Joint Meeting of The Board of Trustees and Investment Advisory Committee Minutes – March 6, 2019

May 22, 2019

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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
March 6, 2019 – 8:40 am

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

Investment Advisory committee (IAC) PRESENT
Caroline Cooley, Chair
Bob Alley, Vice-Chair
James Hille, Member
Mari Kooi, Member
Ken Mindell, Member
Didi Weinblatt, Member
Lenore Sullivan, Member

IAC ABSENT
Laura Starks, Member
Gene Needles, Member

ERS STAFF 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
Sharmila Kassam, Deputy Chief Investment Officer
Diana Kongevick, Director of Group Benefits
Wendy McAdams, Director of Operations Support
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
Brannon Andrews, Office of General Counsel
Amanda Burleigh, Investments
Carlos Chujoy, Investments
Kelley Davenport, Executive Office
Juli Davila, Investments
Leah Erard, Strategic Initiatives
Susie Ramirez, Executive Office
Tanna Ridgway, Investments
Cheryl Scott Ryan, Office of General Counsel
John Streun, Investments
Mary Jane Wardlow, Executive Office

Stuart Williams, Investments
Jason Avants, Information Systems
Chuck Turner, Information Systems
Jamey Pauley, Executive Office
Aaron Ismail, Compliance
Karen Norman, Internal Audit
Tressie Landry, Internal Audit
Christi Davis, Customer Benefits
Anthony Curtiss, Investments
Amy Cureton, Investments
Michael Clements, Investments
Chris Tocci, Investments
Lauren Honza, Investments
Tim Reynolds, Investments
Blaise Duran, Group Benefits
Georgina Bouton, Group Benefits
Nora Alvarado, Group Benefits
D'Ann DeLeon. Group Benefits
Megan Hunter, Group Benefits
Leena Chaphekar, Office of General Counsel
Aaron Hatt, Office of General Counsel
Lacy Wolff, Executive Office

VISITORS PRESENT
Sam Austin, NEPC
Tim Bruce, NEPC
John Claisse, Albourne Partners
David DeLeon, BCBS TX
Phil Dial, Rudd & Wisdom
Hillary Eckford, State Auditor's Office
Melissa Fullerton, Delta Dental
David Gonzales, Humana
Lynn Gordon, Securian
Meg Hare, Accenture
Jay Hiller, PILLAR
Tina Huo, Weaver
Kirt Laualla, Delta Dental
Ta Lohachitkul, Albourne Partners
Kelley Ngaide, State Auditor's Office
Chris Paxton, Optum RX
Tara Reyes, BCBS TX

3. 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 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 2:45 p.m. on Tuesday, February 26, 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

Ms. Caroline Cooley, 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 3:53 p.m. on 2:45 p.m. on Tuesday, February 26, 2019 as required by Chapter 551, Texas Government Code, referred to as "The Open Meetings Law."

2. MINUTES

2.1 Review and Approval of the minutes to the December 12, 2018 Joint Meeting of the Board of Trustees and IAC meeting – (Action)

Ms. Caroline Cooley, IAC Chair, opened the floor for a motion on the approval of the minutes from the December 12, 2018 Joint Meeting of the Board and IAC.

The IAC then took the following action:

MOTION made by Mr. James Hille, seconded by Mr. Robert Alley, 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 December 12, 2018.

The Board of Trustees then took the following action:

MOTION made by Ms. Cydney Donnell, seconded by Ms. Catherine Melvin, 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 December 12, 2018.

There was no further discussion or questions and no action was taken.

3. INVESTMENT COMPLIANCE ANNUAL REPORT

3.1 Review and Discussion of ERS Investment Compliance Program

Mr. Aaron Ismail, Investment Compliance Officer, presented a review of the ERS Investment Compliance Program and the results of the Annual Compliance Review project.

Mr. Ismail provided background on the Investment Compliance Program at ERS, noting that this is the first such annual review, since those duties were previously the responsibility of Internal Audit. He

added that the intent is to provide this annual review every year going forward for the previous calendar year.

Mr. Ismail provided information on why compliance is important to ERS, what makes an effective compliance program, and program developments and enhancements for the coming year. Mr. Ismail highlighted that the ERS compliance program is here to protect the organization, and that his role is to support the board and investment staff and executive management to stay compliant, make good decisions, and do the right thing.

The purpose of the investment compliance program is to ensure compliance with applicable laws, regulations, ERS policies, and investment guidelines. Mr. Ismail then presented specific examples of negative issues and headlines that have affected other public pension funds. Mr. Ismail noted that ERS works to avoid those risks by operating a robust compliance program with the goal of detecting and preventing these kinds of risks.

Mr. Ismail presented a model of risk governance developed by the Institute of Internal Auditors called the Three Lines of Defense. He went through each line of defense and discussed how they play a role in the investment compliance program and managing risk. He noted that the slide showed the independence of the investment compliance function, as well as a line of communication to the Executive Office and the Board to raise material compliance issues.

Mr. Ismail explained Chapter Eight of the US Federal Sentencing Guidelines, which serves as a source of guidance for the investment compliance program. The guidelines outline seven components of an effective compliance and ethics program. Mr. Ismail noted that he works to interpret these principles and tailor them in a way that is beneficial for ERS. The guidelines tie into the central focus to prevent, detect, and address compliance issues. Mr. Ismail then went over the main elements of the current compliance program. He noted that some of the elements existed prior to his position, and others needed enhancement or development.

The Annual Compliance Review included an overview of ERS's compliance infrastructure, and highlighted key developments to the program during the year. Based on this annual review, Mr. Ismail believes that ERS's compliance policies and procedures are adequately effective in preventing, detecting and curing violations. Mr. Ismail also described the process to evolve a compliance program and how the annual review fits into the cycle of continuous improvement.

Mr. Ismail then discussed accomplishments of the program and a roadmap for the current year. Accomplishments for the first year include automating some of the personal trading reporting, developing new reports and participating in the development of the new Investment Policy Statement.

Mr. Ismail made recommendations for the compliance program. Specifically, he noted that he plans to consolidate and formalize compliance policies and procedures, including the code of ethics and insider trading policy. In addition, he plans to develop periodic training for ERS staff. Mr. Ismail concluded that the program is strong, but he will continue to assess it for further development and enhancement.

Mr. Hester asked if we have a process currently in place if someone on the investment team thinks they have potential inside information. Mr. Ismail answered that we do, although there may not be a formal standard operating procedure for that process. Mr. Hester followed up to ask if there is a name on the restricted list, if it is restricted from personal trading as well. Mr. Ismail confirmed that was correct. Mr. Tull added that any name that could be considered material non-public information would be added to the restricted list on Bloomberg.

Mr. Danzeiser asked if Mr. Ismail is continually working to adapt and stay aware of new compliance issues or methods of fraud, as well as utilizing new monitoring tools that are more innovative.

Mr. Ismail confirmed that he did attend a compliance conference in the previous year and he will continue to do so to stay aware of key issues. He also noted he would like to create a dialogue with

compliance officers at other pension funds. Mr. Ismail said that the compliance conferences showcase new technology that can assist and support a program.

Mr. Ismail stated that his focus is Investment Compliance specifically. There can be some overlap with ethics or operational issues in which he would need to collaborate with ERS legal or investment operations.

Mr. Hester noted that he believes that ERS has always had a culture of compliance thanks to Mr. Tull's leadership in investments and at the executive level. He stated that he appreciates the work Mr. Ismail is doing to manage the program and enhance it.

Ms. Melvin commended Mr. Ismail on the format of the Annual Review Report to showcase the robust nature of a compliance program.

In response to a question from Mr. Hlle, Mr. Ismail answered that he reported to Tony Chavez, the Director of Internal Audit. He noted that he is not an auditor and that investment compliance is a separate function.

This agenda item was presented for information and discussion purposes only. There was no further discussion or questions and no action was taken.

4. IAC ELIGIBILITY, COMPLIANCE, AND IAC RECOGNITION

4.1 Discussion of Eligibility and Compliance for Calendar Year 2019 of the Investment Advisory Committee

Mr. Tom Tull, Chief Investment Officer, explained that the Texas Government Code requires the Board to review eligibility of the Investment Advisory Committee (IAC) members annually. IAC member who have missed more than half of the scheduled meetings can be removed at the Board's discretion.

Mr. Tull then explained that Ms. Lenore Sullivan has regretfully tendered her resignation from the committee as schedule conflicts prevent her from attending many of the IAC/Board meetings.

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

4.2 Investment Advisory Committee Member Recognition

Mr. Tull presented Ms. Sullivan with a resolution commemorating her service on the IAC and noted her service as Chair and Vice Chair. He further discussed her contributions to establishing the Trust's Hedge Funds Program and her valuable expertise in several Asset Class Investment Committee meetings.

INVESTMENT PERFORMANCE

5.1 Review of the Investment Performance for Fourth Calendar Quarter 2018

Mr. Tom Tull, Chief Investment Officer, Ms. Sharmila Kassam, Deputy Chief Investment Officer, Mr. Sam Austin and Tim Bruce, NEPC, presented the investment performance for the fourth calendar quarter of 2018.

Mr. Tull welcomed NEPC as the new general investment consultant for the system. Their role is to assist the Board with oversight of the Trust and to make recommendations with changes they deem prudent.

Ms. Kassam described the onboarding process with NEPC and highlighted that going forward; the team will also be evaluating how to improve reporting. She noted that the team constantly works to make sure that reports are meaningful to the Board and IAC.

Mr. Austin presented the performance dashboard. He highlighted that the 7.5% actuarial assumed rate of return is the number to stay focused on as markets dip and rise, and noted that the job of the fund is to stay focused on the 7.5% return that is required to meet benefit payments. He further noted the fourth quarter of 2018 was a relatively difficult year for the markets.

Mr. Austin noted that out of 32 benchmarks that NEPC tracks, 26 were negative for the calendar year 2018. The fourth quarter had a particularly sharp downturn in equity markets, but the fund performance for ERS exceeded that of the policy benchmark by 1.3% in the quarter, and 2.4% for the calendar year. The fund was down 1.7% versus the policy benchmark of negative 4.1%. He explained that the largest contributor in the quarter was Private Equity, which outperformed during the quarter. Global Public Equity was a 0.7% contributor on the negative side to returns for the portfolio.

Mr. Austin discussed the cost effective nature of the program and noted that 60% of the portfolio is managed internally at significantly lower cost than paying to have it managed externally. He noted that the 20% of the portfolio dedicated to risk-reducing assets allows the Trust to improve the volatility of equity beta in the portfolio.

Mr. Austin explained that the portfolio declined to $26.9 billion as of December 31, 2018, down from a year earlier when it was $28.5 billion. He commended the Board and staff on wise decisions to diversify the portfolio, noting diversification has helped performance while dampening the equity volatility. While equities were down almost 13.9%, the Trust was down only 5.8%.

Mr. Austin noted that the policy index was down 7.0% for the quarter and the long-term public index was down 10.1% for the quarter. He explained that a median plan in a nationally recognized database would have been down 6.87% versus the Trust's negative 5.8% in the quarter. This would have placed the Trust in the top quartile of the Investor Force larger than $1 billion database for the quarter. He explained that the Trust would have actually been in the top quartile for the one-year, three-year, five-year, and just short of the top quartile for the 10-year period. He commented that the Employees Retirement System of Texas should be very proud of having done a good job.

Mr. Austin explained that it is important to take difficult quarters like the fourth quarter 2018 in context. He further explained that while the portfolio was down 5.8%, the long-term public index has been up an estimated 8.75% just in the month and a week since the end of the quarter.

Mr. Austin noted that for the three years ending December 31, 2018, the Trust returned 6.66%, beating the fund policy index. The standard deviation of the portfolio was 5.36%. He noted that is significantly less than the dispersion of the fund policy index. The Sharpe ratio, which is a measure of how much excess return the portfolio earns over the risk-free rate for the extra volatility of holding risky assets, was 1.05% for the three-year period ending 12/31/2018. He explained that the Sharpe ratio of 1.05% is quite a satisfactory number and larger than that of the policy index. He further explained that one of the problems with the Sharpe ratio is that it measures dispersion on both the downside as well as the upside. To account for that, NEPC also reports the Sortino ratio, which is a similar measure of how

much excess return earned per unit of risk, but strictly looks at the downside deviation. He noted that the Sortino ratio was also above for that three-year period at 1.14%. He noted the two measures give some comfort that not only did diversification add to returns, but active management also added to returns and benefited the plan in 2018, and over the three-year period.

Mr. Austin noted withdrawals from the Trust exceeded contributions and noted that, on average, over the last five years there has been about a $1.1 billion net cash outflow. He explained that NEPC likes to see that it stays in about a 2% to 4% range to make sure that the private market's exposure does not prevent the financial flexibility needed to make benefit payments and other obligations. He noted that the numbers sound like they are well within the normal margins NEPC looks at.

Mr. Austin noted the cash portion of the portfolio at September 30, 2018 was at 2.1% and then dropped down into the normal expected range to 0.4% in the quarter. He further explained the asset class that was most overweight as of the end of 2018 was the Rates Portfolio, which was overweight by about 4% to 5% above the target number, but within the ranges. He noted the asset class that was most underweight was Infrastructure, due to the early stage of the portfolio. The next most underweight asset class within the portfolio was the Absolute Return Portfolio, which was about 20% under its target number.

Mr. Austin explained that private equity performance always lags other asset classes so reporting is often based on different market conditions. Ms. Kassam agreed and noted that is why it is important to look at the longer-term horizons versus any one quarter.

Mr. Hester asked if NEPC has any thoughts about the Trust's long-term targets and the overall allocation. Mr. Austin explained that NEPC is working with staff to forecast returns over the next five to seven years and 30-years, as well as the volatility for each asset class. He noted that forecasts would be nominally different from those of the prior consultant and NEPC will review what that might mean for suggested changes to the asset classes in the future.

Ms. Kassam noted that in the next two weeks, the process will start and more data points would be presented at the next Board meeting.

Mr. Hester asked if NEPC had comments on the structure or content of ERS' recommended investment policy as it shifts from a rules-based to more of a principles-based investment policy. Mr. Austin explained that NEPC believes that it is a very good reflection of the Trust's beliefs and philosophy.

Mr. Tull highlighted that a sector analysis for the Trust, including private and public asset classes, is available in the board portal. He further explained that the report would be updated on a quarterly basis.

Mr. Hester commented that it is important to recognize that on the long-term investment results--three years, five years, seven years, 10 years—the Trust looks good compared to the policy index and long-term public policy benchmark. He then thanked staff for the good work.

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

5. GLOBAL PUBLIC EQUITES PROGRAM

6.1 Market Update and Program Overview

Mr. John Streun, Director of Public Equity, Mr. Chris Tocci, Deputy Director of Public Equity, Lauren Honza, Portfolio Manager of External Advisor Program, and Michael Clements, Chief Trader, presented the Global Public Equity Program market update and program overview.

Ms. Donnell commented that she is relieved to see that the Trust outperformed in a down market given prior discussions about risk approach. She further explained that she is very pleased with the major outperformance in the down markets and the slight outperformance in up markets.

Mr. Streun noted that the Public Equities Program makes up about 40% of the Trust. He discussed the experience and stability of the team. Travis Olson has joined the public equity team as a trader. He pointed out that most of the analysts contribute to multiple portfolios. In some cases, they contribute their research ideas to four to five portfolios.

Mr. Streun explained that the investment objective is to outperform the global public equity benchmark, which is the MSCI All Country World Index. The team aims to do this over longer time periods of five years, while keeping an eye on the risk budget. He noted that the investment strategy has not changed and the goal is to produce excess returns through combining lower risk, lower cost internal strategies, with higher risk, external strategies.

Mr. Streun explained that from an absolute return standpoint, this was the worst year over the last 10 years. The asset class was down about 11% and down 115 bps on a relative basis. Eight out of 12 internal portfolios underperformed and 7 out of 10 external portfolios underperformed. He commented that the underperformance was primarily due to stock selection and an overweight to US small cap. There was also an overweight to Europe, financials, and energy. He noted rotations into underweighted defensive sectors such as utilities and real estate also contributed to underperformance. He explained that being underweight Japan and overweight cash was helpful.

Mr. Streun explained that the portfolio is up 11% in the first two months of this calendar year, while markets are on the rebound. He further explained the portfolio is outperforming on a relative basis and most individual portfolios are beating their benchmark.

Mr. Streun presented relative returns for 2018 and noted that for the first half of the year the portfolio matched the benchmark, then international markets started to sell off more than US markets and small cap started to underperform. He explained that in the fourth quarter, a confluence of negative events: trade wars, uncertainty about Fed policy, and government shut downs, led to a rotation into very defensive sectors, while the portfolio had a growth bias.

Mr. Streun discussed internal portfolio performance and noted the mid cap portfolio outperformed for the year while the others underperformed. He noted small cap was the worst on a relative basis and mentioned that the S&P 600, which is the benchmark for the small cap index, has been a very difficult benchmark to beat, especially compared to the Russell 2000. He explained that a quality element to the benchmark has made it difficult to beat.

Mr. Streun noted a few external managers outperformed but the tails were a little worse. Brandywine and Blackrock underperformed significantly last year. In particular, the fourth quarter was difficult for Brandywine, as the cyclicality in the portfolio showed up. He further noted that they are bouncing back and they were up over 600 basis points on a relative basis in January. He highlighted that more money was added to their portfolio in the fourth quarter to try to take advantage of the outperformance.

Mr. Streun noted a change in volatility since 2017 and further noted that two volatility shocks occurred in 2018 where many portfolios had a difficult time adjusting. The spike in volatility led to a defensive rotation.

Mr. Streun presented the performance of US dominated indices and noted that the S&P 500 and S&P 600 outperformed global benchmarks, as most people perceive the US as safer than international markets. He added that large cap outperformed small cap.

Mr. Alley added that the US dollar also strengthened during that period. Mr. Tocci agreed that the US dollar strengthened 4% to 4.5%.Mr. Streun mentioned that the strength of the US dollar was a definite headwind.

Mr. Streun noted anything with cyclicality like materials, industrials, and financials did poorly last year, whereas utilities and health care led the way up. He noted that it was a rotation into stability and defensiveness. He highlighted an underweight to utilities due to valuations in the group not making sense.

Mr. Streun discussed the outlook for 2019 and noted while 2018 was a challenging year from a market perspective, it was a very good year from an earnings perspective. 2018 earnings growth was almost 25% on the back of Trump's tax cuts and the global economy was pretty strong in the first half. He noted that the expectation is that there will be a downshift into lower earnings growth, partially due to the tax cuts rolling off and the slowing global economy. He noted most prognosticators and forecasters do not expect a recession this coming year, which is the good news for equity markets. He highlighted that there will continue to be earnings growth, which is positive.

Mr. Streun noted Fed policy was also a headwind in 2018 and explained that most market participants believe the Fed will stop interest rate hikes. He further explained the Fed has telegraphed there will not be additional interest rate hikes, which creates a more positive environment for risk assets, including equity markets.

Mr. Streun highlighted that 2019 may be a more positive year and noted China has gotten off to a good start. In the fourth quarter, the business conditions and the economic environment in China was deteriorating partly due to uncertainty related to trade policy and stimulus. He noted that the good news is that the Chinese government is recognizing this, and they are beginning to stimulate the economy through monetary and fiscal means. He explained that with better news on the trade front, the Chinese market and the Chinese economy should rebound.

Mr. Tocci discussed dollar and risk allocation by region, factor, and sector exposures. He noted Global Public Equity accounts for $10.7 billion or about 40% of the Trust. He further noted the amount was $14 billion last year, and almost 49% of the Trust, diversified across 24 portfolios. He commented that the equities allocation would be 37% of the Trust. From a cash flow standpoint last year, about $2 billion came out of global public equities, 70% was to pay the bills and 30% were asset allocation changes.

Mr. Tocci highlighted new strategies and a 1.2% allocation to Allianz, a large cap US mandate. He noted that 68% of the global portfolio is managed internally.

Mr. Tocci noted the domestic equity program is diversified across risk and actual dollar allocation. On the domestic side, 83% of the portfolio is managed internally, 17% externally, and totals about $5.5 billion. On the international side, there is more diversification and 14 portfolios versus 11 domestic. He highlighted that the team believes there is more opportunity to add value on the international side.

Mr. Tocci discussed the Brandywine allocation, highlighting that additional funds were invested in the strategy in the fourth quarter. He explained that the mandate has a high tracking error mandate and the allocation increased to 8.6%, taking up 26% of the risk budget. He further noted that the team has high conviction on the strategy.

Mr. Tocci discussed portfolio structure and positioning, noting that throughout the year the healthcare overweight increased, offset by a decrease in financials. The energy overweight increased significantly, offset by a decrease in information technology. Real estate, staples, and utilities remain persistent underweights. He explained that within technology itself, two external portfolios dropped the weight quite a bit over the course of the year. He explained that one took the weight down 600 basis points and another one 400 bps. He further explained a couple of internal portfolios took the weight dedicated to technology down by about 100 basis points.

Mr. Tocci noted regional weights generally became more aligned with the benchmarks over the course of the year. The consensus underweight to Asia and Japan remained in place. The USA went from a slight underweight back to a slight overweight. The UK and Europe served as sources of funds for changes in the weights of the Asia and Canada portfolios. He highlighted that the decrease in the weight of Japan went from fairly neutral to a 50 basis points underweight. Two external managers had pretty big decreases in their allocation to Japan. One was Lazard, who took their allocation down about 800 bps in the benchmark. Blackrock also decreased their exposure to Japan over the course of the year.

Mr. Tocci discussed factor tilts and noted that over the course of the year, tilts generally became more benchmark like. Absolute factor tilts went from plus or minus 0.2 standard deviations. He said that actively concentrated external mandates were plus or minus 0.8 on the factor exposure scale. Overall, there was a decrease in exposure to momentum, some captured by the decrease in the technology weight over the course of the year. He noted that the underweight to value shrunk due to the additional allocation to Brandywine, which is a value manager.

Mr. Tocci reviewed the portfolio tracking error of the individual portfolios in the program. He noted that internally, portfolio tracking errors remain pretty consistent, but across some of the external portfolios there is generally a rise. He concluded that overall the program level tracking error did not change compared to one year ago.

Mr. Kee asked if ERS expected to change how much of the portfolio is internally managed. Mr. Streun explained that he expects less to be internally managed on the international side. The alpha opportunity for external managers seems to be more and more on the international side, particularly emerging markets. He further explained that the internal emerging markets program is rather large and he expects that the emerging markets piece would be farmed out a little more.

Mr. Streun explained that on the domestic side, roughly 72% of the portfolio is either passive or very low tracking error type strategies. On the international side, it is about 50%.

Mr. Kee asked if country bets are made and if the team does the analysis on countries that will outperform or if external managers do the analysis and the team evaluates their analysis. Mr. Streun explained that external managers drive a lot of the process and the team tries to add some additional value. He noted that most of the value added internally is through stock selection, not macro or country bets.

Mr. Tocci explained that it is generally through stock selection, more on a regional basis like emerging market versus Europe or Europe versus Asia. He further explained that a lot of it is based on finding what is cheap.

Mr. Hester asked if there were shifts in the portfolio in the fourth quarter, or at the beginning of the year in response to the selloff.

Mr. Streun explained that there was a reduction in the small cap weighting in anticipation that it would ramp back up through the international small cap allocation.

Mr. Tocci highlighted that starting in June or July, the fund had a pretty big overweight to global equities, both private and public. As markets really ran through the middle of the year, a conscious effort was made to bring global public equity weighting down, which was 45% at one point.

Mr. Streun noted that equities were sold pretty much throughout the year until the fourth quarter. Mr. Tull explained that they started adding risk back on in November. He noted that in June markets started getting heavy and it was prudent to take money off the table.

Ms. Honza discussed the External Advisor Program and noted there are currently two domestic large cap value strategies, five international strategies, a fund of funds strategy, a mandate based on emerging managers, and a domestic options strategy.

Mr. Streun discussed his involvement in the Allianz due diligence process and provided an overview of the strategy. He explained that the strategy tries to achieve its alpha target primarily through collecting income by selling listed options. Allianz also has listed options in the portfolio on the buy side as a portfolio diversifier and as a hedging strategy. He noted that as volatility spiked in the fourth quarter, they underperformed, but it was not unexpected as Allianz had telegraphed that performance, but the expectation is as volatility levels rise performance will improve. Ms. Honza discussed the international small cap Request for Proposal (RFP). She noted a change in the global public equity benchmark to MSCI ACWI IMI in September 2015 created an unintentional underweight to international small cap

stocks. The global public equity team mitigated the issue by investing in an exchange-traded fund (ETF) and then funding a mandate with Legato Capital Management for international small cap. The solution provided the exposures needed in the short term, but the goal is to allocate more money to the space and do so in a more active and direct manner.

Ms. Honza discussed the case for international small cap and noted long-term performance of small cap stocks have outperformed large cap stocks over the last 20 years and during that period returned 7.1% annually, versus 3.6% annually. Investing in smaller companies allows investors to participate in growth in the earlier stage of the business cycle. She further noted this is especially true on the international side, where there is more exposure to generally faster growing economies, especially in emerging market countries.

Ms. Honza added that the opportunity set for investors in the international small cap space is larger. She explained that the international small cap universe is about 20,000 companies in the international compared to domestic stocks, where it could be closer to 3,000 names. The larger universe receives less attention from analysts. That dynamic creates a fertile ground for active management. She noted the diversification benefits, especially when compared to domestic equities.

Ms. Honza discussed the RFP process and noted 94 responses to the search were initially received. After a thorough due diligence process, the group was narrowed down to 10 strategies and all 10 strategies were approved for the Select Pool at that time.

Ms. Honza discussed the six phases of the evaluation process. She noted that the team chose to have a large bench of managers due to capacity constraints inherent in the asset class and to make sure there was flexibility to fund later. She explained that the 10 managers are now in the contract and funding stages, working through final contract negotiations. She further noted funding is taking place on an as needed basis and some managers have been funded.

Ms. Honza explained that the Risk Management and Applied Research team was involved with the portfolio construction. The team analyzed the investment track record, downside capture, correlations, volatility, and diversification, to find what strategies would complement and enhance the internal program. She noted there are quantitative and fundamental strategies, and information on each strategy is provided in the board portal.

Mr. Kee asked if anybody has ever looked at cross holdings to see how many stocks each holding has in common. Ms. Honza noted that it has been done. She explained that five strategies have been funded so holdings data was pulled the previous week. She noted there is not much overlap between the strategies, but it will be reviewed against internal portfolios as well.

Ms. Honza explained that they would probably fund the five strategies for right now and then monitor needs. If one become too large, it may be defunded and invested into another.

Mr. Clements presented the trading desk functions of the last year. He noted for 2018, total commissions are in line with the prior four years. There was roughly a 2% increase from 2017 in blended rates, crossing all execution styles and methods, dealing either electronic portfolio trading or cash trading.

Mr. Clements noted the top five portfolio commissions remain the same as the previous year. He noted that the Asia and European portfolios have swapped places in terms of the amount of commissions paid from the prior year. He added that the top five are also the largest holdings, which is not unusual. He added that the outside external managers on the list are portfolios for which the Trust retains trading capabilities.

Mr. Clements discussed international commission rates. He noted that ERS is paying, on average, a higher rate than some institutional peers. He noted that the higher rate is paid for research, which is valuable to the Trust. He explained that some of the niche brokers specialized in certain areas that the team feels justifies paying slightly higher rates in order to retain that research.

Mr. Streun discussed initiatives for 2019. He noted the continued buildout of the Select Pool and noted the next search is most likely on international ACWI, then an international emerging manager. He noted that the Trust does have managers in that space, but it is time to refresh the pool and to look at the marketplace.

Mr. Streun explained that he wants to continue to develop the team as investors while helping them to build their careers at ERS. He noted several analysts and portfolio managers have been with ERS for a while, and he wants to develop initiatives to retain talent. He explained that some analysts want to be portfolio managers and he wants them to begin to think about and develop the skills and expertise required of portfolio managers.

Mr. Streun discussed an initiative to restructure the internal portfolios this fiscal year. Currently, there are six analyst driven portfolios -- three on the domestic side and three on the international side. The portfolios consist of large, mid, and small, then Asia, Europe, and emerging markets. The new structure would result in four portfolios: large cap, mid cap, EAFE, and emerging markets. Currently, some analysts feed into four or five portfolios and the new structure will have them feed into one. He believes that working with a single portfolio manager would improve the process. He explained that in some cases, 12 to 13 analysts are contributing to one portfolio.

Mr. Kee asked if what it takes to be a good analyst going forward is different than what it was 20 years ago and if the backgrounds the team looks for is more engineering based.

Mr. Streun replied yes and noted some interns have had programming skills and their quantitative abilities are very different from when he graduated from graduate school. He noted that adding that skillset to the team is something they look for, but at the end of the day, they want people who have common sense and are good investors.

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

6.2 Report on Global Equity Performance below Benchmark over Three-Year Period

Mr. Tom Tull, Chief Investment Officer, presented the Global Public Equity investment performance over a rolling three-year period. The report is required by the investment policy when the portfolio underperforms over this time period.

Mr. Tull noted the Trust was challenged, as many peers were, for the period ending in 2018. He noted that stock selection was difficult, specifically an overweight to small and mid-cap stocks, which underperformed large cap stocks. Europe and the United Kingdom were not friendly markets to invest in relative to the US markets, despite the fact that fundamentally they were a lot cheaper and were compelling. He also noted that the Trust was slightly overweight in international equities relative to the US, hurting performance.

Mr. Tull explained that as it becomes later in the economic cycle, as it is now, it is more difficult to generate alpha. He noted that as Mr. Streun indicated, at the end of 2017 three-year returns looked great, as did returns since inception. He noted that December 2018 was very difficult, wiping out a good part of the performance.

Mr. Tull explained that the team would continue to refine the program and buildout the Select Pool. He added that external managers could help add alpha in areas where the Trust is challenged or to add flexibility. He noted that many public funds and other firms have anywhere from 200 to 1,000 or more companies that different analysts follow, making it hard to monitor. The portfolio reconstruction should make it more manageable and efficient with the new manager and analyst organizational reporting. He added that he would work with the portfolio managers and the equity team to refine the decision-making process, which includes sector, global allocations, as well as sell discipline. He noted that it is very difficult to take the emotion out of the investment decision-making process.

Mr. Mindell asked if there was outperformance on a trailing three-year basis.

Mr. Tull explained that performance would probably have been much better because the market was down almost 20%, just in the month of December.

Mr. Streun added that 2016 was challenging and many of those numbers are rolling off. He noted that 2017 was very good, so if 2019 is good, the problem will correct itself.

Mr. Hester said that it has been an unusual 10 years, with the amount of liquidity that the Fed has provided to the economy, and the big push to passive. He noted that last year the top 10 stocks in terms of market cap, before the market broke, were far outpacing the indices. He noted that it makes it hard for a stock picker and that it has been a real headwind for active management.

Mr. Hester noted that tracking three years might be too short because the last few cycles have been much longer than three years.

Mr. Streun noted that the team's two competitive advantages are experience and time horizon. He discussed working on being more patient and willing to tolerate more pain than the average investor due to their time horizon.

Ms. Cooley noted that it is difficult to be better than the market everywhere and in everything and asked what would need to be seen to recommend a portion of the portfolio moved to passive, instead of active.

Mr. Streun explained that 70% of the US large cap space is enhanced index or passive. He noted that it is a very efficient asset class and it is very difficult to beat that benchmark. That is not the case on the international side and especially on the international small cap side. He added that you want to be active with good managers in that space.

Mr. Mindell asked Mr. Tull what strategy was being deployed to offset global risk. Mr. Tull explained that hedging has been limited and has been more along the order of putting futures on to take advantage of an opportunity, or taking risk off when market technicals get to a certain point. He discussed taking risk off at different times in 2018.

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

6. OPPORTUNISTIC CREDIT

7.1 Consideration of Proposed Opportunistic Credit Tactical Plan for Fiscal Year 2019 – (Action)

Ms. Sharmila Kassam, Deputy Chief Investment Officer, Mr. Anthony Curtiss, Director of Hedge Funds, John Claisse and Ta Lohachitkul, Albourne, presented the Opportunistic Credit tactical plan.

Ms. Kassam reminded the group that the Opportunistic Credit Program is an allocation that came out of the 2017 Asset Liability Study, where it was approved for a 3% allocation. She explained that in December 2017, the team came back to the Board and IAC with portfolio parameters in the context of asset class guidelines. She explained that the strategy has a bit more complexity than some of the Trust's other allocations given the broad mandate across credit, with some of the strategies overlapping existing asset classes. It was decided that further work would need to be presented to the Board with details of how the team was going to execute. Specifically, the team would come back to the Board with an updated tactical plan in 2018, but this never materialized due to other priorities (i.e. updating of the investment policy statement, including other projects).

Ms. Kassam noted that Opportunistic Credit is also known as Private Credit but Private Credit does not always refer to Opportunistic Credit. Similar to equities which can reside in other areas of the Trust, so too can credit. Opportunistic Credit is a private markets solution where an investor is compensated for an illiquidity premium, similar to other private market solutions like private equity.

She noted that private credit resides in the private equity asset class, but primarily through strategies such as distressed and mezzanine debt. Further, these opportunities are sourced and

monitored by the Private Equity team. She further noted that the Global Credit team does look at certain private credit opportunities. At any given time, these can represent approximately 10% to 20% of their external manager portfolio.

For instance, Ms. Kassam noted that the opportunistic credit allocation could be for opportunities where the Trust has not been able to historically allocate to credit investments. For example, she explained that both Real Estate and Infrastructure have traditionally focused on equity-like returns.

Mr. Hester asked if there is a range around the 3% target. Ms. Kassam explained that all private investments have a range of plus or minus 5% per the policy bands. She noted that this allocation is not a hard target. The Opportunistic Credit Program is designed to be a place where the Trust can look across the credit spectrum during various points in a credit cycle to decide if there is some missed relative value opportunities.

Ms. Kassam highlighted that the reason for the proliferation of private credit strategies is due to structural issues in the market (i.e. banks stepping back on traditional lending activities). She further highlighted that capturing the illiquidity premium is an attractive proposition relative to many current public credit investments given the amount of liquidity along with low interest rates. She explained that as long-term investors, the team wants to take advantage of opportunities regardless of the point in the credit cycle.

Ms. Kassam noted that the focus of the Opportunistic portfolio would be on income/yield generation with a secondary objective of price appreciation. This is something a mature public plan can use.

Ms. Donnell asked if investments would be in funds or in the debt directly. Ms. Kassam explained that investments would be in external funds/managers and not directly into direct debt investments. She added that the structure is similar to most private market solutions, such as hedge funds and private equity. The specific structure would be dependent on the underlying strategy and the duration of the assets.

Mr. Kassam noted that ERS would invest the capital from a perspective that is less traditional from a portfolio construction process because the mandate will only allocate capital when there are compelling opportunities relative to the Trust's other credit allocations.

Mr. Curtiss highlighted that the underlying fund structures will be primarily closed-end versus open-end. He clarified that open-end structures are similar to more traditional hedge fund commingled products that offer liquidity at various points in time. A closed-end structure will commit capital over a longer timeframe and will be drawn over a commitment period. He explained that the underlying strategy would focus on persistent cash flows, distributions to de-risk ERS over the life of the investment, and self-liquidating investments to reduce extension risk.

Mr. Curtiss discussed the portfolio will seek a blended rate of at least +6.5% or higher. He further discussed the high-level plan to achieve this return target, which included investing in a committed capital basis, looking for strong collateral attachment on deals, seeking out covenants to restrict borrowers, focusing on income/yield with a secondary objective of price appreciation, and short dated term structures to mitigate j-curve risk.

Mr. Curtiss stressed that the allocation is designed to be a complement to existing credit allocations within the Trust. It is not designed to be an overflow bucket for any group within the Trust. In addition, the new allocation will support a collaborative effort across different groups, which will be focused on knowledge sharing. Expectations are for new investments will be primarily floating rate versus fixed rate. These floating rate instruments will augment the heavy fixed income component within the Trust. The three Cs will be emphasized: cash flows, covenants and collateral, with a secondary objective of price appreciation and equity kickers. Strategies will be considered on both an absolute basis, and relative to public markets.

Mr. Curtiss noted the initial due diligence focus of the teams would be on the following strategies: specialty finance, real estate credit, and cross asset managers. He noted that specialty finance can be a mix of either lending platforms or lending directly to niche (or sector focused) businesses. Capital is often used for either specific project acquisition financing. Further, these businesses can be focused on either consumers or small/medium sized businesses. He noted that real estate credit will allow flexibility to the Real Estate team and would be opportunity dependent. Cross-asset managers were described as similar to multi-strategy hedge funds, but investing in a diversified pool of less liquid strategies.

Ms. Cooley noted that the tactical plan for opportunistic credit could trade across the capital structure of companies, but also noted favoring senior type lending. She inquired if the preference was for senior secured or having a more flexible mandate such as trading across a capital structure.

Ms. Kassam stressed that the mandate is flexible, but is not focused to target high-risk investments. Emphasis would be placed on obtaining enough collateral and seniority to justify the investment to ensure ERS was properly protected. She further noted that there were limitations on the use of leverage (balance sheet financing).

Mr. Claisse then discussed Albourne's experience related to credit research and client portfolios. He noted that their first public pension plan credit mandate was back in 2001. Today, Albourne has over 150 clients that access their private credit research. Their private credit due diligence research is authored by 28 Senior Analysts conducting both investment and operational due diligence. The 28 professionals excludes analysts that are either doing quantitative due diligence or providing a degree of support. In aggregate, the Albourne Private Credit platform offers access to over 400 funds.

Mr. Claisse then proceeded to the next chart, which explained the stages of a credit cycle. The chart further highlighted the opportunity set during each phase. He noted that it is not just distressed and mezzanine strategies that could play a role of providing equity-like/appreciation return streams. He explained that there is a diversified pool of strategies that could capture various return profiles, which could be attractive at various points in a market cycle. These could include structured credit, specialty finance, and other credit opportunities.

Mr. Claisse further highlighted sub-strategies that Albourne feels are more attractive given the current environment. He stated that the framework and guidelines approved in the December 2017 board meeting provide the framework for the development of a more granular sub-strategy framework relative to the seven broad strategies that were previously presented. He explained that within each of the seven strategies discussed there are between two and eight different sub-strategies. He noted the complexity within the credit landscape and return opportunities and drivers.

Ms. Donnell asked if there would be a Select Pool of managers already identified with terms negotiated, in case there is economic turmoil. Ms. Kassam explained that it is an option and noted a cross-asset manager could provide some of that same flexibility.

Mr. Claisse noted that there was an appendix to the agenda item, which held further descriptions around particular strategies and their classification. In this appendix, it also provide color into basics of the strategies, which included leverage, terms, fees, and trade examples.

Ms. Lohachitkul said that it was recommended that the appropriate benchmark include a spread over the S&P Leveraged Loan Index. She presented a chart of the rolling three-year and five-year annualized return of the S&P Levered Loan Index, along with the long-term annualized return of the index, since its inception in 1997. She noted the long-term annualized return of the index is close to 5% and further noted that since the target of the portfolio is at least 6.5%, a spread of 1.5% above the benchmark is appropriate.

Ms. Lohachitkul noted that it is common among Albourne's pension clients to use either a levered loan or high yield index as their benchmark. In this case, given that the portfolio would be skewed more towards senior secured lending activities makes the levered loan index is a more prudent benchmark relative to a high yield index.

Mr. Mindell asked about the amount of leverage in the index and how much target leverage will be in the Opportunistic Credit Program. Ms. Kassam noted that the guidelines allow for flexibility and that targeted balance sheet leverage could be around 2x, which is at the higher end of a targeted range. It should be noted that some strategies could entail the use of inherent leverage, which is different. She explained that the team would be focused on less levered to unlevered strategies.

Ms. Lohachitkul then noted and discussed the differences between the various leveraged loan indices. She explained that the S&P LSTA Levered Loan Index is comprised of both unsecured and unfunded syndicated loans. She noted that it also includes defaulted securities. She explained that the underlying indices do not use leverage, but are reflective of leveraged companies. Hence, there being additional leverage applied to an already leveraged business. She noted direct lending funds frequently invest in senior secured debt, but do not apply leverage at the fund level. She did note that some more aggressive managers would apply leverage to their fund. She again stressed that there is already operating leverage applied to the underlying companies, which provides for naturally higher return profile relative to an unlevered business.

Ms. Kassam noted the tactical plan discusses doing 0 to 2 investments with a lower of 1%, or $270 million of the Trust. She then summarized the topics covered during the presentation.

Mr. Danzeiser asked the IAC for guidance in terms of the appropriate benchmark, which includes establishing a premium above the index. Ms. Cooley commented that setting a benchmark is a challenge on any private asset class since the Trust is forced to utilize a public benchmark with a long dated assumption on an appropriate spread. She stressed that establishing a benchmark with too high of a spread could drive staff to take undue risk. If the spread is too low it results in too easy of a benchmark to beat. She added that she believes that the team has found a happy medium. She believes that a private oriented benchmark will develop over time for the asset class and thinks that the currently proposed benchmark is a reasonable start. She pointed out that the leveraged loan index itself has an interest rate component because these are floating rate loans.

Mr. Hille noted that the premium is largely a function of the illiquidity premium that private lenders are capturing from making the loans. He further noted that he believes the extra premium is a fair assessment. He then discussed LIBOR and explained that the composite benchmark is not investable but is a way to discern how the program is performing.

Ms. Kassam noted that the initial performance of the program would also be compared to other benchmarks for reference purposes (i.e. high yield). She added that IAC members, NEPC, Albourne and staff all provided input into the broader discussion around benchmarking this new opportunity.

Ms. Kooi noted the significant amount of time everyone has put into developing the program over the last few years. She further believes that ERS staff are sourcing across the right strategies and sectors, which should result in additional alpha to the Trust. She added that private credit is an enormous market that has been around for a very long time with many players. She explained that she does not think that this is an area where the Trust is experimenting, but rather executing upon what is now perceived to be a mainstream investment opportunity.

Ms. Caroline Cooley, IAC Chair, opened the floor for a motion on the approval of the Opportunistic Credit Program tactical plan for Fiscal Year 2019.

The IAC then took the following action:

> **MOTION** made by Ms. Mari Kooi, 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 ERS Opportunistic Tactical Plan for Fiscal Year 2019 as shown in Exhibit A.

The Board of Trustees then took the following action:

MOTION made by Ms. Catherine Melvin, seconded by Ms. Cydney Donnell, and carried unanimously by the members present that the Board of Trustees approve the ERS Opportunistic Credit Program tactical plan for Fiscal Year 2019 as shown in Exhibit A.

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

7. INVESTMENT POLICY

8.1 Review and Consideration of ERS' Investment Policy – (Action)

Mr. Tom Tull, Chief Investment Officer, Ms. Sharmila Kassam, Deputy Chief Investment Officer, Mr. Sam Austin and Tim Bruce, NEPC, presented an update on ERS' investment policy draft.

Mr. Tull highlighted the process of developing the new principle-based policy. He explained that it is the culmination of extensive effort involving communication, discussion, and reviews by the Board, Steering Committees, and input by staff. He also noted that NEPC has also vetted the policy. He explained that it was developed to be more user-friendly and condensed, with a focus on investment principles instead of prescriptive rules.

Ms. Kassam explained that the document reflects the relationships between the Board and staff on how the investment program is run and how it is reflected to external stakeholders. She noted that the project focused on common themes for the new policy as articulated in a March 2018 survey of the Board, IAC, and staff.

Ms. Kassam explained that the investment program in 2006 was a public markets model, which did not have any alternative investments. At the time, the policy was 20 pages and investments had 30 employees. In 2018, there were 250 pages, 76 employees, and a very robust asset allocation. The document presented for approval today has 52 pages.

Ms. Kassam explained that some of the themes addressed in the survey were the need for the document to be understandable and useful for the reader. She further explained that themes like a mission statement have been incorporated in terms of investment beliefs and risk philosophy. The new document also seeks to explain risk more comprehensively and in layman's terms. She further noted that the entire investment policy could be read by someone who was not in the investment world and be understandable.

Ms. Kassam noted that the investment program is being built to last, so the goal was to reflect the principles on which the program is based. The document includes a three page Executive Summary. She then covered how risk will be managed looking into the asset classes and more executive risk reporting, so there is a better way to manage the risk and oversight of the investment program.

Ms. Kassam presented a timeline of the time spent on the investment policy. She noted that the expectation is not to be revisiting the document at this level, but to review it on at least an annual basis, and whenever changes are needed. She further noted another opportune time would be with the next asset liability study.

Mr. Austin commented that NEPC was very pleased with the work that had already been done on the investment policy statement. He noted that NEPC had initiated discussions with staff on asset class risk parameters and peer universes as a reference index. He said that the proposed policy is one of the most streamlined revisions of an investment policy statement that he has seen with any of his public fund clients. He concluded that NEPC endorses the process that the staff and the Board used in developing the document.

Ms. Kassam explained that more discussion about reference indexes would be in the next presentation on benchmarking. She thanked everyone for participating in the process.

Mr. Danzeiser asked if it is correct that there are no policy changes being made with this vote.

Ms. Kassam said yes and highlighted the investment policy presented was consistent with the draft at the December meeting, except for minor changes noted clearly in the blackline version for review and consideration. She noted that in December, a crosswalk was provided that showed how the policy is reflective of the prior policy.

Ms. Kassam noted that along with the theme of principles-based, the asset class guidelines and procedures have been moved into the tactical plan of the asset classes. For example, private equity has a manager concentration limit that they can have in any investment. Those will be added to the tactical plan, rather than contained in the investment policy, if approved. They will still exist and will still be approved by the IAC and Board every year with each asset class.

Ms. Caroline Cooley, IAC Chair, opened the floor for a motion on the approval of the ERS Investment Policy Statement.

The IAC then took the following action:

MOTION made by Mr. Ken Mindell, seconded by Ms. Didi Weinblatt, and carried unanimously by the members present that the Investment Advisory Committee of the Employees Retirement System of Texas approve the ERS Investment Policy Statement as shown in Exhibit A.

The Board of Trustees then took the following action:

MOTION made by Ms. Ilesa Daniels, seconded by Ms. Catherine Melvin, and carried unanimously by the members present that the Board of Trustees approve the ERS Investment Policy Statement as shown in Exhibit A.

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

8. BENCHMARKS

9.1 Review and Discussion of Investments Benchmarking

Mr. Tom Tull Chief Investment Officer, Ms. Sharmila Kassam, Deputy Chief Investment Officer, Mr. Sam Austin and Tim Bruce, NEPC presented an update on investment benchmarking.

Ms. Kassam noted the presentation is a follow-up from the educational presentation in December conducted with Aon and gives NEPC an opportunity to discuss their experience with benchmarking.

Mr. Bruce noted that not all benchmarks are constructed equally and listed benchmark aspects such as composition, peer group comparisons, and rebalancing. He explained the role of benchmarks and discussed different benchmarking strategies. He noted the Trust's GIPS compliance and explained that the GIPS guidelines are structured, well adopted, and codified.

Mr. Bruce discussed the CFAI SAMURAI Framework and noted that it is the most adopted framework for evaluating the merits of a benchmark. He noted that private equity is the only benchmark there is debate on because it is tougher to benchmark. He explained that private equity benchmarking does not lend itself to the SAMURAI tenets of being easily replicable and investable. He noted that the second challenge is finding a benchmark that is appropriate for the underlying assets and for the mandate of the governing body. He noted that Private Real Estate has a similar challenge of not being easily investable and replicable, so there are constructed indexes people use, but are not easily mimicked. He further noted that Private Infrastructure and the Absolute Return Portfolio (ARP) have similar issues.

Ms. Cooley asked how timing is matched on any asset class where the timing of the price of the benchmark does not match the timing of the mark of the asset.

Ms. Kassam explained that there is a mismatch on the custodian report and performance. She further explained that asset class teams discuss this when the asset class teams review their programs at

which time they align timing. She noted Private Equity, Private Real Estate, and Private Infrastructure have the longest lags. Hedge funds and even the Global Credit portfolio, where they have some illiquid assets, sometimes lag about a month.

Mr. Austin added some asset classes have differences that are very specific to a plan. He explained that one of his pubic clients has always shown their private real estate benchmark without a lag, because they had open-ended funds and it did not really matter. He added that they have moved to more drawdown structures in their private equity, so they are conducting a study on whether there should be a lag.

Mr. Danzeiser asked if a fund should set a benchmark lower to avoid taking too much risk.

Mr. Bruce explained that there must be support to whatever the return assumption and return premium is based on the investments. He noted that, for example, once the Opportunistic Credit portfolio is constructed, the underlying tenor of those investments would become apparent. He added that it would also provide a good modeling ability to see what the return premium, expectation, and volatility looks like. He explained that then the appropriate benchmark plus premium could be examined. He added that a forward-looking asset allocation assumption could be used, or the benchmark could be tied back to the historical data set.

Ms. Kassam discussed the benefits of conducting the benchmark review alongside the asset liability study going forward to help the investment strategies and risk to be appropriate to benchmarks.

Mr. Bruce noted that these are initial findings and the results will be presented at a later date. He further noted the SAMURAI Framework would be used to evaluate the Wilshire TUCS as the Private Equity Program benchmark and the utility and benefits from a benchmarking perspective. He then discussed the ARP benchmark and finding precision around the proper premium above treasury bills. Finally, he discussed changing the public equity domestic component benchmark, for performance reporting only, to MSCI US from S&P 500.

Ms. Kassam discussed ARP conversations with staff, NEPC, and the asset class consultant. She highlighted that the ARP must be a diversifier to the Trust to meet its objectives. She further explained that the ARP is in the risk-reducing segment and must have a 0.4 beta to Trust. She noted that in the current market environment, with low inflation and low interest rates, there is a concern that in order to meet the premium the Trust would have to take on more risk. She added that the ARP portfolio is not necessarily targeting a large component of risk.

Ms. Kassam noted the benchmark discussions throughout the day and further noted the thought of using peer universes for the Private Equity Program as is used in the Private Real Estate Program. She explained that the TUCS universe is used right now in the Private Equity Program incentive compensation. The universe is public plans over $5 billion, with private equity portfolios. She added that public pension peers in town use TUCS benchmarks for different asset classes and noted there have been discussions with them to see if it is relevant for our portfolios.

Mr. Mindell noted that a peer comparison for private equity seems acceptable because other public plans likely have similar allocations. He explained that the wide divergence in absolute return strategies would make a peer universe difficult to matchup in the ARP.

Ms. Kassam discussed the HFRI peer universe and noted the ARP is more conservative than other hedge fund portfolios. She added that there are varieties of factors to consider.

Ms. Donnell commented that she likes the idea of the peer universe as long as the peers are relevant, since there can be a great deal of variability between portfolios.

Mr. Danzeiser asked how lowering the benchmark target to reduce risk relates to the appropriateness of using that benchmark in the Incentive Compensation Program (ICP).

Ms. Kassam explained that whenever possible policy benchmarks are used in the ICP. She added that infrastructure is one recently discussed where that is not as useful since the portfolio is not being benchmarked to the policy benchmark as it is still in its development stage. The infrastructure asset class does not provide a lot of robust universes. She added that the Infrastructure ICP was set up with something more targeted to the objective of the program. Like private equity, infrastructure has a strong component of co-investments, and possibly direct investments in the future.

Mr. Danzeiser asked what the disincentive of setting the benchmark low is if someone could exceed it by making more risky investments in terms of their ICP. Ms. Kassam explained that there are parameters around the assets classes within the strategy, portfolio construction, and diversification that manage the amount of risk taken.

Ms. Donnell commented that if the team is out of compliance with those portfolio guidelines they could not receive ICP even if there was excess performance because the portfolio would be out of compliance.

Ms. Sullivan added that benchmarks are chosen to reflect how the Trust wants the asset class to be structured and what reflects the best mix of the assets the Trust is trying to invest in. She explained that a spread is set over the benchmark to incentivize the team to either generate alpha or actively manage.

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

9. 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.

10. 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.