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EMPLOYEES RETIREMENT SYSTEM OF TEXAS
JOINT MEETING OF THE BOARD OF TRUSTEES AND INVESTMENT ADVISORY COMMITTEE
ERS Building – Board Room
200 E. 18th Street, Austin, Texas 78701
August 16, 2016 – 8:00 a.m.

COMMITTEE MEMBERS PRESENT
James "Jim" R. Hille, Chair
Caroline Cooley, Vice-Chair
Robert "Bob" G. Alley, Member
Vernon D. Torgerson, Jr., Member

COMMITTEE MEMBERS ABSENT
Ken D. Mindell, Member
Laura T. Starks, Member
Lenore M. Sullivan, Member

TRUSTEES PRESENT
I. Craig Hester, Chair
Doug Danzeiser, Vice-Chair
Ilesa Daniels, Member
Cydney Donnell, Member
Brian D. Ragland, Member
Jeanie Wyatt, Member

ERS STAFF PRESENT
Porter Wilson, Executive Director
Tom Tull, Chief Investment Officer
Catherine Terrell, Deputy Executive Director
Paula Jones, Deputy Executive Director and General Counsel
Kathryn Tesar, Director of Benefits Communications
Tony Chavez, Director of Internal Audit
Machelle Pharr, Chief Financial Officer
DeeDee Sterns, Director of Human Resource
Sharmila "Shar" Kassam, Deputy Chief Investment Officer
Kelley Davenport, Executive Office
Brittany B. Hornsey, Investments
Tanna Ridgway, Investments
Elizabeth "Liz" Geise, Benefits Communications
Roger Nooner, Benefits Communications
Christi Davis, Customer Benefits
Beth Gilbert, Internal Audit
Keith Yawn, Enterprise Planning Office
Chuck Turner, Information Systems
Tommy Williams, Information Systems
Robin Hardaway, Customer Benefits
Nicholas "Nick" Maffeo, Investments
Davis Peacock, Investments
Ricardo Lyra, Investments
Panayiotis Lambropoulos, Investments
Pablo de la Sierra Perez, Investments
Wes Gipson, Investments
Adriana Ballard, Investments
Robert Lee, Investments
Anthony Curtiss, Investments

Leighton A. Shantz, Investments
Jonathan Puckett, Internal Audit
Betty Martin, Investments
Robert “Bob” Sessa, Investments
Brannon Andrews, Legal
Cheryl Scott Ryan, Legal
Carlos Chujoy, Investments
Satitpong Chantarajirawong, Investments
Leah Erard, Governmental Affairs
Peter Ehret, Investments
Jennifer Jones, Governmental Affairs
Amanda Burleigh, Legal

VISITORS PRESENT
Andrew Clark, Speaker’s Office
Keith Barowes, Blue Cross Blue Shield of Texas
Yves-Laurent Khoury, Blue Cross Blue Shield of Texas
James Walsh, Albourne America
Gabriel Puente, Strategic Partnerships, Inc.
Steve Von, AON Hewitt
Kristen Doyle, AON Hewitt
Karen K. Wilson, Northrop Grumman
Bradford Young, Altius Associates
William “Billy” Charlton, Altius Associates
Chason Beggerow, Altius Associates
Malika Te, House Appropriations Committee
Brittany McCollum, Caremark
Kris Hefingr, Caremark
John Hryhorchuk, Office of the Governor
Chris Cook, AAG Empower
Darryl Collier, AAG Empower
Peter Ossian AAG Empower
Brad Untiedt, AAG Empower
Bill Thornton, AAG Empower

Mr. Jim Hille, 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 Joint Meeting of the Board of Trustees and Investment Advisory Committee containing all items in the proposed agenda was filed with the Office of the Secretary of State at 10:56 a.m. on Thursday, August 4, 2016, as required by Chapter 551, Texas Government Code, referred to as the Open Meetings law.”

Mr. Craig Hester, Chair of the Board of Trustees (Board) and Investment Advisory Committee for the Employees Retirement System of Texas (ERS), also read the following statement:

> “A public notice of the Joint Meeting of the Board of Trustees and Investment Advisory Committee containing all items in the proposed agenda was filed with the Office of the Secretary of State at 10:56 a.m. on Thursday, August 4, 2016, as required by Chapter 551, Texas Government Code, referred to as the Open Meetings law.”

V. REVIEW AND APPROVAL OF THE MINUTES TO THE MAY 17, 2016 JOINT MEETING OF THE BOARD OF TRUSTEES AND INVESTMENT ADVISORY COMMITTEE

Ms. Cydney Donnell, IAC Member, noted she was in attendance at the May 17, 2016 Joint Meeting of the Board of Trustees and Investment Advisory Committee, a correction will be made to the minutes to reflect her attendance.

The Investment Advisory Committee then took the following action:

> **MOTION** made by Mr. Bob Alley, seconded by Mr. Vernon D. Torgerson, Jr., and carried unanimously by the members present that the Investment Advisory Committee approved the amended minutes of the May 17, 2016 Joint Meeting of the Board of Trustees and Investment Advisory Committee.

The Board of Trustees then took the following action:

> **MOTION** made by Mr. Brian Ragland, seconded by Mr. Doug Danzeiser, and carried unanimously by the members present that the Board of Trustees approved the amended minutes of the May 17, 2016 Joint Meeting of the Board of Trustees and Investment Advisory Committee.

VI. REVIEW AND DISCUSSION OF THE INVESTMENT PERFORMANCE FOR SECOND CALENDAR QUARTER 2016

Ms. Sharmila Kassam, Deputy Chief Investment Officer, Mr. Steve Voss and Ms. Kristen Doyle, Consultants from Aon Hewitt Investment Consulting, presented the review and discussion of the investment performance for the second calendar quarter of 2016.

Ms. Kassam reminded the Board that staff and consultants will continue to clarify and define industry terminology and language throughout the discussion, particularly in the investment section. Ms. Doyle began the presentation of the Fund's performance. Ms. Doyle gave a brief performance snapshot of the Trust fund as of June 30, 2016. She mentioned that the performance has been positive in terms of absolute return. The performance for the total fund for the calendar year to date was up 1.7% compared to the benchmark of 2.8%, and the fiscal year to date total fund performance was up 2.2% compared to the benchmark of 3.7%. Ms. Doyle explained that relative return has been challenged.

Ms. Doyle presented the Asset Allocation total fund as of June 30, 2016. During this fiscal year, $755.9 million was deducted from the Fund through new additions/withdrawals and $263 million in investment earning was added. The Trust started the fiscal year at approximately $25.2 billion and ended the period with a market value of $24.7 billion. During this quarter, $212 million was deducted from the Fund through new additions/withdrawals and $126.6 million in investment earnings was added. The Trust started the quarter at approximately $24.8 billion and ended the period with a market value of $24.7 billion due to the outflows that that have been reported.

Ms. Doyle presented the attribution analysis of the Total Fund, the Total Fund Policy Benchmark, and the Long Term Public Benchmark. During the second quarter, the Total Fund performed in line with the Total Fund Policy Benchmark. For the quarter, the private equity, real assets, rates, and absolute return components contributed positive relative value. The public equity component detracted from relative performance during the period. The Total Fund underperformed the Total Fund Policy Benchmark by 146 basis points (bps) for the one-year period.

Mr. John Streun, Director of Public Equities, joined the presentation to answer questions regarding the positioning of the public equities portfolio.

During the 12-month period, the Trust has seen a lot of volatility, especially in the public equity markets, specifically the energy sector. Ms. Doyle indicated the Trust Fund absolute returns remain flat or median in comparison to large universe public pension funds only showing the Trust Fund down 20 bps for the median return for public pension funds over a billion dollars in size.

As to performance over the longer ten-year horizon, the return of the total Trust Fund shows 40 bps of outperformance relative to the Trust Fund Policy Benchmark and 100 bps of outperformance over the Long Term Public Benchmark[1].

Ms. Doyle discussed the performance of the asset classes. Actual allocations continue to be in line with the strategic targets and are substantially on their way to the long-term policy targets. Active management in public equities has shown underperformance from both internally managed portfolios as well as externally managed portfolios. Over the trailing 12-months ending December 2015, the S&P 1500 outperformed 75% of the managers in the active management universe.

The Total Fund asset allocation effect, representing the impact of actual allocation deviations from the policy targets on the Total Fund's relative performance, underperformed by 37 bps for the one-year period. This attribution is driven by the third quarter of 2015, where the Trust experienced negative global equity returns, and strong bond returns. The Trust was overweight in global equities and underweight to REITs.

Mr. Hille commented that now is the time to show if the discipline used will work and expressed his confidence in staff. Mr. Hille asked how the active return of the Total Fund benchmark of 8% is expected to be achieved long-term. Mr. Hille also asked what the inflation rate assumption is currently.

Mr. Voss answered the Aon's current inflation rate forward-looking assumption is 2.1%. Ms. Doyle noted the inflation rate modeled into the current asset allocation was determined to be 3% as of the last study. Ms. Doyle explained the Trust Fund has outperformed at a lower level of risk when looking at the five-year and the ten-year horizons. The Trust Fund is outperforming at a lower level of risk over both of these time periods in comparison to the long-term public benchmark, which is 79% MSCI All Country Worlds, and 21% the U.S. bond market.

Mr. Voss noted the last asset liability study was conducted in 2012 and at that time the Investment Program benchmark was 7.5% with a ten-year expected future return. Moving forward, the consultants are working with staff to look at a process to incorporate long-term expected performance returns of asset classes such as the mix between all stocks, bonds, real estate, private equity, and absolute return strategies.

Ms. Shar Kassam also responded to Mr. Hille that there will be discussions at the December workshop in terms of return expectations and assumptions to set the stage for the calendar year 2017 Asset Allocation and Liability Study.

Ms. Doyle discussed the rolling 10-year returns of the Fund explaining how the Trust generated a return in excess of the 8% in historical context from 2012 to last year. However, due to the most recent underperformance we have seen a decline. The overall trend has been more tracking error and better risk adjusted returns based on the asset allocation change from the middle of 2013 to date. Private equity, absolute return, real estate, real assets, and fixed income play a larger part of the portfolio relative to global equities.

Ms. Doyle continued to discuss the longer term returns and recommended focusing on diversifying lower risk (volatility) strategies to manage the overall risk of the Trust Fund. Longer term investment results have been positive and the Total Fund has produced nominal and risk adjusted returns superior to the benchmark and the Long Term Public benchmark over the five-year and ten-year period.

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[1] The Long Term Public Benchmark is a combination of 79% MSCI ACW IMI and 21% Barclays Intermediate Treasury Index.

Mr. Voss summarized the overall Trust Fund performance of the 12-month period. The public equity underperformance has been the largest detractor from Total Fund results. He recommended diversification opportunities as ERS goes through the Asset Allocation Study throughout the next year.

Ms. Kassam concluded the presentation explaining that staff is actively seeking external advisors such as international small cap and international managers that can work evenly with active management.

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

VII. <u>REVIEW, DISCUSSION AND CONSIDERATION OF THE ERS PRIVATE EQUITY PROGRAM</u>:

a. Market Update and Program Overview - Mr. Wesley Gipson, Director of Private Equity and Infrastructure, Mr. Davis Peacock, Private Equity Portfolio Manager, and Mr. Ricardo Lyra, Private Equity Portfolio Manager of ERS, and Mr. Brad Young, Mr. Billy Charlton, and Mr. Chason Beggerow, Altius Associates, presented the review and discussion of the Private Equity portfolio, giving an overview, a review of the diversification metrics and detailed performance metrics.

Mr. Gipson introduced the Private Equity and Infrastructure. The Private Equity and Infrastructure Team consists of Mr. Pablo de la Sierra Perez, Assistant Director of Infrastructure, Mr. Ricardo Lyra, Private Equity Portfolio Manager, who joined us recently in January, Mr. Davis Peacock who was recently promoted to Private Equity Portfolio Manager, and Ms. Adriana Ballard, Analyst, who joined us last year.

Mr. Gipson presented the performance overview of the Private Equity and Infrastructure Team as it currently stands from inception through June 30, 2016. Since inception through the end of June 2016, Private Equity committed $6.2 billion. Fiscal year to date, Private Equity committed $744 million. Since inception through the end of June 2016, Private Equity's total called committed was $4 billion. Since inception through the end of June 2016, Private Equity's total distributions were $2.5 billion, including $1.1 billion of distributions over the current fiscal year. The $1.1 billion of distributions includes a secondary sale. The net asset value (NAV) is down $217 million from fiscal year 2015 totaling $2.5 billion. The Private Equity Program exceeded the 10% target, currently totaling 10.3% of the Trust.

Mr. Gipson defined total value to paid in capital (TVPI) as distributions received plus our current NAV divided by all of our cash sent out into the investments. The TVPI currently stands unchanged at under 1.3 times. He defines distributions to paid in capital (DPI) as cash received divided by cash sent out. The total DPI is 0.64 times the as a result of both distributions and a secondary sale. Private Equity's internal rate of return (IRR) is at 10.9%, which is down 106 bps than fiscal year 2015.

Mr. Gipson presented an overview of the pro forma portfolio diversification by sector as of March 31, 2016. Please note the June 30, 2016 valuations are based on the March 31, 2016 portfolio company data, so the pro forma presentation takes into account eliminating those interests that were sold as part of our secondary sale. The target strategy diversification is based on broad ranges. These ranges are being compared to our NAV, defined as the economic exposure, plus all uncalled capital allocated commitments to these strategies. The target strategy diversification is 56.5% and the NAV by strategy current total is 45.4%. This is the result of selling a billion dollars in buyout exposure. The secondary sale was purely buyout. The economic exposure, also impacted by the secondary sale, represented 36.4% of total economic exposure. The Private Equity team is now focused on rebuilding the buyout portfolio moving forward.

Mr. Gipson discussed the pro forma portfolio diversification by geography. The geography guideline is 50% United States and 50% International (50/50). The 50% International is considered a cap (not to exceed) versus a guideline. The current NAV total by geography is 65% United States, 17% Europe, 15% Asia, and 3% Latin America. Notable here, Europe and Asia are not usually this close. The economic exposure total is 60% United States, 21% Europe, 15% Asia, and 3% Latin America. There was a lot of Europe sold in the secondary sale. Mr. Gipson noted he also expects both NAV and economic exposure performance totals to be short term and more aligned with historical levels of Europe being about 10 points of exposure over Asia.

Mr. Gipson reported the pro forma portfolio diversification by sector as of March 31, 2016. He reminded the Board the diversified category is currently the largest portion of the portfolio due to the highly diversified secondary funds as well as credit exposure. Unchanged from last year, diversified secondary's (17.9%) is identified as the largest sector, followed by industrials (17.8%), financials (14.3%), information technology (13.1%), energy (11.2%), consumer discretionary (10.3%), healthcare (8%), materials (3.9%), consumer staples (2.4%), utilities (0.8%), and telecommunication services (0.2%).

Mr. Gipson presented the portfolio diversification by vintage year performance based on current exposure, not historical commitments. Therefore, all commitments that were sold with the secondary sale are not represented in the portfolio diversification by vintage year. The 2016 total commitments are $733 million with a total net asset value of $113 million. So with roughly a billion of total exposures sold, the top of these years is a bit lower than what is actually committed, at the time. The year 2016 remains consistent with 2009 ($452 million commitments with a net asset value of $252 million), 2008 ($74 million commitments with a net asset value of $50 million), and 2007 ($121 million commitments with a net asset value of $49 million). The year 2007 was not a commitment year. 2008 was represented in the secondary sale, as well as the years 2009, 2010, 2011, and 2012.

Mr. Vernon D. Torgerson, Jr. asked how distributions are shown on the charts?

Mr. Gipson explained that distributions are not in this chart. The charts shown include the current commitments that are still active made in that fiscal year. He continued explaining that every year is fairly consistent with the exception of 2014 ($1,393 million commitment with a net asset value of $617 million) due to two of our large mandates. These mandates crossed fiscal years, following the same vintage year. One was a secondary mandate and the other an Asian fund mandate, which makes it appear larger relative to the rest of the vintage years. Without the crossover in 2014, we would have only seen a $700 million range.

Mr. Gipson presented the portfolio diversification by general partner with fund NAVs as of June 30, 2016 and valuations as of March 31, 2016. The economic exposure by general partner is less than 10%. The total of our top ten general partners is under 60%.

Mr. Peacock discussed the Private Equity Program portfolio performance. He presented a chart that showed an accounting of the cash flows and the J curve effect of the portfolio since inception on a quarter by quarter basis. The J-curve effect is a representation of an early stage on investments where costs exceed returns and only shows the internal rate of return (IRR). He explained the fourth quarter of 2011 was the peak amount representing 11%. The average net call as a percentage of the remaining uncalled committed capital has been 3.6% since inception. Mr. Peacock also noted that the second quarter of 2016 is high performing due to the secondary sale.

Mr. Peacock presented a chart of the portfolio value creation since inception. The chart showed total capital called to the current net asset value of the portfolio. The total capital invested was $3.8 billion. The total fees are $202 million in capital called. The return of capital and gains in the portfolio totals are $2.5 billion. The current capital at risk is $1.5 billion, which is 36% of total invested capital. The total portfolio NAV is $2.5 billion. The portfolio value creation is approximately $1 billion, which is 41% of the current NAV.

Mr. Peacock presented a chart that showed the performance of the portfolio on an investment by investment basis by strategy as of June 30, 2016. This chart is broken out between buyouts, growth equity, venture capital, special situations, credit and co-investments. The horizontal axis shown is the IRR since inception and the vertical axis is the total value paid in capital multiple. He pointed out the co-investment performance is located in the center of the axis showing that we have several co-investments that are grouped around the slightly negative territory. The majority of these are early in the investment period. The negative co-investment performance is due to various costs or fees that may have been associated with completing the transaction. Two of the five co-investments that are shown further in negative territory are directly tied to the oil and gas industry, while one is related to commodity prices. Mr. Peacock discussed the top four multiple co-investments represented as realized or partially realized co-investments in the portfolio. The total combined multiple of those four companies is 3.1 times.

Mr. Hester asked what our total co-investment exposure is on the two co-investments that are underperforming. He followed up by asking if we could lose capital on one?

Mr. Peacock replied stating one of the co-investments is relatively small and is in the $5 million range. The other co-investment is a bit more exposed and is in the $15 million range.

Mr. Gipson concurred and noted this co-investment is in the early stages of offshore oil and gas.

Mr. Hester asked if there have been any recent calls for either one of those co-investments?

Mr. Gipson stated both co-investments are still active and one is at risk of long term loss of capital and recently received a capital injection. Since this co-investment is in the early stages of an offshore oil and gas company, staff believes this co-investment will struggle for a bit and will require the CAPEX (capital expenditure) cycle to come back around.

Ms. Caroline Cooley asked how staff decides how many different funds to co-invest, what is the right diversification among managers, and the individual funds to balance our ability to negotiate terms? She asked if we should have bigger allocations versus the right amount of diversification? She asked how staff comes up with the right amount?

Mr. Gipson explained part of the equation is being able to manage the number of relationships and the workload. Staff has approximately 35 total manager relationships of which two or three are active partnerships within those relationships. Mr. Gipson further explained the 35 manager relationships is across all strategies as well as three secondaries.

Mr. Peacock continued presenting the performance of the portfolio on an investment by investment basis by strategy as of June 30, 2016. The co-investment program has matured and has increased volatility in taking individual company risk versus a pool of companies that is associated with a fund investment.

Mr. Peacock presented a chart of the benchmark comparison of the private equity portfolio as of March 31, 2016. The chart is relative to two private market benchmarks, which is derived from Burgiss Private I, as well as one public market equivalent benchmark. The ERS private equity remained at the top quartile and median performance well across one year (ERS 8.7%, Burgiss 75^{th} 14.2%, Burgiss 50^{th} 1.9%), three year (ERS 12.7%, Burgiss 75^{th} 17.6%, Burgiss 50^{th} 7.5%), five year (ERS 12.2%, Burgiss 75^{th} 15.9%, Burgiss 50^{th} 7.8%), and since inception periods (ERS 11.7%, Burgiss 75^{th} 14.7%, Burgiss 50^{th} 7.7%). The public market index (MSCI ACWI IMI PME) is defined as a public market equivalent to compare a public benchmark to a private market portfolio performance on a similar basis. The ERS private equity remained at the top quartile and median performance well across one year (ERS: 8.7%, MSCI ACWI IMI PME -4.4%), three year (ERS 12.7%, MSCI ACWI IMI PME 8.7%), five year (ERS 12.2%, MSCI ACWI IMI PME 8.1%), and since inception periods as well (ERS 11.7%, MSCI ACWI IMI PME 3.7%).

Mr. Ricardo Lyra presented a chart showing the private equity performance of the economic terms evolution by fiscal year of our buyout portfolio. Economic terms are carried interest or profit sharing with our fund managers and management fees. In earlier years of the portfolio, a lot of commitments were done to large, high demanding funds, which limited the ability for staff to improve economic terms. What is shown in the chart identifies market rates for buyouts, which is typically defined as 2% management fees and 20% carry interest.

Mr. Lyra noted it is staff’s priority and focus to manage economic terms. He referred to the chart showing the team has been successful in driving improvements over the years versus market rates. This has been accomplished by staff's disciplined selection process of managers whom not only provide attractive returns, but whom also will provide flexibility in terms of what will give ERS for our commitments such as economic terms or co-investments.

Mr. Lyra presented a chart showing the private equity performance of the economic terms for all private equity strategies. This is another way to manage the economic terms through diversification of investment strategies provided by different funds and different terms. In 2014, the portfolio experienced the largest decline with a total of 12.2% carry interest and 1% management fees. In 2013, the Board proactively approved a change to the investment policy allowing staff to build relationships with secondary funds. This gave staff the opportunity to take advantage of the reduced economic terms. Since the policy change, staff committed to approximately $3 billion in the years 2013 (carry interest 1.6%, management fees 18.4%), 2015 (carry interest 1.1%, management fees 14.1%), and 2016 (carry interest 1.1%, management fees 12.1%). Mr. Lyra noted staff kept management fees just at over 1% and carry interest just below 13% during those three years.

Mr. Lyra presented a chart showing the private equity performance of the savings by fiscal year. This chart showed the estimated savings of the life of commitments done in each particular year. In 2012, the private equity staff received a total realized (actual) cost savings of $16 million but estimates to receive $36 million in cost avoidance related to profit sharing and management fees over the life of the investments. The cumulative realized total cost savings is $312 million over the coming years of the commitments that we have done of which $220 million came from the savings over the last three years.

Mr. Gipson explained the savings relative to stated management fees and carried interest is specific to the co-investment, secondary funds and aggressive negotiation. The co-investments specific terms and cost savings are negotiated directly with our partners.

Mr. Lyra concluded the presentation related to the private equity performance of the savings by fiscal year. For fiscal year 2016, private equity has a cumulative realized total of $48 million in cost avoidance and savings.

Mr. Gipson presented the private equity goals and objectives for fiscal year 2016 and fiscal year 2017. In fiscal year 2016, the private equity team was unsuccessful in hiring an analyst with a real assets focus. In fiscal year 2016, the private equity completed its secondary sale of certain interests to focus exclusively on re-ups and co-investments. The team did achieve the tactical plan including our tactical exposure management through the secondary sale. In fiscal year 2017, the private equity team intends to focus on rebuilding the buyout portfolio as mentioned during the diversification discussion as well as continue to build the co-investment program.

Mr. Hester asked how Mr. Gipson describes the private equity market in general? He asked if the private equity market is considered expensive or cheap? He commented that it seemed like a lot of money chasing too few deals today. He asked if that was a fair statement?

Mr. Gipson replied that Mr. Hester's statement was fair. He stated that private equity markets are still expensive, both at the deal level and at the general partner level. There has not been a lot of relief.

Mr. Gipson presented a chart of the private equity long term goals and objectives covering 2015 through 2026. The chart showed forecasted annual commitments, projected net asset values, and exposure as a percent of the Trust Assets. He made note of the forecast target remaining at 10%. The forecast change for this year's tactical plan is that private equity commitments will assume a 4% assumption on Trust growth instead of the customarily modeled 8% Trust growth. Taking a more conservative growth assumption with enough flexibility built around tactical targets, staff can deploy capital yet adjust, as needed to maintain strategic allocations.

Ms. Donnell asked if the upcoming asset allocation study will be driven focused on private equity? She commented that based on our historical figures and experience questions have been raised about the private equity cash flow and liquidity because it is an illiquid asset class. Although the private equity portfolio looks good, we do not have a scenario to know if we could perform better. Ms. Donnell noted she is not advocating any major increases at this time, but only suggesting these considerations be reviewed.

Mr. Hester expressed his appreciation for the staff's work on negotiating carried interest and the management fees. He noted this is a big savings to the program and to the Trust.

Mr. Gipson then introduced Altius Associates to cover the market overview.

Mr. Brad Young, co-CEO Head of investments of Altius Associates, introduced Billy Charlton and Chason Beggerow, partners, of Altius Associates. Mr. Young explained that he will be giving the Altius update. Mr. Charlton will present the private equity program update. He noted they will discuss vintage year returns, will give a general market overview, and an education piece on private equity fees.

Mr. Young reminded the Board and staff that Altius is going to be acquired by Pavilion Financial Corporation in the next couple of weeks. Altius will merge with their existing private equity group called LPCA and form Pavilion Alternatives Group. The resulting entity will have 70 employees globally, and have committed $130 billion to private alternatives. With respect to the client interface, they will have more resources to deploy for our benefit. This is something they have kept staff updated with over the last couple of months. Mr. Young asked if there were any questions. There were no questions.

Mr. Charlton presented the ERS private equity program update. The slide shown puts ERS' portfolio in context of the United States public pension plans. The message here is that the 10% or the 9.3% by dollar weight basis is right in line with the majority of the United States public pension plans. Most public pension plans allocate between 5% and 15% to private equity. ERS is well within normal bounds for a public pension plan.

Mr. Charlton reviewed performance and presented a chart that tracks the performance of the fund by year as well as segment and sub-segment of the private equity industry. He noted the J-curve is apparent in the chart. The mature funds are the level where we want them to be and the younger funds are beginning to start their investments but fees are hitting now for the younger funds. Altius expects those younger funds to be similar to the later vintage funds when time passes.

Mr. Charlton mentioned that Mr. Gipson and his team presented a public market equivalents (PME) index. Altius will report on two different indexes using the S&P 500 and the MSCI. Despite strong interim public market performance, ERS' private equity portfolio has outperformed public market equivalents since inception (ERS private equity portfolio 11.5%; PE MSCI ACWI 3.8%; S&P 500 6.3%). The portfolio has performed very well relative to the S&P 500. The three year benchmark for ERS' private equity portfolio is 12.2% compared to the S&P 500 at 15.1%. He pointed out the longer term performance showing the value of private equity in a portfolio.

Mr. Charlton began to present the private equity market statistics and outlook. Mr. Charlton continued to explain relative performance, showing a comparison chart of the global private equity and public market performance to the S&P 500. Over the long term, the ten year term, global private equity outperforms public markets relative to the S&P 500. This includes the Global Financial Crisis component back in 2008 and 2009. In more recent years, Emerging Asia has performed well, as well as the venture capital markets. He noted private equity is a long lived asset class and at times will have different outperforming segments. This is a beneficial market for United States venture capital over the last couple of years.

Mr. Charlton referred to an earlier question about the increase of valuations. He explained a small decline this last year, but prices are close to 2014. Valuations remain high. In order to offset those higher prices, fund managers are planning to pay up for the platform and instead of performing three acquisitions and rolling them into the platform, they will complete five or six. This allows fund managers to buy the smaller companies at lower valuations and end up with a combined decent valuation. He explained high valuations are the challenge in the buyout market right now. If you are paying these high prices, can you generate the returns you have historically? He commented that is still an open question. However, distributions have been strong in 2015, expecting to see more cash back this year, which has been beneficial for the plan.

Mr. Charlton commented that similar to the United States buyout funds, European buyout funds have done well in realizing gains in their portfolios, and distributing capital back to the Limited Partners (LPs). The unexpected Brexit vote has increased uncertainty in European private equity markets in general. Deal volumes were down before the United Kingdom referendum and are likely to remain down due to increased uncertainty created by the decision to leave Europe. Short term, the uncertainty may raise borrowing costs and result in fewer IPOs. Longer term, the sterling depreciation may be beneficial to United Kingdom exporters.

Mr. Charlton noted the importance of selecting managers that have differentiation, either in deal flow or view of markets or access to top quality managers. He recommended applying a long-term and balanced perspective to investment pacing and portfolio diversification. Strong managers exist in all private equity sub-segments and managed exposure to each segment provides portfolio diversification.

Mr. Hester referred back to the geographical buyout, venture capital and growth, and distressed slide. He asked what direction should we be going and where is the value opportunity right now?

Mr. Charlton responded the dominant value opportunity is in United States buyout funds. Just the depth of the market and the quality of fund managers is there. He believes another aspect of that is the emphasis on co-investment within the program which tends to lead us more to have a United States weight to the portfolio. When you look at emerging markets it is a little more difficult to complete the co-investment strategy. It is good to have that in the portfolio for some geographical diversification, but information flows are not as strong as they are in the United States. He believes this still makes a lot of sense to have this be a United States dominated portfolio.

Mr. Charlton discussed the issue of fees. He presented the Board with a fee primer and described in detail the types of fees seen in private equity. He defined the four different types of fees, which included organizational and administrative fees, management fees, portfolio company fees, and carried interest (frequently mischaracterized as a fee).

The first fee described organizational and administrative fees, which are the fees charged in order to raise and operate a fund, including fundraising, travel expenses, legal fees for fund formation, etc. Those fees are reimbursed to the general partners (GP, otherwise known as the managers).

The second fee is our management fees. He noted this area receives a lot of attention. Management fees are usually a percent of commitment and collected annually. Those fees are collected from the limited partners (LP, otherwise known as the investors), but must be paid back before managers get carried contributions.

The third fee is the portfolio company fees, which receives a lot of confusion and is a topic in the media. The portfolio company fees are fees that the GP charges its portfolio companies for various services rendered. This could be a monitoring fee, breakup fee, or a transaction fee. Where this became problematic was that some LPs were not aware that GPs were collecting money from the LPs as well as from the companies as well. There is more discussion about the conflicts in the document provided to the Board. Now, it is more common to have portfolio management fee offsets. For 80 cents the dollar collected in portfolio fees, the fund managers will reduce the management fee they collect. So now, it is 80%. A lot of funds are asking for a 100% management fee. This is beneficial to the LPs because they are calling less capital fees. More of that capital goes into investments in the company. It is an area that continues to gather a lot of concern.

Mr. Charlton explained how carried interest is not a fee, but is a profit sharing between the LPs and GPs. Carried interest is actually just retained profits from the transactions in the fund. Carried interest gets lumped into the fee category, but is not consistent with the other type of fees.

Mr. Charlton presented a slide showing the dynamics of a private equity fund. This is a $2 billion fund that invests in seven companies and has $310 million of fees over the life of the fund. It then buys companies, generates value in them and sells them, and in total generates $4.4 billion in returns off of the $2 billion fund. He noted the $310 million of fees goes to zero because there is no value. The fund manager has to make up that ground in order to get into the carry. As the first capital comes back to the manager, to the LPs, or the $310 million, followed by the investment capital of $1.69 billion, for a total of $2 billion. Then the rest of the capital is divided up between the GPs and LPs on an 80/20 percent basis. With all that said the LPs get back $3.9 billion and the GPs keep $480 million. Often times the carry number is reported without the context of the value generated within the portfolio. It is easy to say these managers collected $480 million in fees, when in fact, they did that by generating $4.4 billion in total value of which $3.9 billion came back to the LPs. Mr. Charlton concluded his presentation answering questions.

b. Proposed Private Equity Annual Tactical Plan for Fiscal Year 2017 - Mr. Gipson presented the review and consideration of the Private Equity annual tactical plan for fiscal year 2017. He proposed to invest in 6-10 funds with commitments totaling $750 million (including investments) over the coming fiscal year. Forecasting 6-10 funds, with the standard range of plus or minus 25% (+/- 25%), provides us $560 million to $940 million in range. The focus will be on new buyout relationships and co-investments.

The IAC then took the following action:

MOTION made by Mr. Vernon Torgerson, seconded by Ms. Caroline Cooley and carried unanimously by the members present that the IAC approved the proposed revisions to the ERS Private Equity tactical plan for fiscal year 2017 as shown in Exhibit A.

The Board then took the following action:

MOTION made by Ms. Cydney Donnell, seconded by Mr. Brian Ragland and carried unanimously by the members present that the Board approved the proposed revisions to the ERS Private Equity tactical plan for fiscal year 2017 as shown in Exhibit A.

VIII. REVIEW, DISCUSSION AND CONSIDERATION OF THE HEDGE FUND PROGRAM:

a. Market Update and Program Overview - Mr. Robert Lee, Director of Hedge Funds, Mr. Anthony Curtiss, Senior Hedge Fund Portfolio Manager, and Mr. James Walsh, Albourne America, presented the review and discussion of the Hedge Fund Program and an industry overview by Albourne.

Mr. Lee introduced the Hedge Funds staff members. ERS Hedge Funds is comprised of Mr. Rob Lee, Director of Hedge Funds, Mr. Anthony Curtiss, Senior Portfolio Manager, Mr. Panayiotis Lambropoulos, Portfolio Manager, and Mr. Nicholas Maffeo, Analyst. ERS retains Albourne America as hedge fund consultant.

Mr. Lee presented an overview of the ERS Hedge Funds including the Absolute Return Portfolio, directional growth portfolio, and other hedge funds. Mr. Lee’s opening comments highlighted that hedge funds are broadly used throughout the Trust and are not specifically bucketed within the Trust. In addition, Mr. Lee noted that the ERS Hedge Fund program has chosen not to use hedge fund replication strategies given his concerns regarding their ability to highly correlate to the strategies over the long-term.

The Absolute Return Portfolio acts as a diversifier to the Trust, and has been operating since 2011. At this time, the Absolute Return Portfolio is fully allocated and is approximately 5% of Trust assets. The Absolute Return Portfolio continues to maintain a low correlation and a low beta (low volatility) to the Trust. Its benchmark is T-bills plus 4%.

In turn, the Directional Growth Portfolio is a return seeking portfolio. The Directional Growth Portfolio resides within the ERS Public Equity sleeve and compliments existing public equity exposures/allocations. At this time, there is only one investment within the Directional Growth Portfolio. This particular investment has an objective to generate an excess return above a long-only equity index.

Mr. Lee then presented several charts depicting the performance of both the Absolute Return Portfolio and Directional Growth Portfolio along with additional strategy performance. Mr. Lee noted the performance of various hedge fund indices. Specifically, Mr. Lee cited the performance of the HFRI Fund of Funds Index. The Absolute Return Portfolio has been able to outperform the HFRI Fund of Funds Index given is strategic underweight to equity oriented strategies. Lastly, Mr. Lee noted that HFRI indices are an investable index unlike many other hedge fund indices.

Mr. Lee's presentation continued with various performance metrics. He provided a chart showing the Absolute Return Portfolio as well as the Directional Growth Portfolio. One of the charts depicted the annualized return and standard deviation of each respective portfolio. The information provided was from inception to May 2016.

Mr. Lee further presented and discussed the performance of the Absolute Return Portfolio through the presentation of a Value Added Monthly Index, a scatter plot, and underlying strategy performance. Similar data was also presented for the Directional Growth Portfolio.

Mr. Lee highlighted the scatter plot which compares the monthly performance between the Trust and the Absolute Return Portfolio. Mr. Lee highlighted the visual comparison of the chart to a shotgun-like pattern. This particular pattern indicates a lower correlation between the two portfolios. In comparison, the Directional Growth Portfolio has a much tighter cluster of returns.

Mr. Tom Tull requested that examples be provided for each respective strategy that resides within the Absolute Return Portfolio (i.e. Relative Value, Equity Long/Short, Global Macro, Event Driven, and Opportunistic).

Mr. Lee explained that Relative Value represents classic hedge fund strategies which include convertible arbitrage, fixed income arbitrage, capital structure arbitrage, and market neutral.

Mr. Lee explained that Event Driven strategies can often entail a mix of equity, credit, and/or derivatives. Examples of Event Driven strategies include merger arbitrage, spin-offs, corporate bankruptcies, restructuring, and/or distressed credit investing.

Mr. Lee noted that traditional Equity Long/Short strategies typically manage their net exposures around 30%-60%. Mr. Lee highlighted the fact that equity oriented strategies are less of focus within the Absolute Return Portfolio.

Mr. Curtiss stated that Global Macro is a strategy that is focused on global trends using macroeconomic data. Mr. Lee further stated that Global Macro includes both discretionary and systematic strategies. Mr. Lee stated that an example of systematic strategies include CTAs (Commodity Trading Advisors). This type of strategy primarily trades futures contracts (and other derivatives) across equities, bonds, interest rates, and commodities.

Next, Mr. Lee highlighted the ERS Hedge Fund program's fee savings. Traditionally, the hedge fund industry has charged a standard management fee of 2% and an incentive fee of 20%. Currently, the average estimated management fee paid by ERS is around 1% while the average estimated incentive fee paid is less than 20%. Additionally, a hurdle rate applies to approximately half of the hedge fund allocations within the Trust. The hurdle rate varies amongst managers based on the strategy. Historically, hurdle rates have ranged from a flat T-Bills rate up to T-Bills + 8%. With regards to the Directional Growth Portfolio, the sole manager in the portfolio is only paid an incentive fee on relative performance to its benchmark.

The presentation was then turned over to Mr. Walsh with Albourne America. Mr. Walsh presented a performance overview of the ERS Hedge Fund program. Mr. Walsh noted that the Absolute Return

Portfolio has exceeded its strategic objective since inception and has also exceeded its tactical benchmark over the last 12-months. Per Mr. Walsh, ERS has been considered a thought leader with regards to both the structure of fee payments along with fee negotiations.

During his presentation, Mr. Walsh further highlighted the narrowing of performance returns across the industry, but with larger downside risks/drawdowns. Overall, Mr. Walsh felt that the forward looking investment environment would be challenging. Lastly, Mr. Walsh gave credit to the ERS Hedge Fund team for being proactive on both negotiating fees and on pushing for additional transparency.

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

b. Proposed Revisions to the ERS Investment Policy Addendum X: Hedge Fund Policies and Procedures - Mr. Curtiss presented the review and consideration of the hedge fund-related proposed revisions to the ERS Investment Policy Addendum X: Hedge Fund Policies and Procedures for fiscal year 2017.

The chart presented by Mr. Curtiss showed a reduction to the lower band of the Event Driven strategy allocation from 20% to 0%. A portion of this reduction would be reallocated to the Opportunistic strategy. The new proposed bands would be 0%-60% for Event Driven and 0%-40% for Opportunistic. Rationale for the changes was a desire for additional flexibility in allocating to strategies that are less correlated to traditional equity and credit markets.

Mrs. Caroline Cooley asked for further clarity around Opportunistic strategies. She also felt that the strategy should have a defined benchmark and requested Staff to work with Albourne in defining an appropriate benchmark.

Mr. Lee agreed to work with Albourne on defining a benchmark for the strategy. Mr. Lee noted the following strategies as a potential fit within the Opportunistic strategy: reinsurance, factoring, or co-investment opportunities. Mr. Lee also noted that most of these strategies involve a closed-end fund structure, but with a shorter life relative to private equity.

The IAC then took the following action:

MOTION made by Mr. Vernon Torgerson, seconded by Mr. Bob Alley and carried unanimously by the members present that the IAC approved the proposed revisions to the ERS Hedge Fund program policies and procedures for fiscal year 2017 as shown in Exhibit A.

The Board then took the following action:

MOTION made by Ms. Cydney Donnell, seconded by Mr. Doug Danzeiser and carried unanimously by the members present that the Board approved the proposed revisions to the ERS Hedge Fund program policies and procedures for fiscal year 2017 as shown in Exhibit A.

c. Proposed Hedge Fund Annual Tactical Plan for Fiscal Year 2017 - Mr. Curtiss presented the proposed Hedge Fund Program Annual Tactical Plan for Fiscal Year 2017.

Mr. Curtiss reported that the Absolute Return Portfolio has reached its targeted allocation of 5% of the Trust's assets. The benchmark remains T-Bills + 4%. Overall, strategy allocations have remained fairly static with an emphasis on Relative Value and Event Driven. Global Macro has been a strategic underweight and additive from a relative performance standpoint. Going forward expectations are to increase Global Macro and Opportunistic strategies given that these two strategies often exhibit a lower correlation to traditional fixed income and equity markets.

Mr. Curtiss noted that the Directional Growth Portfolio is still comprised of one investment as of May 31, 2016. The current allocation is to an extension strategy; however, going forward additional consideration will be given to other strategies.

There are no additional allocations expected for either the Global Credit Portfolio or the Real Assets Portfolio. In full disclosure, one investment was made to the Special Situations Portfolio as of June 1, 2016. This allocation was for $100 million.

Mr. Hille stressed to the group his desire for additional transparency around the Opportunistic strategy. He noted his additional concerns around allocating to less liquid opportunities. Mrs. Cooley concurred with the statements made by Mr. Hille.

Mr. Lee agreed to further transparency and stated that around 85% of the portfolio could be liquidated within 12 months. Overall, liquidity is not an issue.

The IAC then took the following action:

> **MOTION** made by Ms. Caroline Cooley, seconded by Mr. Bob Alley and carried unanimously by the members present that the IAC approved the ERS Hedge Fund Program annual tactical plan for fiscal year 2017 as presented in Exhibit A, to be added as an appendix of the ERS Hedge Fund Program Policies and Procedures.

The Board then took the following action:

> **MOTION** made by Ms. Cydney Donnell, seconded by Mr. Doug Danzeiser and carried unanimously by the members present that the Board approved the ERS Hedge Fund Program annual tactical plan for fiscal year 2017 as presented in Exhibit A, to be added as an appendix of the ERS Hedge Fund Program Policies and Procedures

IX. <u>REVIEW AND DISCUSSION OF THE ASSET ALLOCATION STUDY</u>

Mr. Tom Tull, Chief Investment Officer, and Ms. Sharmila Kassam, Deputy Chief Investment Officer, presented the review and discussion of the Asset Allocation Study. The Asset Allocation topic is an important decision that the ERS Board of Trustees will determine in the next couple of years. This is a key component of the Investment policy. Section 2.2 of the ERS Investment policy states a formal Asset Allocation Study will be conducted at least every five years. The ERS team, IAC members, and Board members will begin the process with a preliminary road map as we go forward.

Mr. Tull described the Asset Allocation Study as one conducted by the Board of Trustees with the advice of the IAC, supported by ERS staff as well as ERS' pension plan consultant, Aon Hewitt Investment Consulting (AHIC). An Asset Allocation Study provides fiduciaries with an understanding of the dynamic relationship between plan assets and liabilities over time. The Asset Allocation Study illustrates the impact of various asset allocation targets on required contributions and funded status under a range of different macro-economic scenarios. The Asset Allocation Study identifies future trends in the financial health of the plan based on economic uncertainties that may not be evident from an actuarial valuation, which provides only a snapshot at a point in time. Finally, the Asset Allocation Study helps determine the level of risk that is appropriate in the context of the plan's liabilities.

Mr. Tull provided background information of the Asset Allocation Study. The Study is conducted at least every five years with annual reviews of the adopted asset allocation. The most recent Asset Allocation Study was completed and adopted as of February 26, 2013. The last studies focused on incorporating alternative asset classes not previously adopted in ERS' Investment Program and assessing related implementation. The focus of this Asset Allocation Study will be to measure the Board's risk tolerance and investment objectives to determine where the asset allocation should go for the next five years. The advantage moving forward is that ERS has already gone through this process a few times and has had a robust current asset allocation from prior studies.

Mr. Tull explained the Asset Allocation Study is a key component for establishing the ERS Investment Policy. In pursuant to Texas Government Code Section 815.301(e), the Board is to develop written investment objectives of the assets of the retirement system referred to as the Investment Policy. It is imperative that ERS structure the Trust to earn an appropriate risk-adjusted rate of return and a net of fees that provide benefit payments for not only ERS members, retirees, but also beneficiaries of the retirement plan. The Asset Allocation Survey will show what the Board, IAC, and staff risk tolerance is in terms of what our risk tolerance is today, versus what the risk tolerance has been in the past. Historically, we have seen modest adjustments in risk tolerance over the last 15 years by the Board. He noted these are different times and that could change. The investment objectives and the asset mix overall are based on what we are comfortable with in terms of adjusting the portfolio to get the maximum rate of return for the amount of risk that is involved. Timing is always part and parcel with this entire process to ensure investment governance and performance evaluation.

Ms. Kassam presented the Asset Allocation liability process. She explained the Asset liability process is the main driver for setting long-term policy allocations for public pension plans. To measure risk tolerance, a survey will be sent to the Board, IAC, and staff. There will be a lot of objectives discussed in terms of the plan. There were some questions from Ms. Cooley and Mr. Hille during the meeting asking about return expectations as well as portfolio construction and dynamics. Staff is looking at whether we have the appropriate portfolios and if they are aligned towards appropriate benchmarks. These inquiries will be discussed in context including a lot of educational meetings held individually with Board and IAC members as well as at the upcoming December workshop. ERS' pension plan consultant, AHIC and ERS staff members have begun to work on the Asset Allocation Study. The strategy proposal implementation will require input from the Board and IAC in terms of how that develops for calendar year 2017. There are new Board and IAC members since our last Asset Allocation Study. This is a process that will be driven by the Board; however the process will not drive the decision. Staff expects to spend time discussing any of the aspects about the different dynamics that go into this process, along with the experience study that will be conducted in calendar year 2017.

Ms. Kassam presented the Asset Allocation Study proposed working schedule. She explained the proposed working schedule is a draft of a timeline that will change as we move through the discussions and processes. She noted up to this point, ERS has conducted asset allocation education during the quarterly performance at Board meetings in terms of what is important about different asset classes and how the pension experience study and the asset allocation are going to be concurrently conducted. Ms. Kassam reiterated the Asset Allocation Liability Risk Survey will be distributed to the Board, IAC, and staff members in September or October 2016. The results will be oriented by staff at the upcoming December Board meeting and will be open for discussion. She explained the rest of the timeline shows different working sessions throughout calendar year 2017. The timeline will adapt to the needs of the process and discussions at the direction of the Board. The end goal is to present a recommendation for the Board and the IACs consideration, along with any investment policy changes that would require formal implementation.

Mr. Tull explained the Asset Allocation proposed working schedule shows the working sessions will occur throughout calendar year 2017 and during our regularly scheduled Board meetings. Staff can expand the schedule at any point at the request of the Board or IAC.

Mr. Vernon Torgerson commented that it was discussed that capital market assumptions were going down as we go into the Asset Allocation Study. He asked Mr. Porter Wilson, Executive Director, how sympathetic the Legislature may be a year from now?

Mr. Wilson reported his experience at the Capital this last spring and mentioned there were questions on the assumed rates of return. He believes there are concerns similar to what has been expressed about the challenges and realization in reaching an 8% return. He commented there were very specific questions during the Senate Finance hearing.

Mr. Kassam clarified the 8% is based on a 30 year return and there is a 7.5% on the five year and ten year horizon. The point has been discussed that those return expectations on both time frames are likely to be lower.

Mr. Tull commented as a point of reference to remember we used a 3.5% inflation rate and we are talking about a 2.1% inflation rate. So we do expect some variation.

Mr. Hester also thanked the IAC for their commitment to ERS and its beneficiaries.

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

X. ADJOURNMENT OF THE BOARD OF TRUSTEES AND INVESTMENT ADVISORY COMMITTEE AND RECESS OF THE BOARD OF TRUSTEES

The August 16, 2016 Joint Meeting of the ERS Board of Trustees and Investment Advisory Committee adjourned at 11:40 pm CT.