

## MINUTES

### MARIN COUNTY EMPLOYEES' RETIREMENT ASSOCIATION (MCERA) RETIREMENT BOARD STRATEGIC WORKSHOP

Sheraton Four Points, 1010 Northgate Dr., San Rafael, California  
October 18-19, 2016

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#### Day 1 October 18, 2016

#### **Call to Order**

Chair Stevens called the meeting to order at 9:08 a.m.

#### **Roll Call**

PRESENT: Bolger, Brenk, Cooper (alternate Safety), Given, Gladstern, Jones (alternate retired), Murphy, Piombo, Shaw (ex officio alternate), Shore, Stevens, Thomas

ABSENT: None

#### **Open Time for Public Expression**

Open time for public expression, from three to five minutes per speaker, on items not on the Board Agenda. While members of the public are welcome to address the Board during this time on matters within the Board's jurisdiction, except as otherwise permitted by the Ralph M. Brown Act (Government Code Sections 54950 et seq.), no deliberation or action may be taken by the Board concerning a non-agenda item. Members of the Board may (1) briefly respond to statements made or questions posed by persons addressing the Board, (2) ask a question for clarification, or (3) provide a reference to staff for factual information.

No public comment.

9:00 a.m. – 12:00 p.m.

#### **Asset Liability Study Preliminary Review and Discussion**

Jim Callahan, Executive Vice President, Callan Associates

Jay Kloepfer, Executive Vice President, Callan Associates

Chair Stevens stated her belief that a 7.25% annualized investment return was relatively easy to attain long ago but it is much more challenging to attain that goal today. In order to lend insight into the playoff between return and risk, she requested that Callan Associates present its analysis of How Risk Has Changed Over Time. Ms. Stevens indicated there is a need to think about risk and return assumptions and how much we can expect from investment returns in the future.

Jim Callahan, Executive Vice President with Callan Associates (Callan), introduced Executive Vice President Jay Kloepfer, head of Callan's capital markets research group, to review the preliminary Asset Liability Study. At last March's Strategic Workshop, Mr. Kloepfer reviewed the capital market expectations for 2016. These expectations are being used to develop the Asset

Liability Study. Mr. Kloepfer also will discuss the theme of how risk has changed over time that will help to determine risk tolerance for the Fund.

Mr. Kloepfer observed it is very hard to answer the question: What is your tolerance for risk? He explained that Asset Liability Studies are conducted periodically in an ongoing process to determine the strategic allocation of assets along the risk spectrum. The process includes considering how to implement these allocations and select the discount rate going forward.

Developing the Asset Liability Study involves merging assets with liabilities based on the valuation developed by the actuary. Specifically, a forecast is calculated by rolling the June 30, 2015 valuation forward using current assumptions, including the discount rate of 7.25%, and the funded status of the Plan. Then Callan's capital market projections are applied and capital market uncertainty is introduced, using simulations to see what happens to the funded status of the Plan.

Chair Stevens asked if a risk-free rate of return would be more appropriate in order to be able to pay the benefits and for generational equity. Actuary Graham Schmidt of Cheiron responded that the assumed rate of return, not the risk-free rate, is the appropriate measure to use for the Asset Liability Study and for funding the Plan. He gave the example of calculating the market value of a Plan that is being settled or going out of business when a risk-free rate of return would be an appropriate measure; in contrast, a public plan such as MCERA operates over a long time because it assumes the government entities will continually operate and employees and employers will contribute to the plan. Mr. Schmidt further stated that the expected return is used because it is the best way to meet the goal of keeping employer contributions as steady as possible.

Trustee Given joined the meeting at 9:25 a.m.

Prior to finalizing the Asset Liability Study, Mr. Kloepfer stated that Callan will wait for input from the Board. He noted the importance of how decisions are made and making adjustments over time in order to move forward. Considerations for the appropriate strategy going forward include capital market expectations, tolerance for risk, funding policy changes and benefit changes that are the underlying pieces of how the Plan is valued. Trustee Bolger asked Mr. Kloepfer to confirm the current assumptions are reasonable and he responded affirmatively. In response to Trustee Brenk's inquiry, Mr. Kloepfer said 40-year projected returns for equities and fixed income would be higher than the 10-year projections presented due to expected mean reversion to long-term averages. He expects pain along the way when interest rates rise. Trustee Shore supported Mr. Kloepfer's view on long-term expected returns.

Mr. Kloepfer discussed the interaction of investment policy with benefit and funding policies. In defining risk tolerance the size of the Plan relative to sponsors' assets matters a lot, he said. Funded status and expected funding requirements are considered as are the time horizon, measurement period, and liquidity needs. Investment policy involves setting asset allocations based on the expected capital market return and risk for broad asset classes such as U.S. equities, non-U.S. equities, and domestic fixed income, for example. Simulation analysis of assets and liabilities results in a statistical distribution of results for the financial condition of the Plan as to return, funded status, and contribution rates. Mr. Kloepfer stated that MCERA's Plan is well funded as compared with many peers.

Capital market themes explored in setting the 2016 expectations were discussed by Mr. Kloepfer. Since the beginning of 2016 most assets appeared to be at least fairly valued. The biggest change this year has been interest rates continuing to go down. After the Federal Reserve (the Fed) raised interest rates in December 2015, weakness in the economy followed by Brexit kept the Fed from raising interest rates further. More recently the economy seems to be in reasonable shape after a long expansion as the job market improves. When interest rates rise there will be capital loss for fixed income assets. As a result expectations in the Asset Liability Study for fixed income are subdued, with sharp contrasts in the forecasts for short, medium, and long-term fixed income assets. Projected yields are extended and lowered, with 2% on the short end of the yield curve and 4% for 10 year U.S. Treasuries. Mr. Callahan noted that the Fed does not control the long end of the yield curve which he expects will become more flat, foretelling a slowing economy.

Capital market returns as of the end of July 2016 over five-years are relatively strong for U.S. equities and over 15 years are the same as bonds. Mr. Kloepfer made the point that the path to a long-term result includes different returns at different times for each asset class. Over long periods of time there would always be a risk premium for equities over bonds, according to Mr. Callahan.

Callan Associates' 2016 capital market expectations (projected 10-year geometric compound returns), which are the investment assumptions used to develop the Asset Liability Study, are:

- Broad market bond returns held at 3.0%
- Domestic Equity reduced by 25 basis points to 7.35%
- Non-U.S. Equity reduced by 25 basis points to 7.55%
- Private equity return at 8.15%
- Real Estate return held to 6.0%; total Real Assets, 6.1%
- Diversifying Assets, 6.2%
- Hedge Fund return held at 5.25%
- Commodities return at 2.75%
- Inflation is projected to be 2.25%.

Responding to Chair Stevens' inquiry, Mr. Kloepfer stated that the projected returns were lowered for equity, private equity and real estate. In response to Trustee Brenk's inquiry, Mr. Callahan said the expectations for private equity are constrained and the lack of liquidity is a factor in setting the target allocation. Mr. Kloepfer stated he does not expect capital market expectations for 2017 to change significantly.

Mr. Kloepfer gave a brief introduction to multi-asset class strategies. Designed to control risk, these strategies focus on absolute return using diversifying assets traded in liquid public markets. The emphasis is on downside protection with a global 60% equity/40% fixed income return/risk expectation. The correlation of multi-asset class strategies with broad domestic equity is only about one-half, thereby lending diversification.

Trustee Bolger posed the question of when a (normally) low volatility fixed income asset would not be considered an anchor to windward. In response, Mr. Kloepfer said the challenge is to determine at what point fixed income would no longer be a low volatility asset. The lower value of fixed income is one of the ways risk has changed over time, Mr. Callahan said. Trustee Brenk inquired how the makeup of the Board affects setting asset allocations.

Mr. Kloepfer presented preliminary results for expected returns and risk levels for current target allocations of broad asset classes and five alternative mixes based on the foregoing analysis and data as of June 30, 2016. The expected return for the mix closest to the current target allocations (Mix 4) is 6.87%, a little less than the 7.25% current return assumption. In response to Chair Stevens' inquiries, Mr. Callahan stated that return values are net of fees and neutral as to active management fees or return premiums.

Chair Stevens recessed the meeting for a break at 10:31 a.m., reconvening at 10:45 a.m.

Mr. Kloepfer analyzed the results of expected returns for the five asset mixes. As noted above the 10-year return expectation for the current target asset allocation of the Fund is 6.87%. Combined with Callan's inflation assumption of 2.25%, current asset allocations are expected to yield a real return of 4.62%, which is higher than the real return used in the actuarial valuation. The inflation assumption in the valuation is 2.75%, thus resulting in a lower expected real return, Mr. Schmidt explained.

When multi-asset class strategies (diversifying assets) are included in asset mixes, study results show they are a good diversifier providing downside protection, Mr. Kloepfer said. Diversifying assets are strategies developed by large insurance companies as a way of mitigating downside risk. The reason to consider these strategies, he said, is to see if they can do a better job or serve as a cushion in falling markets. In response to Trustee Shore's inquiry, Mr. Kloepfer said the strategies are state-of-the-art, focusing on absolute return using global asset classes at less expense than hedge funds. Mr. Callahan views diversifying assets as a way of improving the risk profile of the Fund without hurting return, which is the reason these strategies have appeal, he explained. Mr. Callahan emphasized the need to be mindful of risk because the equity allocation dominates the risk of the Fund. Trustee Bolger inquired about the short history of the diversifying strategies. In response Mr. Kloepfer said Callan has confidence in the diversifying asset managers who use proven processes around the strategies. Mr. Callahan supported his view, adding that the "DNA" has been around for a long time. In summary Mr. Kloepfer stated there is a much lower drawdown risk potential when diversifying assets are included in the Fund's asset allocations. Trustee Piombo asked if a higher allocation may be appropriate if considering diversifying assets. Mr. Callahan replied that the proposed 10% allocation would be meaningful and reasonable for a new strategy.

Summarizing the Asset Liability Study process, Mr. Kloepfer explained that the liability model includes inputs such as employer contributions and a portion for the unfunded balance to meet the funding goal. Outputs include pension benefits and annual Cost of Living Adjustments. The MCERA pension plan is maturing, he said, but the average age will be coming down as it is an open plan. Mr. Schmidt said new mortality tables are already built into the valuation and he expects there to be few changes for this year's valuation. Given the assumptions in the valuation and capital market expectations, the financial condition of the Plan is projected using 2,000 Monte Carlo simulations of returns over a 10-year projection time period. The result is a distribution of the forecasted ranges of returns, contributions, and funded status of the Plan. In

observing patterns of results across asset mixes, the focus is on the Median and 95<sup>th</sup> percentile market values, returns and funded ratio.

In setting investment policy, considerations include the financial strength of plan sponsors and the Plan, investment goals and objectives, time horizon, liquidity needs, and risk tolerance. Mr. Kloepfer stated that the Asset Liability Study will enable MCERA to evaluate the financial condition of the pension plan under alternative investment scenarios. Mr. Kloepfer stated to finalize the Asset Liability Study Callan is looking for guidance from the Board on asset allocation mixes and whether the new multi-asset class strategy would be included.

### **How has Risk Changed Over Time**

Mr. Kloepfer presented data showing that achieving a 7.5% expected return since 1995 required asset allocations of increasing complexity and risk. If the risk level were held steady at a projected standard deviation of 6%, the expected returns become lower over time to less than 5%. During that time frame, a number of corporate plans in the Callan Fund Sponsor Database increased fixed income allocations (in pursuit of liability-driven investing) and all others lowered fixed income, gradually increasing risk in pursuit of return.

Ten-year returns by fund sponsor type in the Callan database show returns are lower since 1995 for all groups. For MCERA, ten-year risk projections are relatively constant with actual results and therefore Callan has the most confidence in ten-year risk projections. The rolling standard deviation has been cyclical and is low right now. Mr. Callahan stated that the takeaway is lower capital market expectations combined with static investment assumptions leads to more risk. In Trustee Shore's view it would be more realistic to project higher returns following a period of lower returns. Mr. Kloepfer agreed, based on the concept of returns reverting to the Mean. He further stated that more equity volatility is the reason to consider lowering risk through multi-asset class strategies.

In conclusion, Mr. Kloepfer shared his views on macroeconomic conditions. Continued low interest rates are a concern since rising interest rates were built into capital market expectations. Due to modest expectations for fixed income, there is a need to be clear on why you are in the asset class, he said. Interest rates matter to all asset classes, he said, and people are worried the Fed is running out of arrows in its quiver to encourage economic growth. Mr. Kloepfer explained that increased liquidity due to quantitative easing by the Fed has led to more borrowing, stock buybacks, and the buying of risk assets. Mr. Schmidt added that risk has increased along with returns because asset values are higher relative to the payroll base, meaning more volatility for contribution rates.

Chair Stevens invited comments from members of the public on this topic and there were none.

Chair Stevens recessed the meeting for a lunch break at 11:50 a.m., reconvening the meeting at 1:20 p.m.

12:00 p.m. – 1:30 p.m.

### **Lunch (on site)**

1:30 p.m. – 2:30 p.m.

### **Portfolio Review of MCERA's Active Investment Managers**

Jim Callahan, Executive Vice President, Callan Associates

Anne Heaphy, Vice President, Callan Associates

Mr. Callahan stated that MCERA employs passive investment strategies in large cap U.S. equities and two real assets allocations in U.S. Treasury Inflation Protected Securities and REITs. For larger cap equities information gets priced in quickly, so there is less of an advantage for active managers. In other areas of the market, for example in small cap and international equities, there are inefficiencies allowing active managers to add value. Mr. Callahan emphasized the importance of identifying active managers who have the ability to add value through sound, repeatable processes and continue to do so in the future. He discussed Callan's due diligence procedures, including monitoring managers' performance and processes once hired.

Mr. Callahan reported that to date there has been value added by most of MCERA's active managers. As evidence he presented Growth of a Dollar charts showing that most active manager net-of-fee returns outperformed benchmarks since MCERA's inception of the strategy and all of the active managers' composites have outperformed their benchmarks since their composite's inception. MCERA's asset class composite returns date back to the end of 2000 when Callan became the investment consultant to the Fund (Callan does not have the historical return data prior to that period). Mr. Callahan said MCERA's domestic equity active managers have added \$100 million in value to the Fund cumulatively through the second quarter of 2016. Discussing the returns for each active strategy and manager, he noted that Columbus Circle's strategy had outstanding initial outperformance with sharp reversals to the upside after downside results. In international equities Morgan Stanley outperforms, notably in negative markets. Responding to Trustee Bolger's inquiry, Mr. Callahan stated that the timing of the return data in the Growth of a Dollar charts was based on MCERA's investment inception date for the manager.

Trustee Shore concluded that Callan's charts make the case for active managers for the assets in which we have active managers. In concluding remarks, Mr. Callahan said the takeaway is that active management is additive to the Plan but there is no guarantee for the future. The added value of active management is important to reach the return target, he advised. Mr. Kloefer added that patience is rewarded over time, noting that the performance cycles can be seven years. In response to Trustee Shore's inquiry, Mr. Callahan said active managers should be able to add 20 to 50 basis points net of fees to the total Fund return. Responding to Trustee Brenk's inquiry Mr. Callahan stated there has been a compression in fees charged by asset managers. Trustee Brenk asked if a bond ladder would outperform active fixed income managers and Mr. Machiz pointed out that the duration of bonds goes down over time while the active manager manages duration. Mr. Machiz advised that a bond ladder is most appropriate when there is certainty about the liability. Insurance companies employ this type of strategy, Mr. Callahan said.

Chair Stevens recessed the meeting for a break at 2:25 p.m., reconvening at 2:33 p.m.

2:30 p.m. – 4:00 p.m.

### **Multi-Asset Class Investing – Education Session**

Jim Callahan, Executive Vice President, Callan Associates

Kevin Machiz, Vice President, Callan Associates

Mr. Machiz stated that Callan Associates believes multi-asset class strategies (MAC) are worth considering for the Fund. The concept more recently evolved from global tactical asset allocation strategies using a traditional asset mix that did not, therefore, provide downside protection. Following the global financial crisis MAC strategies have increased in popularity. Responding to Trustee Bolger's inquiry, Mr. Machiz explained that unconstrained bond funds

have similarities with MAC strategies but the opportunity set will be much larger and return and risk expectations are set to fit into the total portfolio. Mr. Callahan explained that MAC strategies are less constrained than the prior generation and will short derivatives or securities, for example. MAC strategy vehicles are securities traded in liquid markets that are diversified, of institutional quality, and professionally managed.

As compared with hedge funds, MAC strategies provide relative simplicity, transparency, and lower fees. Similarities include the use leverage, short positions, and movement among different asset classes. Leverage may be used in a futures strategy to reduce risk, Mr. Machiz explained. How leverage is controlled in volatile markets is a factor analyzed when Callan performs due diligence, according to Mr. Callahan. Mr. Machiz characterized MAC as between traditional long only strategies and more complex, higher risk hedge fund strategies.

The four types of MAC strategies are: absolute return, long biased, risk parity, and alternative risk premia. Of these Callan Associates recommends either absolute return or alternative risk premia strategies for MCERA. Absolute return strategies are focused on making a positive return in any market and emphasize downside protection. Strategies may include the use of derivatives and short or long positions in liquid high quality bonds or broad equity futures. The return goal is the benchmark U.S. Treasury Bill rate plus 3 to 7%. Alternative risk premia strategies have more volatility than absolute return strategies and favor non-directional exposures. The strategy is typically executed based on academic data through long and short positions with ultimately low beta exposure to the equity markets. The return goal is the U.S. Treasury Bill rate plus 7 to 10%.

Advantages of MAC strategies include a higher Sharpe ratio than traditional asset mixes, which Mr. Machiz views as a key measure of success. Risk is lower than traditional portfolios because MAC strategies dynamically manage as many risk factors as possible. The absolute return and risk premia strategies have close to zero beta to bonds and low beta to equities and thus have provided diversification. Mr. Machiz stated said the key point is these MAC strategies are designed to diversify the Fund because they are different from traditional asset classes and will provide drawdown protection in down markets.

In conclusion, Mr. Machiz advised considering MAC strategies within the larger economic framework to prepare for a variety of market environments. Mr. Kloepfer observed that with the S&P 500 up 12% in the past 3 years, now is a good time to think about de-risking. He pointed out that the Standard Life product notably outperformed during the financial crisis and gave other examples of outperformance of MAC strategies in negative equity markets.

Responding to Chair Stevens' inquiry, Mr. Machiz said there is a small universe of MAC managers who are often dominated by one manager that has a track record. In response to Trustee Brenk's inquiry, Mr. Callahan said a small percentage of Callan's clients are in these strategies that are becoming popular and gaining assets. Public pension funds have adopted these strategies as an alternative to hedge funds, he said in response to Trustee Gladstern's inquiry.

In conclusion, Mr. Callahan stated that MAC strategies are reasonable to consider because they have the potential to be good diversifiers and are more liquid, transparent, and less expensive than hedge funds. Trustee Given indicated more detail on specific MAC managers would be the next step and Mr. Callahan offered to bring in a few managers to explore their approach for further education.

4:00 p.m. – 4:30 p.m.

**Closing and Follow-up Items from Today's Agenda**

No discussion.

Chair Stevens recessed the meeting for an evening break at 4:02 p.m.

**5:00 PM**

**Dinner at Wild Fox**

225 Alameda Del Prado

Novato, CA

**Day 2**

**October 19, 2016**

**Call to Order**

Chair Stevens reconvened the meeting at 9:03 a.m.

**Roll Call**

PRESENT: Bolger, Brenk, Cooper (alternate Safety), Given, Gladstern, Jones (alternate retired), Murphy, Piombo, Shaw (ex officio alternate), Shore, Stevens, Thomas

ABSENT: None

**Open Time for Public Expression**

Paul Premo urged the Board to lower the investment return assumption to 7% and reduce the long-term amortization layer to 18 years.

9:00 a.m. – 10:00 a.m.

**Review MCERA's Pension Funding Practices**

Graham Schmidt, Consulting Actuary, Cheiron Inc.

Retirement Administrator Jeff Wickman stated that a little over two years ago the actuary's experience study led to a number of changes with regard to how the plan is funded. This included the adoption of direct rate smoothing, adoption of new mortality tables and changes to the economic assumptions. Mr. Schmidt's presentation will review the current funding policies and discuss the Rockefeller Study to see how MCERA funding policies compare with the recommendations in that study.

Funding policy begins with defining objectives and establishing amortization and smoothing policies. Objectives include funding the amount needed to pay benefits not covered by current assets. Other objectives are to provide employers with predictable contribution rates and achieve generational equity. Funding policy is designed to meet and balance these objectives. Factors considered include system maturity, benefit design and investment policy.

Mr. Schmidt explained there is a statutory obligation to pay the pension benefit and, further, funding of the benefit needs to be provided by the employers. Therefore, the fiscal health of the



plan sponsors affects the benefit promise. Ways of enhancing the security of the benefit by increasing the amount of assets on hand include shortening amortization periods and lowering the discount rate. The use of more conservative assumptions must be balanced by the ability of the plan sponsors to actually pay the resulting contributions.

Trustee Brenk gave an example of a pension plan using a risk-free rate of return in order to achieve 100% funding. Mr. Schmidt explained that the effect of using the risk-free rate would be the employer contributions would increase and be less volatile. MCERA does not use the risk-free rate in part because we have the ability to smooth out gains and losses over time and achieve the funding target. Counsel Dunning added that the legal bases for the MCERA pension funding policies are very strong under California law. There is mandatory diversification of investments under the California Constitution unless it is clearly not prudent to diversify into a particular asset and a secondary Constitutional duty to minimize employer contributions which is subordinate to the primary fiduciary duty to members, she said. Responding to Trustee Bolger's comment on diversification, Ms. Dunning stated that the Board has discretion on asset allocation. Mr. Schmidt added that the only free lunch in investing is diversifying among asset classes which enhances the return given the amount of risk.

Mr. Schmidt discussed the objective of predictable and stable contributions. The longer the amortization period, the more stable the contribution will be over time. He explained that the objective of generational equity is to have each generation of taxpayers pay the cost of benefits for the employees who provide services to those taxpayers. For MCERA's current active population the average expected remaining service is about 10 years based on when members are expected to retire. Assumptions reflect current experience according to the actuary and there would not be a significant change to the normal cost if PEPRAs employees retire at later ages. Responding to Chair Stevens' inquiry, Mr. Schmidt stated the number of years in a generation of taxpayers is undefined. The term is a frame of reference as to, on average, how long members expect to continue to work.

Amortization is a method of funding pension benefits during an employee's working life. Key parameters for setting amortization policy are: the number of years; payment pattern of level dollar amount or level percentage of pay; rolling (or open) versus closed; and single layer versus multiple layers. Most systems in California have the closed layered amortization policy that MCERA has adopted, he said in response to Trustee Brenk's comment. Layered amortization adopted by MCERA itemizes each asset gain or loss by year and includes the outstanding balance, years remaining, and annual payment amount.

Mr. Schmidt explained that Government Accounting Standards Board (GASB) Statements 67/68 replaced the annual required contribution, or the ARC, with the actuarially determined contribution (ADC). In addition, several advisory actuarial groups suggested moving away from rolling 30 year amortization to closed amortization periods of between 15 and 25 years. Responding to Trustee Brenk's inquiry, Mr. Schmidt explained that having a single amortization layer with a higher number of years does not mean there is negative amortization for the whole Plan, because the average number of years of amortization for the Plan is lower than 17 years.

Addressing smoothing policy, Mr. Schmidt stated the goal is to smooth the amortization payment schedule to produce more stable and predictable contribution rates. A few years ago assets were smoothed within a corridor above or below the return assumption. Now instead of smoothing assets the actuary uses the market value of assets and smoothes the outputs in a process termed

direct rate smoothing. An example is smoothing of the contribution amounts that come out of the unfunded actuarial liability calculation. Investment gains and losses and assumption changes are also smoothed. According to the Society of Actuaries Blue Ribbon Panel, these processes enhance transparency by using the market value of assets on the valuation date, thereby reflecting a more accurate picture of the plan's funded status. The process achieves the same goal of smoothing contribution rates and was adopted by CalPERS in 2013. Amortization payments ramp up and down over 5 years and therefore some level of negative amortization is inevitable initially, Mr. Schmidt said. There is no smoothing of Normal Cost. The actuary pointed out that right now the total unfunded liability would be paid off in 13 years based on average remaining dates for all the amortization layers.

The MCERA Board adopted the new funding policies outlined above at its December 10, 2014 meeting, effective with the June 30, 2014 actuarial valuation. Contribution rates are based on level percentage of payroll for existing liabilities. Layered, closed-period amortization was adopted for changes in the UAL after June 30, 2013. Actuarial gains and losses, including mortality experience, retirement, and wage growth, are amortized over closed 24-year periods, with 5-year ramp-up and 4-year ramp-down. The extraordinary loss amortization period has 22 years remaining, and the amortization period for remaining unfunded liabilities is down to 14 years this year. Assumption changes are amortized over closed 22 years with 3-year ramp-up and 2-year ramp-down periods.

There have been liability gains in recent years that phase in a reduction in the liability, which is the reason the average period of amortization is down to 13 years. Charts were presented that show the effect on the value of the unfunded actuarial liability over time as amortization payments are made that ramp up, level out, and then ramp down at the end. The actuary noted this amortization policy mimics a 20-year amortization schedule with 5 year smoothing for changes in assets.

Mr. Schmidt reviewed MCERA's layered amortization payment schedule that shows, for example, the initial unfunded actuarial liability when layered amortization was adopted. Data for each amortization layer includes how long the phase-in period is and how much has been paid off. Responding to Trustee Piombo's inquiry about combining the two investment layers, the actuary explained that the reason for the separate layers was the longer amortization period for the extraordinary loss. If an employer made an extra contribution, there would be a new amortization layer, Mr. Schmidt said. Trustee Cooper asked about the effect on employer contribution rates if salaries were negotiated at zero percent. In response Mr. Schmidt explained the contribution rate percentage would reflect the resulting payroll base.

In conclusion, Mr. Schmidt stated that he is not projecting significant changes to the amortization schedule for next year and the balance of the unfunded actuarial liability is going to come down over time.

### **Discussion of Rockefeller Institute Study**

Mr. Schmidt reviewed the Rockefeller Institute of Government Pension Simulation Project on Public Pension Funding Practices (the Study). The Study sets forth concepts regarding funding policy, benefit security, contribution stability and generational equity practices by various public pension plans. Mr. Schmidt stated that MCERA's current funding policies would fall into more conservative methods, as evidenced by using closed instead of open amortization periods with a lower number of years in the amortization periods. Mr. Schmidt said it is evident that the

problem with deeply underfunded pension plans in the Study is not the funding method, but that employers were not paying the actuarially determined contributions. As a result, he said, these plans included in the Study data base were not paying the full annual actuarial cost.

Mr. Schmidt reviewed the results of the Study's Monte Carlo simulation of the impact of various funding policies on the cost and funded status of a model plan, using different investment return scenarios. The model plan had a 2.2% of pay formula, 2% COLAs, a 7.5% assumed mean investment return with 12% standard deviation, and 75% starting funded status. The contribution rate analysis shows the distribution of contribution rates at different confidence levels. Results compared funding risk with contribution volatility, as measured by the likelihood of a funded ratio below 40% or 60%, and contribution rate volatility over 10%.

For comparison Mr. Schmidt applied the Rockefeller Analysis to MCERA. The results show that MCERA funding policies fall within the middle ground of policies included in the Rockefeller study. The probability of MCERA's funded ratio falling below 65% in 2016 is 13.8%, and the probability of a contribution rate above 40% of pay in the aggregate for MCERA in 2021 is 26.7%. This analysis was based on benefit provisions and assumptions as of June 30, 2015, a projected aggregate employer contribution rate of 32.4% of pay, and a projected funded status of 81% as June 30, 2016.

In conclusion, Mr. Schmidt stated the choice of funding policy reflects trade-offs between benefit security, contribution stability, and generational equity. Current MCERA funding policies are reasonable under current guidance of professional actuarial organizations.

Chair Stevens invited members of public to comment on this topic. Dick Tate asked why the 3% payroll increase would be smoothed. In response Mr. Schmidt explained that salary changes are considered gains or losses because it is the most efficient method of capturing the data. The actuary noted that overall payroll does not get smoothed from year to year. Paul Premo requested that the Board shorten the amortization period for changes in assumptions to 18 years. In response Mr. Schmidt explained MCERA's amortization period is effectively similar to the amortization period used by the San Mateo County Employees' Retirement Association because it includes 5-year smoothing.

Chair Stevens recessed the meeting for a break at 10:51 a.m. reconvening at 11:00 a.m.

Chair Stevens directed deliberations to Closing and Follow-up Items from Today's Agenda.

10:00 a.m. – 11:00 a.m.

### **Projections of Cost Changes to MCERA Tiers as PEPRA Membership Grows**

Graham Schmidt, Consulting Actuary, Cheiron Inc.

The topic of Projections of Cost Changes to MCERA Tiers as PEPRA Membership Grows will be scheduled for a future Board meeting.

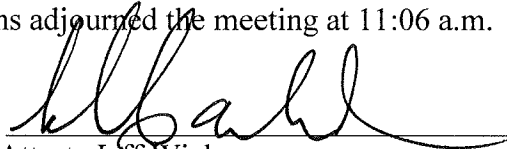
11:00 a.m. – 12:00 p.m.

### **Closing and Follow-up Items from Today's Agenda**

Trustee Piombo inquired whether any employers have a different discount rate for PEPRA members. In response, Mr. Schmidt said he is not aware of any county pension systems using that process. The MCERA funding model is already based on generational mortality, he said, and most systems have a single pool of assets and invest the same way for all employees.

There being no further business, Chair Stevens adjourned the meeting at 11:06 a.m.

  
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Kim Stevens, Chair

  
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Attest: Jeff Wickman  
Retirement Administrator