Joint Meeting of The Board of Trustees and Investment Advisory Committee Minutes August 21, 2019

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

December 11, 2019

TABLE OF CONTENTS

1. CALL TO ORDER 4

1.1 CALL MEETING TO RECONVENE THE BOARD OF TRUSTEES 4

1.2 CALL MEETING OF THE INVESTMENT ADVISORY COMMITTEE TO ORDER 4

2. MINUTES 4

2.1 REVIEW AND APPROVAL OF THE MINUTES TO THE MAY 22, 2019 JOINT MEETING OF THE BOARD OF TRUSTEES AND IAC MEETING – (ACTION) 4

3. ASSET CLASS CHARTER 4

3.1 ANNUAL REVIEW AND CONSIDERATION OF ASSET CLASS INVESTMENT COMMITTEE CHARTER 4

4. INVESTMENT PERFORMANCE 6

4.1 REVIEW OF THE INVESTMENT PERFORMANCE FOR SECOND CALENDAR QUARTER OF 2019 AND RISK UPDATE 6

PUBLIC TESTIMONY 8

5. HEDGE FUND PROGRAM 8

5.1 MARKET UPDATE AND PROGRAM OVERVIEW 8

5.2 CONSIDERATION OF PROPOSED HEDGE FUND ANNUAL TACTICAL PLAN FOR FISCAL YEAR 2020 – (ACTION) 11

6. HEDGE FUND CONSULTING SERVICES 12

6.1 CONSIDERATION OF PROPOSED CONTRACT AWARD FOR HEDGE FUND CONSULTING SERVICES – (ACTION) 12

7. TRUSTEE RECOGNITION 12

7.1 PRESENTATION OF BOARD OF TRUSTEE RECOGNITIONS 12

8. PRIVATE EQUITY PROGRAM 13

8.1 MARKET UPDATE AND PROGRAM OVERVIEW 13

8.2 CONSIDERATION OF PROPOSED PRIVATE EQUITY ANNUAL TACTICAL PLAN FOR FISCAL YEAR 2020 – (ACTION) 15

9. IAC CHAIR ELECTIONS 16

9.1 ELECTION OF CHAIR AND VICE CHAIR OF THE ERS INVESTMENT ADVISORY COMMITTEE FOR FISCAL YEAR 2020 – 2021 – (ACTION) 16

10. CALENDAR 16

10.1 REMINDER DATE FOR THE NEXT JOINT MEETING OF THE ERS BOARD OF TRUSTEES AND INVESTMENT ADVISORY COMMITTEE, THE NEXT MEETING OF THE BOARD OF TRUSTEES AND THE NEXT MEETING OF THE AUDIT COMMITTEE 16

11.ADJOURNMENT..... 17

11.1 ADJOURNMENT OF THE JOINT MEETING OF THE BOARD OF TRUSTEES AND INVESTMENT ADVISORY COMMITTEE 17

11.2 RECESS OF THE BOARD OF TRUSTEES. FOLLOWING A TEMPORARY RECESS, THE BOARD OF TRUSTEES WILL RECONVENE TO TAKE UP THE BOARD AGENDA ITEMS. 17

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

TRS Building – Board Room
1000 Red River Street, Austin, Texas 78701
August 21, 2019 – 10:15 am

TRUSTEES PRESENT
Craig Hester, Chair
Ilesa Daniels, Vice-Chair
Doug Danzeiser, Member
James Kee, Member
Catherine Melvin, Member

INVESTMENT ADVISORY COMMITTEE (IAC) PRESENT
Bob Alley, Vice-Chair
Laurie Dotter, Member
James Hille, Member
Ken Mindell, Member
Gene Needles, Member
Didi Weinblatt, Member

IAC ABSENT
Caroline Cooley, Chair

ERS DIRECTORS PRESENT
Porter Wilson, Executive Director
Catherine Terrell, Deputy Executive Director
Paula A. Jones, Deputy Executive Director and General Counsel
Tony Chavez, Director of Internal Audit
Robin Hardaway, Director of Customer Benefits
Bernie Hajovsky, Director of Enterprise Planning
Diana Kongevick, Director of Group Benefits
Wendy McAdams, Director of Operations Support
William Nail, Special Projects & Policy Advisor
Machelle Pharr, Chief Financial Officer
Gabrielle Schreiber, Director of Procurement and Contract Oversight
DeeDee Sterns, Director of Human Resources
Kathryn Tesar, Director of Benefits Communications
Tom Tull, Chief Investment Officer
Keith Yawn, Director of Strategic Initiatives

ERS STAFF PRESENT
Brannon Andrews, Office of General Counsel
Jason Avants, Information Systems
Adriana Ballard, Investments
Glenna Bowman, Finance
Amanda Burleigh, Office of General Counsel
Jennifer Chambers, Executive Office
Carlos Chujoy, Investments
Amy Cureton, Investments
Anthony Curtiss, Investments
Kelley Davenport, Executive Office
Juli Davila, Investments
Christi Davis, Customer Benefits

Leah Erard, Strategic Initiatives
Lauren Honza, Investments
Aaron Ismail, Internal Audit
Ricky Lyra, Investments
Nicholas Maffeo, Investments
Greg Magness, Information Systems
Betty Martin, Investments
Aris Oglesby, Investments
Davis Peacock, Investments
Susie Ramirez, Executive Office
Tim Reynolds, Investments
Tanna Ridgway, Investments
Cheryl Scott Ryan, Office of General Counsel
Mary Jane Wardlow, Executive Office
Ariana Whaley, Government Relations
Stuart Williams, Investments

VISITORS PRESENT
Haseeb Abdullah, Self
Sam Austin, NEPC
Brian Barth, Texas Department of Transportation
Tim Bruce, NEPC
Melissa Campenni, Blue Cross and Blue Shield of Texas
Billy Charlton, Mercer
John Claisse, Albourne America
Phil Dial, Rudd & Wisdom
Elena Diaz, RSE Association
Cydney Donnell, Former Board Member
Lynn Gordon, Securian
Bill Hamilton, RSEA
Diana Head, Blue Cross and Blue Shield of Texas
Tathata Lohachitkul, Albourne America
Brian Ragland, Texas Department of Transportation
Mallory Sumner, Blue Cross and Blue Shield of Texas
Brad Young, Mercer

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

1. CALL TO ORDER

1.1 Call Meeting to Reconvene the Board of Trustees

Mr. Craig Hester, Chair of the Board of Trustees (Board) for the Employees Retirement System of Texas (ERS), called to reconvene with the Investment Advisory Committee (IAC) to take up the following Joint Meeting of the Board of Trustees and Investment Advisory Committee agenda items.

A public notice of the ERS Board of Trustees containing all items on the proposed agenda was filed with the Office of the Secretary of State at 8:18 a.m. on Monday, August 12, 2019 as required by Chapter 551, Texas Government Code, referred to as "The Open Meetings Law."

1.2 Call Meeting of the Investment Advisory Committee to Order

Mr. Bob Alley, Vice-Chair of the IAC for ERS, called the meeting to order and read the following statement:

A public notice of the Joint Meeting of the ERS Board of Trustees and Investment Advisory Committee containing all items on the proposed agenda was filed with the Office of the Secretary of State at on 8:18 a.m. on Monday, August 12, 2019 as required by Chapter 551, Texas Government Code, referred to as "The Open Meetings Law."

Mr. Tull announced the resignation of Mari Kooi and thanked her for her contributions to the IAC.

2. MINUTES

2.1 Review and Approval of the minutes to the May 22, 2019 Joint Meeting of the Board of Trustees and IAC meeting – (Action)

Mr. Bob Alley, IAC Vice-Chair, opened the floor for a motion on the approval of the minutes from the May 22, 2019 Joint Meeting of the Board and IAC.

The IAC then took the following action:

MOTION made by Mr. Gene Needles, seconded by Mr. James Hille, and carried unanimously by the members present that the Investment Advisory Committee of the Employees Retirement System of Texas approve the minutes of the Joint Meeting of the Board and IAC held on May 22, 2019.

The Board of Trustees then took the following action:

MOTION made by Ms. Catherine Melvin, seconded by Ms. Ilesa Daniels, and carried unanimously by the members present that the Board of Trustees approve the minutes of the Joint Meeting of the Board of Trustees and Investment Advisory Committee held on May 22, 2019.

There were no questions or further discussion.

3. ASSET CLASS CHARTER

3.1 Annual Review and Consideration of Asset Class Investment Committee Charter

Mr. Aaron Ismail, Investment Compliance Officer, presented a review and new adoption of the ERS Asset Class Investment Committee (ACIC) Charter.

Mr. Ismail provided background on the charter itself, including its structure and purpose. He noted that this was the first formal review of the document since its inception in 2017. Mr. Ismail highlighted that it is a key governance document for an important part of the ERS investment program.

Mr. Ismail described how the purpose of each ACIC is to support the ERS Board of Trustees in fulfilling its oversight responsibilities, in accordance with the ERS Investment Policy as part of authorized delegation to staff. Mr. Ismail noted that in early 2017, an Investment Governance Review conducted by the ERS Internal Audit group, recommended that ERS take steps to improve the controls and decision-making process related to these investments. The ACIC Charter was then adopted and the framework was expanded.

Mr. Ismail discussed the composition of the ACIC, and the various functions of its Members. Mr. Ismail stated there are four voting members. These members include the Executive Director, the Chief Investment officer (CIO), an IAC Member, and a senior member of the ERS Investment staff. Other than the Executive Director and Chief Investment Officer, voting members change depending on the asset class. The ACIC also includes non-voting members, including Legal and Investment Compliance. Formal investment recommendation reports are provided to all ACIC Members prior to a meeting. The recommendation will then either be approved, with contingencies, postponed, or rejected.

Mr. Ismail emphasized the great deal of work that goes into these meetings. The ACIC is an important element of the ERS Investment program. During FY19, there were 41 meetings and investment decisions approving approximately $2.3 billion in commitments.

Mr. Ismail highlighted a key statutory provision related to the Board's delegation of authority is Texas Government Code 815.3016. It states that ERS may not invest retirement system assets in a single alternative investment above a specified threshold, unless the Board votes to approve that investment. When a commitment amount of an investment is above that threshold, investment staff will bring the recommendation to the Board for approval.

Mr. Ismail then discussed the charter in greater detail. The purpose of the charter is to document the operating policies and procedures of the ACIC that foster prudent investment practices and active participation by ACIC Members. The elements of the charter include purpose, objectives of the Committee, and meeting procedures, among other items.

The charter was reviewed through a collaborative effort between the Executive Office, Investment Compliance, Office of General Counsel, and CIO. Staff looked to other Investment Committee best practices such as meeting fiduciary requirements and building an effective committee.

Mr. Ismail presented the result of the review, directing the Board to Exhibit B of the Agenda Item. Mr. Ismail noted that there were a number of edits to improve the charter and make it more robust and clear. One key change covered new meeting procedures related to certain investments that would be permitted to be approved by voting members over email instead of in person.

Mr. Ismail finished by saying their goal was to ensure that the document aligned with current practices, as well as demonstrating a strong representation of the delegation of authority given by the Board to the ERS staff.

Mr. Ismail noted that this was an action item and asked if there were any additional questions.

Mr. Bob Alley, IAC Vice-Chair, opened the floor for a motion on the approval of the ACIC Charter.

The IAC then took the following action:

MOTION made by Mr. Robert Alley, seconded by Mr. Gene Needles, and carried unanimously by the members present that the Investment Advisory Committee of the Employees Retirement System of Texas recommend that the Board of Trustees of the Employees Retirement System of

Texas approve the revised Asset Class Investment Committee Charter for each asset class as presented as Exhibit A to this agenda item.

The Board of Trustees then took the following action:

MOTION made by Mr. Jim Kee, seconded by Ms. Catherine Melvin and carried unanimously by the members present that the Board of Trustees approve the revised Asset Class Investment Committee Charter for each asset class as presented as Exhibit A to this agenda item.

There were no questions or further discussion on this item.

4. INVESTMENT PERFORMANCE

4.1 Review of the Investment Performance for Second Calendar Quarter of 2019 and Risk Update

Mr. Tom Tull, Chief Investment Officer, Mr. Carlos Chujoy, Risk Officer, Mr. Stuart Williams, Portfolio Manager, Mr. Sam Austin and Mr. Tim Bruce, NEPC, presented the investment performance for the second calendar quarter of 2019.

Mr. Austin discussed the ERS Trust Dashboard and noted the Trust returned 9% versus 11.2% for the policy benchmark, underperforming calendar year-to-date. He also noted that for this past quarter the Trust earned 2.5% versus the policy benchmark's 2.8%. He highlighted that the 3-year tracking error was at 1.65%.

Mr. Austin explained that the Sharpe ratio, which measures excess return per unit of risk, was 0.92 over a 5-year period. The Sortino ratio, which measures downside risk, was 1.34 over the same period. Both ratios are good numbers and affirm the risk taken is being compensated by additional return.

Mr. Austin noted that over the 3-year and 10-year periods, the Trust exceeded the actuarial target of 7.5%, and lagged in the 1-year and 5-year. As of June 30, the Trust is valued at $28.668 billion, after accounting for withdrawals and contributions. The net investment change for the year has been $2.054 billion of investment additions to the portfolio over the year. For the 3-month period, $590 million dollars was added to the fund. He noted that the Trust generated a better Sharpe and Sortino ratio than the benchmark over the 3-year and 5-year periods.

Mr. Austin explained that there is a slight overweight to Global Public Equities and a slight underweight to the Rates portfolio, which provides liquidity for the Trust. The Trust is overweight Private Equity and Global Credit, underweight Private Real Estate, with equal weights to Public Real Estate and Private Infrastructure.

Mr. Hester noted that the fiscal year-to-date and 1-year performance captures the market volatility of the fourth quarter of 2018, when the market dropped almost 20%. He further noted that long-term returns were competitive relative to the policy benchmark. He then asked Mr. Austin to elaborate on the calendar year and fiscal year-to-date underperformance.

Mr. Austin explained that the fiscal year performance also includes the fourth quarter 2018, which was a difficult period for public markets. In addition, even in the current quarter and the quarter ending June 30, the Private Equity Portfolio was one of the detractors because some markdowns from the fourth quarter did not flow through the books until the second quarter. Some of the fourth quarter effect is showing up in the 3-month number.

Mr. Alley asked if it was important to look over longer time periods because performance blends out.

Mr. Austin confirmed and noted that it is important to not focus on the quarterly numbers and to focus on the 3-, 5- and 10-year periods.

Mr. Austin discussed the allocations of the asset classes, which were all within the policy ranges. Cash was the only category out of range, which is typical as it is used to manage liquidity in the portfolio.

Mr. Austin discussed the risk and return of the portfolio versus the fund policy benchmark and the long-term benchmark. He highlighted that the Trust is positioned well against the benchmark.

Mr. Austin discussed asset class contributions over the quarter and noted Private Equity was a large detractor to performance. When added to its weight in the entire portfolio, it detracted -0.4% from the returns. Private Real Estate was the biggest contributor to portfolio returns outperforming its asset class by 1.8% over the index return and the total impact to the portfolio was 0.10%.

Mr. Mindell noted that Private Equity generally has a lag of three months and asked why there is a lag of six months now.

Mr. Tull explained that end of the year activity, such as taxes and K-1 reports extends the reporting time compared to other quarters.

Mr. Austin explained that over the 1-year period, Private Equity contributed 1.1% of excess return. The largest contributor was Private Real Estate with 3.1% of excess return. Global Public Equities, both domestic and international, were a detractor of -0.7% to the Trust.

Mr. Austin noted that the information ratio, a measure of Trust excess return over the benchmark compared to volatility, was above zero indicating positive risk adjusted returns. Over the 1-year period ending June 30, 2019, the Trust underperformed -0.09% against the policy benchmark. Over the 1-year period, portfolio positioning at the asset class level has had a slight negative impact at -0.3% on Total Fund return versus policy benchmark.

Mr. Chujoy updated the Board and IAC on the quarterly risk report that notes major geopolitical risks in the current environment. He discussed the Brexit timeline, an ongoing trade dispute between China and the United States, and other global tensions that impact economic activity.

Mr. Chujoy discussed monitoring market conditions in the U.S. using a heat map as an illustration. Since the December update to the Board and IAC, the Risk Management and Applied Research team noticed a slowdown in economic activity across a number of indicators. Housing, which explains how well a big portion of the US economy is doing, has shown weakness in housing starts and permits across the nation. He added that manufacturing is showing weakness in consumer durables and non-durables, increasing inventories, and new orders. He also stated that the labor market remains strong.

Mr. Mindell asked how the data is used to make investment decisions for the Trust.

Mr. Chujoy explained that the data is a composite of underlying indicators that the team monitors for red flags. When red flags appear, the team notifies Mr. Tull.

Mr. Tull added that there are a number of people involved in the process and that they use the information, along with staff who meet with companies, research, and Bloomberg. They look at a variety of different things in order to help make better decisions.

Mr. Chujoy discussed the probability of a recession noting that the Federal Reserve pays close attention to the yield curve. The 10-year bond minus the 3-month Treasury bill, for the first time through the end of June 2019, became negative and that condition led to the probability forecast of an upcoming recession increase to 32% from 23% back in December 2018. This is the highest reading since the Great Financial Crisis.

Mr. Hester asked about the curve inverting at such low interest rate levels along with low inflation. He also highlighted the negative rates around the globe and asked if things are different this time.

Mr. Chujoy confirmed that the inversion could be because of the interest rate differentials and that the information should be considered with other indicators.

Mr. Chujoy discussed the implied probability of a recession by asset class. He noted drawdowns are considered against historical returns during recessions to generate the probability. He explained that equities and high yield show no indications of an impending recession, while the bond and commodity markets show otherwise. Despite the economy slowing down in the United States, the consumer sector continues to do well.

Mr. Chujoy discussed a risk driver survey and indicated that the trade war posed the greatest risk to businesses over the next two years. The survey is important because business sentiment drives capital expenditures and other business spending, which ultimately drives economic activity.

Mr. Hille asked how the information influences positioning and asked if it means the Trust will stay neutral or will take a directional bet.

Mr. Tull responded that it is more of a moving target. The team does everything they can to remain tactical, not chasing any asset class. Some alternative spaces have pared back somewhat through secondaries. In the equity markets, risk had been taken off for a number of months before the 800-point drop in the Dow. He added that the team does not see an immediate recession although the probability is increasing.

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

Public Testimony

Mr. Haseeb Abdullah (State of Texas Employee), presented public testimony with regard to Trust investments. He expressed his concerns regarding legislation that restricts investment in profitable companies.

There were no questions or further discussion on this item.

5. HEDGE FUND PROGRAM

5.1 Market Update and Program Overview

Mr. Anthony Curtiss, Director of Hedge Funds, Mr. Nicholas Maffeo, Hedge Funds Portfolio Manager, Mr. John Claisse and Ms. Tathata Lohachitkul, Albourne America (Albourne) presented a market update on the Hedge Fund Program.

Mr. Curtiss noted that the Hedge Fund team remains the same and highlighted that the team would be seeking an additional Analyst in the upcoming fiscal year. He added that Albourne has been the consultant since the inception of the ERS Hedge Fund program.

Mr. Curtiss noted that the Absolute Return Portfolio (ARP) is a risk-reducing portfolio that seeks to act as a diversifier and strives for a low correlation and beta to the Trust. He added that the Directional Growth Portfolio is a return-seeking portfolio, which seeks to complement existing Trust allocations using a higher beta. He concluded that hedge fund vehicles could be added to other Trust asset classes when appropriate.

Mr. Curtiss discussed the current Hedge Fund Program allocations and noted that the aggregate value is approximately $1.5 billion, with the ARP being slightly under $1 billion.

Mr. Curtiss presented the objectives and accomplishments of the ARP. He noted the benchmark is T-bills+4% while striving to maintain a beta of 0.40 to the Trust or lower. He noted that the portfolio has had a standard deviation of 2.35%, which is below the objective (4% to 8%). This is primarily due to a low volatility environment. He further stated that the correlation to the Trust is 0.66 and reflects a conservative portfolio positioning. Lastly, it he noted that the Absolute Return Portfolio has been able to outperform its benchmark since the inception of the program.

Mr. Curtiss next highlighted the portfolio's strategy exposures. Event Driven and Relative Value have been the focus since the inception of the portfolio. In addition, the portfolio remains highly diversified by geography, strategy, and by underlying instrument. Seventy percent of the portfolio is geographically allocated to Western developed markets. Approximately, 30% of the portfolio's geographic exposure resides within Asia including Emerging Markets. Mr. Curtiss noted that half of Asia/Emerging Market exposure is to developed Asia (i.e. Japan, Korea, etc.). The residual half is highly diversified across various markets.

It was further highlighted by Mr. Curtiss that all strategies fall within targeted ranges. As graphically shown, historical exposures primarily reside in Event Driven and Relative Value. Most recently, the portfolio has increased its allocation to Global Macro, as there is a desire to allocate from less correlated strategies to traditional fixed income and equity markets. Opportunistic strategies have been used sparingly. Equity Long/Short has traditionally been deemphasized given the requirements to maintain a beta to the Trust of 0.40 or lower.

Mr. Mindell noted the 22% allocation to Global Macro and asked if the portfolio is being compensated for the risk imbedded within the strategy.

Mr. Curtiss explained that managers in the portfolio generally focus on foreign exchange and rates, which limits some of the risk. In the first quarter, the team redeemed from a Commodity Trading Advisor (CTA) within Global Macro due to underperformance.

Mr. Curtiss discussed the Absolute Return Portfolio's performance relative to the stated policy benchmark, tactical benchmark, and relevant industry benchmarks. He highlighted that the portfolio's performance has been strong since inception relative to the policy benchmark and industry peers. In addition, the portfolio has had less severe drawdowns relative to industry benchmarks.

Mr. Curtiss presented trailing annualized performance noting that year-to-date and inception-to-date performance has been strong. He added that performance for the 1-year negatively impacted the 3-year and 5-year statistics. This is primarily due to a rising interest rate environment up until 2019. As a reminder, the floating component for the stated policy benchmark is based on short-term U.S. interest rate movements. He added that the lack of equity exposure within the portfolio detracted from performance. Lastly, there were also some managers that underperformed relative to peers.

From a relative perspective, the Absolute Return Portfolio held up well relative to industry peers when compared to calendar year-end 2018. The fourth quarter of 2018 was extremely challenging. Relative to industry benchmarks, the portfolio has performed well over all trailing time periods (i.e. 1, 3, and 5-year basis). Fiscal year-to-date performance has been challenging in comparison to the stated policy benchmark, but remains strong relative to industry benchmarks. In most instances, the Absolute Return Portfolio has been able to outperform on a fiscal year-to-date basis across time periods relative to all benchmarks.

Mr. Curtiss explained that the ARP has less severe drawdowns relative to both the Trust and its stated tactical benchmark. This is further seen relative to the Trust's 10 worst monthly losses. In some instances, the portfolio was positive.

Mr. Curtiss explained that the Relative Value portion of the portfolio is undergoing a restructuring with redemptions that will fund new allocations. Global Macro continues to add to performance and the portfolio remains diversified based on both geography and strategy. New allocations for the portfolio will focus on Relative Value, Equity Long/Short, and Opportunistic strategies. Liquidity remains a focus with approximately 75% of the portfolio redeemable within 12 months based on stated liquidity terms.

Mr. Curtiss discussed performance by strategy and noted strong performance over various time periods. He illustrated the growth of $1,000 for each respective strategy relative to their industry benchmarks. Fiscal year strategy attribution shows the largest benefit from Relative Value and Event Driven strategies given that these are the largest allocations. He added that the Commodity Trading Advisor (CTA) manager detracted an estimated 50 basis points (bps) from the portfolio's fiscal year performance. In addition, a large multi-strategy hedge fund was a detractor, too. Within Event Driven, there has been added emphasis to stressed, distressed, and less liquid lending opportunities. These have acted as a diversifier for the portfolio and have the potential to add to returns as the economy slows. Equity exposure has been solely focused on Europe and the lack of U.S. equity exposure negatively impacted the portfolio. Calendar year-to-date attribution has been strongest for both Merger Arbitrage and Global Macro. Lastly, on a calendar year basis, the portfolio has benefited broadly from an increase in risk assets as emerging markets have rallied significantly in 2019.

Mr. Curtiss presented portfolio strategy correlations and highlighted a relatively low correlation across the strategies. He did highlight the fact that the correlation between Relative Value and Event Driven was elevated due to overlapping multi-strategy hedge fund allocations. He believes that the correlation between the two strategies will decline as new allocations to Relative Value occur along with further redemptions.

Mr. Hille asked how the team generally feels about CTAs given the category has been challenged.

Mr. Maffeo explained that it has been difficult to determine what trend will be for CTAs. He added that the team has discussed how to replace the CTA in the future with managers that have trend exposure, without the downside risk in no trend periods.

Mr. Curtiss added that CTAs have been beneficial at times, particularly when the portfolio had a lack of equity exposure. Overall, the space has been challenged and the team is looking at other quantitative strategies.

Mr. Mindell asked if the team's view on CTAs would change if the economy were in an inflationary environment where CTAs may perform better.

Mr. Curtiss explained that they would revisit the strategy and it could be a focus. He added that CTAs have been on a downward trend for some time with much of their performance actually coming from movements in interest rates, credit, and equity markets.

Ms. Lohachitkul explained that CTAs tend to do well when the market is trending. For example, in 2008 when the market was down 40%, many CTAs were positive. She added that Albourne maintains CTAs in their long-term allocation.

Mr. Maffeo discussed Directional Growth Portfolio (DGP) objectives and accomplishments noting the goal is to act as a complement to the Trust while maintaining a tight beta and correlation to each benchmark. He explained that each underlying manager has met the beta and correlation goals and the team has been able to source unique geographic exposures for the Trust.

Mr. Maffeo discussed portfolio allocations and noted Marshall Wace has been the largest and longest standing allocation at $350 million, followed by Algert and OrbiMed with $133 million and $80 million, respectively. Algert has marginally underperformed since inception to May 2019 based on a 13-month investment period, but is outperforming as of the end of July. Marshall Wace has outperformed its benchmark since its inception. OrbiMed has underperformed since inception and a full redemption was placed for this investment in late 2018. ERS will be fully redeemed by the end of 2019. He further discussed trailing annualized and fiscal year returns for each manager.

Next, Mr. Maffeo highlighted other Hedge Fund Program allocations. He stated that the PAAMCO Launchpad initiative continues to source new opportunities with one investment in late stage due diligence. He further highlighted that the team continues to source managers for the Opportunistic Credit Portfolio, but with no immediate intent to allocate. Expectations are for an updated Tactical Plan to be presented at a future board meeting.

Mr. Claisse discussed the Hedge Fund Program performance and noted that the ARP has outperformed policy and industry benchmarks since inception. He noted that the portfolio remains within policy constraints.

Ms. Lohachitkul explained Albourne's 12-month forecast based on different market states. She added that each state is probability weighted to generate a return forecast. The Negative State and Central State currently have the highest probabilities. The super-strategy rankings remain the same since the last presentation with Directional and Relative Value offering the most opportunities. The recent inversion of the U.S. yield curve will increase the probability to the Negative State. Ms. Lohachitkul explained that the return expectations are in the mid-single digit returns for the median manager within the strategy. She added that manager selection and other factors would add alpha to a portfolio's returns.

Mr. Claisse explained that new launches of funds are marginally higher than 2018 and platform funds are rising in popularity. He further explained that there is renewed interest in using hedge funds as overlays to add leverage to Trust level portfolios. He noted that co-investments are rising in popularity, but could introduce either style drift or conflicts of interest. He highlighted that operational due diligence continues to increase as well as the understanding of how managers are integrating ESG policies into their investment processes. He concluded that fees and term negotiations continue to generate savings and managers are open to the negotiations.

Mr. Hester asked if 2% management fees and 20% carry are still the industry norm. Mr. Claisse explained that manager fees are currently about 1.5% with hurdles incorporated in the carry. Mr. Hester asked what the Hedge Fund Program averages for fees and carry. Mr. Curtiss explained that the portfolio is slightly above a 1.5% manager fee and about 17% carry. Mr. Maffeo added that about 40% of managers have some form of hurdle within their agreement.

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

5.2 Consideration of Proposed Hedge Fund Annual Tactical Plan for Fiscal Year 2020 – (Action)

Mr. Anthony Curtiss, Director of Hedge Funds, and Mr. Nicholas Maffeo, Hedge Funds Portfolio Manager, presented the proposed Fiscal Year 2020 Hedge Fund Program annual tactical plan.

Mr. Curtiss presented current strategy allocations and noted actual weights are all within target ranges. He explained that the Absolute Return Portfolio is approximately 3.53% of Trust as of May 31, 2019. The target for hedge fund assets is 5%. He expects six new investments in Fiscal Year 2020, with four currently in various stages of due diligence.

Mr. Mindell asked if it has been difficult to reach the 5% portfolio target.

Mr. Curtiss explained that reaching the target has been challenging. Some of the issues have been performance driven which has led to redemptions while portfolio construction has played a part too.

Mr. Curtiss explained that the goal is to reach 5% over the next one to two years.

Mr. Bob Alley, IAC Vice-Chair, opened the floor for a motion on the approval of the Hedge Fund Program Fiscal Year 2020 annual tactical plan.

The IAC then took the following action:

MOTION made by Mr. Bob Alley, seconded by Mr. Ken Mindell, and carried unanimously by the members present that the Investment Advisory Committee of the Employees Retirement System of Texas approve the Hedge Fund Program Fiscal Year 2020 annual tactical plan as presented in Exhibit A.

The Board of Trustees then took the following action:

MOTION made by Mr. James Kee, seconded by Mr. Doug Danzeiser, and carried unanimously by the members present that the Hedge Fund Program Fiscal Year 2020 annual tactical plan as presented in Exhibit A.

There were no questions or further discussion on this item.

6. HEDGE FUND CONSULTING SERVICES

6.1 Consideration of Proposed Contract Award for Hedge Fund Consulting Services – (Action)

Mr. Tom Tull, Chief Investment Officer, Ms. Gabrielle Schreiber, Director of Procurement and Contract Oversight, and Mr. Anthony Curtiss, Director of Hedge Funds, presented the recommendation for the Hedge Fund Program consulting services.

Ms. Schreiber noted that Albourne was the current Hedge Fund Program consultant and explained that the Request for Proposal (RFP) was issued on March 21, 2019. Sixteen companies requested access to the RFP and three entities submitted proposals by the April 19, 2019 deadline.

Ms. Schreiber discussed the Procurement and Contract Oversight (OPCO) evaluation process and noted that all three vendors passed the preliminary review process. The subject matter experts associated with the RFP evaluate the vendors based on the proposal evaluation criteria. She explained pass and fail items, which all three vendors successfully passed.

Ms. Schreiber explained that Albourne America and NEPC LLC advanced to the final stage. She discussed the finalist review phase, which included interviews with the vendors.

Mr. Tull thanked internal and external participants in the process. He highlighted some of the items that the team evaluated such as business model, global footprint, staffing, and analytics.

Mr. Curtiss discussed the Hedge Fund Program's needs from the hedge fund consultant. He explained that Albourne is the staff recommendation and highlighted how the Albourne team met the Hedge Fund Program's needs.

Mr. Curtiss explained that Albourne is used primarily for operational due diligence, while investment due diligence is primarily conducted by staff. He further explained that ideas are shared between Albourne and Hedge Fund Program staff. He added that ERS staff make final investment recommendations.

Mr. Tull explained that Albourne provides an ongoing rating system, which includes downgrades of managers, that is used by staff to continuously evaluate managers in addition to ongoing internal due diligence efforts.

Mr. Craig Hester, Chair, opened the floor for a motion on the approval of the recommendation for the Hedge Fund Program consulting services.

The Board of Trustees then took the following action:

MOTION made by Mr. Doug Danzeiser, seconded by Ms. Ilesa Daniels, and carried unanimously by the members present that the Board of Trustees approve the recommendation for the Hedge Fund Program consulting services.

There were no questions or further discussion on this item.

7. TRUSTEE RECOGNITION

7.1 Presentation of Board of Trustee Recognitions

Mr. Craig Hester, Chair, and Mr. Porter Wilson, Executive Director, presented a resolution to Mr. Doug Danzeiser and Ms. Cydney Donnell for their service and contributions to the Board.

Mr. Wilson noted that Ms. Donnell's last meeting as a member of the Board was May 22, 2019 and the current meeting will be Mr. Danzeiser's last.

Mr. Wilson read Mr. Danzeiser's resolution noting his contributions to the Board during his tenure.

Mr. Danzeiser explained that this was his first Board appointment and thanked staff for assisting him over the years.

Mr. Wilson read Ms. Donnell's resolution noting her contributions to the Board during her long board tenure.

Ms. Donnell explained that serving on the Board had been a great experience and praised the organization.

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

8. PRIVATE EQUITY PROGRAM

8.1 Market Update and Program Overview

Mr. Ricardo Lyra, Interim Director of Private Equity, Mr. Davis Peacock, Private Equity Portfolio Manager, Ms. Adriana Ballard, Private Equity Portfolio Manager, Mr. Brad Young and Dr. William Charlton, Mercer, presented a Private Equity market update and program overview.

Mr. Tull announced the resignation of Mr. Wesley Gipson and announced the appointment of Mr. Lyra as the Interim Director of the Private Equity Program.

Mr. Hester thanked Mr. Gipson for his service to ERS and the Private Equity Program.

Mr. Lyra provided an overview of the Private Equity Program team and noted an open position on the team. Mr. Lyra thanked the Legal and Operations teams for their contributions to underwriting deals.

Mr. Lyra noted the team committed $1 billon fiscal year-to-date on funds and co-investments with $835 million called. He added that $740 million in distributions had been received over the same period. The net asset value (NAV) of the portfolio increased from $3.9 billion in Fiscal Year 2018 to $4.1 billion as of June 30, 2019. The Private Equity Program went from 13.3% of the Trust to 14.2% over the same period. The increase was due to a higher portion of capital calls over distributions versus the Trust.

Mr. Lyra explained that the portfolio performed well considering public market volatility. Total Value to Paid in Capital, which represents the total value of investments since inception over the invested amount, fell 0.03x to 1.34x. Distributions to Paid in Capital (DPI) which tracks distributions versus invested amounts, increased 0.02x to 0.73x. Lastly, the internal rate of return (IRR) for the portfolio was at 11.6%, representing an 87 bps decline from Fiscal Year 2018.

Mr. Mindell asked if Modified IRR (MIRR) was used since IRR assumes distributions are reinvested at the same rate.

Mr. Lyra explained that the team does not currently use MIRR since IRR is the industry standard and indicated that the team would research the measure.

Dr. Charlton explained that based on the maturity of the portfolio most of the IRR is driven by the NAV and not the distributions.

Mr. Kee asked if the team looks for potential red flags in the timing of distributions.

Mr. Lyra explained that the team engages general partners (GP) while funds are in the harvest period, though distribution timing is beyond the team's control. He further explained that after the market volatility during the fourth quarter of 2018, distributions declined. He added that for funds in the harvest period with low DPIs, GPs are engaged by the staff to understand what is going on. He explained that there are a few currently in the category and GPs indicate that it is due to market volatility and uncertainty surrounding appropriate valuations.

Mr. Lyra discussed portfolio liquidity and presented quarterly portfolio cash flow. He concluded that in an average quarter about 3.7% of uncalled capital could be called. Given the maturity of the portfolio, he expects the number to continue to decline.

Mr. Lyra discussed portfolio performance compared to industry benchmarks. He noted that the portfolio has outperformed the public market benchmark by 300 bps over a 1-, 3-, 5- and 10-year period. Additionally, the portfolio has outperformed the Burgiss median in every time period besides the 1-year. He indicated that it was the first time the portfolio underperformed, and after research, the team discovered that it was due to an increased representation of Venture Capital investments within the database, which is much higher than the portfolio's current allocation. When compared to peers, the portfolio performance was good and exceeds the 75th percentile over the 1-, 2-, 3-, 4- and 5-year periods.

Mr. Peacock discussed the weighted average management fees and carried interest for Buyout investments over the life of the Private Equity Program. He highlighted that the introduction of co-investments reduced the average fee and carry on the Buyout portfolio, since co-investments are exclusively done on a no fee and no carry basis. He noted that co-investments have become a greater portion of the portfolio and over the past five years have accounted for 10.6% of total commitments. The benefits of co-investments can be seen across the total private equity portfolio, where carry has been reduced from 18.5% to 14%.

Mr. Peacock discussed co-investment and negotiated program savings. Realized co-investment savings total $84.5 million with an estimated future savings of $223 million. Realized negotiated savings total $81.7 million with estimated future savings of $181 million.

Ms. Ballard discussed portfolio diversification and compliance with policy guidelines. She noted that North America accounted for 55.9% of the portfolio, 5.9% above the 50% minimum. West Europe accounts for 24.3% with the remainder allocated across other developed and developing markets. Sector guidelines set a maximum allocation of 20% and no single sector currently represents greater than 16% concentration. Diversified, which consists of secondaries and fund of funds, represents 19%. She explained diversification by strategy ranges and highlighted that all strategies were within their ranges. Manager concentration guidelines prohibit any single manager representing 20% of the portfolio and no single manager currently exceeds 10%.

Ms. Ballard presented vintage year diversification and explained that the timing of cash flows makes it unlikely that NAV will reach total committed capital.

Mr. Lyra provided an overview of Fiscal Year 2019 goals and objectives noting the successful strategy shift to a new Asia manager. He explained that there would be a review of the Program's processes and procedures in Fiscal Year 2020 and the team plans to hire a Portfolio Manager.

Mr. Hester asked if there have been issues investing capital in private equity given the asset classes growing popularity.

Mr. Lyra explained that the ability to negotiate has been difficult and managers are changing economic terms or adding clauses. He highlighted that the size of the Trust helps a lot when negotiating with managers.

Mr. Young highlighted that the long-term performance over the policy benchmark was good as compared to private market benchmarks. He noted that 50% of the value of the portfolio was within the top quartile of performers. He added that first and second quartile funds would add value to portfolios over the long term. He further added that third quarter funds are transitional and could easily move into the second quartile funds.

Dr. Charlton discussed multiples and noted that the portfolio is characteristic of what is seen in private equity portfolios, where exits are done at the higher end of the multiple range. He noted that holdings hover around the 1x range, and then increase as they mature, with some declining. He highlighted that much of the private equity portfolio is at the upper range of the return multiple.

Dr. Charlton explained that the portfolio has good diversification across geography and sector. He noted that North America is the largest portion and further noted that North America offers the most opportunities for investors. The co-investment program has 72% North America exposure because North American managers were quick to understand that limited partners (LP) were interested in co-investments. He added that the percentage should come down as the new Asia relationship begins to offer co-investment opportunities.

Mr. Kee asked if Mercer was concerned with energy co-investments. Dr. Charlton explained that energy co-investments have taken a hit over the past few years from the volatility. He added that energy investments also are more capital intensive.

Dr. Charlton provided a market overview noting fundraising is still very active and very few LPs are cutting back from private equity. Deal flow is flat with higher prices. He noted that European prices are rising because investors are only interested in deals with high quality assets. He explained that the most asked question is whether managers can continue to generate these level of returns and he has noticed the professionalization of the private equity process.

Mr. Mindell asked about the state of deal exits and initial public offerings (IPO). Dr. Charlton explained that the IPO market is opening particularly for technology companies. He noted that corporations are becoming more active in acquiring companies and fund-to-fund transactions, resulting in increased exit options.

Mr. Hester asked about potential political impacts to private equity and if private equity scrutiny could become legislation. Dr. Charlton explained that private equity fund managers have not done a great job at managing the political process, but that managers are becoming more aware of the political process.

Mr. Hester asked how falling and negative interest rates around the world could depress private equity returns. Dr. Charlton explained that low interest rates help private equity funds finance debt at lower rates, but there are concerns whether the space can support it. He further explained that the opportunity set could be increasing, as generational businesses are becoming open to selling to private equity.

Mr. Mindell asked if there has been an increase in leverage used in private equity deals.

Dr. Charlton explained that the composition of leverage has changed. Leverage has remained at about 5.5x to 5.8x but with more senior secured debt.

There were no questions or further discussion on this item.

<u>8.2 Consideration of Proposed Private Equity Annual Tactical Plan for Fiscal Year 2020 – (Action)</u>

Mr. Ricardo Lyra, Interim Director of Private Equity, and Mr. Davis Peacock, Private Equity Portfolio Manager, presented the proposed Private Equity Program annual tactical plan for Fiscal Year 2020.

Mr. Lyra discussed the proposed tactical plan and explained that the team plans to commit $800 million, with a target range of $600 million to $1 billion over 9-18 funds and co-investments.

Mr. Lyra presented the expected commitments through 2025. At a 7.5% Trust growth rate, the team predicts the Private Equity Program will reach the 13% target allocation to the Trust by 2024. Using a 3.75% growth rate, commitments would be adjusted accordingly.

Mr. Bob Alley, IAC Vice-Chair, opened the floor for a motion on the approval of the proposed investment benchmarks.

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 of the Employees Retirement System of Texas approve the Private Equity Program annual tactical plan for Fiscal Year 2020 as presented in Exhibit A.

The Board of Trustees then took the following action:

MOTION made by Ms. Catherine Melvin, seconded by Mr. James Kee, and carried unanimously by the members present that the Board of Trustees approve the Private Equity Program annual tactical plan for Fiscal Year 2020 as presented in Exhibit A.

There were no questions or further discussion on this item.

9. IAC CHAIR ELECTIONS

9.1 Election of Chair and Vice Chair of the ERS Investment Advisory Committee for Fiscal Year 2020 – 2021 – (Action)

Mr. Tom Tull, Chief Investment Officer, presented the recommendation for Chair and Vice-Chair for the IAC.

Mr. Tull discussed the requirements set forth in the ERS Investment Policy Statement to elect a Chair and Vice-Chair of the IAC for 2-year terms. On August 23, 2017, Ms. Caroline Cooley and Mr. Robert Alley were elected Chair and Vice-Chair, respectively. He then thanked the Chair and Vice-Chair for their service.

Mr. Bob Alley, IAC Vice-Chair, opened the floor for a motion on the approval of the proposed Chair and Vice-Chair.

The IAC then took the following action:

MOTION made by Ms. Laurie Dotter, seconded by Mr. Ken Mindell, and carried unanimously by the members present that the Investment Advisory Committee of the Employees Retirement System of Texas approve the appointment of Mr. Bob Alley as Chair and Mr. Gene Needles as Vice Chair for a two year period beginning September 1, 2019 and ending August 31, 2021.

Mr. Hester thanked Ms. Cooley for her leadership as IAC Chair and thanked Mr. Alley and Mr. Needles for stepping forward to lead the IAC.

There were no questions or further discussion on this item.

10. CALENDAR

10.1 Reminder date for the next Joint Meeting of the ERS Board of Trustees and Investment Advisory Committee, the next meeting of the Board of Trustees and the next meeting of the Audit Committee

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

11. ADJOURNMENT

11.1 Adjournment of the Joint Meeting of the Board of Trustees and Investment Advisory Committee

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

11.2 Recess of the Board of Trustees. Following a temporary recess, the Board of Trustees will reconvene to take up the Board agenda items.

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