



Joint Meeting of the Board of Trustees and
Investment Advisory Committee

December 12, 2017



Presented for Review and Approval

March 7, 2018

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JOINT MEETING OF THE
BOARD OF TRUSTEES AND
INVESTMENT ADVISORY COMMITTEE
EMPLOYEES RETIREMENT SYSTEM OF TEXAS

ERS Building – Board Room
200 E. 18th Street, Austin, Texas 78701
December 12, 2017 – 8:00 a.m.

TRUSTEES PRESENT

Doug Danzeiser, Chair
Cydney Donnell, Vice-Chair
I. Craig Hester, Member
Ilesa Daniels, Member
Jeanie Wyatt, Member
Catherine Melvin, Member

IAC PRESENT

Caroline Cooley, Chair
James Hille, Member
Ken Mindell, Member
Lenore Sullivan, Member
Didi Weinblatt, Member
Gene Needles, Member
Mari Kooi, Member

IAC ABSENT

Bob Alley, Vice-Chair
Laura Starks, Member

ERS STAFF PRESENT

Amy Chamberlain, Executive Office
Andrew Hodson, Investments
Angelica Torres, Benefit Contracts
Anthony Curtiss, Investments
Betty Martin, Investments
Brannon Andrews, Office of General Counsel
Carlos Chujoy, Investments
Catherine Terrell, Deputy Executive Director
Cheryl Scott Ryan, Office of General Counsel
Chris Tocci, Investments
Christy Davis, Customer Benefits
Davis Peacock, Investments
Dana Jepson, Enterprise Planning Office
Dee Dee Sterns, Director of Human Resources
Diana Kongevick, Director of Benefit Contracts
Gabrielle Schreiber, Director of Procurement and Contract Oversight
Georgina Bouton, Benefit Contracts
Jennifer Chambers, Director of Governmental Relations
Jennifer Jones, Strategic Initiatives
John Streun, Investments
Joy Seth, Investments
Juli Davila, Investments
Kathryn Tesar, Director of Benefits Communications
Keith Yawn, Director of Strategic Initiatives
Kelley Davenport, Executive Office

Lauren Honza, Investments
Leah Erard, Strategic Initiatives
Leighton Shantz, Investments
Machelle Pharr, Chief Financial Officer
Michael Shoop, Investments
Michael McCrary, Investments
Nora Alvarado, Benefit Contracts
Panayiotis Lambropoulos, Investments
Paula A. Jones, Deputy Executive Director and General Counsel
Peter Ehret, Investments
Porter Wilson, Executive Director
Ricardo Lyra, Investments
Robert Sessa, Investments
Robin Hardaway, Director of Customer Benefits
Satitpong Chantarajirawong, Investments
Shack Nail, Special Projects and Policy Advisor
Sharmila Kassam, Deputy Chief Investment Officer
Stuart Williams, Investments
Susie Ramirez, Executive Office
Tanna Ridgway, Investments
Tom Tull, Chief Investment Officer
Travis Olson, Investments
Wesley Gipson, Investments
Wendy McAdams, Director of Operations Support
Yu Tang, Investments

VISITORS PRESENT

Avery Saxe, Legislative Budget Board
Bill Hamilton, Retired State Employees Association
Bill Dally, Retired State Employees Association
Beth Burt, Accenture
Brady Vaughn, Senate Finance Committee
Brad Young, Pavilion
Joe Newton, Gabriel, Roeder, Smith & Co.
Katy Fallon, Legislative Budget Board
Kyle Lagratta, T. Rowe Price
Matt Soifer, Blackrock
Nick Nefouse, Blackrock
Michael McCormick, Aon Hewitt Investment Consultants
Peter Jansen, CBRE
Ryan Falls, Gabriel, Roeder, Smith & Co.
Robert Prentice, UT-Austin
Ron Henry, Fidelity
Steve Voss, Aon Hewitt Investment Consultants
Victor Hymes, Legato
William Seilheimer, Speaker of the House

1. Joint Meeting of the ERS Board of Trustees and Investment Advisory Committee

1. CALL TO ORDER

1.1 Call Meeting of the ERS Board of Trustees to Order

Mr. Doug Danzeiser, Chairman of the Board of Trustees for the Employees Retirement System of Texas (ERS), called the meeting to order and read the following statement:

A public notice of the ERS Board of Trustees meeting containing all items on the proposed agenda was filed with the Office of the Secretary of State at 10:21 a.m. on Friday, December 1, 2017 as required by Chapter 551, Texas Government Code, referred to as "The Open Meetings Law."

2. IAC APPOINTMENT

2.1 Review and Consideration of appointment of ERS Investment Advisory Committee Member - (ACTION)

Mr. Tom Tull, Chief Investment Officer, gave a brief background on the Investment Advisory Committee (IAC). He noted that the IAC is established at the discretion of the Board of Trustees (BOT) and can have five to nine members. At the time of the meeting, the IAC had eight members, and accordingly, staff recommended that the BOT of the Employees Retirement System of Texas (ERS) appoint Mari Kooi to the IAC for a three-year term, effective December 12, 2017, ending December 31, 2020.

Members of the ERS Board and staff recently conducted an assessment of IAC member experience and determined that in addition to broad investment expertise, additional experience was needed in the area of risk management and derivatives. ERS staff believes Ms. Mari Kooi has a broad background that will serve the committee and agency well. Ms. Kooi is willing to serve on the IAC, and she has met with ERS staff to discuss the responsibilities. Staff believes that Mari Kooi has a broad background that will serve the committee and agency well. Ms. Kooi brings over 30 years of experience in the investment realm. Mr. Tull presented the IAC skills assessment with regard to Ms. Kooi.

The Board of Trustees then took the following action:

MOTION made by Ms. Cydney Donnell, seconded by Mr. Craig Hester, and carried unanimously by the members present that the Board of Trustees of the Employees Retirement System of Texas appoint Mari Kooi to the Investment Advisory Committee for a three-year term effective December 12, 2017, ending December 31, 2020. Further move that the Executive Director be authorized to execute and administer contracts in connection with the appointment of Ms. Kooi.

3. CALL TO ORDER

3.1 Call Meeting of the Investment Advisory Committee to Order

Ms. Caroline Cooley, Chairman of the IAC for the Employees Retirement System of Texas, called the meeting to order and read the following statement:

A public notice of the ERS Board of Trustees meeting containing all items on the proposed agenda was filed with the Office of the Secretary of State at 10:21 a.m. on Friday, December 1, 2017 as required by Chapter 551, Texas Government Code, referred to as "The Open Meetings Law."

4. MINUTES

4.1 Review and Approval of the Minutes to the August 23, 2017 Joint Meeting of the Board of Trustees and Investment Advisory Committee – (ACTION)

Ms. Caroline Cooley, IAC Chair, opened the floor for a motion on the approval of the minutes from the August 23, 2017 Joint Meeting of the Board of Trustees and Investment Advisory Committee.

The IAC then took the following action:

MOTION made by Mr. Ken Mindell, seconded by Mr. Jim Hille, and carried unanimously by the members present that the Investment Advisory Committee approve the minutes of the August 23rd, 2017 Joint Meeting of the Board of Trustees and Investment Advisory Committee.

The Board of Trustees then took the following action:

MOTION made by Mr. Craig Hester, seconded by Ms. Cydney Donnell, and carried unanimously by the members present that the Board of Trustees approve the minutes of the August 23, 2017 Joint Meeting of the Board of Trustees and Investment Advisory Committee.

5. PRESENTATION

5.1 Educational Presentation: A National Perspective of State and Local Pensions

Ms. Catherine Terrell, Deputy Executive Director introduced Mr. Keith Brainard, Research Director, National Association of State Retirement Administrators. Mr. Brainard gave a presentation with regard to a National Perspective of State and Local Pensions. For Mr. Wilson and the Board, this item counted as continuing education training under the Pension Review Board's Minimum Educational Training Program.

Mr. Brainard discussed various pension plan topics, including overall pension funding nationally, including the change in funded ratio, assets and liabilities over the from 2001 to 2016. He also discussed pension reforms from the last decade, including changes to hybrid and defined contribution plans for public employees. His presentation included suggestions for addressing the Texas constitutional cap on employer contributions.

6. ACTUARIAL VALUATIONS

6.1 Review of Retirement Program Actuarial Valuations and Financial Status

Ms. Jennifer Jones from Strategic Initiatives introduced Ryan Falls and Joe Newton from Gabriel Roeder Smith (GRS), ERS' independent consulting actuaries for retirement. Mr. Falls and Mr. Newton presented the results of the annual actuarial valuations on ERS' retirement plans, with the primary focus on ERS, LECOSRF and JRS 2 plans since those are the pre-funded plans.

GRS provided the overall results of the funded status of the plans. These results apply the method and assumptions changes that were adopted by the board at the August 23, 2017 meeting. Mr. Falls briefly summarized those changes, including change to a 7.5% investment return assumption and updating the mortality tables.

Based on the August 31, 2017 valuation, the ERS and LECOSRF plans are on a path to depletion, and the JRS 2 plan has a high funding period of 63 years. The strong market returns of 12.11% net for FY 2017 were helpful to the ERS plan asset value. As part of the 2017 pension experience study, along with adopting an asset smoothing method that better aligned with best practices, the board chose a one-time reset of the actuarial value of assets to equal the market value as of August 31. This action was chosen to help the plan address the deferred losses carried under the old smoothing method and the new method would be applied prospectively. Mr. Falls also mentioned that not meeting the return assumption since 2006 consistently has been the biggest contributor to the ERS plan's current \$11.3 billion unfunded liability; the plan would have approximately \$9 billion more in assets if the return assumption had been consistently met. Mr. Newton mentioned that investment returns are the biggest risk to the plan.

To fund the ERS plan on an actuarially sound basis, the plan needs 23.21% for FY 2018, which is a 3.71% contribution shortfall, or about \$250 million for the year. Of that amount, 13.95% is the normal

cost about 10% is need for the unfunded liability. Mr. Hester asked if the actuaries had been able to quantify how much the underfunding of the plan had contributed to the unfunded liability and Mr. Falls responded that it was about \$2 billion.

Mr. Falls discussed the membership of the plan. Over time, as the plan matures, there is a narrowing gap in the ratio of retirees and active members. When a plan has an unfunded liability, the smaller ratio between retirees and actives means there are fewer actives to address any solvency issues, since the revenue to the plan is based on active member payroll. Ms. Wyatt asked about how GRS projects the active member count; Mr. Falls replied that they do not assume the member counts increase, but that the payroll on a flat member count increases. Mr. Wilson asked about the impact of the 2017 hiring freeze on the plan; Mr. Newton responded that it did have an impact, adding about 25 basis points to the actuarially sound contribution rate. Mr. Newton also mentioned a growing trend in public employers hiring more contractors rather than employees.

Mr. Falls discussed the short and long term outlooks for the ERS plan. Generally, the funded ratio is expected to decline and the unfunded liability and ASC rates are expected to increase as the funded status deteriorates, assuming no changes to contributions or benefits. Mr. Newton mentioned that while the plan is now dealing with a negative funding situation, at some point in the future there needs to be a discussion about how to handle a future surplus situation so that the negative decisions that impacted the plan in 1990s are not repeated. Mr. Falls discussed a slide on contribution rate sensitivity and how even just a 2% increase in the state contribution (from the current 10% to 12%) puts the plan on a path to being fully funded over the long term.

Mr. Falls briefly covered the LECOSRF and JRS 2 plans funded status. LECOSRF is in a more urgent situation since its depletion date is estimated to be 2044. It needs about 1.87% more in contributions, or about \$32 million per year. JRS 2 had a higher funding period in 2017 compared to 2016, but still retained a finite period and is not currently scheduled to deplete. Mr. Hester asked about the state and employee contributions to LECOSRF; Ms. Jones clarified that both the state and the LECO member contribute 0.5% to LECOSRF and that these amounts are in addition to what each party contributes to the ERS plan.

Mr. Falls then covered the accounting calculation results from GASB 67/68, which are reported in the system's and the state's comprehensive annual financial report. Due to the way GASB requires the calculations to be done, these numbers are different from the results in the annual valuation.

In their closing comments, Mr. Falls mentioned that all of the plans will need either contribution increases and benefit reductions to achieve long term solvency. ERS and LECOSRF contributions are not sufficient to fund the benefits over the long term. JRS 2 contributions are sufficient, but there is no room for adverse experience and the plan could be on a path to deplete in future years.

This was an informational item only, no action was taken by the board.

7. INVESTMENT PERFORMANCE

7.1 Review of the Investment Performance for Third Calendar Quarter of 2017

Ms. Sharmila Kassam, Deputy Chief Investment Officer, and Mr. Steve Voss and Mr. Mike McCormick of Aon Hewitt Investment Consulting, presented the investment performance for third calendar quarter of 2017.

Mr. Steve Voss gave an overview of calendar and fiscal year performance. He noted that fiscal year to date through September 30, 2017, performance has been very good. He noted that we are in the second longest bull market of all time, and advised not to get used to this performance in stocks. He mentioned that net of fees, there was significant alpha generated for the year to date period. He discussed negative cash flows with regard to the investment earnings. For all of the time period returns, the returns have exceeded the cash flows out. He mentioned that the trust is within compliance on all policy targets.

Mr. Craig Hester, asked in terms of the 70 basis points of excess return, has Mr. Voss seen evidence that staff took excessive risk to achieve those returns. Mr. Voss noted that tracking error for the three year, which is a measure of variability around the benchmark return, was 1.5%, which is far below the policy target for tracking error. He noted tracking error has changed over time and it can be hard for a fund this size to take on notable tracking error. He noted that there has not been undue risk taken to achieve the aggregate returns or the relative returns that have been earned in this past year.

Mr. McCormick presented performance information, including contributors and detractors. Over the trailing one year, equity markets were up around 20%; with the benchmark up around 19.1%. There were around 100 basis points of outperformance in the equity portfolio. Equities make up around half of the plan, so cut in half generates about 50 basis points in outperformance for the fund. The private real estate portfolio was up around 12.9% for the trailing one year period vs 6.9% for the benchmark. This is generating around 43 basis points of outperformance. The directional growth portfolio it is also generating alpha for the trust. Private equity muted the performance of the fund, although due primarily to timing of valuation adjustments in this asset class.

Mr. McCormick presented the risk profile for the total fund. He showed the total fund return versus the total long term public benchmark and explained that the trust had typically outperformed in down periods. More recently when equities are up around 20%, he noted that the trust outperformed, which would be considered an outlier. This relationship is considered a positive outlier. He noted the relationship between the information ratio and sharpe ratio over the past 10 years. During the dot com bubble along with the 2008 market crash, both the information ratio and the sharpe ratio increased.

Mr. McCormick presented the performance and tracking error of the plan. He noted that while tracking error ideally is low there is an amount needed to generate alpha. The trust has been able to capitalize on a slight increase in tracking error to generate excess return. Recently there has been an increase in the tracking error due to equities, and also some recent changes in benchmarking. The trust has moved closer to the global equity benchmark as well, which is contributing to tracking error.

Mr. Voss clarified that the trust is able to better capture the deliberate decisions of the staff to be different than the policy benchmark. When the investment team wants to overweight or underweight small cap, you can see this expressed in returns and expressed as a function of tracking error.

Mr. Ken Mindell asked how relevant of a measurement of risk is tracking error as opposed to other measurements such as drawdown risk. Mr. Voss clarified that you cannot spend tracking error, so it is an important component, that gives some comfort. He noted the investment team is not dramatically altering the risk and return components of those asset classes. Tracking error is a useful governor, and when translated into the information ratio, it should determine if you should be satisfied with the return or not. All together the measurements are best measured together rather than an individual basis.

Ms. Sharmila Kassam, Deputy Chief Investment Officer, added risk was discussed during the asset liability study. Obviously risk can be defined in many different ways. Staff will spend time over the next year with the Risk Management and Applied Research Team on how to report risk in different ways. If there is some discussion that the Board would like to have with regards to different profiles, staff is willing to explore those options and bring it back to the Board and IAC.

Ms. Kassam presented information with regards to asset class returns over time. Each asset class changes position over time and not one asset class performs well across all periods. The trust has diversified to various asset classes over the years and with the new asset allocation we will introduce with the newest being opportunistic credit. Ms. Kassam presented the asset allocation as of September 30, 2017 and how Staff plan to allocate under the new asset allocation targets in the next two fiscal years. Staff over time are going to reduce the global equities exposure due to the newly adopted asset allocation. After having the asset liability study, with some of the questions asked, staff will explain the tactical decisions in addition to reporting asset class exposures within asset allocation targets.

Ms. Kassam also reported the investment policy was revised per the results of the survey of the Board and IAC in terms of streamlining the policy. The substantive changes to the investment policy were

limited to the changes adopted at the August Board meeting, including asset allocation and statutory changes, and there were non-substantive changes reorganizing the investment policy to be easier to navigate.

Mr. Craig Hester asked if the interim asset allocation is where the trust is currently or is it a target. Ms. Kassam clarified that the interim asset allocation is a target, but that staff are not going to allocate capital just to achieve a target. Staff will deploy capital as opportunities arise. She noted that staff have bands around the public and private asset class allocations, that allow staff to stay within compliance. Mr. Hester asked if there is any interest in changing the allocation due to the recent increase in performance of public equities that seems to be increasing daily. Ms. Kassam confirmed there is no current need to change the current overweight to public equities and noted that there has been an increase in valuations particularly within private real estate as well as public equities.

Mr. Voss summarized the presentation, noting that recent performance has exceeded the benchmarks for the quarter, year to date, one-year, three-year and five-year time periods. This attributed to the outperformance that staff have generated over that time. The one-year was 103 basis points which he noted was exceptional considering the amount of risk on an absolute basis and considering the level of tracking error.

There were no questions or further discussion, and no action was required on this item.

8. ETHICS TRAINING

8.1 Discussion and Training Regarding Ethics

Dr. Robert Prentice, Department Chair and Professor of the University of Texas at Austin, presented an ethics presentation for the BOT and IAC of the Employees Retirement System of Texas.

There were no questions or further discussion, and no action was required on this item.

9. PRIVATE EQUITY

9.1 Private Equity Program Overview and Market Update

Mr. Wesley Gipson, Director of Private Equity, gave an introduction of the private equity team and began with an overview of private equity basics.

Mr. Ricardo Lyra, Private Equity Portfolio Manager, gave a portfolio update for the private equity program as of August 31, 2017. In fiscal year 2017, Staff committed \$870 million to new funds, above the target that was approved, but still within the +/- 20% range. There was \$926 million called by the fund managers, and the trust received \$584 million in distributions. He noted the net asset value is \$3.4 billion, or 12.3% of the trust. This growth at the trust level was driven by capital calls, distributions, and net asset value (NAV). He mentioned FY 2017 was an atypical year, with more capital calls than forecasted, with fewer distributions, and a very strong co-investment year. Staff believes that in the near future there will be a reversal of these trends especially with an increase of distributions. There are many transactions taking place at this time and after speaking with many of the managers there will be more exits from existing investments taking place.

Mr. Lyra noted that FY 2017 was a very strong year for the portfolio, as represented by Total Value Paid in Capital¹ growing to 1.32 times the original investment. The Internal Rate of Return (IRR)² increased by 90 basis points. Mr. Lyra presented information on diversification of the private equity program and that the exposure geographically is 37% international and 63% domestic. By strategy the

¹ Total Value Paid in Capital = (NAV + Distributions) / Paid in Capital.

² IRR is the discount rate that will bring a series of cash flows to a net present value (NPV) of zero (or to the current value of cash invested).

only allocation that is under the target range is buyout. This is due to the secondary sale that reduced this exposure significantly, however staff have been building this out for the last 18 months. Allocation by sector is a little over the target range in the Diversified category, which is a highly diversified group of investments primarily in secondary funds.

Ms. Caroline Cooley, asked if the diversified sector allocation includes a full look through of all the funds, and if it includes the co-investments. Mr. Gipson noted that the only thing that is not pure look through are in the secondaries funds, where it is not possible to do a peer look through, along with some of the debt funds, and this allocation does include co-investments.

Mr. Lyra provided information on diversification by vintage year, and noted that the vintage year is the year in which a fund is activated or when it makes its first investment. He showed the relationship between what is committed in those vintage years vs the NAV. Given the timing of investments that take place at the fund level, it is very rare that the actual NAV will equal commitments or exceed the level of commitments. Mr. Lyra provided information on diversification across partners. He noted that the mandate states to stay less than 20% concentrated across any relationship. The highest concentration is with Pavilion Alternatives with 7.78% of the program in its emerging markets fund-of-fund.

Mr. Davis Peacock, Private Equity Portfolio Manager, presented performance information for the private equity program, in terms of Benchmark IRR to ERS performance. He noted the PME is the public market equivalent, which is a method of converting the time weighed returns of the public market benchmark to an IRR-type calculation to provide a more reasonable comparison between the public markets and the private equity portfolio. This is done by taking the capital calls and distributions associated with the private equity portfolio, and calculating as if investing them into the public equity indices or distributing from those indices, and calculating returns based on these cash flows. The private equity portfolio has performed very well compared to these public market portfolios on a one year, three-year, and five-year period.

Mr. Peacock noted that compared to the Burgiss private equity benchmark, the fund has performed between the 75th/50th quartile. He noted that consistently outperforming the top quartile on a rolling basis would be next to impossible. Mr. Gipson clarified for the entire portfolio that it is unlikely to reach the top quartile, but for a fund it would be possible.

Mr. Peacock presented information in terms of evolution by fiscal year, noting the key takeaway is that through both co-investments and various negotiated economic terms, the team has been able to reduce economics from when the program first began and from the typical range of economics. Beginning in 2012 when the co-investment program was kicked off, carried interest rate has been brought down to just under 17% and the management fee to 1.4% on average. In just the past year this was 13.5% and 1.3%, respectively. As a point of reference if we were to outsource, Mr. Peacock noted that a typical fund-of-funds has economics with 10% carry and 1% management fee plus the underlying manager fees; however, staff has been able to drive economics along those lines but with a higher expected return.

Mr. Peacock summarized that 2017 goals included rebuilding the buyout portfolio, and this has been ongoing for the past 18 months. Staff were very active in that space over FY 2017 and will continue to do so in FY 2018. Also one of the goals was to continue to build out the co-investment program, where staff has been able to see very active deal flow. For FY 2018, the goals are to continue to build out the secondaries program, enhance data and reporting, and execute the tactical plan.

Ms. Cydney Donnell had a question with regard to the general private equity market that while realizations are so low in the industry as a whole, and given the strong equity markets and busy M&A activity, is there any further insights as to why this isn't following a normal pattern for distributions and calls?

Mr. Gipson described that in 2014 there was a rush to the exits for anything that could be sold. There was a hangover from the crisis and these were the best valuations anybody had seen in long time, and anything that was near ready to sell was sold. There are a lot of immature assets that are in portfolios before being marketable. It is a good exit market, and every manager is marketing what is ready to sell.

Ms. Cooley asked for clarification on the co-investment portfolio, what the sizes are and how the sizes of an individual co-investment compare to the size of an individual fund to get a sense of diversification.

Mr. Gipson noted that on average a co-investment is around \$12 million, and average fund commitment is \$75 million. The co-investment program is not an out select the manager strategy, it is simply an attempt to index the portfolio. While staff have grown the size of the co-investment program, the investment size of the program has grown while still maintaining diversification. Mr. Tull also noted that in terms of deal flow for co-investments, ERS is seeing a higher number of deals as we have a short turnaround compared to competitors.

Mr. Ken Mindell asked for clarification on the asset allocation, diversification, and management of NAV in terms of new commitments and uncalled capital over the next fiscal year.

Mr. Gipson noted that this would be discussed with the tactical plan presentation.

Mr. Brad Young, Managing Director, Head of Global Advisory Services of Pavilion, provided an update of Pavilion Alternatives Group, and ERS Private Equity Program Update, and a Private Equity Market Statistics and Outlook.

Mr. Young noted that the program has outperformed public benchmark equivalents over the longer term horizons. The one-year outlook trailed the public benchmark, but is not as meaningful as the three-year or five-year returns, which show excess returns. Mr. Gipson noted that as of August 31, 2017, the program is beating the public benchmarks. Mr. Young noted that to get a portfolio to achieve in the top quartile over a long horizon is very difficult.

Mr. Young commented on diversification, noting that there is a wide range of diversification across the program. Mr. Young noted that there are 32 co-investment strategies alongside 14 unique sponsors. The program is well diversified, and the co-investment program is performing well and generating a 1.5x multiple as of March 31, 2017. Mr. Gipson noted that the average age of the entire co-investment portfolio is approximately two years.

Ms. Jeanie Wyatt asked for clarification on the Carlyle allocation, and if there is a limit to the overall exposure for both primary and co-investment vehicles. Mr. Gipson pointed out that the Carlyle allocation is 24.9% of the current co-investments, however they represent only 5.5% of the total program. The limit overall for funds is 20%, and the program does not have any single fund over 8%.

Ms. Cooley noted the difference between sector exposure between the primary and co-investment funds. Mr. Gipson mentioned that while the energy sector was in a downturn, staff felt the need to allocate more to the energy sector while valuations were low. Mr. Tull commented that while there are events such as the downturn in the energy patch, staff are able to look through and analyze sector exposure, and use this as a control mechanism to not have too much exposure to any specific sector.

Mr. Young noted that the private equity portfolio returns will outperform the public markets in the long term, and especially if staff are strategic in manager selection.

There were no questions or further discussion, and no action was required on this item.

9.2 Proposed Revisions to the ERS Investment Policy: Private Equity Guidelines and Procedures – (ACTION)

Mr. Wesley Gipson, Director of Private Equity, presented a proposed revision action item with regard to the private equity program. Staff would like to pull secondaries and energy and natural resources out of the umbrella of special situations and give them their own separate allocation. The intent is to create a specific secondaries range of 5-30%; energy and natural resources of 5-20%; special situations reduced to 0-5%, and buyouts separately having a range of 35-60%.

Mr. Ken Mindell asked if the max energy fund exposure would be 20% of the 13% target trust allocation to private equity. Mr. Gipson clarified that it would be 20% of the 10% target trust allocation because the 3% increase of the target allocation is going to secondaries, which would not allocate to energy funds.

Mr. Mindell clarified that he was interested to know what the energy total fund exposure would be at the total fund level. Ms. Cooley asked for clarification that there was 20% max to any one sector, to which Mr. Gipson confirmed. Mr. Gipson noted that energy and natural resources are typically a larger part of the private equity profile, as opposed to the public markets, and he expects for energy to continue to be healthily represented in the private equity portfolio, though not to exceed 20%.

The Investment Advisory Committee then took the following action:

MOTION made by Mr. Ken Mindell, seconded by Ms. Laura Starks, and carried unanimously by the members present that the Investment Advisory Committee Move that the Investment Advisory Committee recommend that the Board of Trustees of the Employees Retirement System of Texas approve the ERS Private Equity Guidelines and Procedures as presented in this agenda item.

The Board of Trustees then took the following action:

MOTION made by Ms. Cydney Donnell, seconded by Ms. Ilesa Daniels, and carried unanimously by the members present that the Board of Trustees approve the ERS Private Equity Guidelines and Procedures as presented in this agenda item.

9.3 Consideration of Proposed Private Equity Annual Tactical Plan for Fiscal Year 2018 – (ACTION)

Mr. Wesley Gipson, Director of Private Equity, presented the proposed private equity FY 2018 Tactical Plan. He noted that FY 2017 had been a slow year of distributions, a full year of capital calls, and also a very good year in terms of NAV appreciation. This is why the NAV of private equity jumped from 10% to 12.3% of the overall trust. Staff are watchful of this change, and ultimately the distributions that were not received last year, should come in this year. If the distributions do not come in very soon, then staff will likely lower the commitment level to the lower level of the band for expected capital commitments. He presented information on proposed FY 2018 forecasted private equity commitments of 6-10 investments totaling approximately \$1 billion in capital commitments with a range of +/- 25%, or \$0.75 billion to \$1.25 billion.

Mr. Gipson noted that as of August 31, 2017, private equity was 12.3% of The Trust. Mr. Mindell noted that many funds do not call the entire commitment amount initially, and asked for clarification for how staff handle these uncalled commitments and reserves. Mr. Gipson noted that typically after the investment period there is going to be a reserve for both the fees and add on investment. Most of the time 85-90% will be called by the end of the investment period, and near the end of the fund life then staff can see more clearly what is ultimately going to be called. Some managers can release the commitment if they know they will not ever call the capital.

Mr. Gipson noted if the trust doesn't grow as actuarially projected, then in order to continue around the 13% mark staff are able to maintain a healthy allocation level in the short and medium term. He noted that roughly the bands of 25% of the \$1 billion expected capital commitments should cover any changes in the trust growth.

Ms. Caroline Cooley asked for clarification between the committed amounts relative to the current NAV of the Trust. She noted the trust has a target allocation to private equity of 13%, and the current private equity NAV plus unclassified commitments equal \$5.7 billion. She asked if staff feel there is a maximum in terms of committed as a percent of the fund to manage what could possibly be called. Mr. Gipson noted that staff do not think about it this way, and staff are more comfortable in using the year-to-year projections in order to help with consistency in allocation deployment while minding the overall NAV of the portfolio within acceptable bands allowed by the asset allocation.

There being no further discussion, the Investment Advisory Committee then took the following action:

MOTION made by Mr. Ken Mindell, seconded by Mr. Gene Needles, and carried unanimously by the members present that the Investment Advisory Committee recommend that the Board of Trustees of the Employees Retirement System of Texas approve the ERS Private Equity Annual Tactical Plan for Fiscal Year 2018 as shown in Exhibit A.

The Board of Trustees then took the following action:

MOTION made by Ms. Cydney Donnell, seconded by Ms. Ilesa Daniels, and carried unanimously by the members present that the Board of Trustees of the Employees Retirement System of Texas approve the ERS Private Equity Annual Tactical Plan for Fiscal Year 2018 as shown in Exhibit A.

10. RISK MANAGEMENT

10.1 Discussion of the Risk Management Program

Mr. Carlos Chujoy, Portfolio Manager, and Mr. Stuart Williams, Portfolio Manager, gave an update and overview of the risk management program. Mr. Chujoy outlined three major goals of the risk management program. These goals include the (1) identification and measurement of salient investment risks relevant to the trust, (2) monitoring risks, and (3) responding and managing investment risks. In order to accomplish these goals, Mr. Chujoy noted that the Risk Management and Applied Research (RMAR) team had put together an integrated risk management process; a process that starts with the ERS Board of Trustees guidelines and procedures. The RMAR team uses the Investment Policy as a reference since it provides direction regarding asset allocation constraints, active risk, leverage constraints, and diversification.

Mr. Chujoy noted that risk information is then combined with portfolio level information by the RMAR team whose responsibility is to generate risk analytics and to provide market and portfolio related findings to the Risk Committee. The Risk Committee meets on a monthly basis and members of the committee discuss and debate various risk issues related to the market and the ERS portfolio. Should there be any need for a corrective action to be taken, this action is communicated to the respective asset class heads for implementation. Mr. Chujoy also presented information regarding the composition of the RMAR team and the makeup of voting members of the Risk Committee.

Mr. Chujoy presented the capabilities and monitoring responsibilities of the RMAR program. He indicated that for purposes of risk management, the RMAR team monitors a variety of items both at the trust and at the individual asset class level. Measuring and monitoring sector, currency, financial leverage, and counterparty risks across the trust are areas that the RMAR team plans to conduct work on as well. Mr. Chujoy then proceeded with a presentation of market conditions and global stress indicators. During this part of the presentation, Mr. Chujoy identified the asset class contributing the most risk to the trust to be Global Public Equities.

Mr. Chujoy discussed a number of events that if triggered had the potential to unwind the low volatility and low correlation environment that the markets are in today. For example, Mr. Chujoy noted that if the Fed decided to implement a number of rate hikes higher than those expected by market participants, that this event alone had the potential to lift volatility higher. Other examples included sharp falls in economic surprise indices. In the case of a large economy such as China, a drop in their economic surprise index would signal to the markets that the Chinese economy is deteriorating and cause global markets to react negatively to the news. Geopolitical risk, policy failure risk and loss of political support were also events cited as potential triggers that could shock markets in a negative way.

Mr. Chujoy also presented a number of catalysts for 2018 that could alter market dynamics based on Deutsche Bank's research. He finalized this part of the presentation by providing a review of the different crisis events since the late 1980's. Mr. Chujoy noted that despite the number of events

increasing post the global financial crises of 2008, (he highlighted that this is a condition that brings increasing levels of uncertainty); domestic markets have generally done well. He explained that financial markets such as the US are driven primarily by underlying market fundamentals and not necessarily by non-economic driven events.

Mr. Stuart Williams, Portfolio Manager, discussed information with regard to the trust performance and risk. From a risk standpoint, Mr. Williams provided a discussion of the level of contribution to total trust risk from the different assets in the trust. He noted that while the ERS' return seeking assets explained around 80% of the trust asset allocation, it represented close to 100% of total trust risk, which is appropriate. He also highlighted that the largest contribution to risk in the ERS' return seeking assets is the Global Public Equity asset class. Mr. Williams reviewed the trust asset allocation as of September 30, 2017 relative to the interim policy allocation. He noted that the Return Seeking Asset Class was about 4% higher than the interim targets with the Risk Reducing Asset Class being underweight by the same amount. Regarding portfolio diversification, Mr. Williams noted that the drop in the correlations of returns between the Absolute Return Portfolio and the trust was the result of a strategic decision by the hedge fund team to reduce its exposure to the equity market. The hedge fund team discussed these portfolio changes with the Board and IAC at the August 23, 2017 Joint Meeting.

Mr. Chujoy provided an update of a major initiative the RMAR team had during Fiscal Year 2017. The initiative revolved around big data. Mr. Chujoy indicated that the goal of the project was to create a centralized database for all asset classes in order to streamline internal workflows, improve productivity and reduce error rates. In this regard existing capabilities are currently being expanded and he expects that once the project is complete, the time to generate the risk analytics will be reduced in a material way, freeing up time and resources to conduct analysis and to strategize solutions versus spending time managing data and developing reports.

Mr. Williams presented an update on beta management. He provided results of a paper-traded Tactical Asset Allocation model that staff has been using to provide recommendations to the CIO in terms of asset allocation over the past four years. He noted that the RMAR team had been tracking the performance results over the past three years and that management could possibly take this portfolio live at some point. Mr. Chujoy added that implementation of the Tactical Asset Allocation program was done through Futures as capital deployment was more efficient that way. Ms. Caroline Cooley asked for clarification in terms of how much the initial allocation was to the paper portfolio. Mr. Chujoy noted that it was \$250 million.

The last update provided was on a paper-traded Tactical Quantitative Portfolio. Mr. Craig Hester, Ms. Jeanie Wyatt, Ms. Mari Kooi, and Mr. Ken Mindell had questions and discussed with Mr. Williams market signals such as price momentum and regime trends, and inquired if the performance of the paper portfolio was net of fees. Mr. Williams clarified some of the signals used in the model and noted that the calculation of performance were all net of fees. The portfolio delivered an excess return of close to a hundred basis points over its benchmark. Mr. Williams also reviewed the performance of the Tactical Quantitative Portfolio in combination with an options-based paper traded portfolio. The addition of the options portfolio as an overlay would have added an additional 100 basis points to returns, reduced drawdowns, improved the risk-adjusted returns as measured by the Sharpe ratio, and lowered market sensitivity as measured by beta.

Mr. Williams indicated that the overlay options-based portfolio was based on the research paper that the RMAR team wrote and is published on the Chicago Board of Options Exchange website. Furthermore, Mr. Williams added that writing the research paper helped the team to define the strategy used for the options-based paper portfolio for the Tactical Quantitative Portfolio. Mr. Mindell asked for clarification on the options strategy, and Mr. Chujoy discussed the various types of options strategies that are applied to the option-based portfolio.

Mr. Williams presented information on the outlook for FY 2018. He noted that the team plans to dedicate time to perform deeper cross asset class analysis, augment the risk management capabilities by incorporating tail hedging and scenario analysis, and implement the benefits from the big data program.

Ms. Wyatt asked if the risk management program shifts the actual asset allocation of the overall portfolio, for example if trust is shorting could the net effect be an equity allocation that is actually below the target asset allocation. Mr. Chujoy clarified that there is an actual asset allocation committee that addresses those types of decisions. It is possible staff could see a market dislocation resulting in an asset class allocation to be underweight when it was expected to be overweight on a net basis. If that were to be the case, the RMAR team would bring this instance to the attention of the Risk Committee.

Ms. Wyatt inquired whether being outside of the allowed asset allocation would be brought to the Board's attention. Ms. Sharmila Kassam, Deputy CIO, clarified that staff would present information to the Board in a case where the trust was outside of the adopted asset allocation bands.

Ms. Cooley asked if staff was reporting at a high level and generating reports. She asked if there were any red flags that caused staff to be out of compliance, then were those addressed by the Risk Committee. Mr. Tull noted that tracking error is monitored closely on a daily basis, and staff rectify any situation prior to it becoming a violation. He noted during the prior fiscal year there was Brexit, and a variety of other events resulting in some volatility, but it has been quiet. Mr. Chujoy noted that about three years ago there were concerns about currency volatility which were addressed by staff at that time. Mr. Ken Mindell expressed interest in having the capabilities of tail hedging and scenario analysis. He noted that the incorporation of those capabilities as part of the risk program would prove to be very beneficial in different situations.

There were no questions or further discussion, and no action was required on this item.

11. EMERGING MANAGER PROGRAM

11.1 ERS' Emerging Manager Program: Market Update and Program Overview

Ms. Sharmila Kassam, Deputy CIO, and Mr. Panayiotis Lambropoulos, Hedge Fund Portfolio Manager, provided an update on the ERS Emerging Manager Program. Ms. Kassam defined emerging managers as firms having \$2 billion assets under management or less. She noted that ERS has integrated this concept under each asset class. Initially the program started with private equity and private real estate. In private equity staff emerging as firms under \$1 billion in AUM or less and in Real Estate the threshold is \$500 million. Emerging managers are a component of external management. She noted the externally managed assets are \$10.8 billion, and the emerging manager slice is 9% of those externally managed assets. Currently the net asset value invested is \$977 million to emerging managers.

Ms. Kassam noted there is an aspirational target to have 10% of all externally managed assets to be with emerging managers. She explained that there is an additional approximately \$290 million committed but not yet deployed which when invested will result in the program reaching the 10% target of externally managed assets.

Ms. Kassam noted various plans within each asset class. She explained staff are currently searching for an international small cap focused manager while private equity and private real estate continue with their existing emerging manager programs.

She explained that performance for the public equity, private equity and private real estate emerging manager programs have been positive since inception. The private real estate program and private equity program have generated excess IRR relative to the established managers. The global public equities emerging manager portfolio has generated positive relative returns over the benchmark; however current performance does not reflect an annual performance fee to be paid to the fund-of-fund manager in January 2018. Ms. Kassam discussed that staff are seeking out a direct international small cap manager, and staff should be able to present performance relative to the direct program next year. Ms. Jeanie Wyatt, asked with regard to having assets under management of under \$2 billion, is it possible that a firm can get in there that had \$4 billion, but now has under \$2 billion. Ms. Kassam noted that \$2 billion is defined in statute and would be assessed at the time ERS is looking at the manager.

Ms. Kassam then transitioned the presentation to Mr. Panayiotis Lambropoulos to provide an update on the emerging manager program with regard to the hedge fund asset class. He presented information on the timeline of the overall hedge fund program, with the program starting six years ago. Staff has never used fund-of-fund products within the asset class. He noted that the maximum target for the absolute return portfolio, the main hedge fund allocation, is 5% of the trust. Since inception, staff have worked on populating the portfolio, developing processes and procedures, and developing a team that is capable of managing the portfolio. The 5% target was reached in 2015. Improving the due diligence process and improving the portfolio is an ongoing process. In 2016, with the program established staff considered whether it was time to formalize an emerging manager program. ERS has now started to develop ideas for a possible seeding venture platform to be launched in 2018. Mr. Lambropoulos noted that staff have had these discussions with peers and developed a goal to formally launch a new emerging manager program along these lines within calendar 2018.

Mr. Lambropoulos discussed the various paths that staff could target to approach a new emerging manager program, along with the pros and cons. The easiest approach would be to stay internal, and use the existing capacities in place right now. This limits the operational infrastructure related to manage accounts. He noted another option is to go external and hire a manager. This would provide additional investment and operation resources, especially internationally. However, it would be less customized for ERS, and structures are typically more expensive as they are structured as fund-of-funds.

Mr. Lambropoulos discussed the final option, which staff are choosing to pursue, is to develop a strategic partnership via a seeding venture. He noted the objective is to align internal goals and external resources through a true partnership. The opportunities are to create another source of alpha, and enhance returns by a few hundred basis points over a non-seeding venture and build an internal farm team of managers to potentially hire directly. This approach would also synthetically extend internal staff bandwidth. Challenges to the seeding venture strategy are to integrate a new and innovative value-centric model within the established hedge fund program.

Mr. Lambropoulos defined some key elements for success in implementing an emerging manager program. These include: be early, be influential, develop a true partnership, provide capital that meets necessary needs, making impactful commitments, provide capital to specific managers as they progress and actively participate in the institutionalization of the business.

Ms. Kassam added that it is an interesting time that the fund is approaching a seeding venture as there are major outflows from hedge funds so fundraising is more difficult. Staff should find it easier to seed managers, and staff hope to speak more about the program later this year after the terms are finalized and contract executed. Ms. Kassam commended the hedge fund team for their work. Ms. Caroline Cooley, asked if the new hedge fund strategy would be one that staff would have done anyway, rather than a seeding opportunity. Mr. Lambropoulos confirmed that the strategy is something that would have been done anyway and that the seeding venture presents added upside opportunity to the investment.

Ms. Kassam concluded that there are several emerging manager events coming up in the next few months providing opportunity for emerging managers to have access to ERS staff. There is an ERS/TRS Real Estate Emerging Manager Conference otherwise known as REEM in January 2018, and an ERS Inaugural open house for emerging managers prior to the ERS/TRS Emerging manager conference in February 2018. Ms. Kassam noted that it is important for staff to focus on direct relationships with emerging managers in ERS portfolios when appropriate, along with promoting emerging manager program best practices.

There were no questions or further discussion, and no action was required on this item.

12. OPPORTUNISTIC CREDIT PROGRAM

12.1 ERS Investment Policy: Proposed Opportunistic Credit Guidelines and Procedures - (ACTION)

Ms. Sharmila Kassam, Deputy CIO, and Mr. Anthony Curtiss, Hedge Fund Director, presented the proposed opportunistic credit guidelines and procedures. She explained that the opportunistic credit allocation is targeted to be 2% over the next two years as adopted by the Board and IAC on August 23, 2017. She defined opportunistic credit as a unique approach to investing within the credit markets. The intent of this mandate is to identify different and niche opportunities across the credit spectrum.

Ms. Kassam noted that ERS needs opportunistic credit as an additional form of diversification. There are opportunities within the private markets that are potentially more attractive relative to public markets. This new sleeve can allow ERS to allocate to unique opportunities that do not neatly fit into a more traditional asset class.

Mr. Curtiss discussed how ERS will invest in opportunistic credit. He noted the mandate is flexibly structured through private market investment vehicles. Capital is typically committed and drawn over a specified period of time, similar to private equity, but for shorter durations than typical private equity strategies. Depending on the strategy, distributions are periodically received over the investment's life. Typical diversification across the spectrum for opportunistic credit are direct lending, distressed and special situations, specialty finance, structured credit, real estate credit, mezzanine and real asset credit.

Mr. Curtiss discussed diversity of private credit returns which range from low single digit returns to the upper teens based on different strategies. He noted that staff are targeting 6.5% to 7% returns at a total portfolio level. This will act as a complement to existing asset class exposures. This is not meant to be an overflow vehicle for other asset classes. He noted this will be a collaborative effort across asset classes within the trust. There are underlying investments and structures that will be illiquid. He noted some strategies will have floating rate components which will reduce sensitivity to rising interest rates. There will be strong emphasis on cash flows with price appreciation as a secondary focus.

Mr. Curtiss outlined characteristics of opportunistic credit. He noted the underlying investment vehicles will be closed-end; terms of investment vehicles will range on average from 5-10 years; the portfolio will have long-bias characteristics with limited use of hedging, and the balance sheet leverage should not be greater than 2.5x. Additionally he noted that some strategies may have inherent leverage, and there will be emphasis on developed markets, with emerging market opportunities considered. Co-investment opportunities might be present to enhance returns and the overall benchmark to the strategy will be the S&P/LTSA Leveraged Loan Index.

Mr. Curtiss outlined characteristics of ERS' current program. He noted J-Curve mitigation and downside protection risk are critical aspects of the program. He presented the proposed strategy target ranges, and noted that staff do not want to be forced to deploy capital simply based on a target.

Ms. Kassam discussed that staff will come back to the Board and IAC with a more robust pacing model for discussion. She noted that staff have recommended the use of the LTSA Leveraged Loan Index as the current benchmark; however staff plan to come back with a proposed premium to add to this benchmark to take into account the illiquidity premium sought. The expectation from staff is to go slow and methodically with this particular allocation.

Mr. Ken Mindell asked in terms of the structured credit with respect to collateralized loan obligations (CLOs), if staff would speak to the leverage levels for clarification. Mr. Curtiss clarified that balance sheet leverage versus inherent leverage from a strategy perspective would be considered, which could be much higher for CLO equity or teen type leverage. This is deemphasized in this portfolio given the fact that credit can be allocated to structured credit.

Mr. Jim Hille noted the importance for protection of debt covenants and noted this is important for the guidelines, and asked if there has been consideration given different geographic exposures. Ms. Kassam noted that this will be a consideration within the guidelines and procedures. Ms. Cydney Donnell asked for some clarification for credit quality, underwriting, practices, and ability to generate returns. Mr. Curtiss provided information on the return spectrum in terms of IRR; however there have not been collaborative efforts in terms of discussing specific strategies. Ms. Kassam noted that there is no expectation to deploy capital until staff come back with a more robust pacing model. Ms. Wyatt asked

about the size of staff dedicated to this program. Ms. Kassam noted it is a multi-asset class approach among primarily the hedge fund team, fixed income team, and the real estate team initially managed by the Deputy CIO and overseen by the CIO.

Ms. Kassam noted next steps after adoption of the guidelines and procedures, are to define portfolio construction and to develop a robust tactical plan. Based on the Board and IAC questions, Ms. Kassam recommended postponing the proposed tactical plan for approval to define a more robust tactical plan to be adopted later in FY 2018. The staff's current thinking has been only to deploy 0-2 investments at less than \$200 million as it began research on the spectrum of strategies but based on the questions today, it will be better to wait to answer these questions before adopting a tactical plan.

Ms. Caroline Cooley, IAC Chair, opened the floor for a motion that the Board and IAC adopt the Opportunistic Credit Guidelines and Procedures as attached in Exhibit A.

The IAC then took the following action:

MOTION made by Mr. Gene Needles, seconded by Mr. Ken Mindell, and carried unanimously by the members present that the Investment Advisory Committee Move that the Board and IAC adopt the Opportunistic Credit Guidelines and Procedures as attached in Exhibit A.

The Board of Trustees then took the following action:

MOTION made by Mr. Craig Hester, seconded by Ms. Cydney Donnell, and carried unanimously by the members present that the Board of Trustees adopt the Opportunistic Credit Guidelines and Procedures as attached in Exhibit A.

12.2 Proposed Opportunistic Credit Annual Tactical Plan for Fiscal Year 2018 - (ACTION)

This action item was deferred until a later board meeting as per discussion of staff, Board, and the IAC.

13. REAL ESTATE

13.1 Contract Award Recommendation for Real Estate Consulting Services – (ACTION)

Mr. Tom Tull, Chief Investment Officer, Ms. Gabrielle Schreiber, Director of Procurement and Contract Oversight, and Robert Sessa, Director of Real Estate, presented a contract award recommendation for Real Estate Consulting Services. Mr. Sessa provided a background on the real estate consulting contract timeline. The Board hired RVK in 2009, and the contract term was ended in 2017 due to the real estate team of RVK leaving the firm. The board selected Aon Hewitt as an interim consultant from April 2017 to August 2018.

Mr. Sessa discussed the RFP that was issued on May 10, 2017. The services requested were to assist in analysis and assessment of prospective managers, co-investments, and other real estate investments. Additional services were to monitor portfolio performance against designated benchmarks, provide quarterly and annual quantitative and qualitative assessments of each partnership/real estate investment and the real estate portfolio as a whole, and at least annually review ERS existing policies and procedures along with benchmarks for the real estate program and recommend changes as appropriate.

Ms. Gabrielle Schreiber presented information on firms who submitted an RFP. Responses were due June 8, 2017. ERS received 11 responses. One of the 11 firms was disqualified due to late submittal of the RFP after the deadline. Ms. Schreiber noted the qualifications for preliminary review, and noted that one of the 11 firms did not meet qualifications in the preliminary phase. The Office of Contract Procurement and Oversight (OPCO) reviews all of the submitted RFPs in the preliminary phase to ensure firms meet the minimum qualifications set forth in the RFP.

Ms. Schreiber noted that following the preliminary phase is a more substantive review. OPCO then scores firms based on price proposal, which makes up 25% of the total score. OPCO calls upon

subject matter experts from within ERS to provide the qualifications and services score, which makes up 75% of the final score. She noted additional clarification questions are set forth in this phase such as subject matter experts identifying aspects of the proposals that require further clarification, reference checks and legal/contractibility review. The primary goal of the phase is to ensure a mutual understanding of each vendor's proposal.

Ms. Schreiber noted the finalists for the consulting RFP were Alignium, PCA and Callan. During the finalist review phase, there was further due diligence such as further clarification questions, submission of best and final offers by vendors, face to face interviews, continued legal and contractibility review, and continued reference checks. Any new and additional information that was uncovered in the finalist evaluation resulted in updated scores. For overall scoring, Alignium scored 7.21, PCA scored 6.89, and Callan scored 6.34. For qualification and services scoring, Alignium scored 7.2, PCA scored 7.17, and Callan scored 5.18. Ms. Schreiber presented pricing information confidentially to the Board and IAC.

Mr. Tull presented staff's recommendation with regards to the consulting services. He spoke to the differences in selecting Alignium, versus PCA the runner up. He noted the scores were very close, but there are some concerns that staff have with Alignium, which is a relatively new business. Alignium has a shorter period of time as an ongoing business, and ERS would represent a substantial portion of their revenues. There were indications in the face to face meeting that Alignium was not considering outsourcing of marketing. This led staff to believe that there will be a large amount of time spent marketing products instead of providing ERS with the services needed. ERS would represent over 20% of the revenue for Alignium.

Mr. Tull noted in contrast, PCA is a multi-asset class consulting firm, with a much broader revenue base. The conclusion by staff is to recommend PCA.

Ms. Wyatt asked for confirmation that Aon Hewitt did not submit. Mr. Sessa confirmed that they did not submit.

Mr. Jim Hille asked for clarification as to why the financial aspects were not taken into consideration earlier. It was not the anticipation of staff that many of the financial aspects would come out in the face to face. Mr. Tull noted that in terms of the face to face interviews, more information came out that was not clear in the preliminary phase.

Ms. Catherine Melvin asked for some clarification on the proposal review evaluation, in terms of how firms were rated other than price, how many rated in terms of the non-price criteria, and if the prices presented are the best and final offer. Ms. Schreiber provided qualifications and services grading criteria and confirmed, the pricing offers were best and final offers.

Ms. Cydney Donnell noted that in terms of experience that PCA has seen bad times, and bad strategies, and that is a good thing. Ms. Sullivan also noted that PCA has been very active for years and has a good reputation. Mr. Hester noted that per Tom's comments, the Board has to take the staff's recommendation seriously. Ms. Cooley noted her support for staff's recommendation. Mr. Gene Needles noted that no scoring tool is perfect, and it is ok for the occasional override of the rule if it shows that staff is being diligent.

Ms. Caroline Cooley, IAC Chair, opened the floor for a motion on the approval of the real estate consulting contract.

The IAC then took the following action:

MOTION made by M. Lenore Sullivan, seconded by Mr. Gene Needles, and carried unanimously by the members present that the Investment Advisory Committee based on the information provided to the Employees Retirement System of Texas in response to the Request For Proposals, the evaluation process and results presented to the IAC and Board at this meeting, we have received sufficient information to make a recommendation to the Board of Trustees regarding the selection of a real estate consultant to provide services for ERS. Therefore the IAC

moves that the Board of Trustees of the Employees Retirement System of Texas award the contract to Pension Consulting Alliance, DBA (PCA), to act as the ERS Real Estate Consultant pursuant to a contract that will cover a six year term beginning January 1, 2018, through December 31, 2023, subject to the terms of the contract.

The Board of Trustees then took the following action:

MOTION made by Mr. Craig Hester, seconded by Ms. Cydney Donnell, and carried unanimously by the members present that the Board of Trustees based on the information provided to the Employees Retirement System of Texas in response to the Request For Proposals, the evaluation process and results presented to the Board at this meeting, we have received sufficient information to determine the best value to the Retirement System Board for selection of a real estate consultant to provide services to ERS. Therefore move that the Board of Trustees of the Employees Retirement System of Texas award the contract to PCA, to act as the ERS Real Estate Consultant pursuant to a contract which will cover a six year term beginning January 1, 2018, through December 31, 2023, subject to the terms of the contract. Further motion made that the Board of Trustees of the Employees Retirement System of Texas, authorize the Executive Director to negotiate and execute a contract with PCA, with terms that are fully acceptable to ERS and to authorize the Executive Director to therefore administer the contract agreed to by the parties, in the event that the contract fully satisfactory to ERS is not timely executed with PCA or if it appears to the executive director during the term of the contract that PCA will not be able to perform the required real estate consulting services to ERS' satisfaction, then the board authorizes staff to resolicit the real estate consultant request for proposals.

14. CHIEF INVESTMENT OFFICER'S REPORT

14.1 Chief Investment Officer's Report

Mr. Tom Tull, Chief Investment Officer, presented an update on the trust overall. He noted the overall objective of the trust is to generate competitive risk-adjusted rates of return at a reasonable cost. He thanked the IAC for their role in the investment committee meetings, seven of which have occurred just since the start of the fiscal year. He commended them for their increased role in the voting process. These meetings take time and effort which are greatly appreciated by staff. The IAC helps the trust tremendously. He noted that the IAC brings a level of expertise that helps with the process.

Mr. Tull noted investment challenges for FY 2018, which include improving global growth and profits; potential higher interest rates; geopolitical and trade risks; China, Russia and North Korea risk; US mid-term elections and Brexit.

Mr. Tull noted investment opportunities for FY 2018, which include opportunistic credit, private equity secondaries, global tactical asset allocation and infrastructure portfolio development.

Mr. Tull presented the major initiatives for FY 2018, which includes implementing the new asset allocation mix, advancing the derivatives program, evaluating the current and future state of investments systems architecture, refreshing the select pool of external advisors/managers to initiate searches and refine mix of internal and external management, assess current and future savings through diligent negotiation of best economic deal terms, and leveraging internal investment resources to assist investment product monitoring in the Texa\$aver Program. He noted that staff will continue to work with other divisions on the Texa\$aver program, with the goal to have the best program possible.

Ms. Jeanie Wyatt commented that she is one of the new members of the Board, and that the IAC membership is very impressive, to have them as consultants, and now voting members, is a great accomplishment. Mr. Tull thanked the Board for supporting the increased involvement of the IAC as this is a tremendous asset to the trust.

There were no questions or further discussion, and no action was required on this item.

15. ADJOURNMENT

15.1 Adjournment of the Investment Advisory Committee

There was no further discussion by the IAC. The IAC adjourned at 3:35PM.

16. TEXA\$AVER

16.1 Texa\$averSM 401(k)/457 Program Review and Consideration of the Target Date Fund Offering – (ACTION)

Ms. Georgina Bouton, Assistant Director of Benefit Contracts, Ms. Nora Alvarado, Manager of Account Management Team, and Ms. Angelica Torres, Program Account Manager, presented a review of the Texa\$aver Program (Program) and consideration of the Target Date Fund offering. Ms. Torres explained that this presentation is a continuation of the discussion from the July 10, 2017 Board meeting when the Board ratified the selection of an interim target date fund manager. Ms. Torres then explained that this presentation would address the due diligence and recommendation for a long-term replacement fund for Program's target date fund offering. Ms. Torres then provided an overview of the Program which she noted has the same investment offerings between plans. The Program uses mutual funds that pool money from many investors. The Program also uses collective investment trust funds (CITs) which are investments formed from pooling assets from institutional investors. Since CITs are exclusive to institutional retirement plans, CITs are not available to the general public. Like mutual funds, CITs are professional managed investment vehicles. Ms. Torres noted that CITs are subject to oversight by the Office of the Comptroller of Currency and the Department of Labor by the IRS.

Ms. Alvarado stated the investment options are diversified across asset classes and investment strategies to accommodate participants' risk tolerances. Investment options include equities, bonds and cash equivalent funds. She noted the target date funds have served as the Program's qualified default fund when a participant does not make an affirmative investment election. Through the automatic enrollment feature, new employees are enrolled into the age-appropriate target date fund. As of September 30, 2017, the Program had \$650 million invested in target date funds.

Ms. Alvarado explained that the Program uses a Product Review Committee (Committee) to consult with regarding investment options. She outlined that the Committee is comprised of the Executive Director, Deputy Executive Director, Director of Benefit Contracts, Chief Investment Officer, Deputy Chief Investment Officer, Director of Fixed Income, and three appointed Investment Advisory Committee Members: the current appointees are Ms. Didi Weinblatt, Dr. Laura Starks, and Mr. Gene Needles.

Ms. Bouton presented the fund selection process. She noted that members of the Committee provided six minimum requirements and 17 preferred criteria for the target date fund offering search. The minimum requirements were provided to Empower Retirement, the Program's third party administrator to query both CITs and mutual funds meeting the minimum requirements. Empower Retirement identified 33 CITs and six mutual fund responses. Empower Retirement remitted additional fund search questionnaires to the respondents and received completed responses from 10 CITs and two mutual funds. On October 11, 2017, a majority of the Committee subcommittee convened to perform analysis and identified four fund offerings as finalists.

Ms. Bouton noted the finalist interviews were held on November 8, 2017. The finalists were Blackrock, Inc.'s LifePath Index Target Date Funds; T. Rowe Price Retirement Hybrid Trusts Class T6; T. Rowe Price Retirement Blend Trusts; and Fidelity Institutional Asset Management Trust Company's Target Date Fund series. The Committee's key areas of consideration included management style, asset allocation, glide path construction, performance, total returns and fund fees.

Ms. Bouton explained that the T. Rowe Price's Retirement Blend fund series would be an unfunded strategy until January 2018 so the Committee elected to remove this fund from further consideration. She then presented the points of consideration reviewed by the Committee for the three

funds that included fund fees, management style, equity exposure, historical returns, qualitative assessments of fund's performance, and quantitative assessment of past performance.

Ms. Bouton then presented the Committee's and staff's recommendation for Blackrock Inc.'s LifePath Index Target Date Funds due to its ability to perform in periods of correction and to its ability to protect plan participants in times of market downturn. The Committee believes that the fund will be able to deliver a favorable risk adjusted rate of return in varying market conditions. The Committee believes it will support sufficient asset growth without exposing participants to excessive market risk especially in times when they are most vulnerable, at or near retirement. It also is useful as a diversified allocation throughout the life path construction. Ms. Bouton noted it also provides a fund expense structure that is suitable for fund participants, in this case, 8 basis points. Ms. Bouton then opened the floor to questions.

Ms. Cydney Donnell asked in terms of the fixed income portion of the funds, which is the part that should preserve in the event of a downturn, does staff have the weighted average maturity with respect to the funds. Mr. Leighton Shantz, Director of Fixed Income, clarified that the Blackrock fixed income allocation is a core style allocation, which is primarily investment grade. He noted this would hold primarily government treasury agencies as an overweight relative to corporates. The investment grade corporates would be stacked toward longer duration. Staff does not manage that internally, but the duration of that index would be around six years. Mr. Hester asked if this was consistent among all of the funds, and Mr. Shantz confirmed that to be the case with some of the funds flexing towards high yield to an extent but being largely overweight to investment grade assets.

There were no questions or further discussion.

The Board of Trustees then took the following action:

MOTION made by Ms. Cydney Donnell, seconded by Ms. Jeanie Wyatt, and carried unanimously by the members present that the Board of Trustees of the Employees Retirement System of Texas approve Blackrock as the TexaSaver's target date funds and authorize the Executive Director to hereafter administer the contract agreed to by the parties

Mr. Doug Danzeizer thanked Empower Retirement, the IAC, and the companies that submitted for their participation in this process. He noted that the particularly low fees are especially appropriate for the automatic fund.

17. EXECUTIVE SESSION

17.1 Executive Session – In accordance with Section 551.072, Texas Government Code, the Board of Trustees will meet in executive session to deliberate the purchase, exchange, lease, or value of real property and the ERS building. Thereafter, the Board may consider appropriate action in open session.

Mr. Danzeizer stated it was 3:55 p.m. on December 12, 2017. The Board of Trustees will meet in executive session in accordance with Section 551.072 Texas Government Code, to deliberate the purchase, exchange, lease, or value of real property and the ERS building. Thereafter, the Board may consider appropriate action in open session.

After executive session, Mr. Danzeizer stated it was 5:29 p.m. on December 12, 2017. The Board is now in Open Session. No action, decision, or vote was taken by the Board while in executive session. Mr. Danzeizer opened the floor for any questions and asked Mr. Wilson to provide a brief overview of what he sees the board to consider authorizing.

Mr. Wilson stated that ERS put out an RFQ for the design/build services, and staff will seek to negotiate terms with the leading candidates that meet expectations of best value. Staff will then come back to the board with any decisions or recommendations.

In a response to a question by Ms. Wyatt, Mr. Wilson reported that ERS anticipates that the decision on whether or not to move forward with the actual construction of the building and the allocation of funds for construction would be made in September 2018, and he would anticipate to begin marketing space for lease in the summer or spring of 2018.

There being no further questions or discussions, the Board then took the following action.

Motion made to move that the Board of Trustees of the Employees Retirement System of Texas authorize the Executive Director to select the most qualified design/build firm to design and construct a multistory office building on the eastern half of the ERS lot.

Further move that the Board of Trustees authorize the Executive Director to negotiate and execute a contract with the selected design/build firm with terms that are fully acceptable to ERS, and to authorize the Executive Director to thereafter administer the contract agreed to by the parties.

In the event that a contract fully satisfactory to ERS is not timely executed with the selected design/build firm, or if it appears to the Executive Director during the term of the contract that the selected design/build firm will not be capable of performing their required design/build services to ERS' satisfaction, then the Board authorizes the Executive Director to resume any necessary due diligence processes and contract negotiations with the next qualified firm until a contract acceptable to ERS is agreed upon, or negotiations with all short-listed firms end.

Motion by Cydney Donnell, seconded by Craig Hester.

Final Resolution: Motion Carries

Aye: Craig Hester, Cydney Donnell, Doug Danzeiser, Ilesa Daniels, Jeanie Wyatt, Catherine Melvin

18. RECESS

18.1 Recess of the Board of Trustees – The Board of Trustees will reconvene as a Committee of the whole on Wednesday, December 13, 2017 at 8:00 a.m. to consider Audit and Board agenda items.

There was no further discussion by the Board of Trustees. The Board of Trustees adjourned at 5:35PM.