and Agreements for the Private Markets Portfolios. The general authority resolution adopted by the Board on August 13, 2010 and designating those officers authorized to execute documents and attached as Appendix E is incorporated in this Investment Policy. Should the Board supersede such resolution, such superseding resolution shall be incorporated in this Investment Policy and replace the superseded resolution as Appendix E as of the effective date of the superseding resolution.

#4 Rebalancing Authority. Subject to the limits set forth in this Policy, the CIO, Deputy CIO or either the head of ~~External Private Markets~~ Private Equity or the head of Real Assets (as appropriate) may add funds to previously approved investments for the purposes of rebalancing or adjusting risks. Such additional investments or allocations shall not exceed, on a monthly basis, 2% of each of the Private Equity Portfolio or the Real Assets Portfolio (respectively, as appropriate) per investment. This subsection does not affect or limit the authority of the Investment Division to withdraw funds from approved investments; provided, the withdrawal does not breach any agreement by which TRS is legally bound.

Overlay Authority. The Private Markets Portfolios ~~is~~ are authorized to engage in overlay strategies in accordance with the guidelines set forth in Article 7. Overlay strategies may not be used to circumvent the asset allocation parameters, risk guidelines, or any other controls otherwise established by this Policy.



3.5. Private Equity Markets Portfolio Restrictions

- a. As part of the Investment Division's due diligence, the Investment Division will seek to obtain assurance from prospective private equity markets fund managers or sponsors that they will use commercially reasonable best efforts, consistent with their duties to all investors, to avoid investing in companies or enterprises that derive a significant portion of their revenues from products or services intended exclusively to appeal to a prurient interest in sex. These would include, but not be limited to, sexually explicit films, videos, publications, and software; topless bars and strip clubs; and sexually oriented telephone and Internet services. Notwithstanding any other provision of this Policy, it is not a violation of this Policy if the Investment Division proceeds with a private equity investment based on oral or non-contractual written assurance.
- b. TRS will comply with notification requests or action required by Section 806.057, Government Code relating to indirect holdings in listed companies through private equity funds. To the extent the Private Equity Markets Portfolios contains direct investment holdings in publicly-traded securities of listed scrutinized companies doing business in Sudan or Iran, the Investment Division will comply with TRS restrictions and reporting requirements for direct holdings. Co-investments shall comply with TRS restrictions relating to direct holdings in companies having active business operations in Sudan or Iran, including divestment.

ARTICLE 4 - PRIVATE EQUITY PORTFOLIO

4.1. Private Equity Portfolio Objectives

Diversification

The primary long-term objective of the PE Portfolio is to develop a prudently diversified portfolio of investments that is expected to enhance the overall risk-return profile of the Total Fund and to reduce risk within the PE Portfolio.

The following attributes will be considered in constructing a diversified PE Portfolio: strategy, geography, industry sectors, size of investment, and vintage year.

#1b 4.2. Private Equity Portfolio Authorized Investments for Private Equity Portfolio

Private equity funds build portfolios of private investments in the equity or equity-rights securities of privately owned operating companies. Private equity funds may acquire investments in debt obligations, public or private common and preferred stocks, convertible securities, and any warrants, rights, or options attached to any of the foregoing that relate to equity ownership in an issuer. Privately-acquired securities usually have transfer restrictions and are not as liquid as publicly-traded securities. Private equity funds are often classified by strategy, including: venture capital; mezzanine; buyout - acquisition; international - emerging markets; and special situation (e. g., growth equity, turnarounds, distressed).

Investment Authority

1c. Green language moved to Article 3

~~The limits defined and set forth in Appendix B of this Policy apply to allocations and commitments by the Private Equity Portfolio.~~

~~If, after due diligence by either of the Advisor and the Investment Division, the Advisor and the Investment Division do not concur on whether a Private Equity investment within Investment Division's discretion should be submitted to the IIC, the Investment Division may elect to present the opportunity to the appropriate Board committee for consideration of a recommendation to the Board to authorize the investment. Unless the Board authorizes an investment, a proposed investment may not be made without the concurrence of both the Investment Division and the Advisor.~~

~~Private equity opportunities that will be considered for investment include the following: primary investments in limited liability entities (usually limited partnerships), co-investments, secondary investments, new and emerging managers, and opportunistic investments (e.g., investments in the management entity of a private equity investment firm or sponsor, public to private transactions, and the acquisition of business development company or investment trust assets).~~

~~To the extent a Board member desires that any private equity investment opportunity submitted for consideration by the IIC be also submitted for consideration by the trustees, the Board member should notify the Executive Director and the CIO~~



~~sufficiently in advance to permit completion of due diligence and consideration by the Board and the appropriate Board committee before the anticipated closing date.~~

~~The CIO, Deputy CIO or the head of Private Markets may transfer, withdraw or terminate interests in the Private Equity Portfolio in accordance with the investment documents, provided that the action does not breach any agreement to which TRS is legally bound.~~

~~Private Equity Portfolio Restrictions~~

- ~~c. As part of the Investment Division's due diligence, the Investment Division will seek to obtain assurance from prospective private equity fund managers or sponsors that they will use commercially reasonable best efforts, consistent with their duties to all investors, to avoid investing in companies or enterprises that derive a significant portion of their revenues from products or services intended exclusively to appeal to a prurient interest in sex. These would include, but not be limited to, sexually explicit films, videos, publications, and software; topless bars and strip clubs; and sexually oriented telephone and Internet services. Notwithstanding any other provision of this Policy, it is not a violation of this Policy if the Investment Division proceeds with a private equity investment based on oral or non-contractual written assurance.~~
- ~~d. TRS will comply with notification requests or action required by Section 806.057, Government Code relating to indirect holdings in listed companies through private equity funds. To the extent the Private Equity Portfolio contains direct investments in publicly traded securities of listed scrutinized companies doing business in Sudan or Iran, the Investment Division will comply with TRS restrictions and reporting requirements for direct holdings. Co-investments shall comply with TRS restrictions relating to direct holdings in companies having active business operations in Sudan or Iran, including divestment.~~

4.3 Private Equity Portfolio Restrictions

The Private Equity Portfolio is authorized by and is subject to the terms and conditions described in Article 3.

ARTICLE 5 - REAL ASSETS PORTFOLIO

5.1 Real Assets Portfolio Objectives

The Real Assets ("RA") Portfolio will be structured to achieve the following investment objectives:

- a. As the primary focus, contribute favorably to diversification of the Total Fund through exposure to real assets' low or negative correlation to the Public Markets portfolios.
- b. Provide competitive returns through capital appreciation.
- c. The following attributes will be considered in constructing a diversified RA Portfolio: strategy, geography, property types, size of investment, ~~and vintage year~~the RA Portfolio will be prudently diversified by sub-asset class (benchmark type), property type, geographic location, and the number of funds or investment managers represented in the portfolio. No specific geographic diversification or leverage targets are required.

1c. Green language moved from Section 5.4

5.2 Real Assets Portfolio Authorized Investments for Real Assets Portfolio

The RA Portfolio will focus on private or public real estate equity or equity linked investments, private or public real estate debt, infrastructure, timber, agricultural real estate, oil and gas, real asset mezzanine debt or equity, mortgage-related investments, entity-level investments, real estate investment trusts ("REITs"), master limited partnerships ("MLPs"), non-fixed assets and other opportunistic investments in real assets. Real estate investments are often classified by strategy, including: core; core-plus; value-added; and opportunistic.



5.3—Real Assets Investment Authority

1c. Deleted blue language in this Article 5 is redundant with language in Article 3

Investment Authority

~~The limits defined and set forth in Appendix B of this Policy apply to allocations and commitments by the Real Assets Portfolio. If, after due diligence by either of the Advisor and the Investment Division, the Advisor and the Investment Division do not concur on whether a Real Assets investment within the Investment Division's discretion should be made, the Investment Division may elect to present the opportunity to the appropriate Board committee for consideration of a recommendation to the Board to authorize the investment. Unless the Board authorizes an investment, a proposed investment may not be made without the concurrence of both the Investment Division and the Advisor~~

~~Real Assets strategies that will be considered for investment include the following: primary investments in limited liability entities (usually limited partnerships); co-investments; secondary investments; separate accounts, new and emerging managers; and opportunistic investments (e.g., investments in the management entity of an investment sponsor and public to private transactions).~~

~~To the extent a Board member desires that any real assets investment opportunity on the RA Opportunity Log be submitted for consideration by the trustees, the Board member should notify the Executive Director and the CIO sufficiently in advance to permit completion of due diligence and consideration by the Board and by the appropriate Board committee, as applicable, before the anticipated closing date.~~

~~The CIO, Deputy CIO or the head of Private Markets may transfer, withdraw or terminate interests in the Real Assets Portfolio accordance with the investment documents, provided that the action does not breach any agreement to which TRS is legally bound.~~

5.4—Real Assets Diversification

~~The primary long-term objective of the RA Portfolio is to develop a prudently diversified portfolio of investments that is expected to enhance the overall risk-return profile of the Total Fund and reduce risk within the RA Portfolio. Therefore, the RA Portfolio will be prudently diversified by sub-asset class (benchmark type), property type, geographic location, and the number of funds or investment managers represented in the portfolio. No specific geographic diversification or leverage targets are required.~~

Green language moved to Section 5.1

5.5.3 Real Assets Portfolio Restrictions

~~Aggregate annual commitments to real assets can be expected to vary with the market value of the Total Fund or the Real Assets Portfolio, and the overall economic and real assets environment. Therefore, during the early stages of the program and until the RA Portfolio approaches its investment allocation target, the following restrictions might be exceeded.~~

- a. ~~As part of the Investment Division's due diligence, the Investment Division will seek to obtain proper assurance from prospective investment managers or sponsors of RA funds that they will use commercially reasonable best efforts, consistent with their duties to all investors, to avoid investing in companies or enterprises that derive a significant portion of their revenues from products or services intended exclusively to appeal to a prurient interest in sex. These would include, but not be limited to, sexually explicit films, videos, publications, and software; topless bars and strip clubs; and sexually oriented telephone and Internet services. Notwithstanding any other provision of this Policy, it is not a violation of this Policy if the Investment Division proceeds with a RA fund investment based on oral or non-contractual written assurance.~~
- b. ~~To the extent the Real Assets Portfolio contains direct investments in publicly traded securities of listed Sudan or Iran companies, TRS will require compliance with TRS restrictions and reports involving direct holdings as well as notification requests for indirect holdings. Co-investments will comply with TRS restrictions relating to direct holdings in companies having active business operations in Sudan or Iran, including divestment.~~
- a. e. ~~Not more than 5% of the Total Fund may be invested to in certain real asset strategies. For the purposes of this calculation, these certain real assets include timber, agricultural real estate, oil and gas, master limited partnerships ("MLPs"), and non-fixed assets.~~
- b. ~~The Real Assets Portfolio is authorized by and is subject to the terms and conditions described in Article 3.~~



ARTICLE 6 – EMERGING MANAGERS PROGRAM

TRS shall make a good-faith effort to invest with qualified emerging managers for the External Managers Portfolio, Private Equity Portfolio, and the Real Assets Portfolio. The Investment Division is authorized to invest with qualified funds-of-funds managers skilled at identifying small and emerging managers in the private equity, real asset and public equity markets. The target dollar allocation is outlined for this program in Appendix C.

Emerging managers can include, but are not limited to, minority, women, and disabled veteran-owned or -controlled organizations. Conversely, not all minority, women, and disabled veteran-owned or -controlled organizations are necessarily considered emerging managers for the purposes of this program. Whether a management firm is an “emerging manager” depends on all of the facts and circumstances. In general, emerging managers are defined as newer, independent private investment management firms that manage less than \$2 billion, or have a performance track record as a firm shorter than five years, or both.

Green language moved from Appendix C

All investments with emerging managers will be subject to due diligence by an independent qualified external advisor. The advisor will present each investment recommendation to the IIC for its approval. In general, an emerging manager should be registered with the appropriate authorities if such registration would be consistent with industry practices. Each investment will have a minimum size of \$5 million. With respect to the External Manager Public Markets Portfolio, the total investment by TRS with each emerging manager may not exceed 40% of such emerging manager’s assets under management. With respect to the Private Equity Portfolio and the Real Assets Portfolio, the total investment by TRS into each fund raised by an emerging manager may not exceed 40% of the size of such fund. This paragraph does not apply to investments executed as part of a fund-of-funds mandate.

The Investment Division shall document its efforts to identify and expand its investments with qualified emerging managers for the purpose of board and legislative reporting on the methods and results, including data disaggregated by race, ethnicity, gender, and fund size. All investments under the emerging manager program must be made prudently and in accordance with fiduciary and ethical standards.

ARTICLE 7 - OVERLAY PORTFOLIOS

7.1. Overlay Portfolios Objectives

Overlay Portfolios are designed to manage risk, asset allocation, and market exposures through futures, options, swap agreements, or forward agreements. Overlay Portfolios may be implemented in connection with the Total Fund or with any investment or portfolio within the Total Fund.

7.2. Overlay Portfolios Authorized Investments ~~for Overlay Portfolios~~

Overlay Portfolios may contract for, buy, sell, and hold the following contracts and derivative instruments in accordance with this Policy:

- a. Exchange-traded futures contracts;
- b. Exchange-traded option contracts;
- c. Options on exchange-traded futures contracts;
- d. Over-the-counter or exchange-traded swap agreements;
- e. Over-the-counter option agreements;
- f. Forward agreements; and
- g. Forward-settling securities transactions.

7.3. Overlay Portfolios Restrictions

Overlay Portfolios may not be used to circumvent the asset allocation parameters, risk guidelines, or any other controls or restrictions otherwise established by this Policy or applicable law.



Direct purchase of derivatives underlain by physical commodities is prohibited for any TRS portfolio unless such derivatives are cash-settled. This prohibition does not apply to private investment funds, including Hedge Funds.

When engaging in currency overlay strategies, the Overlay Portfolio may not increase or decrease the net notional exposure of the Total Fund:

- a. To all non-dollar currencies in aggregate by more than 5% of the market value of the Total Fund;
- b. To any single developed market currency (except for the U.S. Dollar) by more than 2% of the market value of the Total Fund; and
- c. To any single emerging market currency by more than 1% of the market value of the Total Fund.

The foregoing percentage limit restrictions do not apply to currency derivatives used (i) as part of the non-discretionary foreign exchange risk management policy described in Section 9.2, (ii) to settle security transactions denominated in those foreign currencies and any authorized instrument or contract intended to manage transaction or currency exchange risk in purchasing and selling investments and (iii) for hedging the characteristics of an individual investment to align it with the characteristics of such investment's benchmark.

ARTICLE 8 - AUTHORIZED USES OF DERIVATIVES

This Article enumerates the applications, documentation and limitations for the use of derivatives as permitted under Section 825.301, Government Code.

#1b 8.1. Derivatives Objective and Investment Standard ~~Applicable to Derivatives~~

The Board's objectives for using derivatives are to efficiently manage and reduce the risk of the overall investment portfolio. Through the use of derivatives, the ~~complex~~ risks that are bound together in traditional cash market investments can be separated and managed independently.

Derivatives authorized by this Policy may only be used to efficiently manage and reduce the risk of the overall investment portfolio in accordance with applicable law. In addition, all uses of derivatives must comply with the fiduciary standard of prudence set forth in Article XVI, Section 67(a)(3), Texas Constitution, which requires that all TRS investments must be made using the judgment and care under the circumstances then prevailing that persons of ordinary prudence, discretion, and intelligence exercise in the management of their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income there from as well as the probable safety of their capital.

8.2. Scope of Derivatives Policy ~~Scope~~

Except where specifically noted, this Policy applies to all derivatives transactions executed by the Investment Division and by external managers operating under an Agency Agreement. This Policy does not apply to registered or private investment funds, including limited liability entities, issuing securities to TRS.

This Policy applies to all exchange-traded derivatives and over the counter ("OTC") derivative instruments authorized by law. This Policy does not apply to the use of derivatives by private investment funds issuing securities to TRS unless TRS in fact controls and has a legal right to approve the investment policy or guidelines of such funds.

8.3. Uses of Derivatives ~~Use~~ by External Managers and Commingled Funds (Hedge Funds)

The Total Fund may have external exposure to derivatives in two ways.

- a. First, the Total Fund will invest as a passive investor in Hedge Funds organized as limited-liability entities, which limits potential losses to the capital contributed to the entity. TRS is not a party to the management agreement between the Hedge Fund and its investment manager. Hedge Fund and other commingled fund managers owe the same legal duties to all investors.
 - i. The Investment Division must exercise thorough due diligence in assessing the scope of the Hedge Fund manager's uses of derivatives, their purpose, experience of the fund manager's staff in managing these positions, inherent leverage, and the manager's systems, controls and operations in determining suitability of these entities for TRS investment.



- b. Second, TRS may delegate discretion, through Agency Agreements, to external managers who act as a TRS agent with respect to Total Fund assets and who are authorized to enter into specified contracts and commitments that will be legally binding on TRS. External managers are TRS fiduciaries.
 - i. For external managers engaged pursuant to Agency Agreements, Investment Division must view the external manager as an extension of the internal Investment Division's investment management processes and must require external managers to comply with this Policy and applicable guidelines and law on the use of derivatives to the same extent as Investment Division. Guidelines for the scope and use of derivatives will be established on a case-by-case basis with each external manager in the applicable Agency Agreement. An external investment manager of publicly-traded investments engaged by TRS under an Agency Agreement may engage in derivatives transactions only if expressly authorized by, and the transactions are consistent with, the overall investment objectives and restrictions established in the Agency Agreement, this Policy, and applicable law. Each Agency Agreement must be consistent with applicable law, this Policy, and other TRS policies. An Agency Agreement may only authorize such uses of derivative instruments when the Investment Division reasonably concludes after due diligence that the external manager possesses the experience, expertise, and qualifications to prudently use derivatives, and has appropriate operational, compliance, and risk management personnel, policies, and procedures to effectively monitor and control their use, including the use of leverage.
 - ii. Selection, engagement, and monitoring of external managers engaged through an Agency Agreement requires a clear understanding of the managers' uses of derivatives, particularly as it relates to various risk controls, compliance functions, and leverage. Investment Division will monitor risk exposures and leverage on both an individual entity and aggregate basis. The permitted uses of derivatives and leverage by each external manager must be fully documented in each Agency Agreement.

8.4. ~~Derivatives Definition of Derivatives~~; Authorization

Derivatives are financial instruments the value of which are derived, in whole or part, from the value of any one or more underlying securities or assets, or index of securities or assets (such as a bonds, stocks, financial commodities, and currencies). For the purposes of this Policy, derivatives include, without limitation, futures contracts; options; options on futures contracts; forward contracts; swap agreements, including swap contracts with embedded options; any instrument or contract intended to manage transaction or currency exchange risk in purchasing, selling or holding investments; and any other instrument commonly used by institutional investors to manage institutional investment portfolios. Derivatives, for purposes of this policy, do not include currency forwards with a tenor of 30 days or less if such forwards do not require upfront amounts to be paid or received. Derivatives may be purchased through a national exchange or through a direct OTC arrangement with a counterparty.

Except as specifically provided in Article 5.2, this Policy does not apply to, or authorize, any use of derivatives underlain by physical commodities (unless such derivatives are cash-settled), single-asset real estate mortgages, or title to real estate or property affixed to real estate.

8.5. ~~Permitted Derivatives Applications~~ Permitted

Consistent with the objectives set out in Article 8.1, derivative applications may be used by Investment Division and external managers engaged through Agency Agreements to:

- a. Implement investment strategies in a lower cost and efficient manner;
- b. Efficiently manage the Total Fund portfolio by altering the portfolio's market (systematic) exposure in lieu of trading the underlying cash market securities through purchases or short sales, or both, of appropriate derivatives;
- c. Construct portfolios with risk and return characteristics that could not be efficiently created with cash market securities consistently with the objectives in this Policy and in compliance with applicable law;
- d. Hedge and control risks so that the Total Fund's risk-return profile is more closely aligned with the Total Fund's targeted risk-return profile through purchases or short sales, or both, of appropriate derivatives; and
- e. Facilitate transition trading when holdings must be rebalanced or reallocated among permissible investments as a result of changes to applicable benchmark indexes or policy changes.



The only authorized uses of derivative transactions are efficient portfolio management and reduction of risk in portfolios and to implement investment strategies authorized by this Policy more effectively and at a lower cost than would be possible in the cash market. External managers may not engage in derivative applications that are inconsistent with the applicable Agency Agreement, this Policy and applicable law, unless specifically authorized by the TRS Board and the Agency Agreement has been amended accordingly.

8.6. Derivatives Applications Not Permitted

Derivatives may not be used for any activity a primary purpose of which is speculation or to profit while materially increasing risk to TRS. Derivatives are considered speculative if their uses have no material relation to objectives and strategies specified by this Policy or any related policies or resolutions of the Board, and their use is not reasonably and substantially intended to produce efficiency in portfolio management and reduce market, credit, or liquidity risks applicable to the portfolio. Derivatives may not be used for circumventing limitations or restrictions imposed by this Policy or applicable regulatory requirements.

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~~The tenor of interest rate over the counter (“OTC”) swaps may not exceed 30 years or shorter based on market liquidity.~~

~~The tenor of all other OTC derivative instruments may not exceed 5 years.~~

Derivative applications may only be used to invest in asset classes that are consistent with TRS’s legally permissible policy asset categories (including currencies), implementation strategies, and risk-return characteristics.

Except as specifically provided in Article 5.2, investments in derivatives underlain by physical commodities are prohibited unless such derivatives are cash-settled.

8.7. Derivatives Documentation and Controls

Prior to the implementation of a new internal derivative instrument type or application, Investment Division shall document the purpose, justification, baseline portfolio, derivative application portfolio, risks (including, at a minimum, market, modeling, pricing, liquidity, and legal risks), the expected increase or reduction in systematic and idiosyncratic risk resulting from the application, the amount of leverage employed under the strategy, the prudent reasons for employing leverage, and the procedures in place to monitor and manage the derivative exposure. The documentation will be approved by the CIO and reported to the IIC and the Board (or appropriate Board committee, as applicable) at their next regularly-scheduled quarterly meetings. The Investment Division shall adopt fully documented control procedures to properly account and value the Total Fund’s exposure to each derivatives application, whether internal or external under an Agency Agreement. The Investment Division shall establish an appropriate risk management procedure to monitor compliance both internally and by external managers and will take corrective action if necessary. The Investment Division shall have due regard for operational risks associated with various derivatives strategies, including risk management, accounting systems, liquidity needs, adequate staffing, and staff qualifications.

8.8. ~~Derivatives Limitations~~ Applicable to Derivatives

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Counterparty Risks: In order to limit the financial risks associated with derivative applications, guidelines for rigorous counterparty selection criteria and ISDA agreements shall be created by the Investment Division to reduce counterparty risk for over-the-counter (“OTC”) derivatives. Any counterparty in an OTC derivative transaction with TRS must have a credit rating of at least A- (Standard & Poor’s or Fitch) or A3 (Moody’s). All OTC derivative transactions, including those managed through Agency Agreements, must be subject to established ISDA Master Agreements or, if centrally cleared, clearing agreements and have full documentation of all legal obligations of both parties to each transaction. All ISDA Master Agreements entered into by or on behalf of TRS by the Investment Division or an external manager engaged pursuant to an Agency Agreement (if applicable) shall provide for netting of obligations. The Investment Division and external managers may also use collateral arrangements to mitigate counterparty credit or performance risk. The net market value of all OTC derivative positions, including those managed through Agency Agreements, less collateral posted, for any individual counterparty may not exceed \$500 million. The net market value of all OTC derivative positions for any individual counterparty, without consideration of collateral, may not exceed 5% of the total market value of the Fund. If these market-value limits are exceeded, the Investment Division will inform the CIO, Executive Director, and Chairman of the appropriate Board committee as soon as practicable and take appropriate corrective action within a 90-day period or develop a corrective action plan that will be presented to the Board at its next regularly scheduled meeting at which investment matters will be discussed following the initial 90-day corrective action period.



Global Risk Limitations: Notwithstanding other limitations in this Policy, transactions that would cause the aggregate risk exposure of the Total Fund, including externally-managed portfolios, to exceed the aggregate risk limits established by the current asset allocation policies of the Board are not permitted. On a Total Fund basis, the combined economic exposure introduced through both cash and derivative market positions is subject to the asset allocation ranges, risk limits, and other portfolio parameters described in this Policy.

Position Limits: For futures and options positions TRS will comply with all position and aggregate limits established by the applicable regulatory and legal organizations and authorities within each jurisdiction.

8.9. Derivatives Risk Management and Compliance

To ensure compliance with this Article 8, all internally- and externally-managed derivatives (other than derivatives held in Hedge Funds) must be marked to market on a daily basis by the Fund's external custodian(s), and such daily reports will be reviewed for accuracy by the TRS Risk Management staff and Investment Administration Center personnel. Compliance with the requirements of this Policy will be monitored by the TRS Investments Compliance Officer using information systems and data from internal and external sources. Any violations of this Article 8 will be reported immediately to the Executive Director and to the Chief Investment Officer, who will determine, if considered material as determined by Investments Compliance Officer, Chief Investment Officer, and Executive Director, the appropriate remedy and report promptly to the Board (and the appropriate Board committee, as applicable).

ARTICLE 9 – RISK MANAGEMENT AND OVERSIGHT

9.1. Market Risk Management

The Investment Division will establish a framework for measuring enterprise-level risk for both the Total Fund Portfolio and the established benchmark, including any transition benchmarks employed during asset allocation shifts. At a minimum, this framework must include a quantified estimate of downside risk (e.g., value-at-risk (“VaR”), estimated shortfall, or various parametric and non-parametric statistics). The Investment Division will monitor the relative positioning of the Total Fund Portfolio vis-à-vis the benchmark no less frequently than monthly.

- a. **Asset allocation limits** – In addition to the Total Fund Portfolio level risk limits, the portfolio will be constrained to the asset allocation percentages and ranges prescribed by this Policy. Accordingly, the total exposure to each asset class must be based on the individual exposures of each cash security and each outstanding derivative contract.
- b. **Risk limit** – ~~TRS staff~~The Investment Division will model and monitor the Total Fund Portfolio and benchmark to ensure that the total estimated risk for the Public Markets portion of the Portfolio is within the upper and lower bounds corresponding to the maximum and minimum downside risk measures that could be achieved through the asset allocation limits in this Policy.
- c. **Proxy securities and indices** – If necessary and prudent, ~~staff~~the Investment Division will employ proxies to approximate the economic characteristics of actual investments if the terms and conditions of the actual investments or the underlying holdings are not readily available or where the complexity of the underlying investment renders a deterministic model impractical.
- d. **Transition portfolio** – During portfolio transitions from or to private market investments in real estate, other real assets, or private equity, a transition benchmark may be employed that either explicitly creates placeholders for unfunded private investments or that treats the allocations to private market assets separately from the allocations to public market assets based on the funded portion of the Private Markets Portfolios. In either case, the risk statistics and limits will be applied relative to this transition benchmark.
- e. **Private market assets holdings** – ~~Staff~~The Investment Division may include private investments in real estate, other real assets, and private equity in this analysis either by proxy or by actually modeling the terms and conditions of the underlying exposures; however, if the inclusion of these investments is deemed to distort the true risk characteristics of the portfolio, the Board may approve the use of an alternative methodology for analyzing the risk characteristics of those investments.
- f. **Active risk limits** – In addition to the portfolio-level risk statistics described above, a target tracking error will be imposed on each asset class mandate whether implemented through internal or external managers or commingled funds. Additionally, a target tracking error will be imposed on the entire portfolio that takes into account both



internally and externally managed portfolios and commingled funds as well as both asset allocation and security selection decisions. These limits are specified in Appendix A, attached hereto.

9.2. Foreign-Exchange Risk Management

The objective of the Foreign-Exchange (“F/X”) policy is to effectively manage portfolio return volatility associated with foreign currency risk. F/X risk is the possibility of a negative currency return as a result of adverse movements in foreign exchange rates. The F/X policy sets forth a structure and implementation plan to determine the level of strategic currency risk that the Fund is willing to tolerate.

F/X Policy Structure

The “PHRs” are policy hedge ratios that will be separately applied to the Fund’s public-markets and private-markets non-dollar exposures. PHR is the percentage of aggregate, non-dollar currency exposure to be passively hedged. The hedging horizon for the PHRs is intermediate (one to three years). The results of the PHR decisions will be presented to the Board (or the appropriate Board committee, as applicable) for approval by the Board and incorporated into the benchmark as prescribed in Appendix D.

From an implementation perspective, an F/X overlay manager would have responsibility for implementing the PHR decisions and would not exercise delegated investment discretion. The F/X overlay may be implemented internally or externally. If external, the non-discretionary F/X overlay manager would not fall under the definition of either an “external manager” or a Hedge Fund. A non-discretionary external F/X overlay manager would merely implement the investment decision that has already been made by the IIC.

9.3. Credit Risk Management

- a. **Counterparty exposures** – The maximum allowable unsecured counterparty exposure for OTC derivative transactions is \$500 million, based on the total net market value of all OTC positions held with each counterparty. The total counterparty exposure for each counterparty, including the collateralized portions of these agreements, may not exceed 5% of the market value of the Total Fund. The minimum credit rating, based on a nationally recognized statistical rating organization (“NRSRO”), must be at least A- or better at the inception of the contract. For any counterparty that experiences deterioration in credit quality that results in a NRSRO rating below the A- level, subsequent to the inception of transaction, additional eligible collateral may be posted, or the transaction may be terminated.
- b. All OTC derivatives must be governed by an ISDA Master Agreement and Credit Support Annex [or, if centrally cleared, by clearing agreements](#), and must include both close-out netting provisions and collateralization provisions.
- c. **Repurchase agreements** – The counterparty limits for repurchase transactions and tri-party repurchase transactions may not exceed 5% of the market value of the Total Fund unless those transactions are covered by a third-party indemnification agreement by an organization that bears a long-term NRSRO credit rating of A- or better and is enhanced by acceptable collateral. Each repurchase agreement will be entered into under the PSA/ISMA Global Master Repurchase Agreement.

Each ISDA Master Agreement must also include a table that delineates the excess purchased securities margin (haircut) required, based on the collateral type, duration, and credit quality.
- d. **Securities lending** – When securities lending activity is performed by an external, third party lending agent, Investment Division will examine the credit underwriting practices of the lending agent, including enforcement of collateral requirements, counterparty analysis, and surveillance. Additionally, Investment Division will periodically review the securities lending lines by counterparty. A securities lending agent must be an organization rated A- or better by a NRSRO. More detailed information about TRS securities lending activities is specified in the separate Securities Lending Policy.

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9.4. Liquidity Risk Management

The objective of the Liquidity Risk Management policy is to ensure that the Fund maintains ample liquidity to meet its funding commitments. The two kinds of commitments which necessitate a prudent liquidity policy are:

- a. Disbursements of benefits and related obligations to plan participants, including retirement, death, health, and disability benefits payments.
- b. TRS investment activities: These are mainly associated with risk management and funding of external managers. Some examples include:
 - i. TRS engages in derivatives to efficiently manage and reduce risk of the overall investment portfolio. Use of these instruments requires liquidity for collateral, margin and payment obligations at the time of a reset, call or maturity;
 - ii. TRS funds accounts managed by public markets external managers; and
 - iii. TRS manages unfunded capital commitments that the Fund is legally obligated to fund when called by private equity or real asset general partners.

External Funding Authority

The Investment Division is authorized to establish external funding mechanisms (such as master repurchase agreements with one or more counterparties) and the flexibility to operate in all types of market liquidity environments to allow prudent management of these commitments while achieving a long-term rate of return and adhering to the asset allocation limits outlined in this Policy. In addition to these external funding mechanisms, TRS will maintain adequate funds in its custodial account to cover investment-related obligations. Finally, the Board authorizes the Investment Division to access the cash holdings backing the OTC swaps to manage its commitments.

Limitations Applicable to External Funding Authority

Liquidity provided from these external funding mechanisms may not exceed 2% of the market value of the Total Fund. The expectation is that the liquidity funded through external funding mechanisms will be short-term (less than 30 days). The Investment Division must seek approval from the CIO for extended use of external funding sources. The Investment Division shall report such approvals for extended use to the Board not later than the next regular quarterly meeting.

9.5. Operations Risk Management

- a. **Overdrafts** – The Investment Division will monitor the frequency and costs associated with all overdraft activity.
- b. **Custodial Bank(s)** – The Investment Division will conduct on-site due diligence to review the operational controls set in place by all custodial banks. The Investment Division will also consider the extent of remedies provided by the custodian and its overall ability to fulfill its commitments should operational failures occur.

9.6. Settlement Risk Management

The Investment Division will monitor unsettled trade activity by counterparty and instrument type.

9.7. Legal Risk Management

Legal documentation for all accounts, investment subscriptions, external managers, investments in private investment funds (private equity, real assets, and Hedge Funds), and derivatives will be reviewed, negotiated and approved for TRS execution by internal or external legal counsel, or both. The Investment Division, in consultation with Legal Services, will exercise diligence to ensure that all contracts are legally binding and enforceable in a suitable venue. The Investment Division will seek the assistance, review, and advice of legal counsel whenever it is prudent to do so. The General Counsel and the Legal Services Department have primary responsibility for the engagement of outside legal counsel for investment matters, subject to applicable statutes and rules adopted by the Office of the Attorney General.



9.8. Risk Management Compliance Cure Periods and Remedies

- a. **Passive violations** – A passive violation occurs when the portfolio breaches a prescribed policy limit as the result of changing market or credit conditions. [Staff-The Investment Division](#) will report the violation to the Board and will remedy the violation within 90 days of the violation or prepare a written action plan that must be approved by Board resolution to extend the cure period beyond 90 days.
- b. **Active violations** – An active violation is caused by entering into an agreement or investment that breaches a policy limit at inception or thereafter through failure to monitor. In this case, a thorough analysis of controls will ensue and be reported to the Chief Investment Officer, the Executive Director and the Chairman of the appropriate Board committee, as soon as practical, and to the full Board at its next regularly scheduled meeting at which investment matters will be discussed. [Staff-The Investment Division](#) will seek to remedy the violation when possible. In instances where the costs of immediate remedies are prohibitive, [Staff-the Investment Division](#) will develop a corrective action plan that will be submitted to the CIO within a reasonable time after the violation occurs, not to exceed 15 days, depending on the nature and complexity of the investment holding and transactions needed to remedy the violation. The Board will be apprised of the violation at its next regularly scheduled meeting along with the corrective action plan.

9.9. Permitted Uses of Leverage

The Investment Division is authorized to use the following types of leverage:

- a. Derivative strategies in accordance with the risk parameters established by the asset allocation ranges of this Policy and applicable legal restrictions;
- b. Short sales in accordance with this Policy;
- c. F/X hedging in accordance with this Policy;
- d. Embedded leverage within the Total Fund's limited partnership investments; and
- e. Collateralized fundings including securities lending activities, pledges, repurchase and reverse repurchase agreements and other external funding mechanisms.

Leverage will not be used to exceed the risk parameters established by the asset allocation ranges of this Policy.

ARTICLE 10 – HEALTH INSURANCE PROGRAM PORTFOLIO

10.1 Health Insurance Program Portfolio Objective

The primary objective of the Health Insurance Program Portfolio is to preserve capital through investment in conservative, short-term securities.

10.2 Authorized Investments for the Health Insurance Program Portfolio

Section 404.024, Government Code describes the Authorized Investments employed by the comptroller when he or she invests state funds. The Investment Division shall employ this list of Authorized Investments when the Investment Division invests the Health Insurance Program Portfolio.

ARTICLE 11 -- POLITICAL CONTRIBUTIONS; IMPROPER INFLUENCE; PLACEMENT AGENTS AND FINDERS

11.1 Scope

#1d. Green language moved from Addendum



This policy applies to all TRS investment transactions in which a placement agent or finder is or may be involved, including new agreements (including follow-on and co-investments), extension of existing agreements, increase in funding or capital commitment to an existing relationship or fund, or an amendment that increases management fees or compensation under an agreement.

This policy also applies to attempts to influence TRS investment decisions through contacts with TRS trustees, or contacts with, or political contributions made for the benefit of, one or more Texas Elected Officials, and also applies to contacts with persons employed by any such official.

If any provision of this policy conflicts with a provision of another policy adopted by the TRS board, the stricter provision shall apply.

2. 11.2 Purpose:

The purpose of this policy is to ensure the integrity of all TRS investment transactions and conformity with the highest fiduciary, ethical, and legal standards by all parties involved. All investment decisions made by the Board and the staffInvestment Division and must be based solely on the merits in conformity with fiduciary standards and applicable law. All investment recommendations made by consultants and advisers must be based solely on the merits after the necessary due diligence. All investment decisions and recommendations must be free of impropriety or improper influence and the appearance of either.

3. 11.3 Philosophy:

The Board desires that the staffInvestment Division obtain full disclosure of all matters having the potential to harm TRS's reputation or the integrity of TRS's investment processes, or that could constitute unethical or unlawful conduct during the investment due diligence process.

4. 11.4 Required Disclosures:

At a minimum, all external Fund or Manager Parties shall provide detailed written responses to the questionnaire attached hereto as Appendix AF as early as reasonably possible in the due diligence process for a TRS investment transaction. The Executive Director is authorized to approve such revisions to Appendix AF from time to time as he deems to be in the best interest of TRS and consistent with this policy.

In addition, all Fund or Manager Parties shall provide a detailed description of the services to be performed by the Placement Agent and how the Placement Agent is used (e.g., with all prospects, or only with a subset of prospects). The Investment staffDivision shall obtain a copy or summary of the terms of an agreement to compensate a Placement Agent for the due diligence file. The Investment staffDivision shall provide all prospective Fund or Manager Parties with a copy of this policy upon commencement of due diligence.

5. 11.5 Contractual Representations, Warranties and Covenants:

Each Fund or Manager Party shall represent and warrant to TRS in the executed closing documents for the transaction that its responses to Appendix AF to this policy and any supplemental inquiries are true, correct, and complete in all material respects, and shall also covenant to update any such information within 10 business days of any change in the information in the responses.

In addition, each Placement Agent shall fully disclose the terms of its arrangements with a Fund or Manager Party for payment of a Placement Fee and any political contributions by the Placement Agent to any Texas Elected Officials, and shall certify as to the matters addressed in Appendix AF, as applicable, to TRS in a writing executed by an authorized officer that the disclosures required by this policy are true and complete in all material respects.

Each final investment agreement shall provide TRS with the option to receive a reimbursement of management or advisory fees equal to the amount of Placement Fees to be paid to any and all Placement Agents, and, in addition and not in the alternative, the right to terminate the management agreement or withdraw without penalty from the fund investment vehicle or vehicles if any certificates or contractual representations, warranties or covenants relating to this policy have been breached.

6. 11.6 Prohibitions:

Neither TRS nor any TRS investment shall be burdened with or liable for any Placement Fee. No TRS investment may be made if the transaction involves either (a) a Placement Agent who is not registered with either of the Securities and Exchange Commission or the Financial Industry Regulatory Authority ("FINRA"), or (b) the sharing of a Placement Fee with a non-registered person or entity. No TRS investment may be made if an authorized officer or the board, in consultation with legal



counsel, determines that a disclosed contact with a TRS board member or Texas Elected Official, or a contribution to a Texas Elected Official, has created an unacceptable risk to the integrity and reputation of the TRS investment program or has been made in violation of a TRS policy or applicable law. A contact-based referral, without more, by a trustee of either an investment opportunity or a Manager or Fund Party contact to the Executive Director, Chief Investment Officer, or Deputy Chief Investment Officer does not constitute such a risk or a violation of this policy.

7. 11.7 Definitions applicable to this Policy.

Affiliate – means a person or entity controlled by or under common control with another person or entity.

Fund or Manager Party – includes, (a) as to a private investment fund, a fund sponsor, the general partner, managing member, or its equivalent with respect to a fund, fund sponsor, or fund management firm, (b) as to an external, separate account investment manager, the asset management entity and the parent of such asset management entity, and (c) as to (a) and (b), any Affiliate, principal, owner, officer, shareholder, director, managing member, or employee having authority to act on behalf of such fund or firm.

Placement Agent – includes any third party, whether or not affiliated with a Fund or Manager Party, that is a party to an agreement or arrangement (whether oral or written) with a Fund or Manager Party for the direct or indirect payment of a Placement Fee in connection with a TRS investment. Any other person or entity who claims a Placement Fee or who by agreement with a Placement Agent will share in a Placement Agent’s Placement Fee is deemed to be a Placement Agent whether or not the person or entity is an Affiliate, principal, owner, officer, shareholder, director, managing member, or employee of a Placement Agent. A “finder” is a Placement Agent.

Placement Fee – includes any compensation or payment, directly or indirectly, of a commission, finder’s fee, or any other consideration or benefit to be paid to a Placement Agent.

Relative – means a spouse (including an ex-spouse), parent, child (including adopted), sibling, niece, nephew, aunt, or uncle.

Texas Elected Official – includes any elected official of the State of Texas, including but not limited to the governor, lieutenant governor, comptroller of public accounts, attorney general, and any member of the Texas Legislature, and also includes a campaign fund or political action committee, or PAC for an elected official, and any Relative of a Texas elected official.

TRS Person – means any person listed on Exhibit A attached to Appendix AF to this Policy or to any other due diligence document, and includes without limitation any current or former TRS board member, Executive Director, Deputy Director, Chief Financial Officer, Investment Division or Legal Services employee, any investment consultant or actuary, any outside counsel engaged by TRS, and any Relative of a TRS Person, whether or not listed on an Exhibit A, TRS Persons.



APPENDIX A - TRACKING ERROR NEUTRAL (IN ANNUALIZED BASIS POINTS)¹

Internal	Neutral
Equity (Global Best)	100
External	
Equity (US; Large-Cap)	300
Equity (US; Small-Cap)	500
Equity (International; Developed, EAFE)	300
Equity (International; Emerging Markets)	300
Equity (World Equity)	300
Stable Value Hedge Funds	400
Directional Hedge Funds	600

	Neutral	Maximum
Total Global Inflation Linked		200
Total Public Fund Tracking Error	100	300

¹ Tracking error will be measured on a realized basis over a three year period.



APPENDIX B - IIC APPROVAL AUTHORITY AND MANAGER ORGANIZATION ALLOCATION LIMITS

Allocations to a single manager organization may only exceed the limits specified in this Appendix B with the prior authorization of the Board.

Article Affected	Portfolio	Initial Allocation or Commitment with Manager Organization, by Portfolio	Additional or Follow-On Allocation or Commitment with the same Manager Organization, by Portfolio	Total Manager Organization Limits, by Portfolio
2.7	External Public Markets Portfolio	0.5%	1%	3%
4.2	Private Equity Portfolio	0.5%	1%	3%
5.2	Real Assets Portfolio	0.5%	1%	3%
Total IIC Approval Authority, each Manager Organization				6%

All allocation or commitment limits are expressed as a percentage of the Total Fund value and are to be calculated as of the date the applicable investment agreements are executed.

“Affiliate” means any person directly or indirectly controlling, controlled by, or under common control with, another person. A “manager organization” includes its Affiliates without regard to the names of the entities.

The percentage limit for additional or follow-on allocations or commitments applies to each additional or follow-on allocation or commitment by a listed portfolio to a manager organization and is in addition to, and not cumulative of, the limit specified for initial allocations or commitments. By way of example, if a portfolio initially allocates 0.2% of the Total Fund to a manager organization, the portfolio may thereafter allocate or commit up to 1.0% in a single additional or follow-on allocation or commitment to the same manager organization for a total of 1.2% allocated or committed to the same manager organization (0.2%+1.0%). If a portfolio initially allocates 0.2%, then makes an additional allocation or commitment of 0.8%, and desires to make a further additional or follow-on allocation to the same manager organization, the applicable limit for the further additional or follow-on allocation is 1.0% of the Total Fund, for a total of 2.0% allocated or committed to the manager organization (0.2%+0.8%+1.0%). ~~In general, a follow on investment, co investment, or additional investment in the same fund or external manager mandate should follow the initial investment not earlier than three months after the initial allocation or commitment investment has been closed. A follow on investment, co investment, or additional investment that is anticipated to occur earlier than three months after the initial closing will be included in the calculations for purposes of this Appendix B. All investments occurring in the six months prior to the follow-on investment, co-investment or additional investment shall be included in the calculation of the percentage limits. If the initial investment occurred less than six months prior to the current investment, the initial allocation limit of 0.5% rather than the follow-on allocation limit of 1.0% will apply.~~

In calculating the available limits, returned capital is excluded from the sum of existing total allocations or commitments. Committed capital is included during the applicable investment period of a fund without regard to whether the commitment amount is funded or unfunded or the fund is open-ended. After the investment period, committed but unfunded capital is not included in the calculation of outstanding commitments for the purposes of this Appendix B. Capital that has been returned but that is subject to recall by a private investment fund is considered to be committed or allocated for the purposes of the limits in this Appendix B.

Authority for Special Investment Opportunities. Notwithstanding the limits set forth in this Appendix B, the CIO may designate ~~one or more~~ investment opportunities as a “Special Investment Opportunity” if the circumstances indicate a reasonable probability that a rapid investment response will be required in order for TRS to acquire the investment in excess of the limits on ~~staff Investment Division~~ authority set forth in this Appendix B ~~and it is not practicable to present the opportunity for consideration by the Board.~~ Circumstances requiring a rapid response may include, but are not limited to, distressed situations or market dislocations creating opportunities to acquire interests or assets at pricing that indicates a reasonable probability that the interests or assets are undervalued or will increase in value. The CIO shall notify the Executive Director ~~as promptly as possible~~ of ~~each the~~ Special Investment Opportunity. The CIO and the Executive Director shall ~~request comments from~~ ~~consult with~~ the Chairman of the ~~appropriate~~ Board ~~committee~~ and ~~the Chairman of the Investment Management Committee~~ ~~TRS consultants and advisers and determine if it is not practicable to present the opportunity for consideration by the Board.~~ If ~~the opportunity will not be added to an agenda, and~~ the CIO and the Executive Director conclude that the investment would be in the best interests of TRS, the CIO and the Executive Director may authorize and conclude an investment up to \$1 billion in that Special Investment Opportunity.



After ~~investments totaling \$1 billion in the aggregate in one or more~~ one investment in a Special Investment Opportunity ~~ies have~~ has been made, no further investment in a Special Investment Opportunity ~~will~~ may be made until the Board has reauthorized the CIO's authority to designate a Special Investment Opportunity. Such reauthorization shall renew the CIO's and the Executive Director's authority to invest up to \$1 billion in a Special Investment Opportunity ~~ies~~ under this provision.



APPENDIX C – EMERGING MANAGERS

Articles Affected:	Portfolio	Target Allocation (in millions)
2.7	External Manager-Public Markets Portfolio ¹	250
4.2	Private Equity Portfolio ^{1,2}	950
5.2	Real Assets Portfolio ^{1,2}	450
	Total	1,650

Green language moved to Article 6

~~All investments with emerging managers will be subject to due diligence by an independent qualified external advisor. The advisor will present each investment recommendation to the IIC for its approval. In general, an emerging manager should be registered with the appropriate authorities if such registration would be consistent with industry practices. Each investment will have a minimum size of \$5 million. With respect to the External Manager Portfolio, the total investment by TRS with each emerging manager may not exceed 40% of such emerging manager's assets under management. With respect to the Private Equity Portfolio and the Real Assets Portfolio, the total investment by TRS into each fund raised by an emerging manager may not exceed 40% of the size of such fund. This paragraph does not apply to investments executed as part of a fund of funds mandate.~~

¹ The CIO may increase or decrease each portfolio Target Allocation by \$200 million; provided, the total Target Allocation must remain unchanged as a result of such increase or decrease.

² Target Allocation based on commitments.



APPENDIX D – POLICY HEDGE RATIOS

Portfolio	PHRs
Public Markets Portfolios	0%
Private Markets Portfolios	0%



APPENDIX E – AUTHORITY RESOLUTION (TRS 477)

[SPECIAL NOTE: Appendix E will be revised to reflect changes separately adopted by the Board (if any) at its September 2012 meeting.]

#8

Board of Trustees

Adopted August 13, 2010

A. Investment Group

Resolved, That employees holding the following TRS working titles are members of the “**Investment Group**”:

Chief Investment Officer
Senior Managing Director
Senior Director
Senior Investment Manager

Deputy Chief Investment Officer
Managing Director
Director
Investment Manager

Further, That the Executive Director is authorized and directed to designate those individual employees who are members of the **Investment Group** authorized to take any one or more of the following actions listed below with respect to investment matters as specified in writing by the Executive Director, at least annually or as he deems necessary from time to time:

General Authority for Investment Matters

1. Acquire, modify, and sell investments and negotiate, fix, execute, amend, modify, renew, extend, terminate, certify, and endorse contracts and agreements for portfolio investment transactions, including without limitation trading authorizations, subscription agreements, tax forms, investment contracts, investment vehicle entity agreements, investment management agreements, license agreements, brokerage or margin account agreements, securities or commodities exchange documents, and agreements and documents relating to trading operations.
2. Give directions and instructions to external managers, and to amend, modify, fix, and execute investment guidelines in investment management agreements.
3. Negotiate, fix, execute, amend, modify, renew, extend, transfer, assign, terminate, certify, and endorse the following: amendments; notes; powers of attorney; indentures; deeds; conveyances; certificates; instruments of transfer or assignment; instruments or agreements evidencing, releasing, or creating liens, mortgages, or security interests; and all other instruments and agreements, sealed or unsealed, attested or unattested, relating to TRS investments.
4. Waive, modify, or amend specific provisions of an investment contract or management agreement, if the waiver, modification or amendment is deemed by the employee to be in the best interest of TRS.

Over-the-Counter Derivatives Contracts

5. Negotiate, fix, execute, amend, modify, renew, extend, transfer, assign, terminate, endorse, and terminate master agreements for over-the-counter derivatives transactions and any schedules or credit support annexes relating to such agreements, and any deliverables relating to such agreements, schedules, or annexes.
6. Waive, modify, or amend specific provisions of over-the-counter master agreements for derivatives transactions, and any transaction confirmations under such agreements, if the waiver, modification or amendment is deemed by the employee to be in the best interest of TRS.
7. Negotiate, fix, execute, amend, modify, renew, extend, transfer, assign, endorse, or terminate transactions entered into under master agreements for over-the-counter derivatives transactions, including without limitation confirmations of transactions.

Transfers of Funds or Assets; Fund or Account Redemptions and Withdrawals

8. Authorize and instruct TRS employees, brokers or custodians to transfer funds or assets in connection with TRS investment transactions or commitments of capital or to or from managed investment accounts, investment funds, and custodians of TRS assets.
9. Authorize and instruct TRS employees, brokers, and custodians to deliver cash, securities or other assets as collateral or margin in accordance with regulatory, account, or contractual requirements, including without limitation credit support annexes or agreements relating to over-the-counter derivatives transactions.



10. Execute redemption or withdrawal notices for private investment funds and managed investment accounts and, when required by applicable policies and procedures, not solely but jointly with a member of the Financial Group.

B. Financial Group

Further, That employees holding the following TRS working titles are members of the “**Financial Group**”:

Chief Financial Officer	Manager of Investment Accounting
Manager of General Accounting	Team Leader of Investment Accounting
Team Leader of Financial Reporting	Team Leader of Budgeting

Further, That each employee in the **Financial Group** is authorized and empowered on behalf of TRS to deliver or otherwise transfer cash, securities, collateral, or contracts, and to execute affidavits, certificates and powers of attorney required to transfer, redeem, or exchange securities, collateral, or contracts.

Further, That each employee in the **Financial Group** is authorized and empowered on behalf of TRS, not solely but jointly with an employee in the **Investment Group** or the **Executive Group**, to execute fund or account redemption and withdrawal notices and related documents.

Further, That each employee in the **Financial Group** is authorized and empowered on behalf of TRS to instruct TRS custodians to deliver securities, collateral, contracts, or cash to fund margin or collateral requirements, clear and settle securities trades, fund capital called or subscribed for investment under an investment contract, and to exchange securities, collateral, contracts, or cash for other securities, collateral, contracts, or cash, in accordance with internal procedures.

C. Executive Group

Further, That the **Executive Group** is comprised of employees holding the TRS working titles of Executive Director and Deputy Director, and each employee in the **Executive Group** is authorized and empowered to perform, with respect to a particular transaction, any of the acts that employees in the **Investment Group** or the **Financial Group** are authorized to perform; *provided*, however, that when joint action by a member of the **Investment Group** and a member of the **Financial Group** is required by applicable policies and procedures, only one member of the **Executive Group** may act jointly with a member of either of the **Investment Group** or the **Financial Group**.

D. Trading Group

Further, That the “**Trading Group**” is comprised of the employees holding the following TRS working titles: Director – Trading Center, and Trader, and each employee in the **Trading Group** is authorized and empowered on behalf of TRS to take the following actions: to place orders or agree with brokers, dealers and market-makers to purchase or sell securities, futures or forward contracts, options, or currency; to monitor and supervise execution and settlement of such orders or agreements; and to negotiate, fix, and vary the commissions, spreads, or discounts for individual orders or agreements to purchase or sell securities, futures or forward contracts, options, or currency.

Further, That the TRS employee groups described in this resolution are identified as such only for the purposes of this resolution and not for any other purpose unless the Board or the Executive Director, as authorized, expressly so provides.





Addendum to the Teacher Retirement System of Texas

Investment Policy Statement

Political Contributions; Improper Influence; Placement Agents and Finders

Effective date: July 1, 2009

8.1. Scope.

#1d. Green language moved to Article 11

~~This policy applies to all TRS investment transactions in which a placement agent or finder is or may be involved, including new agreements (including follow-on and co-investments), extension of existing agreements, increase in funding or capital commitment to an existing relationship or fund, or an amendment that increases management fees or compensation under an agreement.~~

~~This policy also applies to attempts to influence TRS investment decisions through contacts with TRS trustees, or contacts with, or political contributions made for the benefit of, one or more Texas Elected Officials, and also applies to contacts with persons employed by any such official.~~

~~If any provision of this policy conflicts with a provision of another policy adopted by the TRS board, the stricter provision shall apply.~~

9.2. Purpose.

~~The purpose of this policy is to ensure the integrity of all TRS investment transactions and conformity with the highest fiduciary, ethical, and legal standards by all parties involved. All investment decisions made by the Board and the staff and must be based solely on the merits in conformity with fiduciary standards and applicable law. All investment recommendations made by consultants and advisers must be based solely on the merits after the necessary due diligence. All investment decisions and recommendations must be free of impropriety or improper influence and the appearance of either.~~

10.3. Philosophy.

~~The Board desires that the staff obtain full disclosure of all matters having the potential to harm TRS's reputation or the integrity of TRS's investment processes, or that could constitute unethical or unlawful conduct during the investment due diligence process.~~

11.4. Required disclosures.

~~At a minimum, all external Fund or Manager Parties shall provide detailed written responses to the questionnaire attached hereto as Appendix A as early as reasonably possible in the due diligence process for a TRS investment transaction. The Executive Director is authorized to approve such revisions to Appendix A from time to time as he deems to be in the best interest of TRS and consistent with this policy.~~

~~In addition, all Fund or Manager Parties shall provide a detailed description of the services to be performed by the Placement Agent and how the Placement Agent is used (e.g., with all prospects, or only with a subset of prospects). The investment staff shall obtain a copy or summary of the terms of an agreement to compensate a Placement Agent for the due diligence file. The investment staff shall provide all prospective Fund or Manager Parties with a copy of this policy upon commencement of due diligence.~~

12.5. Contractual representations, warranties and covenants.

~~Each Fund or Manager Party shall represent and warrant to TRS in the executed closing documents for the transaction that its responses to Appendix A to this policy and any supplemental inquiries are true, correct, and complete in all material respects, and shall also covenant to update any such information within 10 business days of any change in the information in the responses.~~



~~In addition, each Placement Agent shall fully disclose the terms of its arrangements with a Fund or Manager Party for payment of a Placement Fee and any political contributions by the Placement Agent to any Texas Elected Officials, and shall certify as to the matters addressed in Appendix A, as applicable, to TRS in a writing executed by an authorized officer that the disclosures required by this policy are true and complete in all material respects.~~

~~Each final investment agreement shall provide TRS with the option to receive a reimbursement of management or advisory fees equal to the amount of Placement Fees to be paid to any and all Placement Agents, and, in addition and not in the alternative, the right to terminate the management agreement or withdraw without penalty from the fund investment vehicle or vehicles if any certificates or contractual representations, warranties or covenants relating to this policy have been breached.~~

~~13.6. Prohibitions.~~

~~Neither TRS nor any TRS investment shall be burdened with or liable for any Placement Fee. No TRS investment may be made if the transaction involves either (a) a Placement Agent who is not registered with either of the Securities and Exchange Commission or the Financial Industry Regulatory Authority (“FINRA”), or (b) the sharing of a Placement Fee with a non-registered person or entity. No TRS investment may be made if an authorized officer or the board, in consultation with legal counsel, determines that a disclosed contact with a TRS board member or Texas Elected Official, or a contribution to a Texas Elected Official, has created an unacceptable risk to the integrity and reputation of the TRS investment program or has been made in violation of a TRS policy or applicable law. A contact-based referral, without more, by a trustee of either an investment opportunity or a Manager or Fund Party contact to the Executive Director, Chief Investment Officer, or Deputy Chief Investment Officer does not constitute such a risk or a violation of this policy.~~

~~14. Reporting.~~

~~The investment staff shall compile all responses to the questionnaire and report the results to the board at least semi-annually. Reports shall include the amounts and recipients of any political contribution or Placement Fee and the relationship of the recipients to the Placement Agent or Texas Elected Official, as applicable.~~

~~15.7. Definitions applicable to this Policy.~~

~~**Affiliate** means a person or entity controlled by or under common control with another person or entity.~~

~~**Fund or Manager Party** includes, (a) as to a private investment fund, a fund sponsor, the general partner, managing member, or its equivalent with respect to a fund, fund sponsor, or fund management firm, (b) as to an external, separate account investment manager, the asset management entity and the parent of such asset management entity, and (c) as to (a) and (b), any Affiliate, principal, owner, officer, shareholder, director, managing member, or employee having authority to act on behalf of such fund or firm.~~

~~**Placement Agent** includes any third party, whether or not affiliated with a Fund or Manager Party, that is a party to an agreement or arrangement (whether oral or written) with a Fund or Manager Party for the direct or indirect payment of a Placement Fee in connection with a TRS investment. Any other person or entity who claims a Placement Fee or who by agreement with a Placement Agent will share in a Placement Agent’s Placement Fee is deemed to be a Placement Agent whether or not the person or entity is an Affiliate, principal, owner, officer, shareholder, director, managing member, or employee of a Placement Agent. A “finder” is a Placement Agent.~~

~~**Placement Fee** includes any compensation or payment, directly or indirectly, of a commission, finder’s fee, or any other consideration or benefit to be paid to a Placement Agent.~~

~~**Relative** means a spouse (including an ex-spouse), parent, child (including adopted), sibling, niece, nephew, aunt, or uncle.~~

~~**Texas Elected Official** includes any elected official of the State of Texas, including but not limited to the governor, lieutenant governor, comptroller of public accounts, attorney general, and any member of the Texas Legislature, and also includes a campaign fund or political action committee, or PAC for an elected official, and any Relative of a Texas elected official.~~

~~**TRS Person** means any person listed on Exhibit A attached to Appendix A to this Policy or to any other due diligence document, and includes without limitation any current or former TRS board member, Executive Director,~~



~~Deputy Director, Chief Financial Officer, Investment Division or Legal Services employee, any investment consultant or actuary, any outside counsel engaged by TRS, and any Relative of a TRS Person, whether or not listed on an Exhibit A, TRS Persons.~~





**Appendix A – Questionnaire
to Addendum to the Teacher Retirement System of Texas
Investment Policy Statement**

Political Contributions; Improper Influence; Placement Agents and Finders

Capitalized terms are defined in main text of policy.

**APPENDIX F – POLITICAL CONTRIBUTIONS; IMPROPER INFLUENCE; PLACEMENT
AGENTS AND FINDERS QUESTIONNAIRE**

Fund or Manager Name: _____

Completed by: _____

Date submitted: _____

Note: TRS may require completion of a new questionnaire or updating of responses at any time, including as of the closing date for any transaction investment or additional funding.

A) Contacts with State Officials; Political Contributions. Has any person lobbied, communicated with, or made political contributions during the past three years on behalf of the Fund or Manager Party to a Texas Elected Official in connection with a prospective investment transaction with a Texas state investment entity, including TRS?

- 1) If the answer is “yes,” please provide a complete list of the name(s) of the entities and individual(s) involved, the approximate dates of the contributions, the amounts of the contributions, a summary of the contacts or communications, and the nature of the discussion in regards to the investment with any Texas state investment entity, including TRS.

B) Contacts with TRS Board Members. Has any person lobbied or otherwise communicated on behalf of the Fund or Manager Party with a current or former member of the TRS Board of Trustees during the past two years for the purpose of asking the current or former member to seek to influence a decision by the TRS investment staff or a TRS advisor or consultant to recommend that TRS invest?

- 1) If the answer is “yes,” please provide a complete listing of the name(s) of the entities and individual(s) involved, the approximate dates of the contacts or communications, and the nature of the discussion in regards to this investment.

C) Placement Agents and Placement Fees. Is or was the Fund or Manager Party a party to any agreement or arrangement (whether oral or written) to pay a Placement Fee to or for the benefit of any Placement Agent in connection with TRS’s prospective investment in a fund or engagement of an external manager?

- 1) If the answer to C) is “yes,” please provide a copy of the written agreement or agreements creating the obligation to pay a Placement Fee. If the agreement is not written, please provide a written summary of the agreement. Additionally, please state the amount of the Placement Fee (or the formula for its determination if the amount is not yet determined) and the date of its payment or anticipated payment.
- 2) If the answer is “yes,” please list the name(s) of the person or entity. If the party to the agreement is an entity, please also list the names of the principal owners, officers, directors, or managing members of the Placement Agent and provide a resume for each such person.



- 3) If the answer is “yes,” state whether the Placement Agent, or any of its Affiliates, is registered as a lobbyist with any state government or the federal government and identify the registrants and the applicable jurisdictions where registered.
- 4) Will or did any TRS Person or any Relative of a TRS Person receive, has any such person received, or might any such person receive, any compensation or payment, directly or indirectly, of a commission, finder’s fee, or any other consideration or benefit to be paid to a Placement Agent (a “Placement Fee”) in connection with TRS’s investment? If the answer is “yes,” please list the name or names of the TRS Person or Relative of a TRS Person and provide details about the terms of the Placement Fee.
- 5) Will or did any Texas Elected Official or a Relative of a Texas Elected Official receive a Placement Fee in connection with TRS’s investment? If the answer is “yes,” please list the name or names of the official and provide details about the terms of the Placement Fee, including the amounts and timing of payments.
- 6) Did (or will) any third party person or entity who is not employed or otherwise affiliated with a Placement Agent, including a current or former TRS Person, either (a) recommend the Placement Agent or (b) receive a share of a Placement fee or any other economic benefit in connection with TRS’s investment, whether directly or indirectly through a Placement Agent engaged by you?
- 7) If the answer to 6) is “yes,” please list the name of the person or entity, the relationship of the person or entity to the Placement Agent and your firm, and provide a description of the arrangement and the reason for the payment.
- 8) State whether the Placement Agent or any of its Affiliates is registered as an investment advisor with the Securities and Exchange Commission or the Financial Industry Regulatory Association, or a similar agency outside the United States. Provide details about registration or explain why registration is not required.

The undersigned certifies, represents and warrants on behalf of the Fund or Manager Party that, to the best of its knowledge after due inquiry, (a) the foregoing responses to this questionnaire are complete, true, and correct and do not omit any statement or fact necessary to make any statement made not misleading in any material respect, and (b) no prior statements or representations, if any, whether oral or written, made on behalf of the Fund or Manager Party relating to the subject matter of this questionnaire in connection with TRS’s due diligence inquiries, ~~and~~ a prospective investment management agreement, or a subscription to the ~~fund~~Fund, as the case may be, including any side letter agreements, ~~was~~were untrue or misleading in any material respect when they were made.

[signature block for Fund or Manager Party]

Date: _____

Attachment: Exhibit A, TRS Persons



INVESTMENT POLICY STATEMENT
(Adopted September[], 2012 to be effective October 1, 2012)

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EXECUTIVE SUMMARY

This Executive Summary is not intended to replace, and must be read in conjunction with, the Investment Policy Statement. In the event of a conflict between the Executive Summary and the Investment Policy Statement, the Investment Policy Statement shall govern.

Total Fund and Portfolio Design

The Investment Policy Statement provides a formal plan for investing pension trust fund and health insurance program assets. The policy defines the roles and responsibilities of the Investment Division and other parties within that plan.

The Internal Investment Committee is established and assigned the authority to review and approve investments. The IIC's authority is limited by the size of the investments it can approve without also obtaining approval from the Board. The limitations are 0.5% for initial allocations, 1% for follow-on allocations, 3% total to any one organization in each of External Public Markets, Private Equity, Real Assets and 6% total to any one organization in the total Trust with each of the foregoing percentage stated as a percentage of the Total Trust and calculated at time of investment. In addition, the CIO has Special Investment Opportunity authority of up to \$1 billion. See "Appendix B – IIC Approval Authority and Manager Organization Allocation Limits."

The Trust's objectives are to (a) control risk and (b) achieve a long-term rate of return that exceeds (i) the assumed actuarial rate of return adopted by the Board, (ii) inflation plus 5% and (ii) the Trust's Policy Benchmark. The Trust is subject to a "prudent person" standard of care under the Texas Constitution.

See "Article 1 – Total Fund and Portfolio Design."

Asset Allocation

<u>Asset Class</u>	<u>Target</u>
<u>Global Equity</u>	
US Large Cap	18%
US Small Cap	2
Non-US Developed	15
Emerging Markets	10
Directional Hedge Funds	5
Private Equity	12
<u>Stable Value</u>	
US Treasuries	13%
Absolute Return	0
Stable Value Hedge Funds	4
Cash	1
<u>Real Return</u>	
Global Inflation Linked Bonds	5%
Real Assets	15
Commodities	0
 Total	 100%

In addition to the target, each asset class has minimum and maximum allocations which, with certain exceptions, are +/-5% around the target allocation.

See "Section 1.6 – Total Fund Asset Mix and Benchmarks."

Measurement and Reporting	Investment performance, policy compliance, asset allocation, external investments activities, derivatives usage, risk limits, liquidity, leverage, private markets strategy, staffing, use of placement agents and other information will be monitored and reported to the Board. See “Section 1.7 – Total Fund Measurement and Reporting Criteria.”
Public Markets Portfolios	<p>The portfolios are authorized to invest in publicly traded or Rule 144A (either through an exchange or over-the-counter) assets such as equities, exchange-traded funds, equity-linked notes, options, futures, swaps, forwards, corporate debt, sovereign or sovereign-sponsored entity debt (including US Treasuries), mortgage-backed securities, collateralized mortgage obligations, commercial mortgage-backed securities, asset-backed securities, any investment in one of the public markets benchmarks, mutual funds, closed end funds, structured notes, structured credit transactions, repurchase transactions, State of Texas pooled investment funds, foreign currencies, short sales, local access products and other investments. See “Section 2.2 –Public Markets Portfolios Authorized Investments.”</p> <p>Certain restrictions apply to the internally managed portfolios including restrictions on (a) the amount of equity of any company that can be held (not more than 20%), (b) investments linked to a prurient interest in sex, (c) investments linked to Sudan and (d) investments linked to Iran.</p> <p>See “Section 2.3 – Public Markets Portfolios Restrictions.”</p>
External Public Markets Portfolio	<p>The portfolio is comprised of (a) externally managed public investments that do not qualify as Hedge Funds (limited to less than 30% of the Trust), (b) Hedge Funds (limited to less than 10% of the Trust) and (c) other absolute return portfolios (includes credit-sensitive investments). Hedge Fund is defined in Section 2.6.</p> <p>Any Board member can require that any investment in the External Public Markets Portfolio be submitted for consideration to the Board. The Investment Division can engage advisors and consultants with respect to the portfolio, allow short positions, engage in overlay strategies, rebalance the portfolio and terminate managers within the portfolio. The separate account investments within the portfolio will adhere to the Sudan and Iran restrictions. See “Section 2.7 – Authorized Investments for the External Public Markets Portfolio” and “Section 2.8 – External Public Markets Portfolio Restrictions.”</p>
Private Markets Portfolio	General principles of investing in private markets apply to both the Private Equity and Real Assets portfolios. The Investment Division is authorized to engage advisors and consultants, authorize commitments to be funded over an extended period of years, serve on limited partner or investment advisory committees, engage in rebalancing and engage in overlay strategies. Investments will be submitted to the Board for authorization if the appropriate consultant or advisor does not concur with the investment or at the request of any Board member. The Investment Division can transfer, withdraw or terminate its investments. In certain circumstances, restrictions apply to the portfolios regarding investments linked to a prurient interest in sex, Sudan and Iran. See “Article 3 – Private Markets Portfolios.”
Private Equity Portfolio	The portfolio makes investments either through funds or directly in equity, equity-rights securities, preferred stock, convertible securities, debt obligations, warrants, rights, options and other investments. Private equity strategies are often classified as venture capital, mezzanine, buyout, emerging markets and special situation. See “Article 4 – Private Equity Portfolio.”
Real Assets Portfolio	The portfolio makes investments either through funds or directly in equity, debt, rights, warrants or other investments in real estate, infrastructure, timber, agriculture,

oil and gas, mortgage-related investments, real estate investment trusts, master limited partnerships, non-fixed assets and other opportunistic investments in real assets. Real estate investments are often classified as core, core-plus, value-added and opportunistic. Non-real estate investments are restricted to 5% or less of the Total Fund. See “Article 5 – Real Assets Portfolio.”

Emerging Managers Program

The Investment Division will make a good-faith effort to invest a target allocation of \$1.65 billion with qualified emerging managers in the External Public Markets Portfolio, Private Equity Portfolio and the Real Assets Portfolio. Emerging managers can include, but are not limited to, minority, women, and disabled veteran-owned or -controlled organizations generally with less than \$2 billion assets under management or a performance track record of less than five years. See “Article 6 – Emerging Managers Program” and “Appendix C – Emerging Managers.”

Overlay Portfolios

Overlay Portfolios are designed to manage risk, asset allocation, and market exposures through futures, options, swap agreements, or forward agreements. Overlay Portfolios may be implemented in connection with the Total Fund or with any investment or portfolio within the Total Fund. Overlay portfolios are restricted by the asset allocation limits of the Trust. In addition, certain uses of currency overlays are restricted to less than (a) 5% to all non-US dollar currencies, (b) 2% to any one developed market currency (except the US dollar) and (c) 1% to any emerging market currency, each calculated as a percentage of the Trust. See “Article 7 – Overlay Portfolios.”

Derivatives

Derivatives are authorized only if they efficiently manage and reduce the risk of the overall investment portfolio. Derivatives can be used to (a) implement investment strategies in a lower cost or efficient manner, (b) efficiently manage the Total Fund portfolio, (c) construct portfolios that could not be efficiently constructed using cash market securities, (d) hedge and control risks and (e) facilitate transition trading.

Over-the-counter derivatives may not have a tenor of greater than six years (or, thirty years in the case of interest rate swaps). Derivatives may only invest in legally permissible policy asset categories and may not be used to circumvent the asset allocation or other policy restrictions. All use of derivatives must be properly documented. All over-the-counter derivatives must be executed using ISDA documentation or, if centrally cleared, clearing agreements. All counterparties must have a credit rating of at least A- (Standard & Poor’s or Fitch) or A3 (Moody’s). In addition, the net market value of derivatives positions with any counterparty may not exceed \$500 million (calculated net of collateral) and may not exceed 5% of the total market value of the Fund (without consideration of collateral).

See “Article 8 – Authorized Uses of Derivatives.”

Risk Management

The Investment Division will monitor and manage risk of the Total Fund Portfolio including:

Market Risk –will be managed and measured using at a minimum a quantified estimate of downside risk (e.g., value-at-risk), asset allocation limits, private markets holdings analysis, and a quantified estimate of risk relative to the benchmark (tracking error).

Foreign Exchange Risk – will be managed according to a Policy Hedge Ratio established by the Board. The current Policy Hedge Ratio is set a 0%.

Credit Risk – the primary sources of credit risk are derivatives counterparty risk (mitigated by credit provisions in the derivatives documentation), the risk from repurchase agreements (limited to 5% of the Trust market value) and securities

lending.

Liquidity Risk – a prudent liquidity management will be established to ensure that the Fund maintains ample liquidity to meet its funding commitments, especially disbursements of benefits and TRS investment activities.

Leverage Risk – the permitted uses of leverage are defined. Leverage will not be used to exceed the asset allocation ranges of the policy.

Other managed risks include operations risk, settlement risk and legal risk.

Compliance cure periods or corrective action plan periods established for violations of policy or other compliance limits are 90 days for passive violations (a violation due to changing market or credit conditions) and 15 days for active violations (a violation due to entering into an agreement or investment that breaches a policy limit at inception or thereafter through failure to monitor).

See “Article 9 – Risk Management and Oversight.”

Health Insurance Program

Authorized investments for the Health Insurance Program Portfolio are conservative, short-term securities consistent with the guidelines employed by the Comptroller when investing State funds. See “Article 10 – Health Insurance Program Portfolio.”

Political Contributions; Improper Influence; Placement Agents and Finders

The purpose of this policy is to ensure the integrity of all TRS investment transactions and conformity with the highest fiduciary, ethical, and legal standards by all parties involved. All investment decisions made by the Board and the Investment Division must be based solely on the merits in conformity with fiduciary standards and applicable law. All investment decisions and recommendations must be free of impropriety or improper influence and the appearance of either. The Investment Division shall obtain full disclosure of all matters having the potential to harm TRS’s reputation or the integrity of TRS’s investment processes, or that could constitute unethical or unlawful conduct during the investment due diligence process. Neither TRS nor any TRS investment shall be burdened with or liable for any Placement Fee. Adequate disclosure must be made in connection with any investment in the form of “Appendix F – Political Contributions; Improper Influence; Placement Agents and Finders Questionnaire.”

See “Article 11 -- Political Contributions; Improper Influence; Placement Agents and Finders.”

Tracking Error

Neutral tracking error targets are established for certain portfolios of the Trust:

Internal	
Equity (Global Best)	100 bp
External	
Equity (US; Large-Cap)	300 bp
Equity (US; Small-Cap)	500
Equity (International; Developed, EAFE)	300
Equity (International; Emerging Markets)	300
Equity (World Equity)	300
Stable Value Hedge Funds	400
Directional Hedge Funds	600
Total Public Fund Tracking Error	100

In addition, Total Global Inflation Linked and Total Public Fund have maximum tracking error limits of 200 bp and 300 bp, respectively. See “Appendix A – Tracking

Error Neutral (in annualized basis points).”

Authority

The employee titles in the Investment Group are specified and three types of investment authority are described including (i) general authority for investment matters, (ii) over-the-counter derivatives contracts and (iii) transfers of funds or assets; fund or account redemptions and withdrawals. In addition, the employees of the Financial Group, Executive Group and Trading Group are also specified and their authority is described. See “Appendix E – Authority Resolution (TRS 477).”

ARTICLE 1 – TOTAL FUND AND PORTFOLIO DESIGN

1.1. Introduction

The Teacher Retirement System of Texas (“TRS”) administers a pension trust fund and other health insurance programs for retirees and certain active public education employees under State of Texas constitutional and statutory provisions. TRS is governed by a Board of Trustees (the “Board”). TRS provides service and disability retirement benefits and death and survivor benefits for Texas public education employees and their beneficiaries. Benefits are funded by state and member contributions and investment returns.

1.2. Purpose and Design

The purpose of this Investment Policy Statement (this “Policy”) is to provide a formal plan for investing pension trust fund and health insurance program assets to achieve defined investment objectives consistent with the TRS mission statement adopted by the Board and with applicable law.

This Policy also defines the roles and responsibilities of the various entities involved in the investment process and facilitates internal and external communication of investment policy.

The appendices to this Policy are incorporated into and form part of this Policy for all purposes. Capitalized terms not defined in this Policy have the meanings assigned to them in the “TRS Glossary of Investment Terms” (“Glossary”), which definitions are also incorporated into and form part of this Policy for all purposes. Modifications to the appendices or the Glossary that would have a substantive effect on this Policy require Board consideration and adoption.

1.3. Roles of Board, Staff, and Advisors

The Board has the primary fiduciary responsibility for investing TRS trust assets in accordance with Article XVI, Section 67 of the Texas Constitution and with applicable law. The Board establishes investment objectives and policy, obtains expert advice and assistance, and oversees the employment of a qualified and competent investment staff (“Investment Division”) and legal staff. The Board also monitors the actions of staff and advisors to ensure compliance with its policies. The Board has a Policy Committee of the Board (“Policy Committee”), an Investment Management Committee of the Board (“IMD Committee”) and a Risk Management Committee of the Board (“Risk Management Committee”), each of which is a standing committee of the Board charged with those responsibilities set forth in the Bylaws of the Board. The Board and the Investment Division are assisted by outside investment consultants and internal and external legal counsel.

- a. Investment Counsel (“Investment Counsel”) selected by the Board provides education, advice, commentary, and discussion as requested at Board meetings, assists with development and review of investment policies and procedures, performs due diligence and recommends managers or investments, reports on the progress of the Fund in meeting its investment objectives, and compares the performance of the portfolio to established benchmarks. The Investment Division and Investment Counsel provide information as needed to assist the consulting actuary in performance of actuarial services.
- b. The Investment Division has fiduciary responsibilities delegated by the Board under applicable law. Investment Division manages the Fund according to the Board's policies, advises and informs the Executive Director and the Board about investments, and recommends modifications to this Policy. The Investment Division executes all transactions, performs risk-management functions, and prepares investment reports.
- c. The Internal Investment Committee (“IIC”) is hereby established to review, consider, and authorize proposed external manager engagements and investments as required by this Policy for the External Public Markets Portfolio and the Private Markets Portfolios. Additionally, the IIC will manage the foreign exchange policy hedge ratios (set forth in Appendix D) and review as needed.

The permanent IIC membership consists of the Chief Investment Officer (“CIO”), the Deputy CIO, the Chief Risk Officer (“CRO”), and the Investment Division Senior Managing Directors (“SMD’s”). The CIO will establish procedures and guidelines for the operations of the IIC. The IIC procedures and guidelines may provide that the CIO may appoint and remove select Directors as non-permanent voting members to the IIC. The IIC procedures and guidelines will define a quorum and establish the vote required to authorize an investment or external manager engagement or, if required by this Policy, recommend an investment or external manager engagement to the Board, which vote may not be less than a majority of the then-incumbent IIC members present and voting at a meeting at which a quorum is present. The CIO shall have the power to veto any investment or delegation of investment discretion authorized or recommended by the IIC pursuant to a vote of its members. Termination of a member's TRS employment terminates IIC membership as of the date the employee or TRS gives notice of termination, as the case may be.

The Executive Director or his designee may attend any meeting of the IIC, and the Investment Division shall deliver to the Executive Director copies of all IIC materials, analyses, correspondence, and agendas as and when delivered to IIC members or other TRS employees. The Executive Director is not a member of the IIC, however, acting in his or her capacity as the chief executive officer and chief administrative employee of TRS as set forth in the Board's Bylaws, the Executive Director shall, after consultation with the CIO, have the power to veto any investment or delegation of investment discretion proposed for IIC consideration or authorized or recommended by the IIC pursuant to a vote of its members whenever he deems such veto to be in TRS' best interest. When this Policy requires that the Board authorize an investment or an engagement of an external manager, the IIC shall vote on whether to recommend such investment or engagement to the Board. The results of the vote shall be reported to the Board in the materials provided to the Board for consideration.

- d. All proposed changes to this Policy will be reviewed by the legal staff for compliance with state and federal laws regarding fiduciary responsibility, investment prudence, ethics compliance, and other applicable standards or requirements before submission to the Policy Committee. Except as authorized by the Executive Director, proposed changes to this Policy will first be presented to the Policy Committee, which will consider recommending the proposed changes to the Board. The Board may consider and adopt proposed changes that have not been considered by the Policy Committee. This Policy shall be reviewed at least once every three years.

1.4. Total Fund Objectives

In this Policy, the total or overall investment portfolio includes all assets invested by TRS to provide retirement, death, health, and disability benefits administered by the system, including cash and cash equivalents (the “Total Fund” or the “Fund”) and will be structured and managed to achieve the following objectives:

- a. Control risk through proper diversification of asset classes and by establishing long-term risk and return expectations; and
- b. As applicable to the pension plan, achieve a long-term rate of return that:
 - i. Exceeds the assumed actuarial rate of return adopted by the Board;
 - ii. Exceeds the long-term rate of inflation by an annualized 5%; and
 - iii. Exceeds the return of a composite benchmark of the respective long-term normal asset mix weighting of the major asset classes.

1.5. Total Fund Investment Standard

Article XVI, Section 67(a)(3) of the Texas Constitution and Section 825.301, Government Code, states that the standard of care for TRS investments is a “prudent person” standard. Section 825.301, Government Code, provides that Section 117.004(b), Property Code, applies to TRS investment decisions. Section 117.004(b) generally states that the determination of the prudence of a single investment decision will be made taking into consideration the investment of all of the assets of the trust, or the assets of the collective investment vehicle, as the case may be, rather than a consideration as to the prudence of the single investment of the trust, or the single investment of the collective investment vehicle, as the case may be.

All investments made by the Total Fund must be in “securities” as defined in Government Code Section 825.301(a) provided, however, that until September 1, 2019, TRS may buy and sell those instruments set forth in Section 825.301(a-1), Government Code, to efficiently manage and reduce the risk of the overall investment portfolio.

The Board and the Investment Division may obtain the assistance and advice of external investment experts, including external managers operating under Agency Agreements, and other investment counselors or consultants as needed.

1.6. Total Fund Asset Mix and Benchmarks

The Investment Division will assist the Board in engaging in an asset-liability study for the pension plan at least once every five (5) years to review asset classes, return-risk assumptions, and correlation of returns with applicable benchmarks and across asset classes. A key objective of the asset-liability study shall be the development through statistical modeling techniques of a diversified portfolio that specifies ranges of prudent portfolio exposures and a “long-term normal” position for each asset class. The normal portfolio mix will represent the portfolio that is expected to meet the Board’s actuarial return objectives for the pension plan within the risk tolerances specified herein.

Each asset class allocation percentage has a “long-term normal” position within the overall portfolio and a maximum and minimum range around that normal allocation. All percentages refer to market value.

Each asset class is described by an associated benchmark that describes, in general terms, the opportunity set and return characteristics associated with the asset class. For certain private or more complex asset classes the benchmark serves as a proxy for expected returns rather than an approximation of the actual investments that will characterize that component of the portfolio. Those benchmarks, along with the allocation ranges, are identified in the table on the following page, and are referred to as the “Policy Benchmarks.” The portfolio transition which started on October 1, 2007 for Real Assets is ongoing with a long term target for Real Assets of 15%. Adjustments to the benchmark to accommodate the transition for Real Assets are described in footnote 3 in the table below.

[Table appears on following page]

Asset Class	Benchmark	Bloomberg Ticker	Minimum Range ¹	Maximum Range ¹	Target
Global Equity:					
US Large Cap	MSCI USA Standard	GDDUUS	13%	23%	18%
US Small Cap	MSCI USA Small Cap	GCUDUS	0%	7%	2%
Non-US Developed	MSCI EAFE and Canada	NDDUEC	10%	20%	15%
Emerging Markets	MSCI EM	NDUEEGF	5%	15%	10%
Directional Hedge Funds	HFRI Fund of Funds Composite	HFRIFOF	0%	10%	5%
<i>Total Public Equity</i>	<i>Target-weighted Blend</i>		45%	55%	50%
Private Equity	State Street Private Equity Index – lagged one quarter		7%	17%	12%
Total Global Equity	Target-weighted Blend		55%	69%	62%
Stable Value:					
US Treasuries	Barclays Capital (BarCap) Long Treasury Index	LUTLTRUU	0%	20%	13%
Absolute Return (Including Credit Sensitive Investments) ²	3 Month LIBOR + 2%	USCOTR03 (plus 2%)	0%	20%	0%
Stable Value Hedge Funds	HFRI Fund of Funds Conservative	HFRIFOFC	0%	10%	4%
Cash	Citigroup 90-day US Treasury	SBMMTB3	0%	5%	1%
Total Stable Value	Target-weighted Blend		13%	23%	18%
Real Return:					
Global Inflation Linked Bonds	BarCap US Treasury TIPS index	LBUTTRUU	0%	10%	5%
Real Assets	NCREIF ODCE - lagged one quarter		5%	20%	15%
Commodities ³	Goldman Sachs Commodity Index	SPGCCITR	0%	5%	0%
Total Real Return	Target-weighted Blend		15%	25%	20%
TOTAL PLAN	Target-weighted Blend				100%

[Notes to table appear on following page]

Notes to table on prior page

¹ With respect to the maximum range and minimum range, the CIO may increase any maximum range by 5% or decrease any minimum range by 5% (but may not decrease a minimum range below zero) if the CIO concludes in a writing delivered to the Executive Director and to the Board of Trustees stating the action taken and the reasons why the CIO believes that such increase or decrease would be in the best interests of TRS; provided, the maximum range for Total Global Equity may not be increased above 69%. Before taking action, the CIO must request comments from the Chairman of the appropriate Board Committee and TRS consultants and advisors. The Board, at the next succeeding Board meeting, must authorize the increase or decrease if the CIO proposes that the changes continue in effect after such Board meeting. The CIO will notify the Compliance Officer of any such change to a maximum or minimum range. If the Board does not authorize the continuation of the change to a maximum or minimum range after the next succeeding Board meeting, the Investment Division shall use best efforts to rebalance the portfolio to bring the asset classes within the ranges in the table above within 90 days.

² Absolute Return is a broad category that includes all assets that have a high probability of generating a positive absolute return regardless of market conditions over a one to three year period.

³ Except as specifically provided in Article 5.2, investments in commodities are limited to instruments that constitute a security or an authorized derivative that is either underlain by a financial instrument or, if underlain by a physical commodity, is cash settled. Direct investments in physical commodities are prohibited.

1.7. Total Fund Measurement and Reporting Criteria

The Investment Division will deliver reports to the Board (and the appropriate Board committee, as applicable) adequate to indicate whether the Total Fund is meeting its objectives and that will permit the Board to monitor each portfolio for compliance with this Policy. The Board will establish performance and risk measurement and attribution standards for the Total Fund, each asset class, and component portfolios.

The following comparisons and reviews will be performed quarterly (unless otherwise noted) and presented to the Board:

- a. **Investment Performance** – Investment performance for the Total Fund and each component portfolio, net of external management fees (if applicable); will be compared with their respective benchmark indices. Fund performance will be judged primarily by comparisons to long-term (3, 5 and 10 year) Policy Benchmark returns.
- b. **Monitoring of compliance with Policy** - Portfolios will be reviewed for compliance with the requirements set forth in this Policy. The Investment Compliance Officer will have overall responsibility for compliance monitoring. However, if considered necessary, TRS will hire external parties to obtain assistance regarding compliance monitoring. To ensure independence in compliance monitoring the Investment Compliance Officer or external parties hired will not be given the authority to trade securities. To ensure ongoing compliance with this Policy and completeness of disclosures to the Board regarding compliance, the Investment Compliance Officer has authority to require certifications from applicable IIC members or Managing Directors disclosing known compliance violations. The Investment Compliance Officer reports all known compliance exceptions to the Board at the next meeting of the Board.
- c. **Asset class exposures and weightings** – The exposure of cash and derivative instruments to each asset class will be aggregated and compared with their respective long-term and transition benchmarks and with the authorized ranges around those benchmarks. Hedge Fund exposure will be reported relative to its statutory limit, if applicable.
- d. **External investments under consideration** – For any external investment under consideration by the Investment Division (including hedge funds, external managers, real asset and private equity investments), the Investment Division will provide the Board the following information prior to the date of the applicable IIC meeting:
 - i. Name of the investment vehicle and investment manager;
 - ii. Total fund or strategy size;
 - iii. TRS investment amount under consideration;
 - iv. Investment strategy;
 - v. Names of the external manager or fund principals;
 - vi. Projected TRS commitment or funding date;
 - vii. Placement agent or firm sponsoring the offering or engagement, if any;

- viii. Prospective fees;
 - ix. Other TRS investments with the firm; and
 - x. Historical fund or manager performance.
- e. **External investments activities** – The Investment Division will provide the Board with a list of all external investments, including any additions, withdrawals, transfers or terminations, on at least a semi-annual basis.
 - f. **Derivatives** – The Investment Division shall provide a comprehensive report of all outstanding derivative applications (including derivative types, counterparties, notional amounts, and fair values) used by internal managers and external managers under Agency Agreements on at least a semi-annual basis.
 - g. **Risk limit** – The Investment Division will report at least semi-annually the Total Fund and benchmark total estimated risk relative to the upper and lower bounds corresponding to the maximum and minimum downside risk measures that could be achieved through the asset allocation limits in this Policy.
 - h. **Liquidity** – The Investment Division will report at least semi-annually to the Board the use of external liquidity funding mechanisms.
 - i. **Leverage** – The Investment Division will report the Gross and Net Leverage derived from internal derivative use, internal short sales, external managers, Hedge Funds, and leverage resulting from use of external liquidity funding mechanisms as outlined in the Liquidity Policy on at least a semi-annual basis.
 - j. **Transparency report** – The Investment Division will provide a transparency report to the Board that may be used to disclose any of the required information mentioned above. This report may be delivered in electronic or physical formats.
 - k. **Private Markets Long-Term Strategy** – The Investment Division will review with the Board its long-term strategy for the Private Equity and the Real Asset portfolios at least every three years. This review will include information on target sub-strategy allocation, return, risk and liquidity expectations. Tactical deviations from this long-term strategy will be reviewed on an annual basis.
 - l. **Staffing** – The Investment Division will provide an update no less than annually reporting on the staffing of key employees in the division, including turnover, transfers and the creation of new positions.
 - m. **Placement Agent Disclosures** – The Investment Division shall compile all responses to the placement agent questionnaire (Appendix F) for the purposes of Article 11, including for emerging manager investments, and report the results to the Board at least semi-annually. Each response shall include the questionnaire information as of the date the IIC approved the investment. Reports shall include the amounts and recipients of any political contribution or Placement Fee and the relationship of the recipients to the Placement Agent or Texas Elected Official, as applicable.
 - n. **Other information** – Any other information or reports as the Board may request or require from time to time.

1.8. Total Fund Portfolio Implementation and Design

The Total Fund investment portfolio is characterized by the following functional portfolios that are charged with the implementation of day-to-day portfolio management activity:

- a. Internal Public Markets Portfolios;
- b. External Public Markets Portfolio;
- c. Private Markets Portfolios;
- d. Overlay Portfolios; and
- e. Risk Management and Oversight.

The objectives, authority and limitations of each of these functional areas, and the authorized uses of derivatives, are described throughout the remainder of this Policy.

ARTICLE 2 –PUBLIC MARKETS PORTFOLIOS

2.1. Public Markets Portfolios Objectives

The Public Markets Portfolios are comprised of the Internal Public Markets Portfolios and the External Public Markets Portfolios. The primary objectives of the Public Markets Portfolios are to manage publicly-traded, marketable securities and related instruments, in accordance with the risk parameters established by the permitted asset allocation ranges of this Policy, to meet or exceed the performance of the Policy Benchmark, as allocated to the Public Markets Portfolios. The Internal Public Markets Portfolios will serve as the primary vehicles through which transition management will be performed and proxy portfolios will be managed vis-à-vis the unfunded Private Equity, Real Assets, and External Manager Portfolios, and Hedge Fund portions of the Fund.

2.2. Public Markets Portfolios Authorized Investments

The Public Markets Portfolios are authorized to invest in the securities described as follows:

- a. Equity securities of all companies traded or listed on a national exchange in the U.S. or in countries in the MSCI ACWI ex-US benchmark, and any component security of a Policy Benchmark.
- b. Common stocks, preferred stocks, convertible bonds, rights, warrants, units and depositary receipts (“DRs”) that trade publicly or pursuant to Rule 144A of the Securities and Exchange Commission (the “SEC”), without regard to the issuer’s principal place of business or jurisdiction of incorporation or organization (such securities are sometimes referred to in this Policy as “Authorized Equity Securities”), including common or preferred stock issued in initial public offerings (“IPOs”).
- c. Exchange-traded funds (“ETFs”) and closed-end funds tracking an applicable benchmark (or a significant subset or sector of a benchmark) if listed on a U.S. stock exchange or market or on a stock exchange or market in a country in which TRS is authorized to buy and sell securities.
- d. Exchange-listed or private placement equity-linked notes intended to track authorized international equity securities or indices, and registered index funds in any country index series intended to track its respective country index, provided that the country is in the Policy Benchmark.
- e. Exchange-traded futures contracts, options contracts, and options on futures contracts in order to efficiently manage or reduce the risk of the overall investment portfolio, or both, in accordance with this Policy and applicable law.
- f. Over-the-counter swap and option agreements, including but not limited to total return swaps, interest rate swaps, credit default swaps, and currency swaps, to efficiently manage or reduce the risk of the overall investment portfolio, or both. The Fund may also use forward agreements and any other instrument commonly used by institutional investors to manage institutional investment portfolios, in accordance with this Policy and applicable law.
- g. Evidence of indebtedness and securities that evidence an ownership interest in debt obligations that are issued, insured, guaranteed by, supported by, or based on the credit of the following:
 - i. The United States (“U.S.”) or any U.S. agency, department, or government sponsored enterprise (“GSE”);
 - ii. The debt obligations of states, municipalities or any state agency of the United States of America;
 - iii. Corporations chartered by the United States or any state thereof; and
 - iv. Foreign governments, supranationals, subnationals, and corporations chartered by foreign governments.
- h. Agency and non-agency mortgage-backed securities.
- i. Collateralized mortgage obligations (“CMO”).
- j. Commercial mortgage-backed securities (“CMBS”).
- k. Asset-backed securities (“ABS”).
- l. All securities and all types of securities that are either included in the applicable benchmark or that will be added to the benchmark as of the announcement date of their future inclusion.
- m. Mutual funds, closed-end funds, exchange traded funds, structured notes, limited partnerships, commingled funds, or any other security types that:

- i. Are intended to track or replicate the returns of the Policy Benchmark or a portion thereof or that are intended to reduce the overall tracking error of the portfolio; or
 - ii. Invest in non-dollar fixed income instruments that are predominantly investment grade quality; or
 - iii. Invest in bank loans that are predominantly investment grade quality; or
 - iv. Actively invest in a dynamic portfolio of high yield securities.
- n. Passive funds, structured credit basket transactions, or trusts containing high-yield fixed income securities selected according to defined parameters and, if the investment contract, offering documents, or prospectus requires distribution to TRS of securities held by fund or trust under specified circumstances, such securities.
 - o. Repurchase and triparty repurchase transactions.
 - p. Investments in State of Texas pooled investment funds.
 - q. Foreign currencies that may be required to settle security transactions denominated in those foreign currencies and any authorized instrument or contract intended to manage transaction or currency exchange risk in purchasing, selling or holding investments.
 - r. Short sales as authorized and limited by Article 2.7 for the Externally Managed Public Assets Portfolio.
 - s. Local Access Products, including equity-linked certificates, participation notes, and low-exercise price call warrants which replicate the performance of an underlying security, index, or market for which investment in the local market or in the ADRs or GDRs, or the total return swap market would be difficult or costly, or both.

In addition to the foregoing, the Public Markets Portfolios are authorized to engage in overlay strategies in accordance with the guidelines set forth in Article 7. Overlay strategies may not be used to circumvent the asset allocation parameters, risk guidelines, or any other controls otherwise established by this Policy.

2.3. Internal Public Markets Portfolio Restrictions

- a. Not more than 20% of the outstanding equity securities of a single class of any company may be purchased. In calculating this 20% limit, any amounts that are held in the EPM Portfolios and which are also deemed to be beneficially held by TRS for purposes of Section 13 of the Securities Exchange Act of 1934, including equity securities held in a separate account (or a commingled account in which TRS is deemed to be the beneficial owner for purposes of Section 13 of such act), shall be included.
- b. TRS will not invest in securities of any company that derives a significant portion of its revenues from products or services intended exclusively to appeal to a prurient interest in sex through explicit depictions of sexual activity. These include, but are not limited to, sexually explicit films, videos, publications, and software; topless bars and strip clubs; and explicit sexually-oriented telephone and Internet services. The restriction does not apply to pooled investment vehicles, provided that the Investment Division shall engage with the managers of such vehicles and use commercially reasonable efforts during due diligence to determine whether such vehicles invest in any company that would not be eligible for direct investment by TRS.
- c. Except as required by fiduciary duties created by the Texas Constitution or other applicable law, TRS will comply with Chapter 806, Government Code relating to prohibition on investments in Sudan, including reporting requirements on investments in listed companies and on decisions to cease divestment, remain invested, or reinvest in listed companies. Additionally, TRS will avail itself of the protection afforded by the U.S. Sudan Accountability and Divestment Act. To the fullest extent allowed by law and consistent with fiduciary duties, TRS will treat direct holdings in investments in companies with active business operations in Iran in a similar manner to investments in listed companies in Sudan. TRS will use the Iran scrutinized list of companies subject to the Iran Sanctions Act, or any successor legislation, as maintained by a governmental body or a reputable private organization and which is available in June of each year. If, in order to comply with the fiduciary duties created by the Texas Constitution, the IIC determines that divestment of or a ban on investments in companies on the Iran list would be imprudent under the circumstances because alternative investments to the listed companies do not offer commensurate return with no greater risk or commensurate risk with the same or greater return, the IIC may exempt companies from the Iran list and authorize investment in the securities of those companies.
- d. The IPM Portfolio shall conform to the tracking error target prescribed in Appendix A.

2.4. External Public Markets Portfolio

The component portfolios of the External Public Markets Portfolio (the “EPM Portfolio”) are:

- a. The External Manager Portfolio, which consists of:
 - i. Commingled or other private investment funds which are not determined to be Hedge Funds as defined by Section 2.6 of this Policy, and
 - ii. Separate accounts managed or advised by external managers operating under an Agency Agreement with TRS.
- b. The Hedge Fund Portfolio.
- c. The Other Absolute Return Portfolio including Credit Sensitive Investments.

The CIO will determine the proper mix of assets allocated for internal management under the parameters of the IPM Portfolio and those to be allocated to the External Manager Portfolio component of the EPM Portfolio. In no event shall the aggregate allocation to external managers pursuant to Agency Agreements exceed 30 percent (or a different percentage of not more than 50 percent if a different percentage is specified in the Government Code) of the Total Fund at the time of investment, as specified in Section 825.301 (a-2), Government Code.

This preceding paragraph does not affect the target allocation and the range of allocation for the Hedge Fund Portfolio, which shall not exceed 10% of the Total Fund, or such lesser or greater percentage as allowed by applicable law and Section 2.7 of this Policy.

2.5. External Public Markets Portfolio Objectives

The primary objective of the EPM Portfolio is to invest in publicly-traded marketable securities, commingled funds, Hedge Funds, and related instruments, in accordance with the asset allocation parameters of this Policy, to meet or exceed the performance of the Policy Benchmark over a 5 to 10 year market cycle as allocated to the EPM Portfolio. The EPM Portfolio will employ a wide variety of investment and trading strategies with varying levels of liquidity and leverage. It is expected that some strategies will involve more concentrated, shorter term investments as well as those that are longer term in nature and thus will generally have more tracking error than expected within the IPM Portfolio, while other investments will have less correlation, beta and volatility and thus will offset the overall volatility of the EPM Portfolio and the Total Fund.

2.6. Hedge Fund Defined

In this Policy, “Hedge Fund” means a private, commingled investment vehicle with the following general characteristics, as set forth in Section 825.3012, Government Code:

- a. Is not registered as an investment company;
- b. Issues securities only to accredited investors or qualified purchasers under an exemption from registration; and
- c. Engages primarily in strategic trading of securities and other financial instruments.

“Hedge Fund” includes a private investment fund of funds or other commingled vehicle that itself invests in Hedge Funds. An investment in a Hedge Fund issuing securities to TRS does not involve a delegation of investment discretion to an external manager for the External Manager Portfolio, including for purposes of the statutory limit on delegation to external managers, and the assets of a Hedge Fund are not TRS assets.

For the purposes of complying with Section 825.3012, Government Code, the Investment Division shall use the following criteria to analyze and determine whether a private investment fund is “primarily engaged in strategic trading” and should be classified as a hedge fund:

[Table appears on following page]

Criteria “Strategic Trading of Securities”	Characteristics Non-Hedge Fund	Characteristics Potential Hedge Fund
1. Variability in Asset Class Concentration	Asset allocation typically stays the same throughout a market cycle, as shown by historical practice	Unconstrained; asset class mix can change dynamically in response to market conditions or as opportunities arise
2. Beta to underlying index specified for the particular mandate	Generally higher levels of beta (e.g., 0.75+)	Often less beta (e.g., <0.75)
3. Securities Traded	Primarily publicly-traded securities	Typically public or private instruments, and often with some illiquid (e.g., “side pockets”) investments segregated for accounting and incentive fee purposes
4. Leverage	Gross leverage less than 250% <i>and</i> net leverage 75% to 125%	Unconstrained by policy and practice – managers often unwilling to commit to constraints
5. Short sales of company-specific securities (i.e., non-derivatives)	Typically <50% gross short	Shorting of company-specific securities is integral to investment strategy or process, with gross short positions exceeding 50%
6. Use of Derivatives	Limited use of derivatives (notional is less than 100% of contributed capital)	Derivatives are integral to strategy or process (notional value greater than 100% of contributed capital)
7. Transparency	Generally position-level transparency for investor	Risk-level transparency, but little or no position-level transparency
8. Liquidity	Limited use of lock-ups, short or no notice period; frequent (e.g., monthly) or no redemption windows	Often lock-ups, withdrawal fees, notice periods exceeding 30 days and/or less frequent redemption windows than monthly; gates and ability to suspend redemptions can extend redemption for years or frustrate liquidity goals
9. Performance Fees	May charge performance fees, but often over asset class hurdle	Generally, manager charges management and performance or incentive fees, or both, but usually with no asset class hurdle

In this Section 2.6:

Beta is a measure of an asset’s volatility in relation to a specific market or risk factor, as observed over a market cycle; the measure of an asset's risk in relation to the market (for example, the S&P500) or to an alternative benchmark or factors. Generally, the return of a security with a beta of 1.5 will be, on average, 1.5 times the market return.

Leverage is a condition in which the net potential monetary exposure of an obligation exceeds the value of the underlying assets supporting the obligation. **Net Leverage** is calculated as the difference between (A) the sum of (i) the market value of all long cash market positions, (ii) the notional value of all long derivative positions, and (B) the sum of (i) the absolute market value of all short cash market positions, and (ii) the absolute notional value of all short derivative positions divided by (C) the

net market value of the fund. **Gross Leverage** is the total of (A) the sum of (i) the market value of all long cash market positions, (ii) the notional value of all long derivative positions, (iii) the absolute market value of all short cash market positions, and (iv) the absolute notional value of all short derivative positions divided by (B) the net market value of the fund. For option based instruments, notional value may be calculated using hedge ratios to derive a delta-equivalent exposure.

Proposed investments in funds classified as Hedge Funds will be reported to the Board of Trustees (and appropriate Board committee, as applicable) quarterly. If the criteria examined do not clearly indicate, based on at least a preponderance of criteria, how a fund should be classified for statutory purposes, Investment Division may elect to present the pertinent information to the IIC for consideration of classification. Further, if the application of any one or more of the criteria for leverage, short sales, and derivatives, standing alone, would classify the fund as a Hedge Fund, but the preponderance of criteria would classify the fund as a non-Hedge Fund, the Investment Division may either decline to authorize the investment or may elect to present the pertinent information to the IIC for consideration of the classification of the fund and, if applicable, authorization for investment.

Prior to investment, the CIO will determine whether each Hedge Fund is a Stable Value Hedge Fund or a Directional Hedge Fund by reference to factors such as investment strategy, underlying investments, correlation, beta, leverage, expected return and expected risk.

2.7. External Public Markets Portfolio Authorization

- a. **Approval Authority – Hedge Fund Portfolio, External Manager and Other Absolute Return Portfolios** - The IIC is hereby authorized to approve investments in the External Public Markets Portfolio in accordance with the guidelines set forth in Section 2.5. The limits are defined and set forth in Appendix B of this Policy apply to allocations and commitments by the External Public Markets Portfolio.

The Investment Division may authorize an allocation to an external manager even if the external manager will invest the assets in a commingled fund or funds or a tax-qualified collective trust managed by an Affiliate of the external manager, provided, however, that the Investment Division shall determine whether any such commingled fund should be classified as a Hedge Fund for purposes of Section 825.3012, Government Code.

- b. **Board Consideration** - If a Board member desires that any Hedge Fund investment or external manager strategy mandate on the list delivered to the Board under Section 1.7 be submitted for consideration by the Board, the Board member should notify the Executive Director and the CIO sufficiently in advance to permit completion of due diligence and consideration by the Board before the anticipated closing date.
- c. **External Public Markets Advisors and Consultants** - The Investment Division is authorized to engage one or more qualified external advisors (each, an “Advisor”) to assist and advise the Investment Division with respect to investment opportunities within the EPM Portfolio. Each Advisor engaged by the Investment Division must be approved by the CIO and the Board. The applicable advisor or consultant will provide a prudence letter or letter of recommendation for all opportunities presented to the IIC unless an exception has been made by the CIO. Notwithstanding the foregoing, IIC consideration and approval of a sub-manager of an external manager who manages sub-managers does not in any event require a separate, additional prudence letter or letter of recommendation from an Advisor; provided, further, that such external manager of sub-managers (i) is fully liable for any action or omission of the sub-manager as if the action or omission had been taken by such external manager and (ii) recommends the engagement of the sub-manager in writing to the IIC. For avoidance of doubt, this paragraph does not prohibit the CIO from requesting a separate prudence letter from an Advisor with respect to the IIC’s consideration of a sub-manager to be recommended by a manager.
- d. **Authority to Execute Documents and Agreements for the External Public Markets Portfolio** - The general authority resolution adopted by the Board on August 13, 2010 and designating those officers authorized to execute documents and attached as Appendix E is incorporated in this Investment Policy. Should the Board supersede such resolution, such superseding resolution shall be incorporated in this Investment Policy and replace the superseded resolution as Appendix E as of the effective date of the superseding resolution.
- e. **Allocation measurement** - Only the net long position of each external manager, fund vehicle, separate account, or Hedge Fund will be counted against the asset allocation policy; however, both long and short positions will be modeled (through proxies if necessary) to calculate Total Fund risk.
- f. **Short positions limit** - In addition to investments authorized under Section 2.2, the External Public Markets Portfolio may hold short positions in securities listed on a national exchange or U.S. treasuries. The aggregate short positions exposure of the External Public Markets Portfolio may not exceed 25% of the market value of the External Public Markets Portfolio without the prior written consent of the CIO. In no event may the aggregate short positions exposure of the External Public Markets Portfolio exceed 50% of the market value of the External Public Markets

Portfolio, nor may any short sale or position violate the laws or rules of any jurisdiction or exchange in or on which the applicable Securities are traded or listed.

- g. **Overlay strategies** – The External Public Markets Portfolio is authorized to engage in overlay strategies in accordance with the guidelines set forth in Article 7. Overlay strategies may not be used to circumvent the asset allocation parameters, risk guidelines, or any other controls otherwise established by this Policy.
- h. **Rebalancing Authority** – Subject to the limits set forth in this Policy, the CIO, Deputy CIO or the head of External Public Markets may add funds to previously approved investments for the purposes of rebalancing or adjusting risks. Such additional investments or allocations shall not, on a monthly basis, exceed 2% of the Hedge Fund Portfolio, External Manager Portfolio, or Other Absolute Return Portfolio (as appropriate) per investment. This subsection does not affect or limit the authority of the Investment Division to withdraw funds from approved investments.
- i. **Termination Authority** - The CIO, Deputy CIO or the head of External Public Markets may transfer, withdraw or terminate interests in the EPM Portfolio, provided that the action does not result in a material, unwaived breach of the terms and conditions of the applicable investment agreements.

2.8. External Public Markets Portfolio Restrictions

- a. Agency Agreements, considered in the aggregate, may not be used to circumvent the asset allocation parameters, risk guidelines, or any other controls otherwise established by this Policy, including the provisions of Section 2.2.
- b. The Investment Division may delegate management of not more than 30% (or a different percentage of not more than 50% if a different percentage is specified in the Government Code) of the market value of the assets of the Total Fund to external managers pursuant to Agency Agreements. For avoidance of doubt, this restriction does not apply to assets held by funds (including Hedge Funds) which limit the liability of TRS to the capital contributed and any distributions that TRS might be legally obligated to contribute or repay to the fund.
- c. The Investment Division is authorized to invest up to 10% (unless extended by law, this authority reverts to 5% on September 1, 2019) of the Total Fund in Hedge Funds as defined in Section 2.6. Compliance with the statutory limit is to be determined at the time TRS executes subscription documents for each Hedge Fund investment or additional investment.
- d. Each Agency Agreement with an external manager shall specify the applicable policies, risk controls, portfolio characteristics, reporting requirements, requirements or restrictions, including criteria for determining quality of investments or the use of standard debt rating services.
- e. Each Agency Agreement with an external manager shall terminate on or before September 1, 2019; provided, however, that an Agency Agreement may include provisions for optional renewal or extension of the agreement by the Investment Division beyond September 1, 2019 that are contingent on amendment of TRS statutes to authorize such agreements after that date.
- f. Each Agency Agreement shall require the external manager to comply with TRS restrictions and investments relating to direct holdings in companies having active business operations in Sudan or Iran, including divestment. TRS will comply with any requirements imposed by Section 806.057 of the Government Code relating to notification, requests, or action involving indirect holdings in funds containing listed companies.

2.9. External Public Markets Portfolio Conflicts of Interest

Conflicts of interest, including the appearance of conflicts, in the selection and engagement of external investment managers will be avoided at all times. Potential or actual conflicts of interest must be evaluated during due diligence and after engagement under applicable ethics policies and statutory provisions, including without limitation Sections 825.211 and 825.212, Government Code, which do not apply to Hedge Fund managers in that capacity. The Investment Division will develop guidelines and procedures to identify actual or potential conflicts of interest affecting external managers to be engaged pursuant to Agency Agreements. The Investment Division shall employ reasonable diligence to identify conflicts of interest affecting TRS trustees, employees and advisors with respect to all private investments.

ARTICLE 3 - PRIVATE MARKETS PORTFOLIOS

3.1. Private Markets Portfolios

The Private Markets Portfolios are (1) the Private Equity Portfolio (the “PE Portfolio”) and (2) the Real Assets Portfolio (the “RA Portfolio”). The Board shall approve the respective long-term normal allocation and the range of allocation for each portfolio.

3.2. Private Markets Portfolios Authorization

The Private Markets Portfolios are authorized to invest in the asset classes specified in this Policy and may hold and exercise rights, options and warrants attached to securities relating to an investment by the Private Markets Portfolios.

Funding of committed capital in either the PE Portfolio or the RA Portfolio will occur over an extended time period and may take several years before the total allocation to each asset class is fully invested. Because an individual investment may begin to return capital to the investor prior to the full funding of the investor’s commitment, the outstanding invested capital of the investment might at times be substantially less than the total commitment. In recognition of the above characteristics unique to the PE and RA Portfolios, a “committed” allocation to both private equity and real assets may exceed the respective allocation targets authorized. It will not be a violation of this Policy if changes in the market values of the public assets portfolios or the Private Markets Portfolios cause the market value of the Private Markets Portfolios to exceed the upper limit of the allocation ranges established in this Policy.

3.3. Private Markets Investment Process

Private Markets External Advisors and Consultants

The Investment Division is authorized to engage one or more Advisors to assist and advise the Investment Division with respect to investment opportunities within the Private Markets Portfolios. Each Advisor engaged by the Investment Division to provide investment advice with respect to private equity, real estate, and other real assets investments must be approved by the CIO, either the head of Private Equity or the head of Real Assets (as appropriate), and the Board. Subject to the direction of the private equity or real assets investment staff, as appropriate (each, a “Private Markets Team”), Advisor duties may include, but are not limited to, the following:

- a. Performing due diligence on specific Private Markets investment opportunities assigned by a Private Markets Team;
- b. Providing research related to private equity and real assets markets and opportunities, economic conditions, and performance expectations;
- c. Assisting a Private Markets Team, upon request, in identifying potential Private Markets investment opportunities;
- d. Providing, upon request, written recommendations to a Private Markets Team regarding investments for the Private Markets Portfolios; and
- e. Assisting a Private Markets Team in the negotiation of required investment contracts and legal documentation.
- f. Providing a prudence letter or letter of recommendation for all opportunities presented to the IIC unless an exception has been made by the CIO.

To the extent an Advisor is directed by a Private Markets Team to perform due diligence on an investment opportunity, such due diligence will be performed in accordance with prudent underwriting objectives established by a Private Markets Team for the TRS Private Equity and Real Assets programs. Each investment opportunity must meet these prudent underwriting standards in order to merit inclusion within the respective portfolios.

3.4. Private Markets Authorization of Investments

Investment Authority. The limits defined and set forth in Appendix B of this Policy apply to allocations and commitments by the Private Markets Portfolios.

If, after due diligence by either of the Advisor and the Investment Division, the Advisor and the Investment Division do not concur on whether a private markets investment within the Investment Division’s discretion should be made, the Investment

Division may elect to present the opportunity to the appropriate Board committee for consideration of a recommendation to the Board to authorize the investment. Unless the Board authorizes an investment, a proposed investment may not be made without the concurrence of both the Investment Division and the Advisor.

Private markets opportunities that will be considered for investment include the following: primary investments in any legally permissible investment vehicle, including limited liability entities (usually limited partnerships), co-investments, secondary investments, commingled funds, separate accounts, hybrid structures investing in equity or debt, joint ventures, secondary market transactions, entity-level investing or other off-market investments, new and emerging managers, and opportunistic investments (e.g., investments in the management entity of a private markets investment firm or sponsor, public-to-private transactions, and the acquisition of business development company or investment trust assets).

To the extent a Board member desires that any private markets investment opportunity submitted for consideration by the IIC be also submitted for consideration by the trustees, the Board member should notify the Executive Director and the CIO sufficiently in advance to permit completion of due diligence and consideration by the Board and by the appropriate Board committee, as applicable, before the anticipated closing date.

The CIO, Deputy CIO or either the head of Private Equity or the head of Real Assets (as applicable) may transfer, withdraw or terminate interests in the Private Markets Portfolios in accordance with the investment documents, provided that the action does not breach any agreement to which TRS is legally bound.

Commitment Authorization. Each investment must be authorized as required by the provisions, guidelines, and limitations established in this Policy. Any structure in which TRS invests shall meet established legal requirements.

Limited Partner or Investor Advisory Committees. When approved by the CIO or either the head of Private Equity or the head of Real Assets (as appropriate), Private Markets Team members may serve as investor representatives on the advisory committee of any private equity or real assets investment vehicle to which TRS has committed capital.

Authority to Execute Documents and Agreements for the Private Markets Portfolios. The general authority resolution adopted by the Board on August 13, 2010 and designating those officers authorized to execute documents and attached as Appendix E is incorporated in this Investment Policy. Should the Board supersede such resolution, such superseding resolution shall be incorporated in this Investment Policy and replace the superseded resolution as Appendix E as of the effective date of the superseding resolution.

Rebalancing Authority. Subject to the limits set forth in this Policy, the CIO, Deputy CIO or either the head of Private Equity or the head of Real Assets (as appropriate) may add funds to previously approved investments for the purposes of rebalancing or adjusting risks. Such additional investments or allocations shall not exceed, on a monthly basis, 2% of each of the Private Equity Portfolio or the Real Assets Portfolio (respectively, as appropriate) per investment. This subsection does not affect or limit the authority of the Investment Division to withdraw funds from approved investments; provided, the withdrawal does not breach any agreement by which TRS is legally bound.

Overlay Authority. The Private Markets Portfolios are authorized to engage in overlay strategies in accordance with the guidelines set forth in Article 7. Overlay strategies may not be used to circumvent the asset allocation parameters, risk guidelines, or any other controls otherwise established by this Policy.

3.5. Private Markets Portfolio Restrictions

- a. As part of the Investment Division's due diligence, the Investment Division will seek to obtain assurance from prospective private markets fund managers or sponsors that they will use commercially reasonable best efforts, consistent with their duties to all investors, to avoid investing in companies or enterprises that derive a significant portion of their revenues from products or services intended exclusively to appeal to a prurient interest in sex. These would include, but not be limited to, sexually explicit films, videos, publications, and software; topless bars and strip clubs; and sexually oriented telephone and Internet services. Notwithstanding any other provision of this Policy, it is not a violation of this Policy if the Investment Division proceeds with a private investment based on oral or non-contractual written assurance.
- b. TRS will comply with notification requests or action required by Section 806.057, Government Code relating to indirect holdings in listed companies through equity funds. To the extent a Private Markets Portfolios contain direct holdings in publicly-traded securities of listed scrutinized companies doing business in Sudan or Iran, the Investment Division will comply with TRS restrictions and reporting requirements for direct holdings. Co-investments shall comply with TRS restrictions relating to direct holdings in companies having active business operations in Sudan or Iran, including divestment.

ARTICLE 4 - PRIVATE EQUITY PORTFOLIO

4.1. Private Equity Portfolio Objectives

Diversification

The primary long-term objective of the PE Portfolio is to develop a prudently diversified portfolio of investments that is expected to enhance the overall risk-return profile of the Total Fund and to reduce risk within the PE Portfolio.

The following attributes will be considered in constructing a diversified PE Portfolio: strategy, geography, industry sectors, size of investment, and vintage year.

4.2. Private Equity Portfolio Authorized Investments

Private equity funds build portfolios of private investments in the equity or equity-rights securities of operating companies. Private equity funds may acquire investments in debt obligations, public or private common and preferred stocks, convertible securities, and any warrants, rights, or options attached to any of the foregoing that relate to equity ownership in an issuer. Privately-acquired securities usually have transfer restrictions and are not as liquid as publicly-traded securities. Private equity funds are often classified by strategy, including: venture capital; mezzanine; buyout - acquisition; international - emerging markets; and special situation (e. g., growth equity, turnarounds, distressed).

4.3 Private Equity Portfolio Restrictions

The Private Equity Portfolio is authorized by and is subject to the terms and conditions described in Article 3.

ARTICLE 5 - REAL ASSETS PORTFOLIO

5.1 Real Assets Portfolio Objectives

The Real Assets (“RA”) Portfolio will be structured to achieve the following investment objectives:

- a. As the primary focus, contribute favorably to diversification of the Total Fund through exposure to real assets’ low or negative correlation to the Public Markets portfolios.
- b. Provide competitive returns through capital appreciation.
- c. The following attributes will be considered in constructing a diversified RA Portfolio: strategy, geography, property types, size of investment, vintage year, and the number of funds or investment managers represented in the portfolio. No specific geographic diversification or leverage targets are required..

5.2 Real Assets Portfolio Authorized Investments

The RA Portfolio will focus on private or public real estate equity or equity linked investments, private or public real estate debt, infrastructure, timber, agricultural real estate, oil and gas, real asset mezzanine debt or equity, mortgage-related investments, entity-level investments, real estate investment trusts (“REITs”), master limited partnerships (“MLPs”), non-fixed assets and other opportunistic investments in real assets. Real estate investments are often classified by strategy, including: core; core-plus; value-added; and opportunistic.

5.3 Real Assets Portfolio Restrictions

- a. Not more than 5% of the Total Fund may be invested in certain real asset strategies. For the purposes of this calculation, these certain real assets include timber, agricultural real estate, oil and gas, master limited partnerships (“MLPs”), and non-fixed assets.
- b. The Real Assets Portfolio is authorized by and is subject to the terms and conditions described in Article 3.

ARTICLE 6 – EMERGING MANAGERS PROGRAM

TRS shall make a good-faith effort to invest with qualified emerging managers for the External Managers Portfolio, Private Equity Portfolio, and the Real Assets Portfolio. The Investment Division is authorized to invest with qualified funds-of-funds managers skilled at identifying small and emerging managers in the private equity, real asset and public equity markets. The target dollar allocation is outlined for this program in Appendix C.

Emerging managers can include, but are not limited to, minority, women, and disabled veteran-owned or -controlled organizations. Conversely, not all minority, women, and disabled veteran-owned or -controlled organizations are necessarily considered emerging managers for the purposes of this program. Whether a management firm is an “emerging manager” depends on all of the facts and circumstances. In general, emerging managers are defined as newer, independent private investment management firms that manage less than \$2 billion, or have a performance track record as a firm shorter than five years, or both.

All investments with emerging managers will be subject to due diligence by an independent qualified external advisor. The advisor will present each investment recommendation to the IIC for its approval. In general, an emerging manager should be registered with the appropriate authorities if such registration would be consistent with industry practices. Each investment will have a minimum size of \$5 million. With respect to the External Public Markets Portfolio, the total investment by TRS with each emerging manager may not exceed 40% of such emerging manager’s assets under management. With respect to the Private Equity Portfolio and the Real Assets Portfolio, the total investment by TRS into each fund raised by an emerging manager may not exceed 40% of the size of such fund. This paragraph does not apply to investments executed as part of a fund-of-funds mandate.

The Investment Division shall document its efforts to identify and expand its investments with qualified emerging managers for the purpose of board and legislative reporting on the methods and results, including data disaggregated by race, ethnicity, gender, and fund size. All investments under the emerging manager program must be made prudently and in accordance with fiduciary and ethical standards.

ARTICLE 7 - OVERLAY PORTFOLIOS

7.1. Overlay Portfolios Objectives

Overlay Portfolios are designed to manage risk, asset allocation, and market exposures through futures, options, swap agreements, or forward agreements. Overlay Portfolios may be implemented in connection with the Total Fund or with any investment or portfolio within the Total Fund.

7.2. Overlay Portfolios Authorized Investments

Overlay Portfolios may contract for, buy, sell, and hold the following contracts and derivative instruments in accordance with this Policy:

- a. Exchange-traded futures contracts;
- b. Exchange-traded option contracts;
- c. Options on exchange-traded futures contracts;
- d. Over-the-counter or exchange-traded swap agreements;
- e. Over-the-counter option agreements;
- f. Forward agreements; and
- g. Forward-settling securities transactions.

7.3. Overlay Portfolios Restrictions

Overlay Portfolios may not be used to circumvent the asset allocation parameters, risk guidelines, or any other controls or restrictions otherwise established by this Policy or applicable law.

Direct purchase of derivatives underlain by physical commodities is prohibited for any TRS portfolio unless such derivatives are cash-settled. This prohibition does not apply to private investment funds, including Hedge Funds.

When engaging in currency overlay strategies, the Overlay Portfolio may not increase or decrease the net notional exposure of the Total Fund:

- a. To all non-dollar currencies in aggregate by more than 5% of the market value of the Total Fund;
- b. To any single developed market currency (except for the U.S. Dollar) by more than 2% of the market value of the Total Fund; and
- c. To any single emerging market currency by more than 1% of the market value of the Total Fund.

The foregoing percentage limit restrictions do not apply to currency derivatives used (i) as part of the non-discretionary foreign exchange risk management policy described in Section 9.2, (ii) to settle security transactions denominated in those foreign currencies and any authorized instrument or contract intended to manage transaction or currency exchange risk in purchasing and selling investments and (iii) for hedging the characteristics of an individual investment to align it with the characteristics of such investment's benchmark.

ARTICLE 8 - AUTHORIZED USES OF DERIVATIVES

This Article enumerates the applications, documentation and limitations for the use of derivatives as permitted under Section 825.301, Government Code.

8.1. Derivatives Objective and Investment Standard

The Board's objectives for using derivatives are to efficiently manage and reduce the risk of the overall investment portfolio. Through the use of derivatives, the risks that are bound together in traditional cash market investments can be separated and managed independently.

Derivatives authorized by this Policy may only be used to efficiently manage and reduce the risk of the overall investment portfolio in accordance with applicable law. In addition, all uses of derivatives must comply with the fiduciary standard of prudence set forth in Article XVI, Section 67(a)(3), Texas Constitution, which requires that all TRS investments must be made using the judgment and care under the circumstances then prevailing that persons of ordinary prudence, discretion, and intelligence exercise in the management of their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income there from as well as the probable safety of their capital.

8.2. Derivatives Policy Scope

Except where specifically noted, this Policy applies to all derivatives transactions executed by the Investment Division and by external managers operating under an Agency Agreement. This Policy does not apply to registered or private investment funds, including limited liability entities, issuing securities to TRS.

This Policy applies to all exchange-traded derivatives and over the counter ("OTC") derivative instruments authorized by law. This Policy does not apply to the use of derivatives by private investment funds issuing securities to TRS unless TRS in fact controls and has a legal right to approve the investment policy or guidelines of such funds.

8.3. Derivatives Use by External Managers and Commingled Funds (Hedge Funds)

The Total Fund may have external exposure to derivatives in two ways.

- a. First, the Total Fund will invest as a passive investor in Hedge Funds organized as limited-liability entities, which limits potential losses to the capital contributed to the entity. TRS is not a party to the management agreement between the Hedge Fund and its investment manager. Hedge Fund and other commingled fund managers owe the same legal duties to all investors.
 - i. The Investment Division must exercise thorough due diligence in assessing the scope of the Hedge Fund manager's uses of derivatives, their purpose, experience of the fund manager's staff in managing these positions, inherent leverage, and the manager's systems, controls and operations in determining suitability of these entities for TRS investment.
- b. Second, TRS may delegate discretion, through Agency Agreements, to external managers who act as a TRS agent with respect to Total Fund assets and who are authorized to enter into specified contracts and commitments that will be legally binding on TRS. External managers are TRS fiduciaries.
 - i. For external managers engaged pursuant to Agency Agreements, Investment Division must view the external manager as an extension of the internal Investment Division's investment management processes and must require external managers to comply with this Policy and applicable guidelines and law on the use of derivatives to the same extent as Investment Division. Guidelines for the scope and use of derivatives will be established on a case-by-case basis with each external manager in the applicable Agency Agreement. An external investment manager of publicly-traded investments engaged by TRS under an Agency Agreement may engage in derivatives transactions only if expressly authorized by, and the transactions are consistent with, the overall investment objectives and restrictions established in the Agency Agreement, this Policy, and applicable law. Each Agency Agreement must be consistent with applicable law, this Policy, and other TRS policies. An Agency Agreement may only authorize such uses of derivative instruments when the Investment Division reasonably concludes after due diligence that the external manager possesses the

experience, expertise, and qualifications to prudently use derivatives, and has appropriate operational, compliance, and risk management personnel, policies, and procedures to effectively monitor and control their use, including the use of leverage.

- ii. Selection, engagement, and monitoring of external managers engaged through an Agency Agreement requires a clear understanding of the managers' uses of derivatives, particularly as it relates to various risk controls, compliance functions, and leverage. Investment Division will monitor risk exposures and leverage on both an individual entity and aggregate basis. The permitted uses of derivatives and leverage by each external manager must be fully documented in each Agency Agreement.

8.4. Derivatives Definition; Authorization

Derivatives are financial instruments the value of which are derived, in whole or part, from the value of any one or more underlying securities or assets, or index of securities or assets (such as a bonds, stocks, financial commodities, and currencies). For the purposes of this Policy, derivatives include, without limitation, futures contracts; options; options on futures contracts; forward contracts; swap agreements, including swap contracts with embedded options; any instrument or contract intended to manage transaction or currency exchange risk in purchasing, selling or holding investments; and any other instrument commonly used by institutional investors to manage institutional investment portfolios. Derivatives, for purposes of this policy, do not include currency forwards with a tenor of 30 days or less if such forwards do not require upfront amounts to be paid or received. Derivatives may be purchased through a national exchange or through a direct OTC arrangement with a counterparty.

Except as specifically provided in Article 5.2, this Policy does not apply to, or authorize, any use of derivatives underlain by physical commodities (unless such derivatives are cash-settled), single-asset real estate mortgages, or title to real estate or property affixed to real estate.

8.5. Derivatives Applications Permitted

Consistent with the objectives set out in Article 8.1, derivative applications may be used by Investment Division and external managers engaged through Agency Agreements to:

- a. Implement investment strategies in a lower cost and efficient manner;
- b. Efficiently manage the Total Fund portfolio by altering the portfolio's market (systematic) exposure in lieu of trading the underlying cash market securities through purchases or short sales, or both, of appropriate derivatives;
- c. Construct portfolios with risk and return characteristics that could not be efficiently created with cash market securities consistently with the objectives in this Policy and in compliance with applicable law;
- d. Hedge and control risks so that the Total Fund's risk-return profile is more closely aligned with the Total Fund's targeted risk-return profile through purchases or short sales, or both, of appropriate derivatives; and
- e. Facilitate transition trading when holdings must be rebalanced or reallocated among permissible investments as a result of changes to applicable benchmark indexes or policy changes.

The only authorized uses of derivative transactions are efficient portfolio management and reduction of risk in portfolios and to implement investment strategies authorized by this Policy more effectively and at a lower cost than would be possible in the cash market. External managers may not engage in derivative applications that are inconsistent with the applicable Agency Agreement, this Policy and applicable law, unless specifically authorized by the TRS Board and the Agency Agreement has been amended accordingly.

8.6. Derivatives Applications Not Permitted

Derivatives may not be used for any activity a primary purpose of which is speculation or to profit while materially increasing risk to TRS. Derivatives are considered speculative if their uses have no material relation to objectives and strategies specified by this Policy or any related policies or resolutions of the Board, and their use is not reasonably and substantially intended to produce efficiency in portfolio management and reduce market, credit, or liquidity risks applicable to the portfolio. Derivatives may not be used for circumventing limitations or restrictions imposed by this Policy or applicable regulatory requirements.

Derivative applications may only be used to invest in asset classes that are consistent with TRS's legally permissible policy asset categories (including currencies), implementation strategies, and risk-return characteristics.

Except as specifically provided in Article 5.2, investments in derivatives underlain by physical commodities are prohibited unless such derivatives are cash-settled.

8.7. Derivatives Documentation and Controls

Prior to the implementation of a new internal derivative instrument type or application, Investment Division shall document the purpose, justification, baseline portfolio, derivative application portfolio, risks (including, at a minimum, market, modeling, pricing, liquidity, and legal risks), the expected increase or reduction in systematic and idiosyncratic risk resulting from the application, the amount of leverage employed under the strategy, the prudent reasons for employing leverage, and the procedures in place to monitor and manage the derivative exposure. The documentation will be approved by the CIO and reported to the IIC and the Board (or appropriate Board committee, as applicable) at their next regularly-scheduled quarterly meetings. The Investment Division shall adopt fully documented control procedures to properly account and value the Total Fund's exposure to each derivatives application, whether internal or external under an Agency Agreement. The Investment Division shall establish an appropriate risk management procedure to monitor compliance both internally and by external managers and will take corrective action if necessary. The Investment Division shall have due regard for operational risks associated with various derivatives strategies, including risk management, accounting systems, liquidity needs, adequate staffing, and staff qualifications.

8.8. Derivatives Limitations

Counterparty Risks: In order to limit the financial risks associated with derivative applications, guidelines for rigorous counterparty selection criteria and ISDA agreements shall be created by the Investment Division to reduce counterparty risk for over-the-counter ("OTC") derivatives. Any counterparty in an OTC derivative transaction with TRS must have a credit rating of at least A- (Standard & Poor's or Fitch) or A3 (Moody's). All OTC derivative transactions, including those managed through Agency Agreements, must be subject to established ISDA Master Agreements or, if centrally cleared, clearing agreements and have full documentation of all legal obligations of both parties to each transaction. All ISDA Master Agreements entered into by or on behalf of TRS by the Investment Division or an external manager engaged pursuant to an Agency Agreement (if applicable) shall provide for netting of obligations. The Investment Division and external managers may also use collateral arrangements to mitigate counterparty credit or performance risk. The net market value of all OTC derivative positions, including those managed through Agency Agreements, less collateral posted, for any individual counterparty may not exceed \$500 million. The net market value of all OTC derivative positions for any individual counterparty, without consideration of collateral, may not exceed 5% of the total market value of the Fund. If these market-value limits are exceeded, the Investment Division will inform the CIO, Executive Director, and Chairman of the appropriate Board committee as soon as practicable and take appropriate corrective action within a 90-day period or develop a corrective action plan that will be presented to the Board at its next regularly scheduled meeting at which investment matters will be discussed following the initial 90-day corrective action period.

Global Risk Limitations: Notwithstanding other limitations in this Policy, transactions that would cause the aggregate risk exposure of the Total Fund, including externally-managed portfolios, to exceed the aggregate risk limits established by the current asset allocation policies of the Board are not permitted. On a Total Fund basis, the combined economic exposure introduced through both cash and derivative market positions is subject to the asset allocation ranges, risk limits, and other portfolio parameters described in this Policy.

Position Limits: For futures and options positions TRS will comply with all position and aggregate limits established by the applicable regulatory and legal organizations and authorities within each jurisdiction.

8.9. Derivatives Risk Management and Compliance

To ensure compliance with this Article 8, all internally- and externally-managed derivatives (other than derivatives held in Hedge Funds) must be marked to market on a daily basis by the Fund's external custodian(s), and such daily reports will be reviewed for accuracy by the TRS Risk Management staff and Investment Administration Center personnel. Compliance with the requirements of this Policy will be monitored by the TRS Investments Compliance Officer using information systems and data from internal and external sources. Any violations of this Article 8 will be reported immediately to the Executive Director and to the Chief Investment Officer, who will determine, if considered material as determined by Investments Compliance

Officer, Chief Investment Officer, and Executive Director, the appropriate remedy and report promptly to the Board (and the appropriate Board committee, as applicable).

ARTICLE 9 – RISK MANAGEMENT AND OVERSIGHT

9.1. Market Risk Management

The Investment Division will establish a framework for measuring enterprise-level risk for both the Total Fund Portfolio and the established benchmark, including any transition benchmarks employed during asset allocation shifts. At a minimum, this framework must include a quantified estimate of downside risk (e.g., value-at-risk (“VaR”), estimated shortfall, or various parametric and non-parametric statistics). The Investment Division will monitor the relative positioning of the Total Fund Portfolio vis-à-vis the benchmark no less frequently than monthly.

- a. **Asset allocation limits** – In addition to the Total Fund Portfolio level risk limits, the portfolio will be constrained to the asset allocation percentages and ranges prescribed by this Policy. Accordingly, the total exposure to each asset class must be based on the individual exposures of each cash security and each outstanding derivative contract.
- b. **Risk limit** – The Investment Division will model and monitor the Total Fund Portfolio and benchmark to ensure that the total estimated risk for the Public Markets portion of the Portfolio is within the upper and lower bounds corresponding to the maximum and minimum downside risk measures that could be achieved through the asset allocation limits in this Policy.
- c. **Proxy securities and indices** – If necessary and prudent, the Investment Division will employ proxies to approximate the economic characteristics of actual investments if the terms and conditions of the actual investments or the underlying holdings are not readily available or where the complexity of the underlying investment renders a deterministic model impractical.
- d. **Transition portfolio** – During portfolio transitions from or to private market investments in real estate, other real assets, or private equity, a transition benchmark may be employed that either explicitly creates placeholders for unfunded private investments or that treats the allocations to private market assets separately from the allocations to public market assets based on the funded portion of the Private Markets Portfolios. In either case, the risk statistics and limits will be applied relative to this transition benchmark.
- e. **Private market assets holdings** – The Investment Division may include private investments in real estate, other real assets, and private equity in this analysis either by proxy or by actually modeling the terms and conditions of the underlying exposures; however, if the inclusion of these investments is deemed to distort the true risk characteristics of the portfolio, the Board may approve the use of an alternative methodology for analyzing the risk characteristics of those investments.
- f. **Active risk limits** – In addition to the portfolio-level risk statistics described above, a target tracking error will be imposed on each asset class mandate whether implemented through internal or external managers or commingled funds. Additionally, a target tracking error will be imposed on the entire portfolio that takes into account both internally and externally managed portfolios and commingled funds as well as both asset allocation and security selection decisions. These limits are specified in Appendix A, attached hereto.

9.2. Foreign-Exchange Risk Management

The objective of the Foreign-Exchange (“F/X”) policy is to effectively manage portfolio return volatility associated with foreign currency risk. F/X risk is the possibility of a negative currency return as a result of adverse movements in foreign exchange rates. The F/X policy sets forth a structure and implementation plan to determine the level of strategic currency risk that the Fund is willing to tolerate.

F/X Policy Structure

The “PHRs” are policy hedge ratios that will be separately applied to the Fund’s public-markets and private-markets non-dollar exposures. PHR is the percentage of aggregate, non-dollar currency exposure to be passively hedged. The hedging horizon for the PHRs is intermediate (one to three years). The results of the PHR decisions will be presented to the Board (or the appropriate Board committee, as applicable) for approval by the Board and incorporated into the benchmark as prescribed in Appendix D.

From an implementation perspective, an F/X overlay manager would have responsibility for implementing the PHR decisions and would not exercise delegated investment discretion. The F/X overlay may be implemented internally or externally. If external, the non-discretionary F/X overlay manager would not fall under the definition of either an “external manager” or a Hedge Fund. A non-discretionary external F/X overlay manager would merely implement the investment decision that has already been made by the IIC.

9.3. Credit Risk Management

- a. **Counterparty exposures** – The maximum allowable unsecured counterparty exposure for OTC derivative transactions is \$500 million, based on the total net market value of all OTC positions held with each counterparty. The total counterparty exposure for each counterparty, including the collateralized portions of these agreements, may not exceed 5% of the market value of the Total Fund. The minimum credit rating, based on a nationally recognized statistical rating organization (“NRSRO”), must be at least A- or better at the inception of the contract. For any counterparty that experiences deterioration in credit quality that results in a NRSRO rating below the A- level, subsequent to the inception of transaction, additional eligible collateral may be posted, or the transaction may be terminated.
- b. All OTC derivatives must be governed by an ISDA Master Agreement and Credit Support Annex or, if centrally cleared, by clearing agreements, and must include both close-out netting provisions and collateralization provisions.
- c. **Repurchase agreements** – The counterparty limits for repurchase transactions and tri-party repurchase transactions may not exceed 5% of the market value of the Total Fund unless those transactions are covered by a third-party indemnification agreement by an organization that bears a long-term NRSRO credit rating of A- or better and is enhanced by acceptable collateral. Each repurchase agreement will be entered into under the PSA/ISMA Global Master Repurchase Agreement.

Each ISDA Master Agreement must also include a table that delineates the excess purchased securities margin (haircut) required, based on the collateral type, duration, and credit quality.
- d. **Securities lending** – When securities lending activity is performed by an external, third party lending agent, Investment Division will examine the credit underwriting practices of the lending agent, including enforcement of collateral requirements, counterparty analysis, and surveillance. Additionally, Investment Division will periodically review the securities lending lines by counterparty. A securities lending agent must be an organization rated A- or better by a NRSRO. More detailed information about TRS securities lending activities is specified in the separate Securities Lending Policy.

9.4. Liquidity Risk Management

The objective of the Liquidity Risk Management policy is to ensure that the Fund maintains ample liquidity to meet its funding commitments. The two kinds of commitments which necessitate a prudent liquidity policy are:

- a. Disbursements of benefits and related obligations to plan participants, including retirement, death, health, and disability benefits payments.
- b. TRS investment activities: These are mainly associated with risk management and funding of external managers. Some examples include:
 - i. TRS engages in derivatives to efficiently manage and reduce risk of the overall investment portfolio. Use of these instruments requires liquidity for collateral, margin and payment obligations at the time of a reset, call or maturity;
 - ii. TRS funds accounts managed by public markets external managers; and
 - iii. TRS manages unfunded capital commitments that the Fund is legally obligated to fund when called by private equity or real asset general partners.

External Funding Authority

The Investment Division is authorized to establish external funding mechanisms (such as master repurchase agreements with one or more counterparties) and the flexibility to operate in all types of market liquidity environments to allow prudent management of these commitments while achieving a long-term rate of return and adhering to the asset allocation limits outlined in this Policy. In addition to these external funding mechanisms, TRS will maintain adequate funds in its custodial account to cover investment-related obligations. Finally, the Board authorizes the Investment Division to access the cash holdings backing the OTC swaps to manage its commitments.

Limitations Applicable to External Funding Authority

Liquidity provided from these external funding mechanisms may not exceed 2% of the market value of the Total Fund. The expectation is that the liquidity funded through external funding mechanisms will be short-term (less than 30 days). The Investment Division must seek approval from the CIO for extended use of external funding sources. The Investment Division shall report such approvals for extended use to the Board not later than the next regular quarterly meeting.

9.5. Operations Risk Management

- a. **Overdrafts** – The Investment Division will monitor the frequency and costs associated with all overdraft activity.
- b. **Custodial Bank(s)** – The Investment Division will conduct on-site due diligence to review the operational controls set in place by all custodial banks. The Investment Division will also consider the extent of remedies provided by the custodian and its overall ability to fulfill its commitments should operational failures occur.

9.6. Settlement Risk Management

The Investment Division will monitor unsettled trade activity by counterparty and instrument type.

9.7. Legal Risk Management

Legal documentation for all accounts, investment subscriptions, external managers, investments in private investment funds (private equity, real assets, and Hedge Funds), and derivatives will be reviewed, negotiated and approved for TRS execution by internal or external legal counsel, or both. The Investment Division, in consultation with Legal Services, will exercise diligence to ensure that all contracts are legally binding and enforceable in a suitable venue. The Investment Division will seek the assistance, review, and advice of legal counsel whenever it is prudent to do so. The General Counsel and the Legal Services Department have primary responsibility for the engagement of outside legal counsel for investment matters, subject to applicable statutes and rules adopted by the Office of the Attorney General.

9.8. Risk Management Compliance Cure Periods and Remedies

- a. **Passive violations** – A passive violation occurs when the portfolio breaches a prescribed policy limit as the result of changing market or credit conditions. The Investment Division will report the violation to the Board and will remedy the violation within 90 days of the violation or prepare a written action plan that must be approved by Board resolution to extend the cure period beyond 90 days.
- b. **Active violations** – An active violation is caused by entering into an agreement or investment that breaches a policy limit at inception or thereafter through failure to monitor. In this case, a thorough analysis of controls will ensue and be reported to the Chief Investment Officer, the Executive Director and the Chairman of the appropriate Board committee, as soon as practical, and to the full Board at its next regularly scheduled meeting at which investment matters will be discussed. The Investment Division will seek to remedy the violation when possible. In instances where the costs of immediate remedies are prohibitive, the Investment Division will develop a corrective action plan that will be submitted to the CIO within a reasonable time after the violation occurs, not to exceed 15 days, depending on the nature and complexity of the investment holding and transactions needed to remedy the violation. The Board will be apprised of the violation at its next regularly scheduled meeting along with the corrective action plan.

9.9. Permitted Uses of Leverage

The Investment Division is authorized to use the following types of leverage:

- a. Derivative strategies in accordance with the risk parameters established by the asset allocation ranges of this Policy and applicable legal restrictions;
- b. Short sales in accordance with this Policy;
- c. F/X hedging in accordance with this Policy;
- d. Embedded leverage within the Total Fund's limited partnership investments; and
- e. Collateralized fundings including securities lending activities, pledges, repurchase and reverse repurchase agreements and other external funding mechanisms.

Leverage will not be used to exceed the risk parameters established by the asset allocation ranges of this Policy.

ARTICLE 10 – HEALTH INSURANCE PROGRAM PORTFOLIO

10.1 Health Insurance Program Portfolio Objective

The primary objective of the Health Insurance Program Portfolio is to preserve capital through investment in conservative, short-term securities.

10.2 Authorized Investments for the Health Insurance Program Portfolio

Section 404.024, Government Code describes the Authorized Investments employed by the comptroller when he or she invests state funds. The Investment Division shall employ this list of Authorized Investments when the Investment Division invests the Health Insurance Program Portfolio.

ARTICLE 11 -- POLITICAL CONTRIBUTIONS; IMPROPER INFLUENCE; PLACEMENT AGENTS AND FINDERS

11.1 Scope

This policy applies to all TRS investment transactions in which a placement agent or finder is or may be involved, including new agreements (including follow-on and co-investments), extension of existing agreements, increase in funding or capital commitment to an existing relationship or fund, or an amendment that increases management fees or compensation under an agreement.

This policy also applies to attempts to influence TRS investment decisions through contacts with TRS trustees, or contacts with, or political contributions made for the benefit of, one or more Texas Elected Officials, and also applies to contacts with persons employed by any such official.

If any provision of this policy conflicts with a provision of another policy adopted by the TRS board, the stricter provision shall apply.

11.2 Purpose

The purpose of this policy is to ensure the integrity of all TRS investment transactions and conformity with the highest fiduciary, ethical, and legal standards by all parties involved. All investment decisions made by the Board and the Investment Division and must be based solely on the merits in conformity with fiduciary standards and applicable law. All investment recommendations made by consultants and advisers must be based solely on the merits after the necessary due diligence. All investment decisions and recommendations must be free of impropriety or improper influence and the appearance of either.

11.3 Philosophy

The Board desires that the Investment Division obtain full disclosure of all matters having the potential to harm TRS's reputation or the integrity of TRS's investment processes, or that could constitute unethical or unlawful conduct during the investment due diligence process.

11.4 Required Disclosures

At a minimum, all external Fund or Manager Parties shall provide detailed written responses to the questionnaire attached hereto as Appendix F as early as reasonably possible in the due diligence process for a TRS investment transaction. The Executive Director is authorized to approve such revisions to Appendix F from time to time as he deems to be in the best interest of TRS and consistent with this policy.

In addition, all Fund or Manager Parties shall provide a detailed description of the services to be performed by the Placement Agent and how the Placement Agent is used (e.g., with all prospects, or only with a subset of prospects). The Investment Division shall obtain a copy or summary of the terms of an agreement to compensate a Placement Agent for the due diligence file. The Investment Division shall provide all prospective Fund or Manager Parties with a copy of this policy upon commencement of due diligence.

11.5 Contractual Representations, Warranties and Covenants

Each Fund or Manager Party shall represent and warrant to TRS in the executed closing documents for the transaction that its responses to Appendix F to this policy and any supplemental inquiries are true, correct, and complete in all material respects, and shall also covenant to update any such information within 10 business days of any change in the information in the responses.

In addition, each Placement Agent shall fully disclose the terms of its arrangements with a Fund or Manager Party for payment of a Placement Fee and any political contributions by the Placement Agent to any Texas Elected Officials, and shall certify as to the matters addressed in Appendix F, as applicable, to TRS in a writing executed by an authorized officer that the disclosures required by this policy are true and complete in all material respects.

Each final investment agreement shall provide TRS with the option to receive a reimbursement of management or advisory fees equal to the amount of Placement Fees to be paid to any and all Placement Agents, and, in addition and not in the alternative, the right to terminate the management agreement or withdraw without penalty from the fund investment vehicle or vehicles if any certificates or contractual representations, warranties or covenants relating to this policy have been breached.

11.6 Prohibitions

Neither TRS nor any TRS investment shall be burdened with or liable for any Placement Fee. No TRS investment may be made if the transaction involves either (a) a Placement Agent who is not registered with either of the Securities and Exchange Commission or the Financial Industry Regulatory Authority (“FINRA”), or (b) the sharing of a Placement Fee with a non-registered person or entity. No TRS investment may be made if an authorized officer or the board, in consultation with legal counsel, determines that a disclosed contact with a TRS board member or Texas Elected Official, or a contribution to a Texas Elected Official, has created an unacceptable risk to the integrity and reputation of the TRS investment program or has been made in violation of a TRS policy or applicable law. A contact-based referral, without more, by a trustee of either an investment opportunity or a Manager or Fund Party contact to the Executive Director, Chief Investment Officer, or Deputy Chief Investment Officer does not constitute such a risk or a violation of this policy.

11.7 Definitions

Affiliate – means a person or entity controlled by or under common control with another person or entity.

Fund or Manager Party – includes, (a) as to a private investment fund, a fund sponsor, the general partner, managing member, or its equivalent with respect to a fund, fund sponsor, or fund management firm, (b) as to an external, separate account investment manager, the asset management entity and the parent of such asset management entity, and (c) as to (a) and (b), any Affiliate, principal, owner, officer, shareholder, director, managing member, or employee having authority to act on behalf of such fund or firm.

Placement Agent – includes any third party, whether or not affiliated with a Fund or Manager Party, that is a party to an agreement or arrangement (whether oral or written) with a Fund or Manager Party for the direct or indirect payment of a Placement Fee in connection with a TRS investment. Any other person or entity who claims a Placement Fee or who by agreement with a Placement Agent will share in a Placement Agent’s Placement Fee is deemed to be a Placement Agent whether or not the person or entity is an Affiliate, principal, owner, officer, shareholder, director, managing member, or employee of a Placement Agent. A “finder” is a Placement Agent.

Placement Fee – includes any compensation or payment, directly or indirectly, of a commission, finder’s fee, or any other consideration or benefit to be paid to a Placement Agent.

Relative – means a spouse (including an ex-spouse), parent, child (including adopted), sibling, niece, nephew, aunt, or uncle.

Texas Elected Official – includes any elected official of the State of Texas, including but not limited to the governor, lieutenant governor, comptroller of public accounts, attorney general, and any member of the Texas Legislature, and also includes a campaign fund or political action committee, or PAC for an elected official, and any Relative of a Texas elected official.

TRS Person – means any person listed on Exhibit A attached to Appendix F to this Policy or to any other due diligence document, and includes without limitation any current or former TRS board member, Executive Director, Deputy Director, Chief Financial Officer, Investment Division or Legal Services employee, any investment consultant or actuary, any outside counsel engaged by TRS, and any Relative of a TRS Person, whether or not listed on an Exhibit A, TRS Persons.

APPENDIX A - TRACKING ERROR NEUTRAL (IN ANNUALIZED BASIS POINTS)¹

Internal	Neutral
Equity (Global Best)	100
External	
Equity (US; Large-Cap)	300
Equity (US; Small-Cap)	500
Equity (International; Developed, EAFE)	300
Equity (International; Emerging Markets)	300
Equity (World Equity)	300
Stable Value Hedge Funds	400
Directional Hedge Funds	600

	Neutral	Maximum
Total Global Inflation Linked		200
Total Public Fund Tracking Error	100	300

¹ Tracking error will be measured on a realized basis over a three year period.

APPENDIX B - IIC APPROVAL AUTHORITY AND MANAGER ORGANIZATION ALLOCATION LIMITS

Allocations to a single manager organization may only exceed the limits specified in this Appendix B with the prior authorization of the Board.

Article Affected	Portfolio	Initial Allocation or Commitment with Manager Organization, by Portfolio	Additional or Follow-On Allocation or Commitment with the same Manager Organization, by Portfolio	Total Manager Organization Limits, by Portfolio
2.7	External Public Markets Portfolio	0.5%	1%	3%
4.2	Private Equity Portfolio	0.5%	1%	3%
5.2	Real Assets Portfolio	0.5%	1%	3%
Total IIC Approval Authority, each Manager Organization				6%

All allocation or commitment limits are expressed as a percentage of the Total Fund value and are to be calculated as of the date the applicable investment agreements are executed.

“Affiliate” means any person directly or indirectly controlling, controlled by, or under common control with, another person. A “manager organization” includes its Affiliates without regard to the names of the entities.

The percentage limit for additional or follow-on allocations or commitments applies to each additional or follow-on allocation or commitment by a listed portfolio to a manager organization and is in addition to, and not cumulative of, the limit specified for initial allocations or commitments. By way of example, if a portfolio initially allocates 0.2% of the Total Fund to a manager organization, the portfolio may thereafter allocate or commit up to 1.0% in a single additional or follow-on allocation or commitment to the same manager organization for a total of 1.2% allocated or committed to the same manager organization (0.2%+1.0%). If a portfolio initially allocates 0.2%, then makes an additional allocation or commitment of 0.8%, and desires to make a further additional or follow-on allocation to the same manager organization, the applicable limit for the further additional or follow-on allocation is 1.0% of the Total Fund, for a total of 2.0% allocated or committed to the manager organization (0.2%+0.8%+1.0%). All investments occurring in the six months prior to the follow-on investment, co-investment or additional investment shall be included in the calculation of the percentage limits. If the initial investment occurred less than six months prior to the current investment, the initial allocation limit of 0.5% rather than the follow-on allocation limit of 1.0% will apply.

In calculating the available limits, returned capital is excluded from the sum of existing total allocations or commitments. Committed capital is included during the applicable investment period of a fund without regard to whether the commitment amount is funded or unfunded or the fund is open-ended. After the investment period, committed but unfunded capital is not included in the calculation of outstanding commitments for the purposes of this Appendix B. Capital that has been returned but that is subject to recall by a private investment fund is considered to be committed or allocated for the purposes of the limits in this Appendix B.

Authority for Special Investment Opportunities. Notwithstanding the limits set forth in this Appendix B, the CIO may designate an investment opportunity as a “Special Investment Opportunity” if the circumstances indicate a reasonable probability that a rapid investment response will be required in order for TRS to acquire the investment in excess of the limits on Investment Division authority set forth in this Appendix B. Circumstances requiring a rapid response may include, but are not limited to, distressed situations or market dislocations creating opportunities to acquire interests or assets at pricing that indicates a reasonable probability that the interests or assets are undervalued or will increase in value. The CIO shall notify the Executive Director as promptly as possible of the Special Investment Opportunity. The CIO and the Executive Director shall consult with the Chairman of the Board and the Chairman of the Investment Management Committee and determine if it is not practicable to present the opportunity for consideration by the Board. If the opportunity will not be added to an agenda, and the CIO and the Executive Director conclude that the investment would be in the best interests of TRS, the CIO and the Executive Director may authorize and conclude an investment up to \$1 billion in that Special Investment Opportunity.

After one investment in a Special Investment Opportunity has been made, no further investment in a Special Investment Opportunity may be made until the Board has reauthorized the CIO’s authority to designate a Special Investment Opportunity. Such reauthorization shall renew the CIO’s and the Executive Director’s authority to invest up to \$1 billion in a Special Investment Opportunity under this provision.

APPENDIX C – EMERGING MANAGERS

Articles Affected:	Portfolio	Target Allocation (in millions)
2.7	External Public Markets Portfolio ¹	250
4.2	Private Equity Portfolio ^{1,2}	950
5.2	Real Assets Portfolio ^{1,2}	450
	Total	1,650

¹ The CIO may increase or decrease each portfolio Target Allocation by \$200 million; provided, the total Target Allocation must remain unchanged as a result of such increase or decrease.

² Target Allocation based on commitments.

APPENDIX D – POLICY HEDGE RATIOS

Portfolio	PHRs
Public Markets Portfolios	0%
Private Markets Portfolios	0%

APPENDIX E – AUTHORITY RESOLUTION (TRS 477)

[SPECIAL NOTE: Appendix E will be revised to reflect changes separately adopted by the Board (if any) at its September 2012 meeting.]

Board of Trustees

Adopted August 13, 2010

A. Investment Group

Resolved, That employees holding the following TRS working titles are members of the “Investment Group”:

Chief Investment Officer
Senior Managing Director
Senior Director
Senior Investment Manager

Deputy Chief Investment Officer
Managing Director
Director
Investment Manager

Further, That the Executive Director is authorized and directed to designate those individual employees who are members of the **Investment Group** authorized to take any one or more of the following actions listed below with respect to investment matters as specified in writing by the Executive Director, at least annually or as he deems necessary from time to time:

General Authority for Investment Matters

1. Acquire, modify, and sell investments and negotiate, fix, execute, amend, modify, renew, extend, terminate, certify, and endorse contracts and agreements for portfolio investment transactions, including without limitation trading authorizations, subscription agreements, tax forms, investment contracts, investment vehicle entity agreements, investment management agreements, license agreements, brokerage or margin account agreements, securities or commodities exchange documents, and agreements and documents relating to trading operations.
2. Give directions and instructions to external managers, and to amend, modify, fix, and execute investment guidelines in investment management agreements.
3. Negotiate, fix, execute, amend, modify, renew, extend, transfer, assign, terminate, certify, and endorse the following: amendments; notes; powers of attorney; indentures; deeds; conveyances; certificates; instruments of transfer or assignment; instruments or agreements evidencing, releasing, or creating liens, mortgages, or security interests; and all other instruments and agreements, sealed or unsealed, attested or unattested, relating to TRS investments.
4. Waive, modify, or amend specific provisions of an investment contract or management agreement, if the waiver, modification or amendment is deemed by the employee to be in the best interest of TRS.

Over-the-Counter Derivatives Contracts

5. Negotiate, fix, execute, amend, modify, renew, extend, transfer, assign, terminate, endorse, and terminate master agreements for over-the-counter derivatives transactions and any schedules or credit support annexes relating to such agreements, and any deliverables relating to such agreements, schedules, or annexes.
6. Waive, modify, or amend specific provisions of over-the-counter master agreements for derivatives transactions, and any transaction confirmations under such agreements, if the waiver, modification or amendment is deemed by the employee to be in the best interest of TRS.
7. Negotiate, fix, execute, amend, modify, renew, extend, transfer, assign, endorse, or terminate transactions entered into under master agreements for over-the-counter derivatives transactions, including without limitation confirmations of transactions.

Transfers of Funds or Assets; Fund or Account Redemptions and Withdrawals

8. Authorize and instruct TRS employees, brokers or custodians to transfer funds or assets in connection with TRS investment transactions or commitments of capital or to or from managed investment accounts, investment funds, and custodians of TRS assets.
9. Authorize and instruct TRS employees, brokers, and custodians to deliver cash, securities or other assets as collateral or margin in accordance with regulatory, account, or contractual requirements, including without limitation credit support annexes or agreements relating to over-the-counter derivatives transactions.

10. Execute redemption or withdrawal notices for private investment funds and managed investment accounts and, when required by applicable policies and procedures, not solely but jointly with a member of the Financial Group.

B. Financial Group

Further, That employees holding the following TRS working titles are members of the “**Financial Group**”:

Chief Financial Officer	Manager of Investment Accounting
Manager of General Accounting	Team Leader of Investment Accounting
Team Leader of Financial Reporting	Team Leader of Budgeting

Further, That each employee in the **Financial Group** is authorized and empowered on behalf of TRS to deliver or otherwise transfer cash, securities, collateral, or contracts, and to execute affidavits, certificates and powers of attorney required to transfer, redeem, or exchange securities, collateral, or contracts.

Further, That each employee in the **Financial Group** is authorized and empowered on behalf of TRS, not solely but jointly with an employee in the **Investment Group** or the **Executive Group**, to execute fund or account redemption and withdrawal notices and related documents.

Further, That each employee in the **Financial Group** is authorized and empowered on behalf of TRS to instruct TRS custodians to deliver securities, collateral, contracts, or cash to fund margin or collateral requirements, clear and settle securities trades, fund capital called or subscribed for investment under an investment contract, and to exchange securities, collateral, contracts, or cash for other securities, collateral, contracts, or cash, in accordance with internal procedures.

C. Executive Group

Further, That the **Executive Group** is comprised of employees holding the TRS working titles of Executive Director and Deputy Director, and each employee in the **Executive Group** is authorized and empowered to perform, with respect to a particular transaction, any of the acts that employees in the **Investment Group** or the **Financial Group** are authorized to perform; *provided*, however, that when joint action by a member of the **Investment Group** and a member of the **Financial Group** is required by applicable policies and procedures, only one member of the **Executive Group** may act jointly with a member of either of the **Investment Group** or the **Financial Group**.

D. Trading Group

Further, That the “**Trading Group**” is comprised of the employees holding the following TRS working titles: Director – Trading Center, and Trader, and each employee in the **Trading Group** is authorized and empowered on behalf of TRS to take the following actions: to place orders or agree with brokers, dealers and market-makers to purchase or sell securities, futures or forward contracts, options, or currency; to monitor and supervise execution and settlement of such orders or agreements; and to negotiate, fix, and vary the commissions, spreads, or discounts for individual orders or agreements to purchase or sell securities, futures or forward contracts, options, or currency.

Further, That the TRS employee groups described in this resolution are identified as such only for the purposes of this resolution and not for any other purpose unless the Board or the Executive Director, as authorized, expressly so provides.

APPENDIX F – POLITICAL CONTRIBUTIONS; IMPROPER INFLUENCE; PLACEMENT AGENTS AND FINDERS QUESTIONNAIRE

Fund or Manager Name: _____

Completed by: _____

Date submitted: _____

Note: TRS may require completion of a new questionnaire or updating of responses at any time, including as of the closing date for any transaction investment or additional funding.

A) Contacts with State Officials; Political Contributions. Has any person lobbied, communicated with, or made political contributions during the past three years on behalf of the Fund or Manager Party to a Texas Elected Official in connection with a prospective investment transaction with a Texas state investment entity, including TRS?

- 1) If the answer is “yes,” please provide a complete list of the name(s) of the entities and individual(s) involved, the approximate dates of the contributions, the amounts of the contributions, a summary of the contacts or communications, and the nature of the discussion in regards to the investment with any Texas state investment entity, including TRS.

B) Contacts with TRS Board Members. Has any person lobbied or otherwise communicated on behalf of the Fund or Manager Party with a current or former member of the TRS Board of Trustees during the past two years for the purpose of asking the current or former member to seek to influence a decision by the TRS investment staff or a TRS advisor or consultant to recommend that TRS invest?

- 1) If the answer is “yes,” please provide a complete listing of the name(s) of the entities and individual(s) involved, the approximate dates of the contacts or communications, and the nature of the discussion in regards to this investment.

C) Placement Agents and Placement Fees. Is or was the Fund or Manager Party a party to any agreement or arrangement (whether oral or written) to pay a Placement Fee to or for the benefit of any Placement Agent in connection with TRS’s prospective investment in a fund or engagement of an external manager?

- 1) If the answer to C) is “yes,” please provide a copy of the written agreement or agreements creating the obligation to pay a Placement Fee. If the agreement is not written, please provide a written summary of the agreement. Additionally, please state the amount of the Placement Fee (or the formula for its determination if the amount is not yet determined) and the date of its payment or anticipated payment.
- 2) If the answer is “yes,” please list the name(s) of the person or entity. If the party to the agreement is an entity, please also list the names of the principal owners, officers, directors, or managing members of the Placement Agent and provide a resume for each such person.
- 3) If the answer is “yes,” state whether the Placement Agent, or any of its Affiliates, is registered as a lobbyist with any state government or the federal government and identify the registrants and the applicable jurisdictions where registered.
- 4) Will or did any TRS Person or any Relative of a TRS Person receive, has any such person received, or might any such person receive, any compensation or payment, directly or indirectly, of a commission, finder’s fee, or any other consideration or benefit to be paid to a Placement Agent (a “Placement Fee”) in connection with TRS’s investment? If the answer is “yes,” please list the name or names of the TRS Person or Relative of a TRS Person and provide details about the terms of the Placement Fee.
- 5) Will or did any Texas Elected Official or a Relative of a Texas Elected Official receive a Placement Fee in connection with TRS’s investment? If the answer is “yes,” please list the name or names of the official and provide details about the terms of the Placement Fee, including the amounts and timing of payments.
- 6) Did (or will) any third party person or entity who is not employed or otherwise affiliated with a Placement Agent, including a current or former TRS Person, either (a) recommend the Placement Agent or (b) receive a share of a

Placement fee or any other economic benefit in connection with TRS's investment, whether directly or indirectly through a Placement Agent engaged by you?

- 7) If the answer to 6) is "yes," please list the name of the person or entity, the relationship of the person or entity to the Placement Agent and your firm, and provide a description of the arrangement and the reason for the payment.
- 8) State whether the Placement Agent or any of its Affiliates is registered as an investment advisor with the Securities and Exchange Commission or the Financial Industry Regulatory Association, or a similar agency outside the United States. Provide details about registration or explain why registration is not required.

The undersigned certifies, represents and warrants on behalf of the Fund or Manager Party that, to the best of its knowledge after due inquiry, (a) the foregoing responses to this questionnaire are complete, true, and correct and do not omit any statement or fact necessary to make any statement made not misleading in any material respect, and (b) no prior statements or representations, if any, whether oral or written, made on behalf of the Fund or Manager Party relating to the subject matter of this questionnaire in connection with TRS's due diligence inquiries, a prospective investment management agreement, or a subscription to the Fund, as the case may be, including any side letter agreements, were untrue or misleading in any material respect when they were made.

[signature block for Fund or Manager Party]

Date: _____

Attachment: Exhibit A, TRS Persons



September 13 – 14, 2012
Board of Trustees

Item 6.A, Board Agenda

Resolved, That the Board of Trustees (the "Board") hereby adopts the revised Investment Policy Statement as presented to and recommended for adoption by the Policy Committee, effective as of October 1, 2012;

Resolved, That the revised Investment Policy Statement as adopted above supersedes all prior versions of the Board's Investment Policy Statement.

Tab 5



Memorandum

To: Board of Trustees; Policy Committee of the Board

From: Sylvia Bell, Dennis Gold, Scot Leith

Date: September 6, 2012

Subject: TRS 477 – General Authority Resolution

Based on comments received, we have revised the draft TRS 477 sent to you previously. The revisions are extensive and this draft supersedes the previous version in its entirety.

These latest revisions address the concern that the numbers of Investment Division employees authorized to act with respect to contracts or other matters should, when possible, be limited to a subgroup of the Investment Group (as defined in the TRS 477). This newest draft breaks out various levels of authority to provide maximum flexibility to designate limited numbers of employees authorized for each level, generally based on the seniority of their TRS working titles. In addition, an individual employee's delegated authority need not correspond exactly to that of another employee even if both employees hold the same working title.

- **Item 2** is a presentation describing the processes relating to authority in the TRS 477.
- **Item 3** is a comparison of the current draft to the prior draft
- **Item 4** is a clean draft of the revised TRS 477 with a few explanatory comments.
- **Item 5** compares this revised draft to the adopted version.
- **Item 6** is a sample designation map of incumbency and authority for individual employees.

We look forward to discussing this revised draft with you at the meeting next week.



General Authority Resolution (TRS 477)

Sylvia Bell, Director of Investment Operations

Dennis Gold, Assistant General Counsel

Scot Leith, Director of Investment Accounting

September 2012

Introduction to General Authority Resolution

- Purpose

- Provides evidence of staff's authority for trading and settlement to broker and clearing community
- Evidences actual authority of TRS signatories who sign investment contracts and related documents (e.g. private equity, real assets, hedge funds, investment management agreements)
- Provides for proper segregation of authority for certain actions at TRS
- Identifies TRS groups that have actual authority to outside parties:
 - Investment Group (designated by investment area)
 - Derivatives team (as a specially designated subgroup of the Investment Group)
 - Financial Group
 - Executive Group
 - Trading Group

Authority Granted by the TRS 477

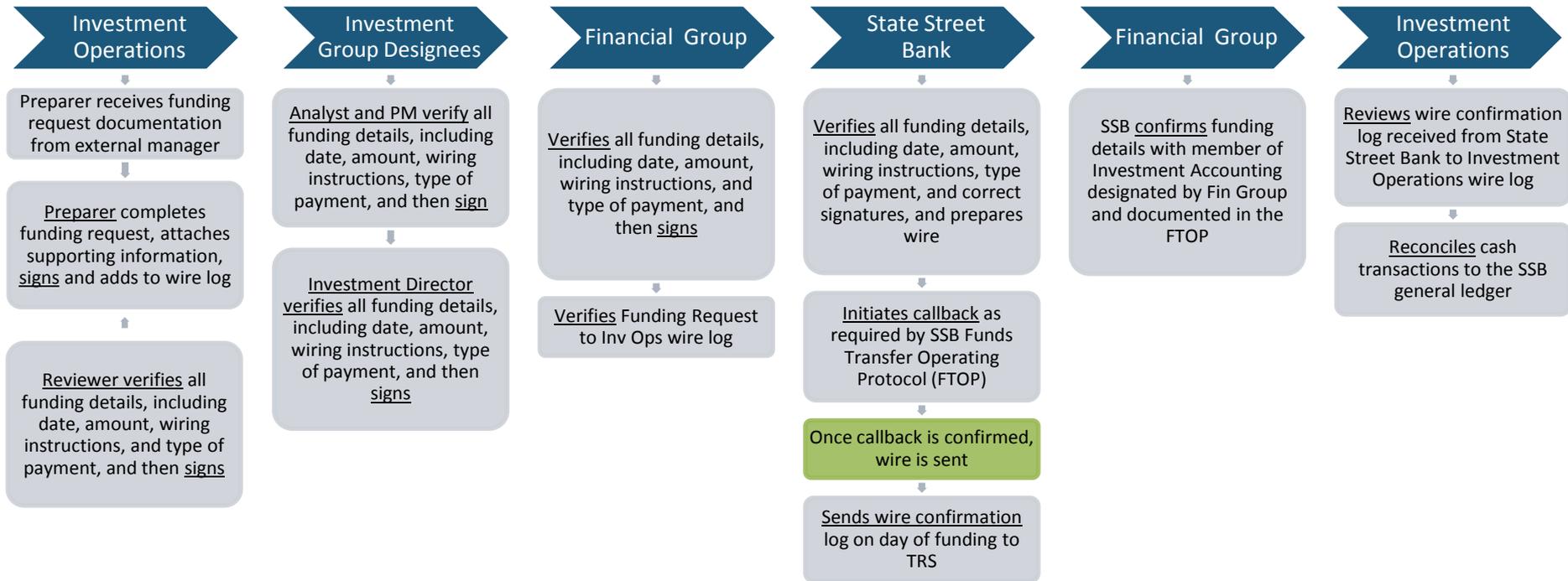
- Funding Requests
 - Private Market Capital Calls
 - Public Market Manager Fundings
 - External Manager Fee Payments
- Exchange traded security transactions
- Withdrawal or Redemption Requests
 - Hedge Fund redemptions
 - IMA withdrawals
- Over-The-Counter transactions
- Execution of investment contracts and subscription agreements

Introduction to General Authority Resolution

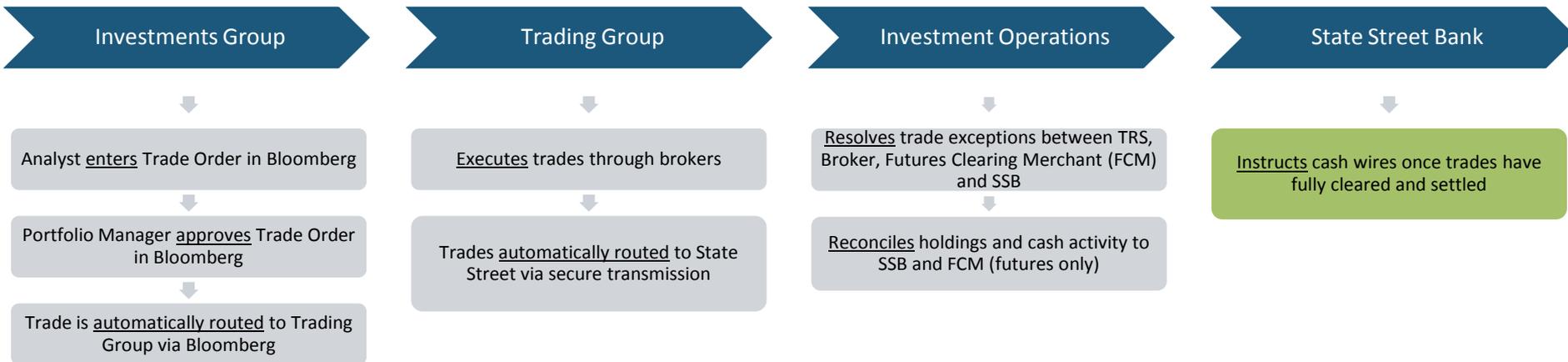
Proposed update to TRS 477 accomplishes the following:

- Conforms language to the current process and procedures
- Clarifies the distribution and redundancy of authority for trading, contracting or transferring and receiving assets
- Separates more clearly the authority for derivatives from other authority granted (whether exchange traded or over-the-counter)

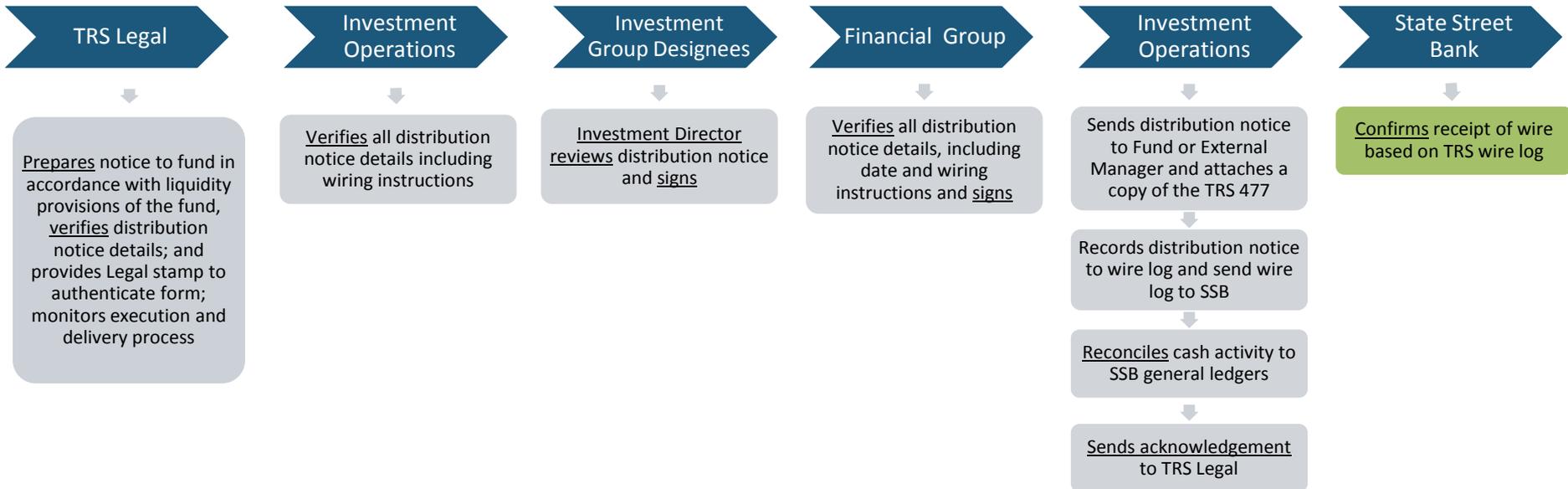
Funding Request Process - Cash



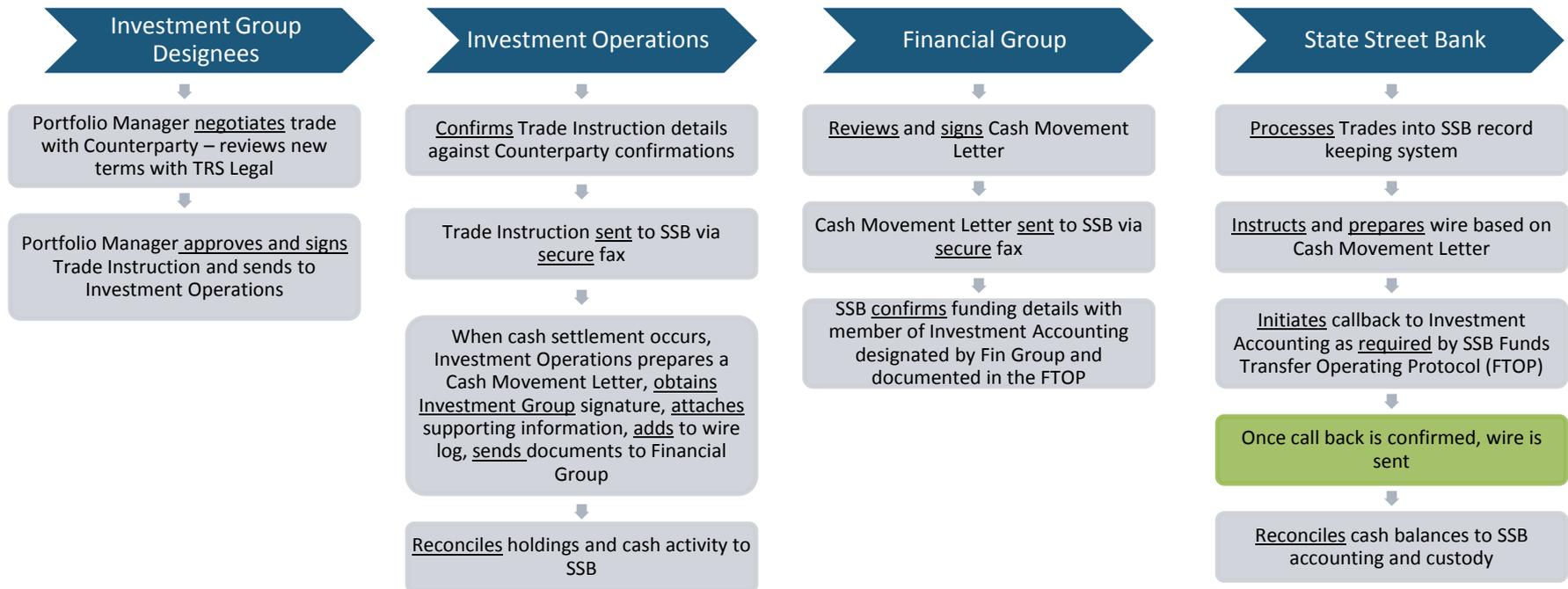
Exchange-Traded Transactions



Withdrawal or Redemption Process - Cash



Over-The-Counter Transactions





Board of Trustees

General Authority Resolutions Adopted [September , 2012]

A. Investment Group

Resolved, That Investment Division employees holding the following TRS working titles are members of the “Investment Group”:

Chief Investment Officer
Senior Managing Director
Senior Director
Senior Investment Manager

Deputy Chief Investment Officer
Managing Director
Director
~~Investment Manager~~

Resolved further, That the Executive Director is authorized and directed to designate in writing those individual members of the **Investment Group** who are authorized within ~~their respective teams~~ **the investment areas designated by the Executive Director**, in addition to the Chief Investment Officer and the Deputy Chief Investment Officer, to take any one or more of the following actions authorized below **in accordance with these resolutions** until the authority is revoked.

Resolved further, That the Executive Director is authorized and directed to designate in writing, by investment area and category or item designation, the specific authorities granted to each authorized member of the Investment Group, until the authority is revoked.

A. General Authority for Investment Matters other than Derivatives

Resolved further, That the Chief Investment Officer, Deputy Chief Investment Officer, and any other member of the **Investment Group** designated by the Executive Director ~~may, on behalf of TRS~~ **as having such authority, in addition to any other authority expressly designated by the Executive Director under these resolutions, may act on behalf of TRS to:**

- ~~A.1.A.1~~ Buy, sell, or give orders **or instructions** for transactions in currencies and securities; ~~and any amendments or modifications of such orders or instructions.~~
- A.2** Direct Investment Operations personnel; to deliver, pay, expend, or receive **cash**, currencies, monies, securities (including restricted or Rule 144A securities); ~~;) in connection with a contract to buy or sell securities.~~
- A.3** Give directions and instructions to members of the Trading Group or external managers relating to execution, brokerage, clearing or settlement of securities transactions.
- A.4** Direct Investment Operations personnel to fund subscribed investment funds or capital called by investment funds; transfer funds or assets between custodial accounts, including ~~such instruments used~~ external manager separate accounts; transfer funds to pay fees under an investment contract; and to instruct other cash movements, including movements of cash to and from custodial accounts held by the Comptroller of Public Accounts and transfers of assets in kind for investment under an investment contract.

Notwithstanding any provision of this Section A, authority granted under this Section A does not extend to transactions in derivatives, which are governed exclusively by Section C of these resolutions.

B. Investment Contracting Authority other than Derivatives

~~A.2.~~ *Resolved further*, That the Chief Investment Officer, Deputy Chief Investment Officer, and any other member of the **Investment Group** designated by the Executive Director as ~~collateral or margin~~ **having such authority, in addition to any other authority expressly designated by the Executive Director under these resolutions, may act on behalf of TRS to:**

- ~~A.3.B.1~~ Make, execute, and deliver ~~any and all~~ investment-related documents ~~necessary or proper to effectuate the authority granted in this resolution~~, including written contracts, **investment management agreements, subscription agreements, account agreements, consents, waivers, amendments, transfers, assignments,** certificates, powers of attorney, notes, deeds, ~~releases,~~ security agreements, pledges, **and** endorsements, and any and all documents necessary or proper to effectuate the authority granted in this ~~resolution~~ **Section B.1.**

~~A.4.B.2~~ Give directions and instructions to members of the ~~Trading Group~~, or external managers. **Make, execute, and deliver investment-related documents waiving, modifying, or amending in writing specific provisions of a written investment-related agreement**, including directions and instructions to amend, modify, fix, and execute written investment guidelines in investment management agreements with external managers, ~~including and~~ fund managers.

~~A.5.B.3~~ Waive, ~~modify~~ **Make, execute, and deliver written renewals, extensions, assignments, terminations**, or ~~amend in writing specific provisions~~ **transfers** of ~~an account agreement~~, investment ~~contract~~, **related contracts** or agreements, **including contracts** for investment management ~~agreement~~, ~~if the waiver, modification,~~ **commitments of capital, investment vehicles, security interests, liens** or ~~amendment is deemed by the authorized employee~~ **mortgages** relating to ~~be in the best interest of~~ TRS investments.

~~A.6.B.4~~ Jointly with a member of the Financial Group or the Executive Group, execute **investment fund and external manager account** redemption and withdrawal notices and instructions for the transfer or delivery by wire or physical transfer of cash, ~~collateral~~, or securities to a TRS account by a third-party fund, **external manager**, account, debtor, ~~or counterparty~~, except that an authorized member of the Investment Group may be the sole TRS signatory on **subscription agreements and side letter agreements and any amendments or modifications to** subscription agreements and side letter agreements.

Notwithstanding any provision of this Section B, the authority granted under this Section B does not extend to transactions in derivatives, which are governed exclusively by Section C of these resolutions.

C. Derivatives ~~Team~~ Authority

Resolved further, That the Chief Investment Officer or the Deputy Chief Investment Officer and any member of the **Investment Group** who is designated by the Executive Director as a member of the Derivatives Team ~~may~~, in addition to ~~the any~~ authority ~~granted in Sections A.1 through A.6~~, **expressly designated by the Executive Director under these resolutions is authorized may act** on behalf of TRS to:

~~A.7.C.1~~ Negotiate, make, fix, execute, amend, modify, renew, extend, transfer, assign, terminate, endorse, or terminate **in writing** any and all of the following: master agreements for derivatives transactions; schedules, credit support annexes, transaction confirmations, **account agreements**, and clearing agreements relating to such agreements; and deliverables relating to such agreements, schedules, annexes, confirmations, **account agreements**, or clearing agreements, **including documents relating to derivatives cash settlements and movements of collateral or margin**.

C.2 **Make, execute, and deliver documents and agreements waiving, modifying, or amending in writing specific provisions of a written agreement relating to derivatives account agreements, collateral management agreements, or clearing agreements.**

~~A.8.C.3~~ Waive, **amend**, modify, renew, extend, transfer, assign, endorse, ~~or terminate~~ ~~or amend~~ in writing agreements relating to derivatives transactions, and any transaction confirmations under such agreements, ~~if the waiver, modification, or amendment is deemed by the employee to be in the best interest of TRS.~~

C.4 **Jointly with a member of the Financial Group or the Executive Group, execute documents, directions, and instructions, including standing instructions, relating to cash settlement of derivatives and movements of collateral or margin for derivatives transactions.**

~~A.9.C.5~~ Buy, sell, or give orders **or instructions** for transactions in derivatives, **and any amendments or modifications of such orders or instructions.**

C.6 **Give directions and instructions to members of the Trading Group or external managers relating to execution, brokerage, clearing or settlement of derivatives transactions.**

~~B.~~ Financial Group

Resolved further, That the “**Financial Group**” comprises employees holding the following TRS working titles:

Chief Financial Officer	Manager of Investment Accounting
Manager of General Accounting	Team Leader of Investment Accounting
Team Leader of Financial Reporting	Team Leader of Budgeting

Resolved further, That each member of the **Financial Group** is authorized and empowered on behalf of TRS, jointly with ~~an~~ **authorized** member of the **Investment Group** or the **Executive Group**, to execute redemption and withdrawal notices and instructions for the transfer or delivery by wire or physical transfer of cash, collateral, **margin**, or securities to a TRS account by a third-party fund, account, debtor, or **derivatives** counterparty, except that an authorized member of the **Investment Group** may be the sole TRS signatory on subscription agreements and side letter agreements. ~~and any amendments to subscription agreements or side letter agreements.~~

Resolved further, That each member of the **Financial Group** is authorized and empowered on behalf of TRS, to execute

authorizations to fund ~~capital called or~~ subscribed for investment funds or capital called by investment funds; transfer funds or assets between custodial accounts, including external manager separate accounts; transfer funds to pay fees under an investment contract ~~or to contribute~~; instruct other cash movements, including movements of assets to and from custodial accounts held by the Comptroller of Public Accounts and transfers of assets in kind for investment under an investment contract; ~~in accordance with internal procedures.~~

Resolved further, That each member of the **Financial Group** is authorized and empowered on behalf of TRS to authorize and direct members of the Investment Accounting team to verify or confirm to a custodian or prime broker any order for the transfer or delivery of currencies, monies, securities, or contracts to any other person.

C. Executive Group

Resolved further, That the **Executive Group** comprises employees holding the TRS working titles of Executive Director and Deputy Director, and each member of the **Executive Group** is authorized and empowered to perform, with respect to a particular matter or transaction, any and all of the acts that any and all employees in the **Investment Group** or the **Financial Group** are authorized to perform, except that when joint action by a member of the **Investment Group** and a member of the **Financial Group** is required, only one member of the **Executive Group** may act jointly with a member of either of the **Investment Group** or the **Financial Group**.

D. Trading Group

Resolved further, That the “**Trading Group**” comprises the employees holding the following TRS working titles: Director – Trading Center, and Trader. Each member of the **Trading Group** is authorized and empowered on behalf of TRS to take the following actions: to place orders or agree with brokers, dealers and market-makers to purchase or sell securities, ~~futures or~~derivatives, forward contracts, ~~options~~, or currency; to monitor and supervise execution and settlement of such orders or agreements; and to negotiate, fix, and vary the commissions, spreads, or discounts for individual orders or agreements to purchase or sell securities, ~~futures or~~derivatives, forward contracts, ~~options~~, or currency.



Board of Trustees

General Authority Resolutions Adopted [September , 2012]

Investment Group

Resolved, That Investment Division employees holding the following TRS working titles are members of the “**Investment Group**”:

Chief Investment Officer
Senior Managing Director
Senior Director
Senior Investment Manager

Deputy Chief Investment Officer
Managing Director
Director

Resolved further, That the Executive Director is authorized and directed to designate in writing those individual members of the **Investment Group** who are authorized within the investment areas designated by the Executive Director, in addition to the Chief Investment Officer and the Deputy Chief Investment Officer, to take any one or more of the following actions authorized below in accordance with these resolutions until the authority is revoked.

Resolved further, That the Executive Director is authorized and directed to designate in writing, by investment area and category or item designation, the specific authorities granted to each authorized member of the **Investment Group**, until the authority is revoked.

Comment [dg1]: The Executive Director can grant or withhold levels of authority granted to each designated IMD employee.

A. General Authority for Investment Matters other than Derivatives

Resolved further, That the Chief Investment Officer, Deputy Chief Investment Officer, and any other member of the **Investment Group** designated by the Executive Director as having such authority, in addition to any other authority expressly designated by the Executive Director under these resolutions, may act on behalf of TRS to:

- A.1 Buy, sell, or give orders or instructions for transactions in currencies and securities, and any amendments or modifications of such orders or instructions.
- A.2 Direct Investment Operations personnel to deliver, pay, expend, or receive cash, currencies, monies, securities (including restricted or Rule 144A securities) in connection with a contract to buy or sell securities.
- A.3 Give directions and instructions to members of the **Trading Group** or external managers relating to execution, brokerage, clearing or settlement of securities transactions.
- A.4 Direct Investment Operations personnel to fund subscribed investment funds or capital called by investment funds; transfer funds or assets between custodial accounts, including external manager separate accounts; transfer funds to pay fees under an investment contract; and to instruct other cash movements, including movements of cash to and from custodial accounts held by the Comptroller of Public Accounts and transfers of assets in kind for investment under an investment contract.

Notwithstanding any provision of this Section A, authority granted under this Section A does not extend to transactions in derivatives, which are governed exclusively by Section C of these resolutions.

B. Investment Contracting Authority other than Derivatives

Resolved further, That the Chief Investment Officer, Deputy Chief Investment Officer, and any other member of the **Investment Group** designated by the Executive Director as having such authority, in addition to any other authority expressly designated by the Executive Director under these resolutions, may act on behalf of TRS to:

- B.1 Make, execute, and deliver investment-related documents, including written contracts, investment management agreements, subscription agreements, account agreements, consents, certificates, powers of attorney, notes, deeds, security agreements, pledges, and endorsements, and any and all documents necessary or proper to effectuate the authority granted in this Section B.1.
- B.2 Make, execute, and deliver investment-related documents waiving, modifying, or amending in writing specific provisions of a written investment-related agreement, including directions and instructions to amend, modify, fix, and execute written investment guidelines in investment management agreements with external managers and fund managers.
- B.3 Make, execute, and deliver written renewals, extensions, assignments, terminations, or transfers of investment-related contracts or agreements, including contracts for investment management, commitments of capital, investment vehicles, security interests, liens or mortgages relating to TRS investments.

Comment [dg2]: B1 - B3 divide signature authority for certain actions related to contracting.

B.4 Jointly with a member of the Financial Group or the Executive Group, execute investment fund and external manager account redemption and withdrawal notices and instructions for the transfer or delivery by wire or physical transfer of cash, or securities to a TRS account by a third-party fund, external manager, account, debtor, except that an authorized member of the Investment Group may be the sole TRS signatory on subscription agreements and side letter agreements and any amendments or modifications to subscription agreements and side letter agreements.

Notwithstanding any provision of this Section B, the authority granted under this Section B does not extend to transactions in derivatives, which are governed exclusively by Section C of these resolutions.

Comment [dg3]: Two signatures are required to issue written instructions directing wire transfers to the proper TRS account.

Comment [dg4]: Authority for derivatives must be expressly granted by the Executive Director for any IMD employee other than the CIO or Deputy CIO.

C. Derivatives Authority

Resolved further, That the Chief Investment Officer or the Deputy Chief Investment Officer and any member of the **Investment Group** who is designated by the Executive Director as a member of the Derivatives Team, in addition to any authority expressly designated by the Executive Director under these resolutions is authorized may act on behalf of TRS to:

- C.1** Negotiate, make, fix, execute, amend, modify, renew, extend, transfer, assign, terminate, endorse, or terminate in writing any and all of the following: master agreements for derivatives transactions; schedules, credit support annexes, transaction confirmations, account agreements, and clearing agreements relating to such agreements; and deliverables relating to such agreements, schedules, annexes, confirmations, account agreements, or clearing agreements, including documents relating to derivatives cash settlements and movements of collateral or margin.
- C.2** Make, execute, and deliver documents and agreements waiving, modifying, or amending in writing specific provisions of a written agreement relating to derivatives account agreements, collateral management agreements, or clearing agreements.
- C.3** Waive, amend, modify, renew, extend, transfer, assign, endorse, or terminate in writing agreements relating to derivatives transactions, and any transaction confirmations under such agreements.
- C.4** Jointly with a member of the Financial Group or the Executive Group, execute documents, directions, and instructions, including standing instructions, relating to cash settlement of derivatives and movements of collateral or margin for derivatives transactions.
- C.5** Buy, sell, or give orders or instructions for transactions in derivatives, and any amendments or modifications of such orders or instructions.
- C.6** Give directions and instructions to members of the **Trading Group** or external managers relating to execution, brokerage, clearing or settlement of derivatives transactions.

Financial Group

Resolved further, That the “**Financial Group**” comprises employees holding the following TRS working titles:

Chief Financial Officer	Manager of Investment Accounting
Manager of General Accounting	Team Leader of Investment Accounting
Team Leader of Financial Reporting	Team Leader of Budgeting

Resolved further, That each member of the **Financial Group** is authorized and empowered on behalf of TRS, jointly with an authorized member of the **Investment Group** or the **Executive Group**, to execute redemption and withdrawal notices and instructions for the transfer or delivery by wire or physical transfer of cash, collateral, margin, or securities to a TRS account by a third-party fund, account, debtor, or derivatives counterparty, except that an authorized member of the **Investment Group** may be the sole TRS signatory on subscription agreements and side letter agreements and any amendments to subscription agreements or side letter agreements.

Resolved further, That each member of the **Financial Group** is authorized and empowered on behalf of TRS, to execute authorizations to fund subscribed investment funds or capital called by investment funds; transfer funds or assets between custodial accounts, including external manager separate accounts; transfer funds to pay fees under an investment contract; instruct other cash movements, including movements of assets to and from custodial accounts held by the Comptroller of Public Accounts and transfers of assets in kind for investment under an investment contract.

Resolved further, That each member of the **Financial Group** is authorized and empowered on behalf of TRS to authorize and direct members of the Investment Accounting team to verify or confirm to a custodian or prime broker any order for the transfer or delivery of currencies, monies, securities, or contracts to any other person.

Executive Group

Resolved further, That the **Executive Group** comprises employees holding the TRS working titles of Executive Director and Deputy Director, and each member of the **Executive Group** is authorized and empowered to perform, with respect to a particular matter or

transaction, any and all of the acts that any and all employees in the **Investment Group** or the **Financial Group** are authorized to perform, except that when joint action by a member of the **Investment Group** and a member of the **Financial Group** is required, only one member of the **Executive Group** may act jointly with a member of either of the **Investment Group** or the **Financial Group**.

Trading Group

Resolved further, That the “**Trading Group**” comprises the employees holding the following TRS working titles: Director – Trading Center, and Trader. Each member of the **Trading Group** is authorized and empowered on behalf of TRS to take the following actions: to place orders or agree with brokers, dealers and market-makers to purchase or sell securities, derivatives, forward contracts, or currency; to monitor and supervise execution and settlement of such orders or agreements; and to negotiate, fix, and vary the commissions, spreads, or discounts for individual orders or agreements to purchase or sell securities, derivatives, forward contracts, or currency.



Board of Trustees

Adopted August 13, 2010

General Authority Resolutions Adopted [September , 2012]

~~A.~~ Investment Group

Resolved, That **Investment Division** employees holding the following TRS working titles are members of the “**Investment Group**”:

**Chief Investment Officer
Senior Managing Director
Senior Director
Senior Investment Manager**

**Deputy Chief Investment Officer
Managing Director
Director
~~Investment Manager~~**

~~*Further Resolved further*~~, That the Executive Director is authorized and directed to designate **in writing** those individual ~~employees who are~~ members of the **Investment Group** who are authorized **within the investment areas designated by the Executive Director, in addition to the Chief Investment Officer and the Deputy Chief Investment Officer**, to take any one or more of the following actions ~~listed~~ **authorized** below **in accordance** with ~~respect to investment matters as specified in writing by these resolutions until the authority is revoked.~~

Resolved further, That the Executive Director, ~~at least annually or as he deems necessary from time to time~~ **is authorized and directed to designate in writing, by investment area and category or item designation, the specific authorities granted to each authorized member of the Investment Group, until the authority is revoked.**

A. General Authority for Investment Matters other than Derivatives

~~**A.1 Acquire, modify, and sell investments and negotiate, fix, execute, amend, modify, renew, extend, terminate, certify, and endorse contracts and agreements for portfolio investment transactions, including without limitation trading authorizations, subscription agreements, tax forms, investment contracts, investment vehicle entity agreements, investment management agreements, license agreements, brokerage or margin account agreements, securities or commodities exchange documents, and agreements and documents relating to trading operations.**~~

Resolved further, That the **Chief Investment Officer, Deputy Chief Investment Officer, and any other member of the Investment Group designated by the Executive Director as having such authority, in addition to any other authority expressly designated by the Executive Director under these resolutions, may act on behalf of TRS to:**

- A.1 Buy, sell, or give orders or instructions for transactions in currencies and securities, and any amendments or modifications of such orders or instructions.**
- A.2 Direct Investment Operations personnel to deliver, pay, expend, or receive cash, currencies, monies, securities (including restricted or Rule 144A securities) in connection with a contract to buy or sell securities.**
- A.3 Give directions and instructions to ~~members of the Trading Group~~ or external managers relating to execution, brokerage, clearing or settlement of securities transactions.**
- A.4 Direct Investment Operations personnel to fund subscribed investment funds or capital called by investment funds; transfer funds or assets between custodial accounts, including external manager separate accounts; transfer funds to pay fees under an investment contract; and to instruct other cash movements, including movements of cash to and from custodial accounts held by the Comptroller of Public Accounts and transfers of assets in kind for investment under an investment contract.**

Notwithstanding any provision of this Section A, authority granted under this Section A does not extend to transactions in derivatives, which are governed exclusively by Section C of these resolutions.

B. Investment Contracting Authority other than Derivatives

Resolved further, That the Chief Investment Officer, Deputy Chief Investment Officer, and ~~to amend, modify, fix,~~ any other member of the Investment Group designated by the Executive Director as having such authority, in addition to any other authority expressly designated by the Executive Director under these resolutions, may act on behalf of TRS to:

- B.1** Make, execute, and deliver investment-related documents, including written contracts, investment management agreements, subscription agreements, account agreements, consents, certificates, powers of attorney, notes, deeds, security agreements, pledges, and endorsements, and any and all documents necessary or proper to effectuate the authority granted in this Section B.1.
- ~~2.B.2~~ **2.B.2** Make, execute, and deliver investment-related documents waiving, modifying, or amending in writing specific provisions of a written investment-related agreement, including directions and instructions to amend, modify, fix, and execute written investment guidelines in investment management agreements; ~~with external managers and fund managers.~~
- ~~3.B.3~~ **3.B.3** ~~Negotiate, fix~~Make, execute, ~~amend, modify, renew, extend, transfer, assign, terminate, certify,~~ and endorse the following: ~~amendments; notes; powers~~deliver written renewals, extensions, assignments, terminations, or transfers of ~~attorney; indentures; deeds; conveyances; certificates; instruments of transfer or assignment; instruments~~investment-related contracts or agreements ~~evidencing, releasing, or creating liens, mortgages, or~~, including contracts for investment management, commitments of capital, investment vehicles, security interests; ~~and all other instruments and agreements, sealed or unsealed, attested or unattested,~~ liens or mortgages relating to TRS investments.
- ~~A.4~~ **A.4** ~~Waive, modify, or amend specific provisions of an investment contract or management agreement, if the waiver, modification or amendment is deemed by the employee to be in the best interest of TRS.~~
- B.4** ~~Over-the-Counter~~ Jointly with a member of the Financial Group or the Executive Group, execute investment fund and external manager account redemption and withdrawal notices and instructions for the transfer or delivery by wire or physical transfer of cash, or securities to a TRS account by a third-party fund, external manager, account, debtor, except that an authorized member of the Investment Group may be the sole TRS signatory on subscription agreements and side letter agreements and any amendments or modifications to subscription agreements and side letter agreements.

Notwithstanding any provision of this Section B, the authority granted under this Section B does not extend to transactions in derivatives, which are governed exclusively by Section C of these resolutions.

C. Derivatives ~~Contracts~~ Authority

Resolved further, That the Chief Investment Officer or the Deputy Chief Investment Officer and any member of the Investment Group who is designated by the Executive Director as a member of the Derivatives Team, in addition to any authority expressly designated by the Executive Director under these resolutions is authorized may act on behalf of TRS to:

- ~~5.C.1~~ **5.C.1** Negotiate, ~~make~~ fix, execute, amend, modify, renew, extend, transfer, assign, terminate, endorse, ~~and~~or terminate in writing any and all of the following: master agreements for ~~over the counter~~ derivatives transactions ~~and any~~; schedules ~~or~~, credit support annexes, transaction confirmations, account agreements, and clearing agreements relating to such agreements; and ~~any~~ deliverables relating to such agreements, schedules, ~~or~~ annexes, confirmations, account agreements, or clearing agreements, including documents relating to derivatives cash settlements and movements of collateral or margin.
- ~~6.C.2~~ **6.C.2** ~~Waive, modify~~Make, execute, and deliver documents and agreements waiving, modifying, or ~~amend~~amending in writing specific provisions of ~~over the counter master agreements for a written agreement relating to derivatives transactions, and any transaction confirmations under such~~account agreements, ~~if the waiver, modification or amendment is deemed by the employee to be in the best interest of TRS~~collateral management agreements, or clearing agreements.
- ~~7.C.3~~ **7.C.3** Negotiate, ~~fix, execute~~Waive, amend, modify, renew, extend, transfer, assign, endorse, or terminate ~~transactions entered into under master~~in writing agreements ~~for over the counter~~relating to derivatives transactions, including without limitation confirmations of transactions, ~~and any transaction confirmations under such agreements.~~

Transfers of Funds or Assets; Fund or Account Redemptions and Withdrawals

- ~~A.8~~ **A.8** Authorize and instruct TRS employees, brokers or custodians to transfer funds or assets in connection with TRS investment transactions or commitments of capital or to or from managed investment accounts, investment funds, and custodians of TRS assets.
- ~~A.9~~ **A.9** Authorize and instruct TRS employees, brokers, and custodians to deliver cash, securities or other assets as collateral or margin in accordance with regulatory, account, or contractual requirements, including without limitation credit support annexes or agreements relating to over the counter derivatives transactions.

~~A.10~~ Execute redemption or withdrawal notices for private investment funds and managed investment accounts and, when required by applicable policies and procedures, not solely but jointly with a member of the Financial Group.

~~B.~~ **Financial Group**

C.4 **Further**, That Jointly with a member of the Financial Group or the Executive Group, execute documents, directions, and instructions, including standing instructions, relating to cash settlement of derivatives and movements of collateral or margin for derivatives transactions.

C.5 Buy, sell, or give orders or instructions for transactions in derivatives, and any amendments or modifications of such orders or instructions.

C.6 Give directions and instructions to members of the Trading Group or external managers relating to execution, brokerage, clearing or settlement of derivatives transactions.

Financial Group

Resolved further, That the “Financial Group” comprises employees holding the following TRS working titles ~~are members of the “Financial Group”~~:

Chief Financial Officer
 Manager of General Accounting
 Team Leader of Financial Reporting

Manager of Investment Accounting
 Team Leader of Investment Accounting
 Team Leader of Budgeting

~~Further~~**Resolved further**, That each ~~employee in~~**member of** the **Financial Group** is authorized and empowered on behalf of TRS ~~to deliver or otherwise transfer cash, securities, collateral, or contracts, and to execute affidavits, certificates and powers of attorney required to transfer, redeem, or exchange securities, collateral, or contracts.~~

~~Further~~, That each employee in the ~~Financial Group~~ is authorized and empowered on behalf of TRS, not solely but, jointly with an ~~employee in~~**authorized member of** the **Investment Group** or the **Executive Group**, to execute ~~fund or account~~ redemption and withdrawal notices and ~~related documents~~**instructions for the transfer or delivery by wire or physical transfer of cash, collateral, margin, or securities to a TRS account by a third-party fund, account, debtor, or derivatives counterparty, except that an authorized member of the Investment Group may be the sole TRS signatory on subscription agreements and side letter agreements and any amendments to subscription agreements or side letter agreements.**

~~Further~~, That each employee in the ~~Resolved further~~, That each member of the **Financial Group** is authorized and empowered on behalf of TRS, to execute authorizations to fund subscribed investment funds or capital called by investment funds; transfer funds or assets between custodial accounts, including external manager separate accounts; transfer funds to pay fees under an investment contract; instruct other cash movements, including movements of assets to and from custodial accounts held by the Comptroller of Public Accounts and transfers of assets in kind for investment under an investment contract.

Resolved further, That each member of the **Financial Group** is authorized and empowered on behalf of TRS to ~~instruct TRS custodians to deliver securities, collateral, contracts, or cash to fund margin or collateral requirements, clear and settle securities trades, fund capital called~~ **authorize and direct members of the Investment Accounting team to verify or subscribed for investment under an investment contract, and to exchange securities, collateral, contracts, confirm to a custodian or cash for other securities, collateral, contracts, prime broker any order for the transfer or cash, in accordance with internal procedures** **delivery of currencies, monies, securities, or contracts to any other person.**

~~C.~~ **Executive Group**

~~Further~~**Resolved further**, That the **Executive Group** ~~is comprised of~~**comprises** employees holding the TRS working titles of Executive Director and Deputy Director, and each ~~employee in~~**member of** the **Executive Group** is authorized and empowered to perform, with respect to a particular **matter or** transaction, any **and all** of the acts that **any and all** employees in the **Investment Group** or the **Financial Group** are authorized to perform; ~~provided, however, except~~ that when joint action by a member of the **Investment Group** and a member of the **Financial Group** is required ~~by applicable policies and procedures~~, only one member of the **Executive Group** may act jointly with a member of either of the **Investment Group** or the **Financial Group**.

~~D.~~ **Trading Group**

~~Further~~**Resolved further**, That the “**Trading Group**” ~~is comprised of~~**comprises** the employees holding the following TRS working titles: Director – Trading Center, and Trader, ~~and each employee in~~. **Each member of** the **Trading Group** is authorized and empowered on behalf of TRS to take the following actions: to place orders or agree with brokers, dealers and market-makers to purchase or sell securities, ~~futures or derivatives~~, forward contracts, ~~options~~, or currency; to monitor and supervise execution and settlement of such orders or agreements; and to negotiate, fix, and vary the commissions, spreads, or discounts for individual

orders or agreements to purchase or sell securities, ~~futures or~~ derivatives, forward contracts, ~~options,~~ or currency.

~~Further, That the TRS employee groups described in this resolution are identified as such only for the purposes of this resolution and not for any other purpose unless the Board or the Executive Director, as authorized, expressly so provides.~~

Designations of Investment Group Authority by Investment Area

Working Title	Name of Incumbent	Designated Authority	Specimen Signature
<u>Investment Management</u>			
Chief Investment Officer	T. Britton Harris IV	Groups A, B, and C	
Deputy Chief Investment Officer	Jerry Albright	Groups A, B, and C	
<u>External Public Markets</u>			
Managing Director	Dale West	Groups A and B	
Senior Investment Manager	Brad Gilbert	Group A, B 1 - 3	
Director	Susanne Gealy	Group A, B 1 - 3	
Director	Katy Hoffman	Groups A 1 - 3, B 1 - 3	
<u>Internal Public Markets</u>			
Senior Managing Director	Chi Kit Chai	Groups A and B	
Managing Director	Janis Hydak	A 1 - 3	
Managing Director	David DeStefano	A 1 - 3	
Managing Director	Shayne McGuire	A 1 - 3	
Senior Director	Mark Albert	A 1 - 3	
Senior Director	Ralph Linn	A 1 - 3	
Director	Patrick Cosgrove	A 1 - 3	
<u>Tactical Asset Allocation / Strategic Asset Allocation / Stable Value / Risk Management</u>			
Managing Director	Curt Rogers	Groups A, B, and C	
Managing Director	Mohan Balachandran	Groups A, B, and C	
Managing Director	Jase Auby	Groups A, B, and C	
Senior Investment Manager	Tim Jones	Groups A and C	
<u>Private Equity / Real Assets</u>			
Managing Director	Eric L. Lang	Groups A and B	
Managing Director	Rich Hall	Groups A and B	
Director	Neil Randall	Group A, B 1 - 3	
Director	John Ritter	Group A, B 1 - 3	
Senior Investment Manager	Courtney Vallalta	Group A	
Senior Investment Manager	Grant Walker	Group A	
Senior Investment Manager	Mike Pia	Group A	
Senior Investment Manager	Mike Lazorik	Group A	
Senior Investment Manager	Allen MacDonell	Group A	
<u>Investment Operations</u>			
Director	Sylvia Bell	Group B	
Other Groups			
Working Title	Name of Incumbent	Designated Authority	Specimen Signature
<u>Financial Group</u>			
Chief Financial Officer	Don Green	All Financial Group	
Manager of General Accounting	Jamie Michels	All Financial Group	
Team Leader of Financial Reporting	Cindy Haley	All Financial Group	
Manager of Investment Accounting	Scot Leith	All Financial Group	
Team Leader of Investment Accounting	Vicki Garcia	All Financial Group	
Team Leader of Budgeting	[Vacant]	All Financial Group	
<u>Executive Group</u>			
Executive Director	Brian K. Guthrie	All Groups	
Deputy Director	Ken Welch	All Groups	
<u>Trading Group</u>			
Director - Trading Group	Bernie Bozzelli	All Trading Group	
Trader	Kelan Moore	All Trading Group	
Trader	Jaime Llano	All Trading Group	
Trader	Steve Peterson	All Trading Group	
Trader	Demetrius Pope	All Trading Group	
Trader	Komson Silapachai	All Trading Group	
Trader	Jared Morris	All Trading Group	