Joint Meeting of the Board of Trustees and Investment Advisory Committee

March 7, 2018

ERS

EMPLOYEES RETIREMENT SYSTEM OF TEXAS

Presented for Review and Approval

May 23, 2018

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

ERS Building – Board Room
200 E. 18th Street, Austin, Texas 78701
March 7, 2018 – 8:00 a.m.

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

IAC PRESENT
Caroline Cooley, Chair
James Hille, Member
Ken Mindell, Member
Lenore Sullivan, Member
Didi Weinblatt, Member
Gene Needles, Member
Mari Kooi, Member
Bob Alley, Vice-Chair
Laura Starks, Member

ERS STAFF PRESENT
Porter Wilson, Executive Director
Catherine Terrell, Deputy Executive Director
Paula A. Jones, Deputy Executive Director and General Counsel
Aaron Ismail, Internal Audit
Betty Martin, Investments
Beth Gilbert, Internal Audit
Brannon Andrews, Office of General Counsel
Cheryl Scott Ryan, Office of General Counsel
Chris Tocci, Investments
Dee Sterns, Director of Human Resources
Gabrielle Schreiber, Director of Procurement and Contract Oversight
Jennifer Chambers, Director of Governmental Relations
Jennifer Jones, Strategic Initiatives
John Streun, Investments
Juli Davila, Investments
Kathryn Tesar, Director of Benefits Communications
Keith Yawn, Director of Strategic Initiatives
Kelley Davenport, Executive Office
Machelle Pharr, Chief Financial Officer
Michael Shoop, Investments
Michael McCrary, Investments
Michael Clements, Investments
Nancy Lippa, Office of the General Counsel
Nicholas Maffeo, Investments
Pablo de la Sierra Perez, Investments
Panayiotis Lambropoulos, Investments

Peter Ehret, Investments
Ricardo Lyra, Investments
Robin Hardaway, Director of Customer Benefits
Shack Nail, Special Projects and Policy Advisor
Sharmila Kassam, Deputy Chief Investment Officer
Stuart Williams, Investments
Tanna Ridgway, Investments
Tim Reynolds, Investments
Tom Tull, Chief Investment Officer
Tony Chavez, Internal Audit
Travis Olson, Investments
Wesley Gipson, Investments

VISITORS PRESENT
Jay Yoder, Pavilion
Nick Arnold, Humana
Michael McCormick, Aon Hewitt Investment Consultants
Patricia Kolodzey, Blue Cross Blue Shield of Texas
Philip Cote, Pavilion
Steve Voss, Aon Hewitt Investment Consultants

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. Doug Danzeiser, Chair of the Board of Trustees for the Employees Retirement System of Texas (ERS), called to reconvene the ERS Board of Trustees.

1.2 Call Meeting of the Investment Advisory Committee to Order

Ms. Caroline Cooley, Chair of the Investment Advisory Committee (IAC) for the Employees Retirement System of Texas (ERS), called the meeting to order and read the following statement:

> A public notice of the ERS Joint Board of Trustees and Investment Advisory Committee meeting containing all items on the proposed agenda was filed with the Office of the Secretary of State at 11:03 a.m. on Monday, February 26, 2018 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, 2017 Joint Meeting of the Board of Trustees and Investment Advisory Committee meeting – (Action)

Ms. Caroline Cooley, IAC Chair, opened the floor for a motion on the approval of the minutes from the December 12, 2017 Joint Meeting of the Board of Trustees and Investment Advisory Committee.

The IAC then took the following action:

MOTION made by Mr. Ken Mindell, seconded by Ms. Mari Kooi, 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, 2017.

The Board of Trustees then took the following action:

MOTION made by Ms. Cydney Donnell, seconded by Mr. Craig Hester, and carried unanimously by the members present that the Board of Trustees approve the minutes of the December 12, 2017 Joint Meeting of the Board of Trustees and Investment Advisory Committee.

2.2 Motion to Rescind approval of the minutes for the August 23, 2017 Joint Meeting of the Board of Trustees and Investment Advisory Committee; Review and Approval of Amended Minutes of the August 23, 2017 Joint Meeting of the Board and IAC – (Action)

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

The IAC then took the following action:

MOTION made by Ms. Lenore Sullivan, seconded by Mr. Ken Mindell, and carried unanimously by the members present that the Investment Advisory Committee of the Employees Retirement System of Texas rescind and approve the minutes of the Joint Meeting of the Board and IAC held on August 23, 2017, as amended.

The Board of Trustees then took the following action:

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

3. EXECUTIVE SESSION

3.1 Executive Session – In accordance with Section 815.3016, Texas Government Code, the ERS Board of Trustees will meet in executive session to consider and discuss an alternative investment or a potential alternative investment in a private equity fund of funds. Thereafter, the Board may consider appropriate action in open session.

Mr. Danzeiser, Chairman of the Board of Trustees stated it was 12:57 p.m. on March 7, 2018. The Board of Trustees will meet in executive session in accordance with Section 815.3016, Texas Government Code, to consider and discuss an alternative investment or a potential alternative investment in a private equity fund of funds. Thereafter, the Board may consider appropriate action in open session.

After the executive session, Mr. Danzeiser stated it was 1:32 p.m. on March 7, 2018 and the Board is now in Open Session. No action, decision, or vote was taken by the Board while in Executive Session. Mr. Danzeiser further stated he would entertain any motions from members of the Board.

Motion made to move that the Board of Trustees of the Employees Retirement System of Texas authorize the executive director to cause ERS to make the investment in the alternative investment fund discussed during the executive session by negotiating and executing documentation for the investment, with terms and conditions acceptable to ERS; and to authorize the executive director to therefore administer the investment in accordance with negotiated terms and conditions.

Motion by Craig Hester, second by Cydney Donnell.

Final Resolution: Motion Carries

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

4. IAC ELIGIBILITY AND COMPLIANCE

4.1 Review and Discussion of the Eligibility and Compliance for Calendar Year 2018 of the Investment Advisory Committee

Mr. Tom Tull, Chief Investment Officer, gave a brief background on the Investment Advisory Committee (IAC) eligibility and compliance. Texas Government Code requires the Board to annually review the eligibility of the IAC members and establish eligibility standards. These standards can also be found in the investment policy statement. The objective is to address conflicts of interest and attendance. ERS Staff have confirmed that all IAC members have affirmed their eligibility in accordance with the standards.

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

5. INVESTMENT PERFORMANCE

5.1 Review of Investment Performance for the Fourth Calendar Quarter of 2017

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

Mr. Steve Voss gave an overview of calendar year performance. He noted that 2017 was an incredibly strong year. The total fund generated a return after fees of 16.1%, compared to the benchmark of 14.9%, with the total excess return of 1.2%. He discussed that this outperformance was done with a reasonably low tracking error around the long-term board approved benchmark of 1.55%. The market value at the end of the year was $28.6 billion. For the calendar year returns, the trust is within compliance on all policy targets. He noted there were some tactical shifts that the investment team had made during 2017 that paid significant gains. He noted the difference between return seeking and risk reducing assets.

Mr. Voss then explained in detail the excess return calculations for the trust. At the beginning of the year, the trust value was $25.6 billion. There were benefit payments of around $1.1 billion, and investment earnings of about $4 billion. He noted that staff was able to generate $300 million of excess returns (alpha) during the one-year period. Some of the alpha was generated by changes in the tactical asset allocation, and some was due to the overweight to public and private equity.

Mr. Voss noted that stocks returned about 25% in 2017. Fixed income, the risk reducing portion, generated about 1.4%. There was a 23.9% spread between stocks and bonds. He noted the global public equity asset class returned 25.3% for the one-year period, and the benchmark generated 24.3%.

Mr. Craig Hester commented that the tactical decisions have paid huge dividends, and pointed out that the three, five, and 10-year numbers are all ahead of the total fund benchmark as well. He noted that the overweight to equities versus fixed income, paid off largely for the trust.

Mr. McCormick presented performance information, including information on a risk-adjusted basis. He noted that over the 10, 15, 20, and 30-year periods there has been significant benefits from diversification of the trust. He noted the total fund outperformed by about 1.2% for the year. He said this is a great sign of success that the trust was able to beat the benchmark by over one percent. He commented that the trust was able to do this while reducing volatility slightly relative to the benchmark, which is also a sign of success. In the longer-term periods, the diversification that was implemented through the asset allocation has reduced risk relative to a typical 60%/40% stock-bond mix, which has added to results as well. He summarized by noting that reductions in volatility is great from a quarter-to-quarter basis. Lowering volatility makes the Trust more sustainable and improves the long-term projections for the assets and liabilities weighted together.

Ms. Kassam presented information on the relationship between ERS and AHIC. The Board hires the consultants as a resource to support members of the Board and IAC, as well as ERS staff. The general plan consultant can assist with research projects, which have varied over time for the plan, and help staff with input on best practices. The consultant can also provide investment recommendations for deals, when the specific deal does not fit cleanly within the scope of one of ERS' specialized consultants. Aon has filled this role, and has provided a few different recommendations for the plan in the near past. She noted that Aon has also worked with staff on the investment policy and trustee training.

Ms. Kassam next noted that during the yearlong asset liability study the Board and IAC commented they would like to hear more about what staff is doing that may not be reflected in the performance books. Both Ms. Kassam and Mr. Tull will communicate this to the Board and IAC on a regular basis. She noted that going forward there will be a portion of the performance presentation targeted towards explaining staff decisions and then ask for Aon to provide any additional input regarding those decisions.

Ms. Kassam stated because of the outsized returns in January in the S&P 500, 7.5% in just one month, a decision was made by staff to take half of those profits off the table. These profits were used to fund other investments as well as benefit payments. This is something ERS expects to do more often as part of the prudent management of the assets.

Ms. Kassam described the seeded fixed income ETF (HYLB), which has hit 2017 year end projections, and has been noted as the top ETF for cash inflows in the fixed income sector. ETFs have a history of taking some time to begin creating value, and staff has been pleased with the performance of this ETF.

Ms. Kassam discussed the ERS/TRS emerging manager conference, which was a great success, with over 1,200 attendees. In addition to the co-sponsored event, ERS held its first annual open house, where ERS hosted over 125 managers across asset classes to hear investment program updates for the fund.

Another area of focus is on team development, and this is an area Investment management is looking at in terms of retaining staff and enhancing the culture. The focus is to include training as well as team building, and fostering upward and downward communication among staff.

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

6. ERS INVESTMENT POLICY

6.1 Review of ERS' Investment Policy

Mr. Tom Tull, Ms. Sharmila Kassam, Mr. Steve Voss, and Mr. Mike McCormick, Aon Hewitt Investment Consulting (AHIC), presented information on the ERS Investment Policy. Mr. Tull said that it is a good time to review the investment policy statement for refinements and improvements after completing an asset allocation study. Mr. Tull noted the goal of the Investment Policy is to provide formal guidelines for staff, and there is always room for review and revision.

Ms. Kassam noted that the initial goal is to come back in May with a roadmap of when certain key areas of the investment policy will be addressed. The investment policy serves as a framework that can help act as a stabilizer for the investment program, in the event of turnover. It is important that the document be user-friendly and understandable, while reflective of the investment program.

Mr. Porter Wilson, Executive Director, pointed out that the December version of the investment policy statement is in the Board Docs online document portal available to the Board and IAC at any time.

Mr. McCormick presented information on best practices for an investment policy, as identified among their clients and industry peers. The policy should include an introduction with reference to state or local law. The ERS Investment Policy currently ties back to the Texas State Constitution and the Texas Government Code for the establishment of the fund. It should also include a statement of purpose and identify the investment goals of the pension plan. The policy should explain the asset allocation, and the process for determining and reviewing it. This information is currently in the ERS Investment Policy and AHIC expects those to be in the new document as well.

Mr. McCormick described important elements of delegation of authority; specifically how the policy should set expectations for each role. He also identified clear expectations for the different asset classes, including asset class guidelines and benchmarks. It is also important to define how asset classes should interact when aggregated at the total fund level and how to monitor asset classes. He discussed rebalancing policy and risk management. Monitoring and reporting fund performance and the structure of the oversight and governance process are also important elements of a policy. The policy should document the core principles of the Board, IAC, and staff.

Mr. Voss noted that ERS has the majority of these components in the Investment Policy and cited asset allocation and rebalancing, benchmark definitions, risk management, monitoring and reporting, and governance delegation as the five most critical elements.

He reiterated the point made by Mr. Tull and Ms. Kassam, that the policy could be made a little more user friendly. The policy is currently 246 pages long.

Mr. Voss described additional industry trends for investment policies include the delegation of authority to staff for manager selection and termination, a shift towards principle based policy over a rules based policy, a broader view of asset allocation and risk exposure, a belief statement which can be embedded within the IPS or distinctly separate, an executive summary, and continued evolution of risk management and oversight.

Mr. McCormick discussed the desire to survey the Board and IAC to ask for feedback on what respondents would like to understand better about the policy, if there anything that makes them uncomfortable with in the current policy, and any areas that they would like to change in the current policy.

Mr. Wilson noted the goal is to give plenty of opportunities for members of the Board and IAC to give specific input on language that they would like to see incorporated or modified. Staff will take the feedback and incorporate it into a revised policy

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

7. GLOBAL PUBLIC EQUITY

7.1 Global Public Equity Program Overview, Proxy Voting and Market Update

Mr. John Streun, Director of Global Public Equity, Mr. Chris Tocci, Deputy Director of Global Public Equity, Ms. Sharmila Kassam, Deputy Chief Investment Officer, and Mr. Michael Clements, Chief Equity Trader, presented an update on the Global Public Equity program, along with proxy voting and market update.

Mr. Streun commented that the investment objective and strategy have not changed from the last year. The investment objective is to outperform the global equity benchmark, which is the MSCI ACWI IMI index. Staff seeks to do this while maintaining an eye on the risk budget and risk targets. The strategy continues to remain the same, a combination of lower risk and lower cost internal strategies with higher-risk external strategies, to produce a stable excess return of 25 basis points over a five-year time period. Over the year, the team has been able to achieve these objectives.

Mr. Streun reported that 2017 was a good year from both an absolute and relative standpoint. On a relative basis, Global Public Equity outperformed by 100 basis points, and 11 out of 12 internal portfolios outperformed their benchmark. The only fund to not outperform the benchmark was the index fund, which matched the benchmark. Nine out of 10 external portfolios outperformed their benchmark. He noted the only fund that did not outperform was the value manager in the portfolio. Value has been disadvantaged as a style over the last year or so.

Mr. Streun noted that staff does not make big macro bets in general, so most of the value was added through stock selection, both internally and externally. However, an overweight to international stocks, instead of domestic, did contribute to performance. He noted a sizeable overweight to the information technology sector, which did well last year. There were a few things that detracted from performance, and the biggest detractor was an overweight to U.S. small cap.

Mr. Streun said the team integrated more quantitative scores into their fundamental analysis over the past year by using an internal quantitative scoring process. Staff also looked to sell side research and to the brokerage community for some of their quantitative models. Staff improved the sell discipline, and made some adjustments to certain teams and analyst assignments. He noted the team is encouraged by the results that they have seen so far. All six analyst-driven portfolios outperformed their benchmark last year in terms of relative performance, and in some cases, such as the emerging market portfolio and the Asia portfolio, they outperformed by a pretty wide margin. Tracking error over the last year is within the bounds of policy, and tracking error really did not change throughout the year.

Ms. Caroline Cooley asked if there was a way to get closer to the target on the tracking error. Mr. Streun confirmed that it has been a challenge over the past four years to get to the target due to the overall market environment of low volatility, the need to increase the exposure size or the average exposure to certain stocks, or make big sector/geographic allocation decisions.

Mr. Streun highlighted the equity team, and leadership team, noting that the team is very experienced, with an average of 23 years for the portfolio managers. The external advisor team works closely with the global public equity team to ensure the external portfolios are complementing internal strategies. He noted the retirement of the Chief Trader, Neil Henze, and commended him for his service to the team, and noted the promotion of Michael Clements to fill the role.

Mr. Chris Tocci discussed portfolio structure and positioning including dollar allocation, risk allocation, sector allocation, regional allocations and some of the funds factor exposures. Global Public Equity is $14 billion spread across 22 portfolios. This represents about 49% of the trust, which is up from the prior year. Staff feel this is good diversification both on a dollar and a risk basis. Domestic investments are $6.9 billion. The team manages 89% of the domestic assets internally. He noted that there is approximately $7 billion in the international program, and the team manages 56% of the international assets internally. Staff tend to reach out more and seek more active managers in the international environment.

Ms. Jeanie Wyatt asked if the team has the technology or the ability to look across the asset classes and portfolios. Mr. Tocci confirmed that is primarily how staff look at the exposures. He noted the ability to run composites and pull a portfolio for an analysis on a stock-by-stock basis, not just at the portfolio level. If one of the EAFE managers has an emerging market stock in it, that is captured in the analysis.

Ms. Cooley asked for insight as to how Global Public Equity is positioned, and the decision making process. Mr. Streun commented that some of the positioning aligns with the view that interest rates are going higher. The financials' overweight, would benefit if rates went higher, while utilities and real estate would suffer. Information technology, both externally and internally managed, is more of a persistent overweight. In many cases, information technology has pockets that are reasonably valued, to the extent that anything is reasonably valued in today's market.

Mr. Tocci described regional exposures, which showed the US being moved from a significant overweight position to underweight as capital was redeployed to Japan and Emerging Markets. The UK, while still overweight, was also a source of funds for Emerging Markets and Japan. The consensus underweight of Asia remained in place while Japan continued to move toward neutral.

Mr. Mindell asked how much exposure was to China, and how much of that is reflected in the tracking error coming out of 2017. Mr. Tocci noted that staff made an allocation internally where money was moved from Europe to the emerging markets, additionally there was also a decision to move some money out of European large-cap and more into emerging markets. There was also a funding from U.S. large cap and emerging markets to fund a new external advisor, Acadian.

Mr. Tull noted that with respect to China, a lot of the exposure into China is via Hong Kong. The Trust has much greater holdings in Hong Kong than China. The team can report by region, on a monthly basis, if the Board would like to have this information. Staff analyze all holdings across all of the asset classes by country to monitor the exposures. In emerging markets, there is 7.2% as of the month of February; on the equity side, there is 9.2%. He noted there is a constant monitoring to compare with the benchmarks, but also to help determine where staff may want to prune as time goes forward.

Ms. Wyatt asked if staff look at sectors, as well as countries, like technology or oil and gas, and if there is that capability. Mr. Tull noted that individual and asset class portfolios are monitored by sectors. Staff is continuing to refine the process whereby there can be a breakout on a more effective basis to see sector exposure at the trust level, particularly with respect to credit, energy, financials and so forth. Mr. Streun noted that it is easier to do that analysis in public markets than it is in alternatives since there is very deep granularity in public markets allowing staff to drill down to the security level. Ms. Kassam noted that ERS is working to develop the private market level of detail.

Mr. Tocci discussed factor exposures, and reported that no single exposure is very large. The exposures are typically plus or minus 0.8 standard deviations from the benchmark. Over the years, the portfolio has had persistent exposure to momentum and growth, which means that it is occurring across multiple portfolios. He noted an underweight to value exposure has been fairly persistent over time as well.

Ms. Kassam presented information on the 25% of the global public equity program which is externally advised. She described the external advisor selection process, which includes research, selection, implementation, monitoring, and rebalancing as appropriate.

She noted Legato, is the manager of emerging managers, a fund of funds. The Legato program went from an all-cap domestic portfolio to an international small cap to achieve exposure. The goal is to directly hire an international small-cap manager in the core portfolio and a search is underway.

Staff is also looking for an emerging market small cap strategy manager. That search should be concluded by the end of the year.

Also in 2017, ERS funded Brandywine, the large-cap value equity manager. It offers a nice contrast to the Barrow Hanley portfolio, and with regard to information technology sector, both Barrow Hanley and Brandywine have exposures to that with good stock selection in both of those sectors. She noted both managers have proven to be good performers. Their portfolio is structured under a performance-based fee and ERS will be paying some of that incentive fee; however, the performance fee will be paid over a three-year term rather than on an annual basis.

Mr. Michael Clements, Chief Trader, thanked staff for their vote of confidence, in assuming the role of Chief Trader, and gave an overview and trading program update. In 2017, year over year, annual commissions dropped about 6% compared to 2016, but remains close to $9 million. He noted that the institutional blended rate had decreased down to 2.5 cents, from 2.7 cents, year over year. ERS cost increased to 2.1 cents, from 1.9 cents. He noted ERS' rate is well beneath institutional peers.

Mr. Clements reported that the top four portfolios that generate the most commissions on a year-over-year basis are all international. This is due to international trading being done in basis points versus U.S. trading which is done in cents per share. He noted that there has been a very small amount of stock splits last year and in subsequent years too, and the S&P 500 average price is about $78 for an S&P stock versus the year before where it was about 1.3% lower.

Mr. Clements noted that one can trade more dollar value in the U.S. with fewer shares. The international portfolios tend to have a little bit higher turnover as well. He noted ERS is very competitive in most markets. The ones that stand out are Europe and Japan, where ERS actually pays more in those markets, because there are niche brokers in those markets that ERS pays more for the value of their research. In those instances, the team has decided there is significant value to pay a slight increase in commissions in order to gain the research.

Mr. Streun presented an update on proxy voting. Staff see proxies as having economic value, and votes proxies for the sole economic benefit of the Trust's beneficiaries, in keeping with our fiduciary responsibility. He noted that ERS uses Institutional Shareholder Services (ISS) to help streamline the proxy voting process. In most cases, guidelines do not require us to vote with management, but it has been in line with management for the last couple of years. He did point out that trend did go down slightly last year. He mentioned a big initiative in proxy voting in particular, is focused on Japan. Staff has engaged in a letter-writing campaign with the goal to notify companies that they need to raise-- their return on equity, and have more of their board members be independent. Mr. Tull noted that staff has been successful receiving responses from several companies, including feedback from a number of the Japanese companies.

Mr. Streun commented on the Best Ideas Program, which remains highly successful. There are three portfolios in the Best Ideas Program. The ideas initiated from ERS analysts or from portfolio managers. All three of those portfolios continue to remain focused on domestic strategies, and the desire is to have another portfolio focus more on international. He noted that is going to be an effort of focus over the next year internally, along with the Small Cap RFP, and options extension strategies, where staff feel there are some inefficiencies that could create some investment opportunities.

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

7.2 Proposed Revisions to the Global Public Equity Guidelines and Procedures – (Action)

Mr. John Streun, Director of Global Public Equity, Mr. Chris Tocci, Deputy Director of Global Public Equity, Ms. Sharmila Kassam, Deputy Chief Investment Officer, and Mr. Michael Clements, Chief Equity Trader, presented proposed revisions to the Global Public Equity program Guidelines and Procedures (Guidelines). Staff look at the Guidelines on a regular basis and bring them to the Board and IAC annually for review, unless there is a reason to bring them sooner.

Ms. Kassam noted in 7.2, Exhibit A, the changes are non-substantive administrative revisions. The aspect of the change that is substantive is the tactical plan, which is designed to give the Board and IAC an overview of the searches that staff are going to pursue. It could be for the directional portfolio in hedge-fund-type strategies, or long-only strategies. She noted the international strategies are areas of research.

Mr. Ken Mindell asked why the tracking error was being removed in certain areas from the Guidelines. Ms. Kassam noted there were a couple of different areas where the Guidelines for tracking error were very detailed. Despite that granularity, the Board and IAC have governed tracking error at an asset class level, rather than at an individual portfolio level. This shift happened following the asset allocation decisions made in February 2013, when it was collapsed into the global equities as one asset class tracking error limit. The team manages to some targets, but those can vary.

Mr. Streun confirmed that staff is focused more on tracking error at the asset class level rather than at the individual portfolio level. He noted that the team monitors and pays attention to tracking error at the individual portfolio level, but oversight has moved away from having guidelines and specific risk targets at the individual portfolio level over the last couple of years. He said he considers this more of a reflection of current policy than a change in policy. Ms. Cooley noted there did not appear to be any substantive changes, but she did notice the Guidelines listed some constraints. She asked if any of the constraints are too detailed or too broad. Ms. Kassam noted that staff consider the constraints reasonable and do not see a need to ask for changes.

Ms. Caroline Cooley, IAC Chair, opened the floor for a motion on approving the proposed revisions to the Global Public Equity Guidelines and Procedures.

The IAC then took the following action:

> **MOTION** made by Mr. Gene Needles, seconded by Mr. Bob Alley, and carried unanimously by the members present that the Investment Advisory Committee recommend that the Board of Trustees of the Employees Retirement System of Texas approve the proposed revisions to the Global Public Equity guidelines and procedures as presented in Exhibit A.

The Board of Trustees then took the following action:

> **MOTION** made by Ms. Cydney Donnell, seconded by Mr. Craig Hester, and carried unanimously by the members present that the Board of Trustees approve the proposed revisions to the Global Public Equities guidelines and procedures as presented in Exhibit A.

8. PRIVATE INFRASTRUCTURE PROGRAM

8.1 Market Update and Program Overview

Mr. Pablo de la Sierra Perez, Director of Private Infrastructure, Ryan Wilkinson, Real Assets Associate, Jay Yoder, and Philip Coté from Pavilion Alternatives Group, presented a market update and program overview for the Private Infrastructure program. Ryan Wilkinson joined the team last year, having previously worked for an international developer based in Austin.

Mr. de la Sierra Perez said that the program was created in 2013, and since then, there have been 10 funds and 13 co-investments allocated, for a total committed capital of more than $1 billion dollars as of December,31, 2017. The Net Asset Value is around $510 million, which represents about 1.8% of the trust. This includes three legacy assets, initially in the special situation portfolio, which were transferred to the infrastructure portfolio when it was created.

The portfolio today is generating today 0.94 times total value to paid-in capital, and 0.15 times distributed to paid-in capital, and minus 3% IRR. Mr. de la Sierra Perez considered this performance consistent with expectations for a portfolio of the same age, considering the J-curve effect. He described last fiscal year as being good from a committance perspective. He noted that the team committed $350 million, which is above the target, but within the limits. This fiscal year, the team has already committed nearly $140 million, and is expected to finish the year with some additional $250 to $300 million of new commitments.

Mr. Wilkinson discussed the geography of the portfolio, which is currently about 63% in developed economies, and 37% in emerging markets. This compares favorably with the target for a 50-50 split. He noted the early nature of the portfolio, and expects the team to reach those targets as the portfolio matures. By sector, while there is no clear mandate or constraints, the team tried to achieve sector diversification as much as reasonably possible. The largest current exposure is to the power sector at about 55%. After power, the fund is well diversified across other sectors, telecom and transportation utilities. The team will continue to add exposed sectors as appropriate.

Mr. Wilkinson discussed strategy, and how the portfolio is divided into three areas, core, value-add and opportunistic. The team's long-term target is 25% core, 50%value-add and 25% opportunistic, although these are considered fluid classifications that will continue to evolve. Staff feel one way they can capture higher return premiums is by taking prudent risks in certain areas, such as construction risk. In commitments, the fund is about 50% construction assets and 50% operating. These assets will evolve over time.

Mr. de la Sierra Perez discussed another very strong year in 2017 for fundraising. It seems to have plateaued a bit, compared to 2016, but the team continues to see strong activity. He noted fund sizes are high and increasing.

Ms. Cooley asked how these numbers compare to private equity or real estate fund raising numbers.

Mr. de la Sierra Perez noted that it is a smaller number with the largest fundraising for private markets in private equity, followed by real estate, natural resources, and infrastructure. While real estate continues to be larger, the infrastructure asset class is growing and is expected to see continuous growth. He noted the team continues to see quite a bit of activity in the Greenfield space, on new construction. New infrastructure is where most of the world's infrastructure needs are, but there is also a need for upgrades to existing infrastructure, either expansions or simply repairs.

Mr. de la Sierra Perez said that Industrial and strategic players are a source of opportunities, either through asset recycling or simply needing additional funding. The team continues to see many pension plans wanting to go more direct and target co-investments, but it does not seem to be possible all the time.

Mr. de la Sierra Perez presented near-term goals and objectives for fiscal year 2018 and fiscal year 2019. The team will continue to pursue direct investments and co-investments, and continue to try to diversify the portfolio away from energy, power and utilities, while not sacrificing investment discipline. Staff will continue to seek ways to pool and partner with other similarly situated investors and enhance operational flexibility. The team will present a tactical plan for approval by the Board. Another goal is to hire one analyst, hopefully within this fiscal year. The team is proposing further targets of $400 million for fiscal year 2018, $450 million for fiscal year 2019, and $500 million ongoing.

Mr. Craig Hester asked if staff expect to see more direct investments or co-investments this year. Mr. de la Sierra Perez noted that the last 18 months were good for co-investments, and the team expects co-investments to continue in 2018. Direct investments have a direct correlation with the size of the team, so they will be easier to do as the team is built out.

Mr. Yoder from Pavilion presented their overview of Private Infrastructure. He said that although ERS is still in the early stages of building its private infrastructure portfolio, it is making great progress. He noted that the fund has $1 billion committed and just over half of that amount in net asset value. This includes 10 funds and an active co-investment program. Despite being a young program, the portfolio is well diversified by both geography and sector.

Ms. Starks asked if there are many environmental standards in the industry on these infrastructure projects, given how important Environmental, Social and Governance (ESG) factors have become to institutional investors. Mr. Yoder confirmed that a major part of the investment process for virtually every quality infrastructure manager are ESG ramifications.

Ms. Cooley asked whether the investment goal is to be close to the market, or to select particular areas that the team prefers. Mr. de la Sierra Perez noted there is no specific intention to be part of the market but that it can happen, even when you invest in blind pools, as an effort to diversify the portfolio. He noted the team tries to invest in funds or with fund managers that have other skills, and have done other type of investments in other sectors.

Mr. Hille asked if how certain industry segments are priced, expected rates of return, how staff determines if a deal is attractive, and how returns are expected to change over time. Mr. de la Sierra Perez noted that returns are measuring Internal Rate of Return, which is industry-wide. For the same risk, the team tries to get a return that is appropriate for that type of risk.

Mr. Cotè gave an update on the current themes and trends in the infrastructure market today. He noted that there continues to be a large need for infrastructure investment globally to support economic growth. A McKinsey study that was done fairly recently estimates that the $3.3 trillion that is required annually through 2030 support a forecast global economic growth rate of about 3%. Infrastructure is generally tied to GDP growth, and the spending in that area has really been led by the developing economies that have represented the lion's share of investment. In the U.S., the current administration has discussed a $1 trillion plan to update the country's infrastructure.

Mr. Cotè noted approximately $65 billion was raised by private infrastructure funds in 2017. The average fund size trends upwards. It is about $1 billion now, and that average is really being pulled up by a handful of very large funds that have attracted most of the capital in this space.

Mr. Hester asked Pavilion to elaborate on the billions of infrastructure debt being raised, despite low single-digit returns. Mr. Yoder noted that they forecast from 7 to 8% for core infrastructure, 8 to 9% value-add, and above 10% for opportunistic, going forward. Pavilion does not think infrastructure is much different from other asset classes, but noted that it is not an undiscovered or unloved asset class.

Ms. Cooley noted that ERS is not buying debt, but are investing in the equity. Low costs of debt are actually a benefit to us. Mr. de la Sierra Perez confirmed the asset class guidelines allow staff to invest in debt as well. The team has not found compelling opportunities in the senior debt space in infrastructure. The returns are usually pretty low for that debt, and ERS has invested in mainly equity.

Mr. Yoder presented some recommendations for the ERS Team, including some that they are recommending for all of their clients and some that are specific to ERS. In general, Pavilion recommends investing with or alongside top-quality managers that possess operational expertise so that they can add value. He noted his team is not a big fan of the giant mega-funds. They would recommend focusing on mid-market managers, proceeding with caution in emerging markets where there are lots of risks, and maintain modest and realistic return objectives.

Mr. Yoder's recommendations specifically for ERS are generally designed to bring the portfolio closer to policy targets. The core strategy is an area where ERS is below the target. As Mr. de la Sierra Perez alluded to earlier, it is probably the most overvalued strategy. He noted that the power exposure is strong, so he would recommend avoiding commitments to any funds that expect to place a large percentage of their capital in the power sector. Europe is one of the biggest infrastructure markets, which is relatively underweighted in the ERS portfolio. Finally, there are general partner concentration caps, which the portfolio is currently violating, but is not surprising due to the early stages of the program.

Mr. Hester whether the tactical plan recommendation to lower the expected return by about 50 basis points is tied to the more modest outlook on the asset class. Mr. Yoder confirmed that he thinks that the lower number is very reasonable, and is in line with the more modest returns going forward. The change would also bring ERS in line with the single most common benchmark for infrastructure, which is the CPI plus 4%.

Ms. Cooley asked if return assumptions are based on the cash flow from the infrastructure investment over the holding period, or on an ending valuation. Mr. de la Sierra Perez noted for infrastructure, there is an expectation to have a significant component of current yield. Some funds will have value creation at the end of the fund. Others will be almost purely yield and very little appreciation. He noted it will be a combination, but overall, the team expects a level of current yield.

Ms. Jeanie Wyatt asked how the new return assumptions compare to the assumptions that were used when the Board changed the asset allocation. Mr. de la Sierra Perez noted the assumptions are still consistent. Ms. Wyatt asked if Pavilion is bringing recommendations for managers as well as for the individual direct investment projects. Mr. de la Sierra Perez noted that the team holds discussions with Pavilion frequently where they discuss opportunities that they have seen from a fund perspective. About 95% of the time, co-investments come from existing relationships with managers.

Mr. de la Sierra Perez further explained this is why continuing to invest in funds that can bring co-investments and continuing to develop those relationships is key. ERS continues to pursue direct investments that are sourced by either Pavilion or internally, as both the consultant and staff have extensive networks.

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

8.2 Proposed Revisions to the Private Infrastructure Guidelines and Procedures – (Action)

Mr. Pablo de la Sierra Perez, Director of Private Infrastructure, Ryan Wilkinson, Real Assets Associate, and Jay Yoder, and Philip Coté from Pavilion Alternatives Group, presented proposed revisions to the Private Infrastructure program Guidelines and Procedures. Staff is proposing a change in the benchmark from CPI plus 450 to CPI plus 400. There are a significant number of investors that use CPI plus a margin, and a big majority of those use CPI plus 400 or less. That change is the only significant one, other changes are minor and administrative in nature.

Mr. Danzeiser commented that setting the benchmark is very important to a number of items, and he asked how ERS generally determine the need to change a benchmark. Mr. de la Sierra Perez noted that, in this instance, staff and the consultant reviewed the guidelines and procedures, and determined that they should be more in line with the lower expected returns that cross all asset classes, including infrastructure. He also noted the lower inflation trend. He noted that the recommended action is the result of numerous discussions.

There was further discussion around the research process, and how staff and the consultant arrived at the new benchmark figure, along with assumptions about the market and economy, and finally what industry peers are doing in terms of benchmarking.

Ms. Caroline Cooley, IAC Chair, opened the floor for a motion to approve the ERS Private Infrastructure Guidelines and Procedures as presented in this agenda item.

The IAC then took the following action:

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

The Board of Trustees then took the following action:

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

8.3 Consideration of Proposed Private Infrastructure Annual Tactical Plan for Fiscal Year 2018 – Fiscal Year 2019 – (Action)

Mr. Pablo de la Sierra Perez, Director of Private Infrastructure, Ryan Wilkinson, Real Assets Associate, Jay Yoder, and Philip Coté from Pavilion Alternatives Group, presented the proposed Private Infrastructure Annual Tactical Plan for FY 2018- FY 2019.

Mr. de la Sierra Perez proposed to amend the current fiscal year 2018 target of up to $400 million to reflect the new asset allocation target, plus/minus 30%. He noted that for fiscal year 2019, ERS is proposing $450 million for about 60 to 80 investments. Fiscal year 2018 figures include what has already been committed ($140 million).

Mr. de la Sierra Perez noted that staff will still seek to diversify from a sector perspective. ERS will seek partners and capital aggregation platforms, and will continue to focus very much on co-investments and direct investments through establishing key relationships as well.

Ms. Caroline Cooley, IAC Chair, opened the floor for a motion to approve the ERS private infrastructure portfolio annual tactical plan for fiscal year 2018, as presented in Exhibit A, to be Appendix A of the ERS Private Infrastructure Guidelines and Procedures.

The IAC then took the following action:

MOTION made by Mr. Gene Needles, seconded by Mr. Jim Hille, and carried unanimously by the members present that the Investment Advisory Committee recommend that the Board of Trustees of the Employees Retirement System of Texas approve the ERS private infrastructure portfolio annual tactical plan for fiscal year 2018, as presented in Exhibit A, to be Appendix A of the ERS Private Infrastructure Guidelines and Procedures.

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 ERS private infrastructure portfolio annual tactical plan for fiscal year 2018, as presented in Exhibit A, to be Appendix A of the ERS Private Infrastructure Guidelines and Procedures.

9. CALENDAR

9.1 Set 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

The dates for the next meeting is Wednesday May 23, 2018, and the following meeting is scheduled for Wednesday August 29, 2018. There will be a two-day workshop held on Tuesday – Wednesday, December 11-12, 2018.

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

10. ADJOURNMENT

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

There was no further discussion by the Board or IAC.