



ORANGE COUNTY FIRE AUTHORITY

AGENDA

BOARD OF DIRECTORS SPECIAL MEETING
Thursday, April 25, 2013
6:00 P.M.

Regional Fire Operations and Training Center
Board Room
1 Fire Authority Road
Irvine, CA 92602

Unless legally privileged, all supporting documentation and any writings or documents provided to a majority of the Board of Directors after the posting of this agenda, which relate to any item on this agenda will be made available for public review in the office of the Clerk of the Authority located on the 2nd floor of the OCFA Regional Fire Operations & Training Center, 1 Fire Authority Road, Irvine, CA 92602, during regular business hours, 8:00 a.m. - 5:00 p.m., Monday through Thursday, and every other Friday, (714) 573-6040. In addition, unless legally privileged, all supporting documentation and any such writings or documents will be available online at <http://www.ocfa.org>.

This Agenda contains a brief general description of each item to be considered. Except as otherwise provided by law, no action or discussion shall be taken on any item not appearing on the following Agenda. Unless legally privileged, supporting documents, including staff reports, are available for review at the Orange County Fire Authority Regional Fire Operations & Training Center, 1 Fire Authority Road, Irvine, CA 92602 or you may contact Sherry A.F. Wentz, Clerk of the Authority, at (714) 573-6040 Monday through Friday from 8 A.M. to 5 P.M.

If you wish to speak before the Fire Authority Board, please complete a Speaker Form identifying which item(s) you wish to address. Please return the completed form to the Clerk of the Authority prior to being heard before the Board. Speaker Forms are available at the counters of both entryways of the Board Room.



In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, you should contact the Clerk of the Authority at (714) 573-6040.

CALL TO ORDER

INVOCATION by OCFA Chaplain Ken Krikac

PLEDGE OF ALLEGIANCE by Director Bressette

ROLL CALL

PRESENTATIONS

No items.

PUBLIC COMMENTS

Resolution No. 97-024 established rules of decorum for public meetings held by the Orange County Fire Authority. Resolution No. 97-024 is available from the Clerk of the Authority.

Any member of the public may address the Board on items within the Board's subject matter jurisdiction but which are not listed on this agenda during PUBLIC COMMENTS. However, no action may be taken on matters that are not part of the posted agenda. We request comments made on the agenda be made at the time the item is considered and that comments be limited to three minutes per person. Please address your comments to the Board as a whole, and do not engage in dialogue with individual Board Members, Authority staff, or members of the audience

The Agenda and Minutes are now available through the Internet at www.ocfa.org. You can access upcoming agendas on the Monday before the meeting. The minutes are the official record of the meeting and are scheduled for approval at the next regular Board of Directors meeting.

REPORT FROM THE BUDGET AND FINANCE COMMITTEE CHAIR

MINUTES

No items.

CONSENT CALENDAR

No items.

DISCUSSION CALENDAR

1. OCERS' Proposed Actuarial Funding Policy

Submitted by: Lori Zeller, Assistant Chief, Business Services Department

Recommended Actions:

1. Receive and file the submitted OCERS' proposed Actuarial Funding Policy materials.
2. Provide recommendations for transmittal to OCERS' Board of Retirement pertaining to the amortization periods for *future layers* of unfunded actuarial accrued liabilities (UAAL).
 - a. OCFA staff recommends support of The Segal Company's alternative #3 for future layers of UAAL, as detailed on page 3 of this report.
3. Provide recommendations for transmittal to OCERS' Board of Retirement pertaining to the amortization period for *prior layers* of UAAL.
 - a. OCFA staff recommends support of The Segal Company's recommendation to leave the amortization period for prior layers of UAAL unchanged.

REPORTS

2. Chief's Report

Report will be presented at the next regular meeting.

BOARD MEMBER COMMENTS

CLOSED SESSION

No items.

ADJOURNMENT - The next regular meeting of the Orange County Fire Authority Board of Directors is scheduled for May 23, 2013, at 6:30 p.m.

AFFIDAVIT OF POSTING

I hereby certify under penalty of perjury under the laws of the State of California, that the foregoing Agenda was posted in the lobby and front gate public display case of the Orange County Fire Authority, Regional Training and Operations Center, 1 Fire Authority Road, Irvine, CA, not less than 72 hours prior to the meeting. Dated this 18th day of April 2013.

Sherry A.F. Wentz, CMC
Clerk of the Authority

UPCOMING MEETINGS:

Budget and Finance Committee Meeting	Wednesday, May 8, 2013, 12 noon
Claims Settlement Committee Meeting	Thursday, May 23, 2013, 5:30 p.m.
Executive Committee Meeting	Thursday, May 23, 2013, 6:00 p.m.
Board of Directors Meeting	Thursday, May 23, 2013, 6:30 p.m.

DISCUSSION CALENDAR - AGENDA ITEM NO. 1
BOARD OF DIRECTORS SPECIAL MEETING
April 25, 2013

TO: Board of Directors, Orange County Fire Authority

FROM: Lori Zeller, Assistant Chief
Business Services Department

SUBJECT: **OCERS' Proposed Actuarial Funding Policy**

Summary:

This item is submitted to review the Orange County Employees' Retirement System's (OCERS') proposed Actuarial Funding Policy, and to discuss potential impacts to OCFA and its cash contract cities.

Committee Action:

At its meeting of April 10, 2013, the Budget and Finance Committee reviewed OCERS' Proposed Actuarial Funding Policy, and provided initial considerations for staff to communicate to the OCERS Board of Retirement at its April 15, 2013, meeting (Attachment 1). These initial considerations were important since the timing of OCERS' Board meeting did not provide an opportunity for OCFA staff to review the matter with the full OCFA Board prior to OCERS taking action.

Subsequently, at the OCERS Board meeting on April 15, 2013, the OCERS Board accommodated various stakeholder requests for additional time to further study the matter, and unanimously approved a continuation to June 17, 2013.

Recommended Actions:

1. Receive and file the submitted OCERS' proposed Actuarial Funding Policy materials.
2. Provide recommendations for transmittal to OCERS' Board of Retirement pertaining to the amortization periods for *future layers* of unfunded actuarial accrued liabilities (UAAL).
 - a. OCFA staff recommends support of The Segal Company's alternative #3 for future layers of UAAL, as detailed on page 3 of this report.
3. Provide recommendations for transmittal to OCERS' Board of Retirement pertaining to the amortization period for *prior layers* of UAAL.
 - a. OCFA staff recommends support of The Segal Company's recommendation to leave the amortization period for prior layers of UAAL unchanged.

Background:

Presently, OCERS' funding directives have been adopted through OCERS Board actions at various times based on discussions specific to each policy component; however, these funding directives have not been memorialized into a single actuarial funding policy. As a result, OCERS' actuarial firm (The Segal Company) recently had discussions with the OCERS Board

pertaining to the development of a formal actuarial funding policy for OCERS. A detailed review of the components of an actuarial funding policy was prepared by The Segal Company (Attachments 2, 3, and 4) placing particular emphasis on funding policy elements the Board may need to consider modifying, in light of new requirements for pension reporting by the Government Accounting Standards Board (GASB) and new guidelines being developed by the California Actuarial Advisory Panel (CAAP).

The proposed Actuarial Funding Policy has 3 components:

1. **Actuarial Cost Method:** allocates the cost/liability of retirement benefits to a given period of time. OCERS currently uses an “Entry Age Normal” method that calculates the Normal Cost (cost of the benefit) as a level percentage of pay over the working lifetime of the plan’s members. *No changes are recommended to the Actuarial Cost Method.*
2. **Asset Smoothing Method:** defines the techniques that spread the recognition of investment gains or losses over a period of time to reduce the effects of short-term volatility. OCERS currently smoothes its investment gains and losses over a 5 year period. *No changes are recommended to the Asset Smoothing Method.*
3. **Amortization Policy:** determines how long to fund the difference between liabilities and assets, also known as the plan’s Unfunded Actuarial Accrued Liability (UAAL).
 - As a result of a review in 2005, prior UAAL layers were combined and reamortized as a level percent of pay over 30 years, effective December 31, 2004. As of December 31, 2012, there are 22 years left for amortizing this base layer of UAAL.
 - In addition to the base layer of UAAL, OCERS’ current policy requires the financial impact from annual gains, losses and plan amendments to be amortized over 15 years and it requires the impact from assumption changes to be amortized over 30 years.
 - These various layers of UAAL (pre-2004 and post-2004) currently average a remaining amortization period of roughly 20 years.

For layers of UAAL established prior to December 31, 2012, no changes are recommended. To date, there does not appear to be a majority of the OCERS Board that supports accelerated or decelerated funding of the existing UAAL. It’s important to note that individual plan sponsors always have the option to voluntarily accelerate funding of their individual UAAL, as desired. OCFA previously initiated a plan to expedite funding in this manner in 2008/09; however, the economic downturn necessitated return to base funding instead of expedited funding in 2009/10, pending economic recovery. With economic recovery in our view, OCFA staff is working to “refresh” the expedited payment plan to provide future options for OCFA Board consideration, on a voluntary basis. In order to preserve the “voluntary” component, staff supports leaving the existing amortization schedule with OCERS unchanged for prior liabilities.

For layers of UAAL established after December 31, 2012, OCERS is considering three alternative sets of amortization approaches. All alternatives for future changes in UAAL use relatively short amortization periods for plan amendments and Early Retirement Incentive Plans (ERIPs) and a long amortization period for surplus. The alternatives differ in treatment of gains, losses and assumption/method changes, as shown in this table (in years of amortization):

<u>Source/Type of UAAL Layer</u>	<u>Current Policy</u>	<u>Alternative #1</u>	<u>Alternative #2</u>	<u>Alternative #3</u>
Actuarial Gains or Losses	15	15	20	15
Assumptions/Method Changes	30	20	20	25
Plan Amendments	15	15 or less	15 or less	15 or less
ERIPs	15	Up to 5	Up to 5	Up to 5
Actuarial Surplus	15	30	30	30

OCFA staff is recommending support of Alternative #3 for the amortization of future layers of UAAL. This alternative represents a relatively small change in practice, primarily impacting amortization of future gains or losses that may result from changes in actuarial assumptions or methods. Examples of potential future changes in actuarial assumptions include:

- Mortality tables
- Investment earnings
- Retirement ages

Changes in actuarial assumptions at OCERS typically occur following a Triennial Experience Study, which compares the prior three years of actual experience against the assumed experience. OCERS' next Triennial Experience Study is due to be performed in 2015, for the calendar years 2012-2014. Therefore, if alternative #3 is adopted by OCERS, any assumption change that might result from the 2015 Study would be amortized over 25 years instead of 30 years, and that change would positively or negatively impact OCFA's retirement contribution rates beginning in FY 2016/17.

OCFA staff will provide a presentation to the Board at the April 25 meeting to illustrate and explain the prior layers of UAAL that exist for OCFA's safety and non-safety retirement plans, which should help provide context to the various types of future layers described above. The presentation will include a discussion of the concept of "negative amortization" (further explained in the attached materials from The Segal Company), which further supports staff's recommendation to begin using a 25-year period instead of 30-year period for amortizing future

layers of liability. Paul Angelo, Senior Vice President & Actuary from The Segal Company, will also be present at the meeting to review and discuss the proposed changes.

Alternative Stakeholder Preferences

While the recommendations discussed above represent options supported by OCERS' Actuary and OCFA staff, there are other stakeholders who prefer a different outcome. The OCFA's Cash Contract Cities pay annual service charges to OCFA which are directly impacted by the annual retirement costs in OCFA's budget. Further, some of OCFA's Structural Fire Fund members (therefore not directly impacted by OCFA's budget) are nevertheless impacted by the Orange County Sheriff Department's retirement costs. As a result, some of these cities, including Stanton, Westminster, Yorba Linda, and Santa Ana, have indicated their preference for OCERS to take alternative actions which would hold current costs down, even if that action comes with a higher price tag for the longer-term.

Additional stakeholders, including the Orange County Professional Firefighters Association (OCPFA) and the Association of Orange County Deputy Sheriffs (AOCDS), have expressed the same desire to hold current costs down. The AOCDS, working jointly with the OCPFA, retained the services of Rael & Letson to identify additional funding policy options (Attachment 5). All of the options identified in the Rael & Letson report produce immediate annual budgetary savings; however, these options will result in higher overall costs in the longer term, and a longer period of time before liabilities become funded.

Impact to Cities/County:

Any increase in OCFA's retirement costs will impact annual increases to charges passed on to Cash Contract Cities and John Wayne Airport.

Fiscal Impact:

Any changes to the amortization of future UAALs will apply, at the earliest, to the 2013 actuarial valuation and would be implemented in July 2015 (although more likely to occur in July 2016). Longer amortization periods result in lower contributions and lower contribution volatility. Conversely, shorter amortization periods get to full funding sooner but at the price of higher current contributions and higher contribution volatility. It is not possible to quantify in advance the full future cost impact associated with adopting any of the alternative amortization periods for future changes in UAAL simply because the plan's future changes in UAAL are not yet identified.

Staff Contacts for Further Information:

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Attachments:

1. OCFA: Budget & Finance Committee's Considerations, 4-11-13
2. The Segal Company: Review & Discussion of OCERS' Actuarial Funding Policy, 2-13-13
3. The Segal Company: Presentation on OCERS' Actuarial Funding Policy, 3-18-13
4. The Segal Company: Additional Information re: Review of Actuarial Funding Policy, 4-4-13
5. Rael & Letson: OCERS Funding Policy Options, 12-10-12



ORANGE COUNTY FIRE AUTHORITY

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Keith Richter, Fire Chief

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April 11, 2013

Honorable Board Members, OCERS' Board of Retirement
Mr. Steve Delaney, Chief Executive Officer
Orange County Employees Retirement System
2223 Wellington Avenue
Santa Ana, CA 92701

Members of the Board of Retirement & Mr. Delaney:

Re: OCERS' Proposed Actuarial Funding Policy

At the Orange County Fire Authority's Budget & Finance Committee meeting on April 10, 2013, the Committee reviewed and discussed the Proposed Actuarial Funding Policy alternatives that are under consideration by the OCERS' Board of Retirement. The Committee directed staff to communicate the following desired outcomes to OCERS for consideration at the upcoming April 15, 2013 meeting:

Priority #1: Make no changes to existing actuarial funding policies. Preserve the current flexibility for OCERS' plan sponsors to expedite payment of their UAAL on a voluntary basis, if desired.

Priority #2: Consider a hybrid of other options, such as those presented by the AOCSD, and take more time to research options before making a final decision.

Priority #3: If a policy change will be made immediately by the OCERS Board from the three alternatives outlined by The Segal Company, then support proposed Alternative #3.

The OCFA understands the importance of this policy decision, and is appreciative of the assistance provided by Steve Delaney and Andy Yeung in preparing and presenting the materials to the OCFA's Budget & Finance Committee.

If you have any questions, you may contact me at (714) 573-6020.

Respectfully,

A handwritten signature in blue ink that reads "Lori Zeller".

Lori Zeller
Assistant Chief, Business Services Department

cc: OCFA Board of Directors
Keith Richter, Fire Chief



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VIA E-MAIL AND USPS

February 13, 2013

Board of Retirement
Orange County Employees Retirement System
2223 Wellington Avenue
Santa Ana, CA 92701

**Re: Orange County Employees Retirement System
Review and Discussion of Actuarial Funding Policy**

Dear Board Members:

We have prepared this discussion of the significant provisions that would comprise an actuarial funding policy for OCERS. This review incorporates OCERS' current funding policy elements and reviews those policies in light of emerging model actuarial practice in this area. In particular, we have provided a detailed discussion of the amortization policy, including some alternative policy elements that may be considered by the Board for future actuarial valuations.

Another consideration in undertaking this review relates to the Governmental Accounting Standards Board's (GASB) recently adopted Statements 67 and 68 that substantially revise financial reporting requirements for governmental pension plans and their sponsors¹. Included in those proposals is the requirement to describe and report the "actuarially determined (employer) contributions", based on the funding policy adopted by the governing body. One of the by-products of our funding policy review is that OCERS will have a readily accessible comprehensive statement of funding policy to use in meeting the new GASB requirements.

Please note that any recommended changes in funding policy are proposed for implementation in the December 31, 2013 actuarial valuation. The December 31, 2012 valuation will be performed based on OCERS current funding policy.

¹ Statement 67 replaces Statement 25 for used in reporting by the pension plan and Statement 68 replaces Statement 27 for used in reporting by the plan sponsor. In the case of OCERS, these new Statements will be effective for plan year 2014 for the Retirement System and fiscal year 2014/2015 year for the employer.



GENERAL FUNDING POLICY GOALS

This report starts with a general discussion of pension plan funding policy followed by detailed discussion of specific policy components along with various policy recommendations. This discussion is based on the following high level funding policy goals:

1. Future contributions and current plan assets should be sufficient to provide for all benefits expected to be paid to current active, inactive and retired members. This means that contributions should include the cost of current service plus a series of payments to fully fund (or recognize) any unfunded (or overfunded) past service costs.
2. The funding policy should seek a reasonable allocation of the cost of benefits to the years of service and the funding of such cost by the employer. This includes the goal that annual contributions should, at a minimum, maintain a close relationship to the cost of each year of service, and that the current service cost should bear a stable relationship to compensation.
3. The funding policy should seek to manage and control future employer contribution volatility to the extent reasonably possible, consistent with other policy goals.
4. The funding policy should support the general public policy goals of accountability and transparency. While these terms can be difficult to define in general, here the meaning includes that the funding policy should be clear both as to intent and effect, and that it should allow an assessment of whether, how and when the plan sponsor will meet the funding requirements of the plan.

Policy objectives 2 and 3 reflect two aspects of the general policy objective of “interperiod equity” (IPE). The “demographic matching” goal of policy objective 2 promotes *intergenerational* IPE, which seeks to have each generation of taxpayers incur the cost of benefits for the employees who provide services to those taxpayers, rather than deferring those costs to future taxpayers. The “volatility management” goal of policy objective 3 promotes *period-to-period* IPE, which seeks to have the cost incurred by taxpayers in any period compare equitably to the cost for just before and after.

GENERAL DISCUSSION OF PENSION PLAN FUNDING POLICIES

A pension plan funding policy is designed to determine how much should be contributed each year in total by the employer and the active members to provide for the secure funding of benefits in a systematic fashion. The funding policy starts with an actuarial cost method that allocates a portion of the total present value of the members’ benefits to each year of service. In theory, contributing that “Normal Cost” for each year of service will be sufficient to fund all plan benefits, assuming that all actuarial assumptions are met including the assumed rate of investment return. In that ideal situation, plan assets will always be exactly equal to the value today of all the past Normal Costs less benefit payments (the Actuarial Accrued Liability or AAL), and the current contribution will be only the current Normal Cost.

In practice, for a variety of reasons, the assets will be greater than or less than the AAL, leaving the plan overfunded (i.e., with a surplus) or underfunded (i.e., with an Unfunded Actuarial Accrued Liability or UAAL). The funding policy adjusts contributions to reflect any surplus or UAAL in a way that reduces short term, year-by-year volatility, but still assures that future contributions, together with current assets, will be enough to provide all future benefits.

A comprehensive funding policy is generally made up of three major components:

- I. An **actuarial cost method**, which allocates the total present value of future benefits to each year (Normal Cost) including all past years (AAL).
- II. An **asset smoothing method**, which reduces the effect of short-term market volatility while still tracking the overall movement of the market value of plan assets.
- III. An **amortization policy**, which determines the length of time and the structure of the payments for the contributions required to systematically pay off the plan's UAAL.

Each of these policy components is currently in effect for OCERS. We are not recommending any change to the actuarial cost method, or to the asset smoothing method (that was reviewed by the Board in 2009). Accordingly, the next sections briefly review those policy components, followed by a detailed discussion on the amortizations policy.

ACTUARIAL COST METHOD

The ultimate costs (ignoring expenses) for the plan are determined by the actual benefits paid from the plan, offset by actual investment income. Each year, an actuarial valuation is completed to develop the next year's annual contribution for the pension plan. The valuation uses a funding method to allocate the ultimate expected costs for active members to each year of service, and thus among past service, current service, and future service. As described above, the cost attributed to the current year of service is the plan's Normal Cost. The accumulated costs attributed to past service is the plan's AAL. The plan's annual contribution is the Normal Cost, plus an amount to fund or "amortize" the plan's UAAL.

Currently, the Plan is funded using the Entry Age Normal (EAN) method². This method is considered a reasonable funding method under the Actuarial Standards of Practice. Further, this method is most consistent with the policy goal of having the Normal Cost bear a consistent relationship to payroll. In fact, for that reason, the recently adopted GASB Statements require all plans to report their liabilities for accounting purposes using the EAN method.

This method produces individual Normal Costs that are determined as a level percentage of covered payroll over each member's career. The AAL is calculation on an individual basis and is based on each individual's past Normal Costs, allocated as a level percent of compensation. We would recommend that for funding purposes, the Board continue the current EAN actuarial cost method.

² Note that prior to the December 31, 2004 valuation, the Plan was using the Projected Unit Credit method.

ASSET SMOOTHING METHOD

In 2009, the Board reviewed the period used in the asset smoothing method. In that review, we compared contribution rates and other pertinent actuarial measures using four different smoothing periods: (i) 5-year, (ii) 7-year, (iii) 10-year and (iv) 12-year. As a result of that review, the Board decided to maintain its 5-year asset smoothing period for all investment gains/losses and to continue the smoothing method without a Market Value of Assets (MVA) Corridor so that the Actuarial Value of Assets (AVA) would not be constrained to be within a certain range of the MVA.

This decision was made after detailed discussions of the impact of using different smoothing periods to develop the AVA, as detailed in our formal report from March 2009 as well as subsequent presentations. That decision was based in part on the fact that the 5-year asset smoothing period currently used by the Board is still the industry standard and is by far the most common period used by public plans. That 5-year period, in our opinion, also meets the Actuarial Standard of Practice standard of being “sufficiently short,” which allows the Board substantial flexibility in setting the MVA Corridor, including having no MVA Corridor. For those reasons, we believe it is reasonable for the Board to continue the asset smoothing policy reaffirmed in 2009.

One observation we have made is that a period of significant market change may be followed by a period of market correction. Depending on the magnitude of the market change and subsequent market correction, it may be advisable to perform an ad-hoc adjustment to change the pattern of the recognition of the deferred investment gains or losses. We would recommend to the Board that the Statement of Funding Policy reserve to the Board the right to consider such future adjustments upon receiving the necessary analysis from its actuary. The funding policy could also describe in general terms the conditions that would typically lead to such an ad-hoc adjustment.

AMORTIZATION POLICY

General Discussions

With the exception that the UAAL has to be amortized over a period not to exceed 30 years under Section 31453.5 of the 1937 CERL³, governmental or public defined benefit plans like OCERS are generally not subject to specific statutory funding or funding policy requirements such as those established for single employer (corporate) and multiemployer (Taft-Hartley) defined benefit pension plans under the Employee Retirement Income Security Act (ERISA) and the Internal Revenue Code (IRC). The prior accounting standards promulgated by GASB under GASB Statements 25 and 27 define an Annual Required Contribution (ARC) that, despite its name, is actually the amount of expense that the employer must recognize each year. Also,

³ Note that Section 7522.52 was recently enacted as part of the California Public Employees’ Pension Reform Act (CalPEPRA) of 2013. Under that Section of the Act, a public pension plan has to have at least a 120% funded ratio, and meet other conditions, before any negative UAAL (or surplus) may be amortized and used to reduce the Normal Cost of the plan.

the prior GASB accounting standards provide considerable policy latitude when determining the ARC⁴.

Even though this leaves governmental or public plans relatively free to set funding policy, it is worth noting that long term funding policy structures – corporate, multiemployer and GASB – generally take the same form, at least for underfunded plans (plans with a UAAL):

1. Contribute the Normal Cost for the year, and
2. Contribute an additional amount that will fully fund (“amortize”) any UAAL over a period of years.

Implicit in this form of policy is *a funding target of 100 percent*, since at the end of the amortization period the plan will be fully funded. This is in contrast to “corridor” or “collar” methods that allow contributions equal to only the Normal Cost as long as the plan is within, for example, 20 percent of being fully funded. The funding policy presented in this discussion is based on the UAAL amortization method because it targets 100 percent funding of the AAL, and accordingly is well established for all types of pension plans.

For OCERS, the UAAL amortization policy was last reviewed in 2005 for the December 31, 2004 valuation. As a result of that review, the prior balances in the UAAL amortization layers were combined and reamortized as a level percentage of payroll over 30 years effective December 31, 2004. Future actuarial gains or losses and plan amendments are amortized over 15 years and assumption changes are amortized over 30 years.

A general review of the UAAL amortization policy would include both the amortization periods and the structure of the amortization payments. A detailed discussion of the selection of the UAAL amortization period and structure is presented in the following sections. For now, we note only that, for plans with UAAL, longer amortization periods result in lower current contributions and a longer period before the contribution reverts to the Normal Cost. Longer periods also produce lower contribution volatility. In contrast, shorter amortization periods get to full funding more rapidly but at the price of higher current contributions and higher contribution volatility.

That leaves the question of funding policy for overfunded plans, those that have a surplus instead of a UAAL. The policy structure used by most public plans when determining contribution amounts when there is a surplus is that the surplus is amortized the same way as a UAAL, except that instead of producing an amortization *charge*, there is an amortization *credit*.

⁴ As previously discussed, GASB has recently adopted Statements 67 and 68 that replace Statements 25 and 27 for accounting and financial reporting standards for governmental pension plans and their sponsoring employers. The new Statements eliminate the linkage between actuarial funding and financial reporting found in the prior Statements. In this discussion unless noted otherwise, all references to GASB standards relate to the prior standards, which were viewed as an authoritative guide to the range and limits of funding policy practices used by most public plans before GASB adopted the new reporting standards.

This means that the contribution amount is the Normal Cost *minus* an amount that will in effect spend down the surplus over the amortization period.

Unlike for UAAL, longer amortization periods result in a lower amortization credit, and so produce a higher current contribution (but still less than the Normal Cost). Shorter amortization periods for surplus take credit for the surplus more quickly. This produces a lower contribution, but it also means a shorter period before the contribution reverts up to the full Normal Cost.

While this policy structure still generally reflects a funding target of 100 percent, amortizing surplus results in an annual contribution that is less than the Normal Cost. This can lead to a full or partial “contribution holiday” where contributions are less than the regular, ongoing cost of current service, especially if the surplus amortization period is relatively short. Recent history has led to a reevaluation of this condition for public pension plans.

One of the most significant changes in industry thinking and practice to come from the market experience around the turn of the 21st century is the way surplus is recognized in public pension funding policy. In many cases, short amortization periods for surplus in the late 1990s led to reductions in contributions below the level of Normal Cost, sometimes even to complete “contributions holidays” of zero contributions. As the market reversals in the early 2000s led to resumption of contributions in most pension plans, the general lesson was that a contribution level less than the Normal Cost (that is, funding the Normal Cost out of surplus) should always be viewed with caution, as ultimately the Normal Cost will reemerge as the basic cost of the plan.

One possible response would be to require that contributions never fall below the Normal Cost level. However, that would be inconsistent both with the prior GASB accounting standards and with the actuarial principle that funding policy should target 100 percent funding, and not sustain a level that is either higher or lower than 100 percent. That leads to the general conclusion that surplus should be amortized, but over very long periods⁵. Note that this is consistent with the 30-year surplus amortization policy adopted by CalPERS in April 2005. That 30-year surplus amortization period is also to be found as Recommendation 7 in the Report of the (California) Public Employee Post-Employment Benefits Commission.

Selection of Amortization Structure and Methods

Setting an amortization policy involves a few policy decisions and considerations in addition to selecting the amortization periods. Here is a brief description of those issues, followed by a detailed discussion of amortization periods. That discussion includes the current OCERS UAAL amortization policy parameters and some possible alternatives that may be considered by the Board.

⁵ Before CalPEPRA, a public pension plan could start to amortize surplus when the funded ratio is greater than 100%. After CalPEPRA, before the surplus may be amortized the funded ratio has to be in excess of 120% and other conditions must be met as well. In practice, we understand that CalPEPRA effectively precludes the amortization of surplus.

- Single amortization layer for the entire UAAL or surplus, or separate amortization layers for each source of UAAL or surplus
- Closed (fixed) period amortization or open (rolling) period amortization
- Level dollar or level percent of pay amortization payments
- For separate amortization layers, when is it appropriate to “restart” or otherwise combine the amortization layers

The current OCERS policy uses separate, fixed period amortization layers for each source of UAAL, and level percent of pay amortization payments.

Single vs Multiple layers, Fixed vs Rolling amortization

Historically many public pension systems amortized their UAAL as a single amount. Because new amounts of UAAL arise each year (due to gains and losses, assumption changes and plan amendments), this requires a policy choice as to how to determine the remaining amortization period each year.

A “closed” or fixed period works like a home mortgage and so gets shorter each year. However, unlike a home mortgage, for a pension plan this eventually leads to an unstable situation where each year’s gain or loss (or other UAAL changes due to assumption or benefit changes) is amortized over a shorter and shorter period. Eventually the policy needs to be amended to restart the amortization period at something like its original period.

To avoid this need to periodically revisit the policy, some systems use an “open” or rolling amortization period. This is analogous to refinancing your home mortgage each year, but including any new UAALs arising each year. While this is a stable policy, it also means that there is no date by which the UAAL is fully amortized, which raises questions of accountability and intergenerational equity.

To address both the stability and the accountability issues, many public systems, including OCERS, have adopted the “layered” approach used by all corporate and multiemployer pension plans. Here each new amount of UAAL is amortized over a separate, fixed period. This approach also has the advantage of identifying the source of each dollar of current UAAL, as well as when each portion of UAAL will be fully amortized.

As described above, the layered approach provides reassurance that any past UAAL will be paid off at a specific time. It also shows when and how each new separate portion of underfunding originated and how much of each such original amount of UAAL remains to be amortized. It also allows for flexibility to allow underfunding from different sources to be amortized over different periods of time. We note that this is the structure required by the ERISA/IRC rules for corporate and multiemployer plans, and is increasingly common for public pension plans, especially in California.

We recommend no change to OCERS' current use of separate, fixed period amortization layers.

Level Dollar vs. Level Percent of Pay Amortization

The amortization payments may be patterned in one of two ways, as a level dollar amount or as a level percentage of pay. The ERISA/IRC rules for corporate and multiemployer plans require level dollar amortization, similar to a typical home mortgage. However, by far most public plans use level percent of pay amortization where the payments increase each year in proportion to the assumed payroll growth for the entire active workforce. That means they start lower than the corresponding level dollar payments, but then increase until they are higher.

The level dollar method is more conservative in that it funds the UAAL faster in the early years. For the same reason, it also incurs less interest cost over the amortization period. The level dollar method was used by OCERS prior to the December 31, 2004 valuation. The current OCERS policy uses level percent of pay amortization. The justification for using level percent of pay payments is that it is consistent with the Normal Cost (which for pay related plans like OCERS is almost always determined as a percentage of pay) and that it provides a total cost that remains level as a percentage of pay. In contrast, level dollar amortization of UAAL will produce a total cost that decreases as a percentage of pay over the amortization period. Note that both these results depend on actual payroll growth meeting the assumed payroll growth assumptions.

We recommend no change to OCERS' current use of level percent of pay amortization.

Negative Amortization

Another important aspect of level percent of pay amortization is that, unlike a level dollar amortization, under level percent of pay amortization the UAAL may increase during the early years of the amortization period even though contributions are being made to amortize the UAAL. This happens because with level percent of pay amortization, the lower early payments can actually be less than interest on the outstanding balance, so that the outstanding balance increases instead of decreases. For typical public plan assumptions (including OCERS), this happens whenever the amortization period is longer than about 20 years⁶. This means that the outstanding balance of the UAAL does not decrease until there are 20 or fewer years left in the amortization period. It also means that the outstanding balance will not fall below the original amount until some years after that time.

A comparison of the contributions under level percent of payroll amortization using different amortization periods is provided in Attachment 1. Attachment 2 shows the resulting UAAL balances for a sample starting UAAL layer of \$1 million under various level percent of pay amortization periods. While there is nothing inherently wrong with negative amortization, the

⁶ This result of 20 years has been calculated using the assumptions approved for the actuarial valuation as of December 31, 2012. If we use the assumptions that were approved for the December 31, 2011 valuation, negative amortization would not occur unless the amortization period is longer than about 19 years.

Board should be aware of its consequences, especially for amortization periods that are substantially longer than 20 years.

When is it Appropriate to “Restart” the Amortization Layers?

As discussed above, the current OCERS policy uses separate, fixed period amortization layers for each source of UAAL. Under this approach, over time there will be a series of these layers, one for each year’s gain or loss as well as for any other changes in UAAL. This is perfectly manageable and in fact provides a history of sources of the System’s UAAL in any year. Also, note that in practice, the number of layers will be limited by the length of the amortization period as eventually layers are fully amortized, and so are no longer part of the series of layers.

Under the current amortization policy, there may be conditions where the Board would want to consider action whereby all the amortization layers are wiped out (“considered fully amortized”) and the series is restarted. For example, this would very likely be appropriate if the System goes from surplus to UAAL, or from UAAL to surplus. This would be done to avoid possible anomalies as well as to avoid results that might fail to comply with the prior GASB accounting standards.

In particular, under the layered approach, it is possible for a plan with a UAAL to nevertheless have a net amortization credit in the current year. While that result is actuarially consistent, it is also very counterintuitive, since a UAAL would seem to require a net amortization charge. In fact, for that very reason this result would fail to meet the prior GASB requirement that a plan with a UAAL must have a net amortization charge. This drawback can be readily avoided by treating each “new” UAAL or surplus condition as the beginning of a new series of amortization layers.

The above is only one example of when the amortization layers might be restarted or combined. Another is when there are alternating years of gains and losses of relatively equal size. To address these situations as part of its funding policy, the Board should reserve the right to restart or otherwise combine the amortization layers whenever appropriate circumstances arise. In particular, we recommend that all amortization layers be restarted whenever the System switches from an underfunded position to surplus or vice versa.

Amortization Periods

The UAAL amortization periods for public plans typically range from 15 to 30 years, with 30 years being the maximum allowable period under the prior GASB accounting standards. As discussed above under “General Funding Policy Goals”, the amortization period should not be set so short that it creates too much volatility in the contributions yet it should not be so long that it constitutes a shift of cost to future funding sources. Balancing these two conflicting policy goals is a key consideration when setting amortization periods. Another consideration is how much and in what circumstances negative amortization is an acceptable consequence of using longer amortization periods.

Plans that amortize the UAAL in layers by source sometimes use different amortization periods for different sources of UAAL. Generally such plans (including OCERS) amortize actuarial gains or losses over shorter periods (15 to 20 years or less) and UAAL changes due to assumption or method changes and plan amendments over longer periods (sometimes up to the prior 30-year GASB limit). We will discuss that further in the following sections.

Selection of Amortization Periods for Actuarial Gains or Losses

When selecting the amortization period for gains or losses, a review of both historical practices and recent experience is instructive. For amortizing actuarial gains or losses, a 15-year amortization period has been used in the ERISA/IRC rules for multiemployer plans and also for corporate plans prior to the 1987 overhaul of the corporate pension funding rules. Public plans also generally used 15 years or longer, often for the entire UAAL including any gains or losses. By the late 1990s, as plans came close to being fully funded or even over funded there was a trend toward amortization periods as short as 10 or even 5 years. For example, in 1987, the ERISA/IRC rules for corporate plans were changed to reduce the amortization period for gains and losses from the original 15 years to 5 years. This led to rapid reductions in contributions when the large investment gains from that period were recognized over such short periods. The investment losses in the early 2000s led to similar cost increases except for public plans that lengthened their amortization periods substantially once those losses started to emerge.

Based on this experience, we recommend a balance between: (a) reducing contribution volatility by using a longer amortization period and (b) maintaining a closer relationship between contributions and routine changes in the UAAL by using a shorter amortization period. Using a shorter amortization period also reduces or avoids negative amortization as previously discussed. Based on these three considerations we generally recommend gains and losses amortization periods in the range of 15 to 20 years.

Selection of Amortization Periods for Assumption or Method Changes

Assumption or method changes, such as a modification in the mortality assumption to anticipate an improvement in life expectancy for current active members when they retire, often include a long-term remeasurement of plan costs and liabilities. For assumption changes, in effect, such changes take gains or losses that are expected to occur in the future and build them into the cost and liability measures today. For method changes, such changes fundamentally redetermine how costs are allocated to years of service for active members. In either case the long-term nature of these changes could justify using a longer amortization period than that used for actuarial gains or losses, in the range of 15 to 25 years for assumption changes or even 30 years for method changes⁷.

⁷ Note that the longer amortization for method changes would be most appropriate for substantial changes, such as going from Projected Unit Credit method to the Entry Age Normal (EAN) method. This is not a consideration for OCERS as the System is already using the EAN method.

Selection of Amortization Periods for Plan Amendments

While some plans have used 30 years to amortize the UAAL from plan amendments, recent actuarial practice has evolved to use a much shorter period. As discussed above, amortization generally involves a balance between matching member demographics and managing contribution volatility. However, for plan amendments, volatility control is not generally a consideration. That leads to the following arguments and considerations for using a short amortization period:

- Matching the amortization period to the average remaining service lifetime of the active members receiving the benefit improvement
- Matching the amortization period to the average life expectancy of the retired members receiving the benefit improvement
- Avoiding “negative amortization” for UAAL changes that are within the control of or result from actions taken by the plan sponsor
- Considering any special circumstances that may apply to a specific benefit improvement

The first two considerations would usually lead to at most a 15 to 20-year amortization period while, for OCERS, the third consideration would limit the period to around 20 years or less. Accordingly, we would recommend that the Board consider a maximum amortization period for plan amendments of 15 years. Note that for OCERS the current amortization period for plan amendments is 15 years.

As an example of the fourth consideration, current practice clearly favors shorter amortization periods for Golden Handshakes or early retirement incentive type programs (ERIP) due to the relatively short period of their expected financial impact. For example, a GFOA 2004 Recommended Practice states that “the incremental costs of an ERIP should be amortized over a short-term payback period, such as three to five years. This payback period should match the period in which the savings are realized”. Recent comments to GASB by public plan actuaries are consistent with this view.

A demographically based amortization period for an ERIP could range from 0 years (for an immediate recognition of the entire UAAL due to the ERIP) to a period of 10 years. These different periods corresponded to various alternative periods of cost savings or benefit payments under such a program.

We recommend that the actuarial funding policy use a relatively short default amortization period for Golden Handshakes or ERIPs of up to five years along with a statement that a recommendation by the actuary to the Board on the amortization period be included as part of the required actuarial cost study for any such ERIP. As already stated, we also recommend that an amortization period of at most 15 years be used for any other plan amendments.

Amortization of Surplus

As discussed above, one of the most significant changes in industry thinking and practice to come from the market experience around the turn of the 21st century is the way surplus is recognized in public pension funding policy. Generally, current practice is reflected in the goal of keeping contributions close to the cost of current service.

One possible response would be to require that contributions never fall below the Normal Cost level. However, that would be inconsistent both with the current GASB accounting standards and with the actuarial principle that funding policy should target 100 percent funding, and not sustain a level that is either higher or lower than 100 percent. That leads to the general conclusion that surplus should be amortized over the longest currently permissible period of 30 years. For example, CalPERS uses a 30-year amortization period when there is a surplus. This same 30-year period can also be found as Recommendation 7 in the Report of the (California) Public Employees Post-Employment Benefits Commission. We recommend that the actuarial funding policy include a 30-year period for surplus amortization⁸.

Selection of Amortization Periods for Past vs. Future UAAL

As the Board deliberates modifying the amortization periods in its current funding policy, we recommend that the Board separate the discussions between (1) the amortization of the current (past) UAAL and (2) amortization of future changes in the UAAL.

As of December 31, 2011, the total UAAL for the pension plan (measured using the 7.75% investment return assumption used in that valuation) was \$4,458.6 million. While the UAAL was amortized over different layers as discussed above, the combined net UAAL payment from the different layers was roughly equivalent to the payment amount that would result from using a single amortization period of about 19 to 20 years.

We would not recommend any modifications that would lengthen the amortization periods for the current UAAL since the current average period is already at the long end of the 15-20 year range that we would recommend for gains and losses. Also, any change to a longer amortization period would produce additional negative amortization in the next few years. However, if the Board wishes to accelerate the plan's progress to 100% funding, the most direct way to do so would be to reamortize the current UAAL over a period shorter than the current equivalent single amortization period of about 19 to 20 years.

⁸ Since CalPEPRA has imposed a new requirement that surplus be amortized only when the funded ratio is at least 120%, along with other conditions, we would propose that a reference be made in the Board's funding policy to that requirement.

Alternative Amortization Periods for Future Changes in UAAL

Based on the above discussions, here are some alternative sets of amortization periods that the Board may want to consider with respect to any future changes in UAAL.

	<u>Current Policy</u>	<u>Alternative #1</u>	<u>Alternative #2</u>	<u>Alternative #3</u>
Actuarial Gains or Losses	15	15	20	15
Assumption or Method Changes	30	20	20	25
Plan Amendments	15	15	15	15
ERIPs	15	5	5	5
Actuarial Surplus	15	30	30	30

Consistent with the above discussions, all the alternatives use relatively short amortization periods for plan amendments and ERIPs and a long period for surplus. The alternatives differ only in their treatment of gains losses and of assumption and method changes.

Please note that with all of the above recommendations, we recommend that the Board continue to use closed (fixed) amortization periods and level percent of pay amortization. The exception is for actuarial surplus where a rolling amortization period would be used.

Recent Developments Related to Actuarial Funding Policy From the CAAP

While, as discussed earlier, systems can no longer look to GASB for guidance on funding policy, there is another source of guidance that is in the process of development. The California Actuarial Advisory Panel (CAAP) was created by the passage of Senate Bill 1123 of the 2008/2009 legislative session and consists of eight public sector actuaries appointed by the various appointing powers pursuant to Section 7507.2 of the Government Code. We note that your principal actuary, Paul Angelo, serves on the CAAP as an appointee of the University of California.

The CAAP has been studying actuarial funding policies for some time and recently issued a comment draft of a statement of model funding policies. While the recommendations and opinions of the Panel are nonbinding and advisory only, such viewpoints are still anticipated to have an influence on the retirement systems that operate in California as they select and finalize their individual funding policy approaches.

Because the CAAP's work in this area is based on Segal's and other actuaries' experience with California plans like OCERS, it is no coincidence that the elements of the funding policy developed by Segal for OCERS are in compliance with the CAAP model policies. In particular,

those model policies include preferred ranges for amortization periods that are similar to the ones presented in the above section⁹.

Cost Impact – Future Changes in UAAL

It is not possible to quantify in advance the full future cost impact associated with adopting any of the alternative amortization periods for future changes in UAAL simply because the plan’s future changes in UAAL are not yet identified. However, for a general illustration of cost impact, the charts in Attachments #1 and #2 compare the annual UAAL payments and the outstanding balance of the UAAL for a sample change in UAAL of \$1 million under different amortization periods. Please note that these Attachments have been prepared using the assumptions approved for the actuarial valuation as of December 31, 2012.

While any changes to the amortization periods would not be reflected until the December 31, 2013 valuation, we can illustrate the impact of the alternative amortization periods for actuarial gains and losses and for assumption changes by considering what the cost impact of any amortization period changes would have been if they were effective as of December 31, 2011. Under that illustrative scenario, we can estimate the contribution rate impact as of December 31, 2011 on future changes in UAAL that we have previously identified.

For gains and losses, note that in the December 31, 2011 valuation there were deferred investment losses of about \$598.9 million that have not been recognized. While these losses will be mitigated somewhat by the 11.80% market return during 2012 that translate into an investment gain, we have illustrated the impact on the employer UAAL contribution rate of the alternative amortization periods only for the deferred investment losses as of December 31, 2011.

	<u>Dollar Amount</u>	<u>Impact on UAAL Contribution Rate</u> <u>(% of Payroll)*</u>	
		<u>15 Years</u>	<u>20 Years</u>
Actuarial Gains or Losses**		(current policy)	
1. Deferred investment losses as of December 31, 2011	\$598.9 M	3.20%	2.58%
* Calculated under the new assumptions for the December 31, 2012 valuation and does not include adjustment for 18-month delay in contribution rate implementation.			
** In practice, this contribution rate impact would be recognized on a smoothed basis over 4 years.			

⁹ The “model” funding periods are expressed as a range in the draft model actuarial funding policy. Those periods are as follows:

Actuarial Gains or Losses	15 to 20 years
Assumption or Method Changes	15 to 25 years
Plan Amendments	Up to 15 years
ERIPs	5 years or less
Actuarial Surplus	30 years

For assumption changes, note that in our letter dated September 7, 2012, we provided the change in the UAAL of about \$901.5 million due to lowering the investment return assumption to 7.25%, as if that assumption were implemented in the December 31, 2011 valuation. Below we have illustrated the impact of that assumption change on the employer UAAL contribution rate under alternative amortization periods, also as of December 31, 2011.

Assumption or Method Changes	<u>Dollar</u>	<u>Impact on UAAL Contribution Rate (% of Payroll)*</u>			
	<u>Amount</u>	<u>15 Years</u>	<u>20 Years</u>	<u>25 Years</u>	<u>30 Years</u>
1. Reduction in investment return assumption	\$901.5 M	4.81%	3.89%	3.35%	2.99%
* Calculated under the new assumptions for the December 31, 2012 valuation and does not include adjustment for 18-month delay in contribution rate implementation.					

As discussed below, the Board may consider reamortizing the total UAAL over a shorter single period as of December 31, 2013. Note that the above change in the assumptions from the December 31, 2012 valuation would be included in the total UAAL to be reamortized as of December 31, 2013.

Cost Impact – Reamortization of Past UAAL

As noted earlier, the total UAAL for the pension plan as of December 31, 2011 (measured using the 7.75% investment return assumption used in that valuation) was \$4,458.6 million. The current net UAAL payment was 20.73% of payroll, which is roughly equivalent to a single amortization period of about 19 to 20 years. If that total UAAL was amortized over the same layers used in the December 31, 2011 valuation but using the 7.25% investment return assumption, the UAAL contribution rate would decrease by about 0.82% of payroll due to the fact that less interest is being charged. The net UAAL payment of 19.91% of payroll would still be equivalent to a single amortization period of about 19 to 20 years.

As discussed above, the Board may consider reamortizing the total UAAL over a shorter single period to accelerate the plan’s progress to 100% funding. The change in the employer UAAL contribution rate of 19.91% under alternative amortization periods is as follows:

- Single 20-year period: Decreases the total UAAL contribution rate by 0.23% of payroll
- Single 15-year period: Increases the total UAAL contribution rate by 4.33% of payroll
- Single 10-year period: Increases the total UAAL contribution rate by 13.58% of payroll

Note that the recommended changes in funding policy are proposed for implementation in the December 31, 2013 actuarial valuation. This means that any amount reamortized would also include the increase in UAAL due to the recent investment return assumption change. The cost impact of that reamortization is illustrated in the previous section. Also these amounts do not include adjustment for 18-month delay in contribution rate implementation.

OTHER FUNDING POLICY PARAMETERS

There are a few other more technical funding policy parameters that are used to determine the contribution rate in the annual actuarial valuation. These parameters are discussed in this section.

Adjustment for 18-month Delay between Rate Calculation and Rate Implementation

In order to allow the employers to more accurately budget for pension contributions and other practical considerations, the contribution rates determined in each valuation (as of December 31) will apply to the fiscal year beginning 18 months after the valuation date. The UAAL contribution rates in the actuarial valuation are adjusted to account for this 18-month delay in implementing changes in the employer contribution rates.

Aggregation of Tier 1 and Tier 2 Normal Cost

Currently, the employer Normal Cost contribution rates for Tier 1 and Tier 2¹⁰ are calculated on a pooled or aggregate basis in order to help stabilize the employer Normal Cost rate for Tier 1, since this tier is mostly closed to new members. As part of the future implementation of CalPEPRA, the employer Normal Cost rate for these tiers may have to be calculated on a separate basis by Tier.

Rate Group Structure

OCERS' UAAL is determined separately for each Rate Group using the liability calculated for members assigned to each Rate Group and on the assets (including contributions and benefit payments) that are tracked separately¹¹ for each Rate Group. The Rate Groups were developed in an effort to group different employers offering the same benefit formula (on a prospective basis) and whose future actuarial experience may be perceived to be comparable. For that reason, different compensation practices and other actuarial experience, if any, among employers have not been accounted for explicitly.

This type of arrangement to pool actuarial experience of different employers so that a more stable contribution rate can be developed in the valuation is very common among other county retirement systems.

¹⁰ Note that with the exception of Plan A and Plan B that correspond to Tier 1 and Tier 2 in Rate Groups #1 and #5, the only difference is that Tier 1 members would have their benefits calculated based on a final one-year average compensation while Tier 2 members would have their benefits calculated on a final three-year average compensation. In addition, Safety Tier 1 members have their Basic employee contribution rates calculated on a half-rate basis while Safety Tier 2 members have their Basic employee contribution rates calculated on a full-rate basis.

¹¹ It is our understanding that the maintenance of assets by Rate Group is done on a "book-keeping" basis only. This is because from a legal perspective the assets in the entire System are equally available to pay benefits for members in every Rate Group.

Employer/Member Cost Sharing of the Cost Impact of Annual Payoffs

For new members after January 1, 2013 CalPEPRA mandates a 50:50 sharing of the total Normal Cost between members and the employers. This funding policy parameter involves the sharing of Normal Cost for pre-PEPRA members. Even prior to CalPEPRA, the cost to provide a 3% cost-of-living adjustment (COLA) has always been shared 50:50 between the employer and the member (Section 31873). However, this is not the current cost sharing arrangement for the cost of the Basic benefits.

In developing the COLA component of the member's contribution rate, we used the System's assumed investment return, life expectancies and salary increases plus all the demographic assumptions derived using the observed experience of similarly situated members. Those assumptions include: (i) probabilities of service retirement, disability or termination at various ages, (ii) marital or domestic partnership status with beneficiary eligible for automatic continuance benefit, (iii) proportion of terminating members who leave contributions on deposit versus those who withdraw their contributions and forfeit their pension benefit and (iv) amount of annual payoffs included in the final salary averaging period. As the COLA member rate has been set using these assumptions, after the Ventura Settlement OCERS' COLA member rates have been increased to anticipate annual payoffs using the 50:50 cost sharing between the employer and the member. This practice is similar to other county retirement systems that recognize that pay element.

Unlike the COLA member rate, the calculation of the Basic member rate uses the System's expected investment return, life expectancy and anticipated salary increase assumptions but with parameters that are prescribed by the 1937 CERL for each benefit formula. The prescribed parameters include: (i) fixed age at retirement, (ii) all members are single and eligible to receive a benefit over their lifetime only and (iii) all members will retire and receive a service retirement benefit. After the Ventura Settlement, OCERS' Basic member rates have not been increased to anticipate annual payoffs. An argument for not doing so may be that different member groups have different levels of possible payoffs and the level of payoffs observed at the assumed retirement ages for setting COLA member rates may not represent the payoffs at the fixed retirement age used for the Basic member rates. This practice of not anticipating annual payoffs in developing the member rates varies among other county retirement systems.

We have no recommended changes to the above additional funding policy parameters for OCERS at this time. We invite direction from the Board as to whether further analysis and discussion is desired on any of these policy parameters.

We have attached a working draft of a comprehensive funding policy as an example of how such a document would be developed. It incorporates the three major components of the policy as well as the additional parameters just described.

We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

Please let us know if you have any questions, and we look forward to discussing this with the Board.

Sincerely,



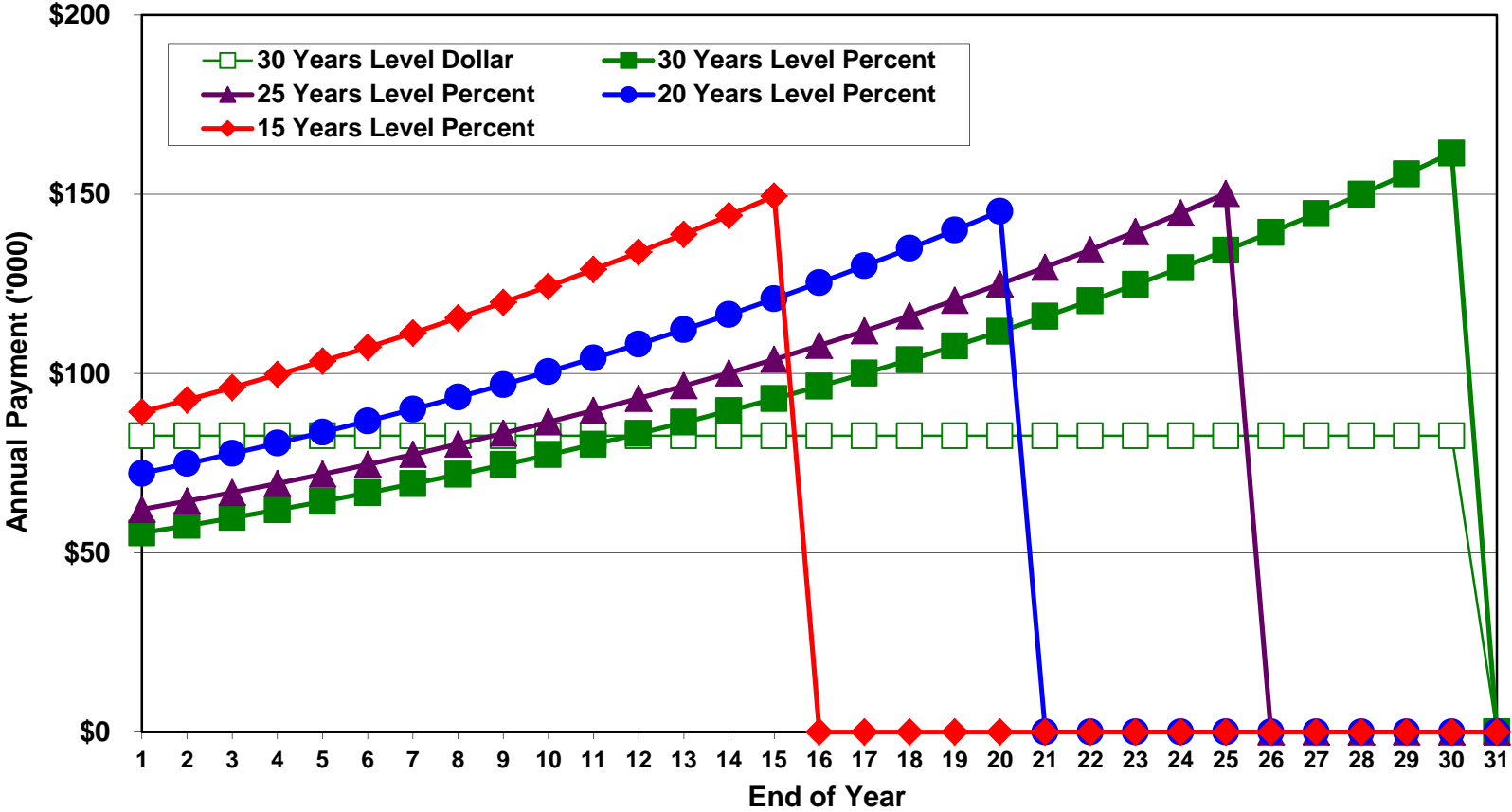
Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President & Actuary



Andy Yeung, ASA, MAAA, FCA, EA
Vice President & Associate Actuary

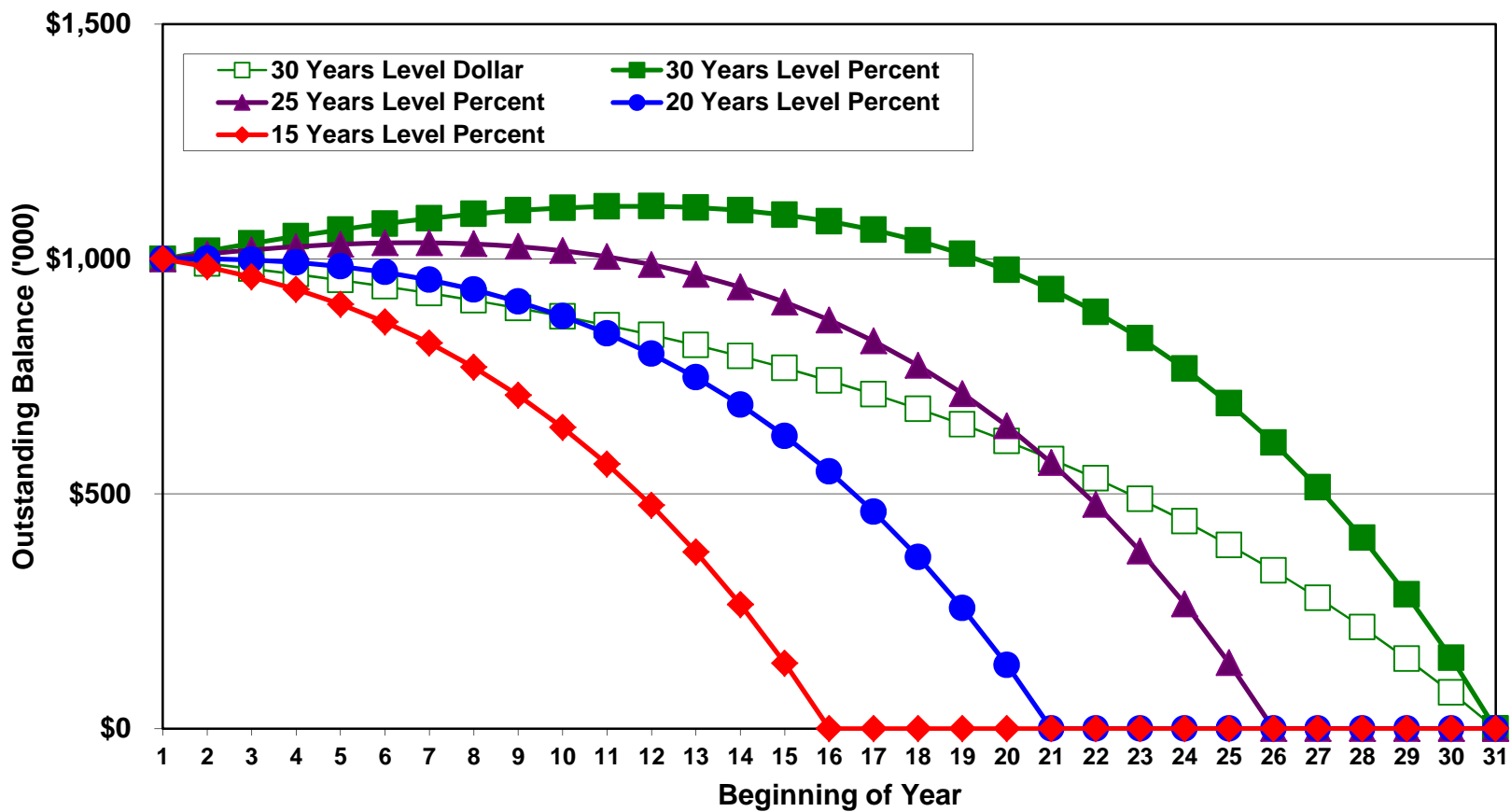
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Enclosures

Attachment #1 - Illustration of Payments Under Different Amortization Periods (on \$1 million UAAL)



Investment Return Assumption: 7.25%
 Payroll Growth Assumption: 3.75%

Attachment #2 - Illustration of Outstanding UAAL Balance Under Different Amortization Periods



Investment Return Assumption: 7.25%
 Payroll Growth Assumption: 3.75%

Attachment #3

Orange County Employees Retirement System

Draft Actuarial Funding Policy

Introduction

The purpose of this Actuarial Funding Policy is to record the funding objectives and policy set by the Board of Retirement (Board) for the Orange County Employees Retirement System (OCERS). The Board establishes this Actuarial Funding Policy to help ensure the systematic funding of future benefit payments for members of OCERS. In addition, this document records certain guidelines established by the Board to assist in administering OCERS in a consistent and efficient manner.

This Actuarial Funding Policy supersedes any previous Actuarial Funding Policies. It is a working document and may be modified as the Board deems necessary.

Goals of Actuarial Funding Policy

1. To achieve long-term full funding of the cost of benefits provided by OCERS;
2. To seek reasonable and equitable allocation of the cost of benefits over time; and,
3. To minimize volatility of the plan sponsor's contribution to the extent reasonably possible, consistent with other policy goals.

Funding Requirement and Policy Components

OCERS annual funding requirement is comprised of a payment of the Normal Cost and a payment on the Unfunded Actuarial Accrued Liability (UAAL). The Normal Cost and the amount of payment on UAAL are determined by the following three components of this funding policy:

- I. Actuarial Cost Method: the techniques to allocate the cost/liability of retirement benefit to a given period;
- II. Asset Smoothing Method: the techniques that spread the recognition of investment gains or losses over a period of time for the purposes of determining the Actuarial Value of Assets used in the actuarial valuation process; and
- III. Amortization Policy: the decisions on how, in terms of duration and pattern, to reduce the difference between the Actuarial Accrued Liability (AAL) and the Actuarial Value of Assets in a systematic manner.

I. Actuarial Cost Method:

The Entry Age Normal method shall be applied to the projected benefits in determining the Normal Cost and the AAL. The Normal Cost shall be determined on an individual basis for each active member.

II. Asset Smoothing Method:

The investment gains or losses of each valuation period, as a result of comparing the actual market return to the expected market return, shall be recognized in level amounts over 5 years in calculating the Actuarial Value of Assets.

The Board reserves the right to consider future ad-hoc adjustments to change the pattern of the recognition of the deferred investment gains or losses after a period of significant market change followed by a period of market correction upon receiving the necessary analysis from its actuary.

III. Amortization Policy:

- For UAAL identified on or before the December 31, 2012 actuarial valuation, the outstanding balance of the UAAL from the December 31, 2004 valuation, the UAAL established in the December 31, 2009 valuation as a result of including additional premium pay items as pensionable salary and the UAAL established in the December 31, 2010 valuation as a result of reallocating contributions and benefit payments among Rate Groups are amortized over a declining period with 22 years remaining as of December 31, 2012. Any other UAALs established as a result of actuarial gains or losses or as a result of plan amendments are amortized over a period of 15 years. Any UAALs established as a result of changes in actuarial assumptions or methods are amortized over a period of 30 years.
- Any new UAAL as a result of change in actuarial assumptions or methods will be amortized over a period of __ years.
- Any new UAAL as a result of actuarial gain or losses will be amortized over a period of __ years.
- Unless an alternative amortization period is recommended by the Actuary and accepted by the Board based on the results of an actuarial analysis:
 - a. with the exception noted in b., below, the increase in UAAL as a result of any plan amendments will be amortized over a period of 15 years;
 - b. the increase in UAAL resulting from a temporary retirement incentive will be funded over a period of up to 5 years.
- UAAL shall be amortized over “closed” amortization periods so that the amortization period for each layer decreases by one year with each actuarial valuation.
- UAAL shall be amortized as a level percentage of payroll so that the amortization amount in each year during the amortization period shall be expected to be a level percentage of

covered payroll, taking into consideration the current assumption for general payroll increase.

- If an overfunding exists (i.e., the total of all UAAL becomes negative so that there is a surplus and the amount of such surplus is in excess of 20% of the AAL per Section 7522.52 of CalPEPRA), such actuarial surplus and any subsequent surpluses will be amortized over an “open” amortization period of 30 years. Any prior UAAL amortization layers will be considered fully amortized, and any subsequent UAAL will be amortized as the first of a new series of amortization layers, using the above amortization periods.

Other Policy Considerations

In order to allow the employers to more accurately budget for pension contributions and other practical considerations, the contribution rates determined in each valuation (as of December 31) will apply to the fiscal year beginning 18 months after the valuation date. The UAAL contribution rates in the actuarial valuation are adjusted to account for this 18-month delay.

The employer Normal Cost contribution rate for Tier 1 and Tier 2 are calculated on a pooled or aggregate basis in order to help stabilize the employer Normal Cost rate for Tier 1 since this tier is mostly closed to new members.

OCERS' UAAL is determined separately for each Rate Group using liability calculated for members assigned and on the assets (including contributions and benefit payments) that are tracked separately for each Rate Group.

OCERS' Basic member rates are not increased to anticipate annual payoffs while COLA member rates are increased to anticipate annual payoffs using the 50:50 cost sharing between the employer and the member.

Glossary of Funding Policy Terms

- **Present Value of Benefits (PVB) or total cost:** the “value” at a particular point in time of all projected future benefit payments for current plan members. The “future benefit payments” and the “value” of those payments are determined using actuarial assumptions as to future events. Examples of these assumptions are estimates of retirement patterns, salary increases, investment returns, etc. Another way to think of the PVB is that if the plan has assets equal to the PVB and all actuarial assumptions are met, then no future contributions would be needed to provide all future service benefits for all members, including future service and salary increases for active members.
- **Actuarial Cost Method:** allocates a portion of the total cost (PVB) to each year of service, both past service and future service.
- **Normal Cost (NC):** the cost allocated under the Actuarial Cost Method to each year of active member service.

- **Entry Age Normal Actuarial Cost Method:** A funding method that calculates the Normal Cost as a level percentage of pay over the working lifetime of the plan's members.
- **Actuarial Accrued Liability (AAL):** the value at a particular point in time of all past Normal Costs. This is the amount of assets the plan would have today if the current plan provisions, actuarial assumptions and participant data had always been in effect, contributions equal to the Normal Cost had been made and all actuarial assumptions came true.
- **Market Value of Assets:** the fair value of assets of the plan as reported in the plan's audited financial statements.
- **Actuarial Value of Assets (AVA) or smoothed value:** a market-related value of the plan assets for determining contribution requirements. The AVA tracks the market value of assets over time, smoothes out short term fluctuations in market values and produces a smoother pattern of contributions than would result from using market value.
- **Valuation Value of Assets (VVA):** the value of assets used in the actuarial valuation to determine contribution rate requirements. It is equal to the Actuarial Value of Assets reduced by the value of any non-valuation reserves.
- **Unfunded Actuarial Accrued Liability (UAAL):** the positive difference, if any, between the AAL and the VVA.
- **Surplus:** the positive difference, if any, between the VVA and the AAL.
- **Actuarial Value Funded Ratio:** the ratio of the VVA to the AAL.
- **Market Value Funded Ratio:** the ratio of the MVA to the AAL.
- **Actuarial Gains and Losses:** changes in UAAL or surplus due to actual experience different from what is assumed in the actuarial valuation. For example, if during a given year the assets earn more than the investment return assumption, the amount of earnings above the assumption will cause an unexpected reduction in UAAL, or "actuarial gain" as of the next valuation. These include contribution gains and losses that result from actual contributions made being greater or less than the level determined under the policy.
- **Valuation Date:** December 31 of every year.



OCERS Actuarial Funding Policy

Actuarial Funding Policy (Second Discussion) March 18, 2013

PAUL ANGELO, FSA
Senior Vice President and Actuary
The Segal Company

5239356v2



OCERS – Actuarial Funding Policy

Funding Policy Components

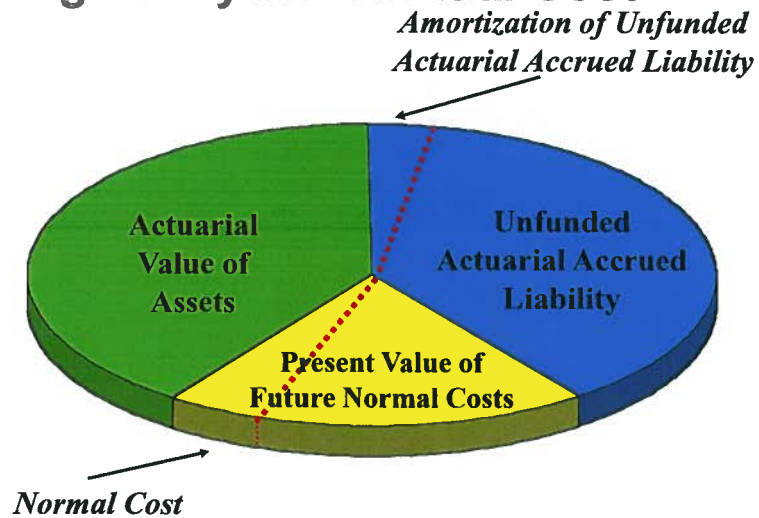
- **Actuarial Cost (Funding) Method** – allocates costs to time periods, past vs. future
- **Asset Smoothing Method** – assigns a value to assets for determining contribution requirements
- **UAAL Amortization Policy** – how, and how long to fund difference between liabilities and assets

- Interest crediting and excess earnings policy
 - Unique to 1937 Act county systems
 - Generally separate from funding policy

Slide 2



Funding Policy and Annual Cost



Slide 3

General Policy Objectives **(NEW)**

1. Future contributions plus current assets sufficient to fund all benefits for current members
 - Contributions = Normal Cost + full UAAL payment
2. Reasonable allocation of cost to years of service
 - Both expected costs and variations from expected costs
3. Reasonable management and control of future employer contribution volatility
 - Consistent with other policy objectives

Slide 4

General Policy Objectives (NEW)

4. Support public policy goals of accountability and transparency
 - Clear in intent and effect
 - Allow assessment of whether, how and when sponsor will meet funding requirements
 - Enhance credibility and objectivity of cost calculations

Slide 5

General Policy Objectives (NEW)

- Policy objectives 2 and 3 reflect two aspects of the general policy objective of “interperiod equity” (IPE).
- Objective 2 promotes “demographic matching”
 - intergenerational interperiod equity
- Objective 3 promotes “volatility management”
 - period-to-period interperiod equity
- These two aspects of IPE tend to move funding policy in opposite directions.
 - policy objectives 2 and 3 combine to seek to balance intergenerational and period-to-period IPE
 - demographic matching vs. volatility management

Slide 6

OCERS Current Funding Policy

- Cost method
 - Entry Age Normal (EAN)
- Asset smoothing method
 - 5-year smoothing period without a market value corridor
 - Reaffirmed by the Board in 2009
- UAAL amortization policy
 - Layered approach for UAAL established after 12/31/2004
 - 15 years for gains or losses and plan amendments
 - 30 years for assumption changes
 - UAAL prior to 12/31/2004 combined and amortized over 30 years
 - 22 years left as of 12/31/2012
 - Level percent of pay amortization

Slide 7

Review of OCERS Funding Policy

- Review all three current funding policy components
 - Cost method, asset smoothing, UAAL amortization
 - Incorporate all components into a comprehensive statement of funding policy
 - Review and adoption by the Board
 - Increased importance due to GASB changes
- Separate topic not a part of this review
 - Interest crediting and excess earnings allocation policy

Slide 8

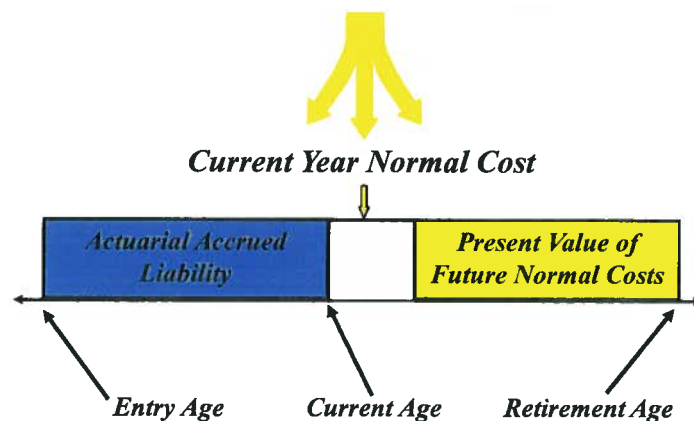
Funding Policy Recommendations

- No change to Entry Age Normal cost method
- No change to asset smoothing method
- Emerging model practices for UAAL amortization
 - Shorter than 30 years for assumption changes
 - Plan Amendments
 - Shorter periods than for other sources of UAAL
 - Particularly for Early Retirement Incentive Programs
 - Surplus
 - Longer periods than for UAAL
 - Allows consideration of other Surplus management tools

Slide 9

Actuarial Cost Method

Present Value of Future Benefits



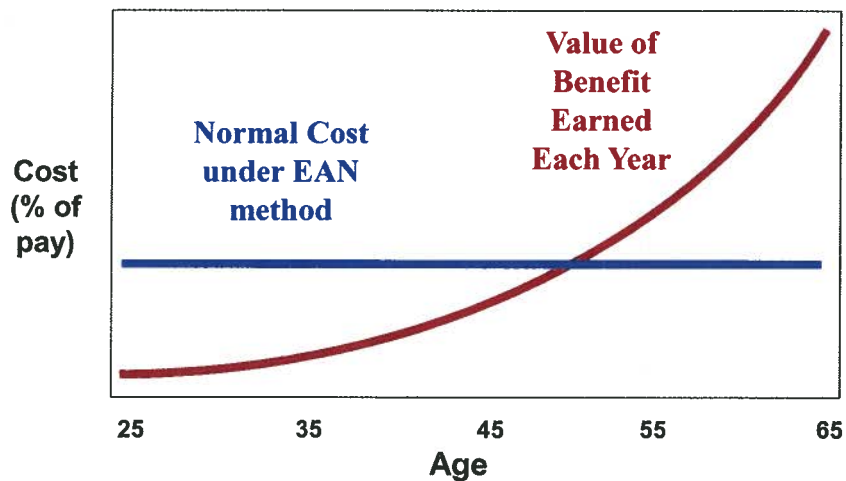
Slide 10

Entry Age Normal Method (EAN)

- Direct allocation of cost
- Designed to produce Normal Cost that stays level as a percentage of pay
 - Normal Cost Percentage = percentage of future payroll for each active member needed to fund PV of member's projected benefits at retirement
 - Normal Cost = NC% times current pay
- Model practice and consistent with version endorsed by GASB Statements 67/68
- Normal cost is not just the value of benefit earned

Slide 11

Normal Cost vs Earned Benefit



Slide 12

QUESTIONS

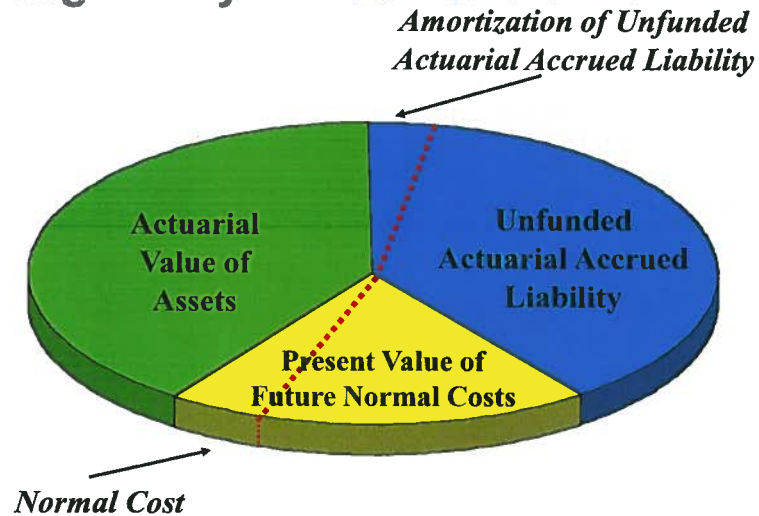
Slide 13

Managing Contribution Volatility

- Asset allocation – volatility at the source
- Asset smoothing
 - Specific to investment return volatility
- UAAL amortization – assets and liabilities
 - More than just asset volatility control
- Direct contribution rate smoothing
 - Contribution collar – limits increases
 - Contribution rate phase-in – delays full impact

Slide 14

Funding Policy and Annual Cost



Slide 15

Asset Smoothing Methods

➤ Objectives

- Reflect market value of assets
- Smooth out fluctuations in market values
- Produce smoother pattern of contributions

➤ Features

- Practical to both understand and model
- Consistently lead or lag market
- Treatment of realized vs. unrealized gains
- Consistency with other investment policies
- “Return to Market” conditions

➤ Smoothing methods and periods

- Including “Market Value Corridor”

Slide 16

Income Smoothing Methods

- Contributions and benefits recognized immediately
- Split income into Immediate and Deferred portions
 - Deferred portion gets “smoothed”
- Smooth over n years, n = 3, 4 or 5 ... or 10 or 15!
- Decide what part of earnings gets smoothed
 - Unrealized gains/losses
 - All capital gains/losses
 - **Total return above or below assumed earnings**

Slide 17

Example: one good year

Year	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
MVA return	13%	8%	8%	8%	8%	8%	8%
Deferred	(5%)						
Recognized	1%	1%	1%	1%	1%		
AVA return	9%	9%	9%	9%	9%	8%	8%

* Using 8% as assumed return.

Slide 18

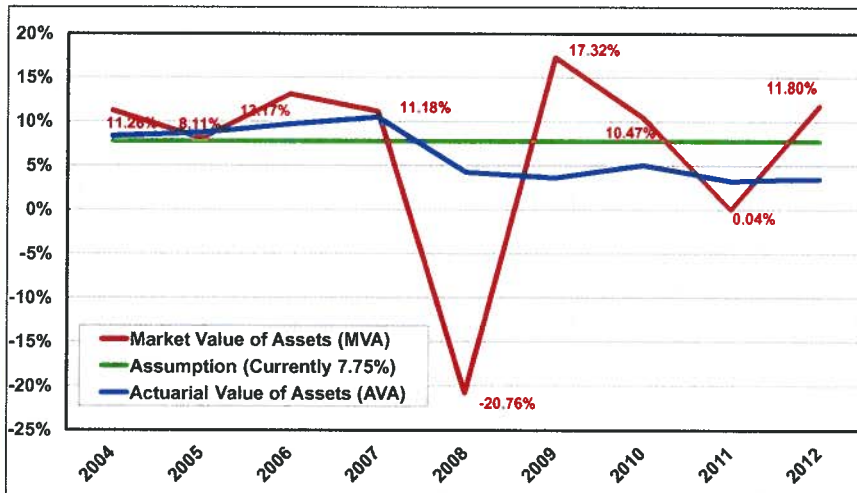
Example: one good, then one bad year

Year	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
MVA return	13%	3%	8%	8%	8%	8%	8%
Deferred	(5%)	5%					
Recognized	1%	1%	1%	1%	1%		
		(1%)	(1%)	(1%)	(1%)	(1%)	
AVA return	9%	8%	8%	8%	8%	7%	8%

* Using 8% as assumed return.

Slide 19

OCERS Investment Rates of Return



Note that the Board recently adopted a 7.25% assumption effective with the December 31, 2012 valuation. Results for 2012 based on preliminary market return of 11.80%.

Slide 20

Asset Smoothing Mechanics

- When MVA return is **greater** than assumed
 - Smoothing “defers gains”
 - Smoothed value (AVA) is **less** than MVA
 - UAAL and contributions are **larger**
- When MVA return is **less** than assumed
 - Smoothing “defers losses”
 - Smoothed value (AVA) is **greater** than MVA
 - UAAL and contributions are **smaller**

Slide 21

OCERS Actuarial Value of Assets as of Dec. 31, 2007

12/31/2007 Valuation (\$ thousands)

Year-end	Market Value Gain/(Loss)	Percent not recognized	Amount not recognized
Dec-07	\$236,111	80%	\$188,889
Dec-06	\$324,132	60%	\$194,479
Dec-05	\$19,435	40%	\$7,774
Dec-04	\$181,713	20%	<u>\$36,343</u>
Net total GAINS not yet recognized			\$427,485
Net Market value of assets			\$7,719,690
LESS GAINS not yet recognized			<u>(\$427,485)</u>
Actuarial value of assets (incl. non-val reserves)			\$7,292,205
AVA/MVA Ratio			94.5%

Slide 22

OCERS Actuarial Value of Assets as of Dec. 31, 2008

12/31/2008 Valuation (\$ thousands)

Year-end	Market Value Gain/(Loss)	Percent not recognized	Amount not recognized
Dec-08	(\$2,221,750)	80%	(\$1,777,400)
Dec-07	\$236,111	60%	\$141,667
Dec-06	\$324,132	40%	\$129,653
Dec-05	\$19,435	20%	<u>\$3,887</u>
Net total LOSSES not yet recognized			(\$1,502,193)
Net Market value of assets			\$6,248,558
PLUS LOSSES not yet recognized			<u>\$1,502,193</u>
Actuarial value of assets (incl. non-val reserves)			\$7,750,751
AVA/MVA Ratio			124.0%

Slide 23

OCERS Actuarial Value of Assets as of Dec. 31, 2009

12/31/2009 Valuation (\$ thousands)

Year-end	Market Value Gain/(Loss)	Percent not recognized	Amount not recognized
Dec-09	\$603,609	80%	\$482,887
Dec-08	(\$2,221,750)	60%	(\$1,333,050)
Dec-07	\$236,111	40%	\$94,444
Dec-06	\$324,132	20%	<u>\$64,826</u>
Net total LOSSES not yet recognized			(\$690,893)
Net Market value of assets			\$7,464,761
PLUS LOSSES not yet recognized			<u>\$690,893</u>
Actuarial value of assets (incl. non-val reserves)			\$8,155,654
AVA/MVA Ratio			109.3%

Slide 24

OCERS Actuarial Value of Assets as of Dec. 31, 2010

12/31/2010 Valuation (\$ thousands)

Year-end	Market Value Gain/(Loss)	Percent not recognized	Amount not recognized
Dec-10	\$204,594	80%	\$163,675
Dec-09	\$603,609	60%	\$362,165
Dec-08	(\$2,221,750)	40%	(\$888,700)
Dec-07	\$236,111	20%	<u>\$47,222</u>
Net total LOSSES not yet recognized			(\$315,638)
Net Market value of assets			\$8,357,835
PLUS LOSSES not yet recognized			<u>\$315,638</u>
Actuarial value of assets (incl. non-val reserves)			\$8,673,473
AVA/MVA Ratio			103.8%

Slide 25

OCERS Actuarial Value of Assets as of Dec. 31, 2011

12/31/2011 Valuation (\$ thousands)

Year-end	Market Value Gain/(Loss)	Percent not recognized	Amount not recognized
Dec-11	(\$648,546)	80%	(\$518,837)
Dec-10	\$204,594	60%	\$122,756
Dec-09	\$603,609	40%	\$241,444
Dec-08	(\$2,221,750)	20%	<u>(\$444,350)</u>
Net total LOSSES not yet recognized			(\$598,987)
Net Market value of assets			\$8,465,593
PLUS LOSSES not yet recognized			<u>\$598,987</u>
Actuarial value of assets (incl. non-val reserves)			\$9,064,580
AVA/MVA Ratio			107.1%

Slide 26

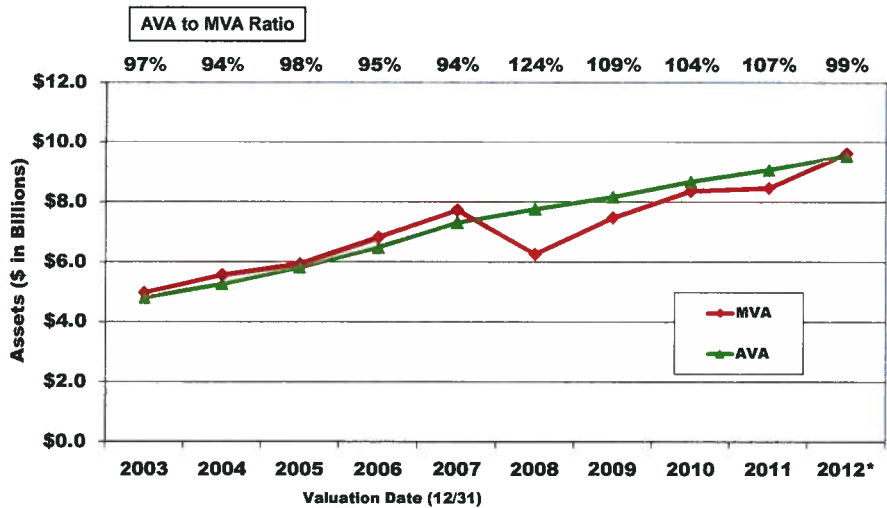
OCERS Actuarial Value of Assets as of Dec. 31, 2012
 Estimated based on preliminary market return of 11.80% for 2012

12/31/2012 Valuation (\$ thousands)

Year-end	Market Value Gain/(Loss)	Percent not recognized	Amount not recognized
Dec-12	\$345,840	80%	\$276,672
Dec-11	(\$648,546)	60%	(\$389,128)
Dec-10	\$204,594	40%	\$81,838
Dec-09	\$603,609	20%	<u>\$120,722</u>
Net total GAINS not yet recognized			\$90,104
Net Market value of assets			\$9,620,557
LESS GAINS not yet recognized			(\$90,104)
Actuarial value of assets (incl. non-val reserves)			\$9,530,453
AVA/MVA Ratio			99.1%

Slide 27

Historical MVA and AVA



* Estimated based on preliminary market return of 11.80% for 2012.

Slide 28

Asset Smoothing and “MVA Corridor”

- Many plans limit how far the AVA can get from the MVA by limiting the AVA ratio
- A “20% MVA corridor” means the AVA must be between 80% and 120% of MVA
 - Maximum deferred gain or loss is 20% of MVA
 - Hitting the MVA corridor effectively stops smoothing
- In 2009, some Boards (including OCERS) reaffirmed no MVA Corridor
 - Others widened their MVA Corridors

Slide 29

Actuarial Standards of Practice No. 44

- ASOP 44 focuses on two key features
 - How close does AVA stay to MVA
 - Ratio of AVA to MVA (“AVA Ratio”)
 - How long before AVA returns to MVA
 - Smoothing period
- ASOP 44 also provides some structure
 - If “likely” to be “reasonable”, both are required
 - If “sufficiently close” or “sufficiently short” then only one or the other is required

Slide 30

5-year Smoothing and MVA Corridor

- Under ASOP 44, 5 years is “sufficiently short”
 - Widespread use, industry opinions **(ADDED)**
 - Most California public retirement systems use 5 years
 - Sacramento CERS & two City of LA plans use 7 years
 - Assumes employer ability to pay
- Other reasons to consider MVA corridor
 - Accelerates contribution increases
 - Market timing – more contributions in down market
 - Cash flow – avoid selling assets to pay benefits
 - Solvency – if contributions ever stop, increased plan assets could secure more benefits (extreme case)

Slide 31

Managing future asset volatility

- Possible reasons for longer smoothing period
 - Longer business/economic cycles
 - Greater actual market volatility (assets)
 - Greater sensitivity to contribution rate volatility
 - Greater asset volatility relative to payroll
 - Higher funded percentages
 - More mature plan
 - Larger benefit levels
- Recommend no change to asset smoothing method
 - Note: recommend continued use of same smoothing period for gains and losses

Slide 32

Amortization Policy

- Component of Annual Contribution
 - Normal cost plus amortization of unfunded liability
- Sources of Unfunded Liability
 - Plan changes
 - Assumption or method changes
 - Gains / losses
- Amortization policy includes:
 - Structure: Single UAAL or in layers
 - Also: fixed (closed) or rolling (open) amortization
 - Payment pattern: level dollar or level percent of pay
 - Periods: how long to fund the UAAL

Slide 33

Amortization Structure

- OCERS amortizes UAAL in layers
- Model approach: multiple amortization layers
 - First layer is the combined UAAL as of December 31, 2004
 - Each year, new layer of UAAL for gain/loss, assumption/method changes, plan amendments
 - Can use different periods for different sources of UAAL
 - OCERS: 15 years for gains or losses and plan amendments
 - 30 years for assumption or method changes
- Key issue: current UAAL layers as of December 31, 2013 (proposed effective date)
 - Current net amortization payment equivalent to about 20 years
 - Could simply continue current declining amortization periods
 - Or adopt a shorter period – with immediate cost impact

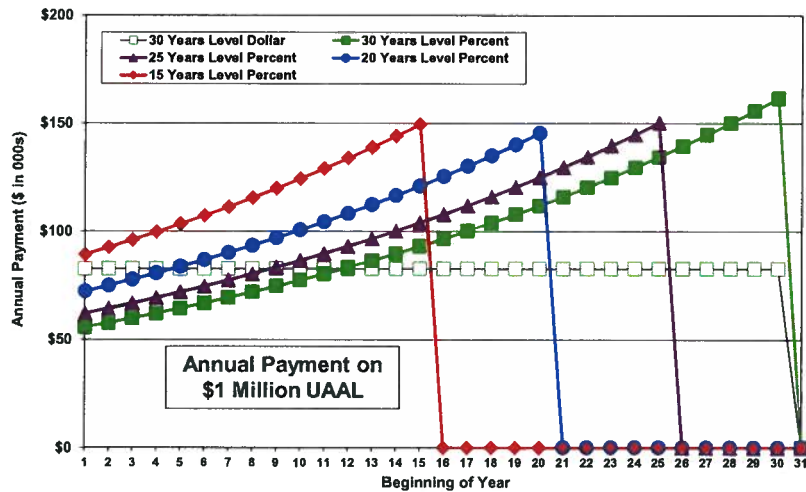
Slide 34

Illustration of Amortization Methods

7.25% interest 3.75% salary incr.	30 years Flat dollar	30 years % of pay	25 years % of pay	20 years % of pay	15 years % of pay
Increase in AAL	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Amortization factor (first year)	12.1037 0.082620	18.0116 0.055520	16.1061 0.062088	13.8568 0.072167	11.2017 0.089272
Amortization amount					
Year 1	\$ 82,620	\$ 55,520	\$ 62,088	\$ 72,167	\$ 89,272
Year 15	\$ 82,620	\$ 92,957	\$ 103,954	\$ 120,828	\$ 149,469
Year 20	\$ 82,620	\$ 111,743	\$ 124,963	\$ 145,248	\$ 0
Year 30	\$ 82,620	\$ 161,474	\$ 0	\$ 0	\$ 0
Total amount paid					
Principal	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Interest	1,478,589	1,986,918	1,500,357	1,094,084	754,709
Total	\$ 2,478,589	\$ 2,986,918	\$ 2,500,357	\$ 2,094,084	\$ 1,754,709

Slide 35

Illustration of Amortization Periods – Annual Payment (\$ in 000s)



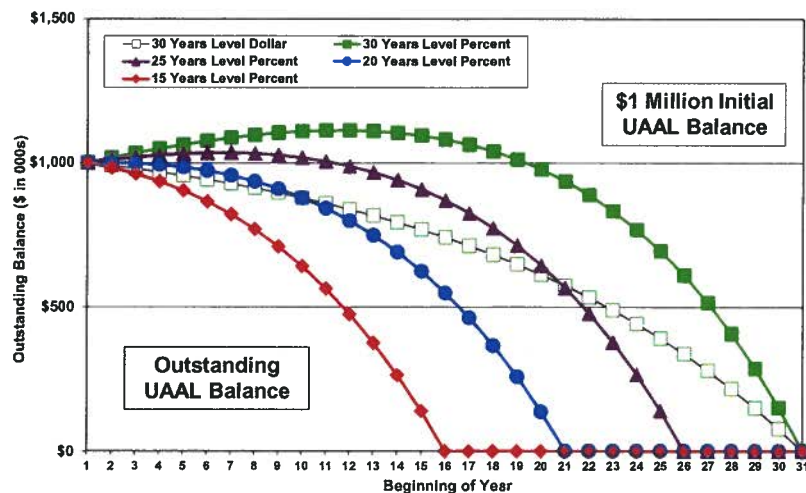
Slide 36

Negative Amortization

- \$1,000,000 liability, 7.25% interest
- First year interest only is \$72,500
- With level dollar payments, payments are always greater than interest
- With level percentage payments, early payments can be less than interest
 - UAAL increases (but not as a percentage of payroll!)
 - Eventually larger payments cover interest plus increased UAAL

Slide 37

Illustration of Amortization Periods – Outstanding UAAL Balance (\$ in 000s)



Slide 38

Model Fixed Layer Periods

- Tradeoff between demographic matching and volatility management
 - Two aspects of “interperiod equity”
 - Constraint: consideration of negative amortization
 - Exception: volatility generally N/A for plan changes
- Under 15 years: too volatile
- Over 20 (25?) years: too much neg. amortization
 - 25 is the new 30: “out of bounds marker”
 - 30 years reserved for surplus
 - Normal Cost requires UAAL/surplus “asymmetry”

Slide 39

Model Amortization Periods

- Gains and losses: 15 to 20 years
 - Volatility management, but avoid too long a period
- Assumption and method changes: 20 to 25 years
 - Long term remeasurements, so could justify longer amortization
- Plan amendments: demographic (15 yrs. or less)
 - Avoid any negative amortization since changes are within control of plan sponsor
 - Demographic matching for actives or inactive
 - Much shorter for Early Retirement Incentives (< 5 yrs)

Slide 40

Contributions when Plan has surplus

- Usual contribution is NC plus UAAL amortization
- Surplus: contribute NC minus Surplus amortization
- Short surplus amortization periods means contribution holidays, even with modest surplus
 - See late 1990s for real life examples
- Recommended approach: minimum contribution
 - 30 year amortization of surplus
- CalPEPRA further limits amortization of surplus
 - Funded ratio has to be > 120%

Slide 41

Alternative Periods for Future UAALs

- Applies only to future changes in UAAL
 - No immediate impact to contribution rates
 - Any changes would be implemented in 12/31/2013 valuation and would apply to any new changes in UAAL on or after 1/1/2013

Source	Current	Alt #1	Alt #2	Alt #3
Actuarial Gains or Losses	15	15	20	15
Assumptions or Method Changes	30	20	20	25
Plan Amendments	15	15 or less	15 or less	15 or less
ERIPs	15	Up to 5	Up to 5	Up to 5
Actuarial Surplus	15	30	30	30

Slide 42

Alternative Periods for Future UAALs

- Option discussed at February 19 meeting (NEW)

<u>Source</u>	<u>Current</u>	<u>Option</u>
Actuarial Gains or Losses	15	20
Assumptions or Method Changes	30	30
Plan Amendments	15	15 or less
ERIPs	15	Up to 5
Actuarial Surplus	15	30

- Balance policy objective 2 (demographic matching) vs objective 3 (volatility management)
- Need to consider balance between intergenerational and period-to-period IPE

Slide 43

Alternative Periods for Current UAAL

- Board may consider shorter amortization period for current UAAL
- Most clear and direct actuarial policy action to accelerate plan's progression to 100% funding
- Impact of shorter amortization for current UAAL
 - Any change would not be implemented until 12/31/13 valuation
 - Re-amortize UAAL as of 12/31/11
 - Re-amortize change in investment return assumption
 - Would already have been included in UAAL as of 12/31/12, with 30 year amortization

Slide 44

Alternative Periods for Current UAAL

- Impact of shorter amortization for current UAAL on employer rate:

	UAAL Dollar Amount	Change in ER Rate (% of Pay)*		
		10 Yrs	15 Yrs	20 Yrs
12/31/11 UAAL	\$4,458.6 M	+13.6%	+4.3%	-0.2%
12/31/12 Assumption Changes	\$901.5 M	+3.7%	+1.8%	+0.9%
Total	\$5,360.1 M	+17.3%	+6.1%	+0.7%

* Does not include adjustment for 18-month delay in contribution rate implementation.

Slide 45

Alternative Periods for Current UAAL

- Other amortization periods for current UAAL discussed at February 19 meeting – shorter than current: **(NEW)**

	UAAL Dollar Amount	Change in ER Rate (% of Pay)*			
		16 Yrs	17 Yrs	18 Yrs	19 Yrs
12/31/11 UAAL	\$4,458.6 M	+3.2%	+2.2%	+1.3%	+0.5%
12/31/12 Assumption Changes	\$901.5 M	+1.6%	+1.4%	+1.2%	+1.0%
Total	\$5,360.1 M	+4.8%	+3.6%	+2.5%	+1.5%

* Does not include adjust. for 18-month delay in contribution rate implementation.

Slide 46

Alternative Periods for Current UAAL

- Other amortization periods for current UAAL discussed at February 19 meeting – longer than current: **(NEW)**

	UAAL Dollar Amount	Change in ER Rate (% of Pay)*	
		25 Yrs	30 Yrs
12/31/11 UAAL	\$4,458.6 M	-2.9%	-4.7%
12/31/12 Assumption Changes	\$901.5 M	+0.4%	+0.0%
Total	\$5,360.1 M	-2.5%	-4.7%

* Does not include adjust. for 18-month delay in contribution rate implementation.

Slide 47

Alternative Periods for Current UAAL

- Other amortization period for current UAAL discussed at February 19 meeting – future working lifetime: **(NEW)**
 - Funding the UAAL over the years the current active employees are expected to work before receiving benefit
 - Referred to as average future working lifetime, average future service years, average remaining service lifetime, etc.
 - No universal agreement on terminology or method of calculation
 - Under one definition used for corporate pension plan: About 11 years for OCERS
- Balance policy objective 2 (demographic matching) vs objective 3 (volatility management)
- Need to consider balance between intergenerational and period-to-period IPE

Slide 48

Alternative Periods for Current UAAL

- Reverse pickups by certain employees (**NEW**)
 - Agreement between employer and employee to pay for the past and/or future cost of benefit enhancements
 - Use at Orange County and some other California public retirement systems
 - Terms of agreement not under purview of the board of retirement

Slide 49

Funding Policy Recommendations

- EAN Cost method
 - No changes recommended
- Asset smoothing method
 - No changes recommended
- UAAL amortization policy
 - For UAALs established prior to 12/31/2012
 - No changes recommended unless the Board wishes to accelerate plan's progress to 100% funding
 - For UAALs established after 12/31/2012
 - Consider one of the alternative sets of amortization period (Alt #1, #2 or #3)

Slide 50

Future Discussion Topics **(NEW)**

- Aggregation of Tier 1 and Tier 2 normal cost
- Employer/member sharing of the cost of annual payoffs
- Anticipated COLA as an assumption in determining optional forms of retirement benefit
- GASB 67/68

Slide 51


Q U E S T I O N S

Slide 52



THE SEGAL COMPANY
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VIA E-MAIL AND USPS

April 4, 2013

Mr. Steve Delaney
Chief Executive Officer
Orange County Employees Retirement System
2223 Wellington Avenue
Santa Ana, CA 92701-3101

Re: Additional Information Requested Regarding Review of Actuarial Funding Policy

Dear Steve:

As requested by OCERS, we have provided our response to two of the items raised at the discussion of actuarial funding policy with the Board on March 18. Also, as previously discussed, we will respond verbally to the other related items that were summarized in your email communication with the Board dated March 25.

Illustration of Employer Contribution Rates Under Alternative #3

In our letter dated February 13, 2013, we provided three alternative amortization periods that may be considered by the Board with respect to any future changes in the Unfunded Actuarial Accrued Liability (UAAL). In particular, under Alternative #3, a 25-year period is used instead of the current 30-year period to amortize the impact of any UAAL associated with changes in actuarial assumption. The Board has asked that we illustrate the impact of using a 25-year period if that period had been adopted 6 years ago.

In estimating the contribution rate impact provided in Attachment A, we have gone back to "reamortize" the UAAL from each of the followings:

- December 31, 2007 triennial experience study,
- December 31, 2008 review of service retirement assumption for General members receiving enhanced benefits,
- December 31, 2011 triennial experience study, and
- December 31, 2012 change in the economic assumptions (including a reduction in the investment return assumption from 7.75% to 7.25%), with the approximate UAAL impact measured as of December 31, 2011.



Mr. Steve Delaney
April 4, 2013
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Actions Taken on Amortization Periods by Other Retirement Systems that Have Recently Reviewed their Actuarial Funding Policy

Over the past few years, Segal has conducted several actuarial funding policy reviews for our California public retirement system clients. A table that summarizes the actions taken by those systems is provided in Attachment B.

In reviewing the amortization periods with those retirement system clients, Segal has followed the approach of generally not recommending a single set of amortization periods for each past/future change in the UAAL. Similar to what we have presented to OCERS, we instead provided alternatives for those clients to choose from in balancing their sometimes, competing policy goals and objectives.

Please let us know if you have any comments or questions.

Sincerely,



Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President and Actuary



Andy Yeung, ASA, MAAA, EA
Vice President and Associate Actuary

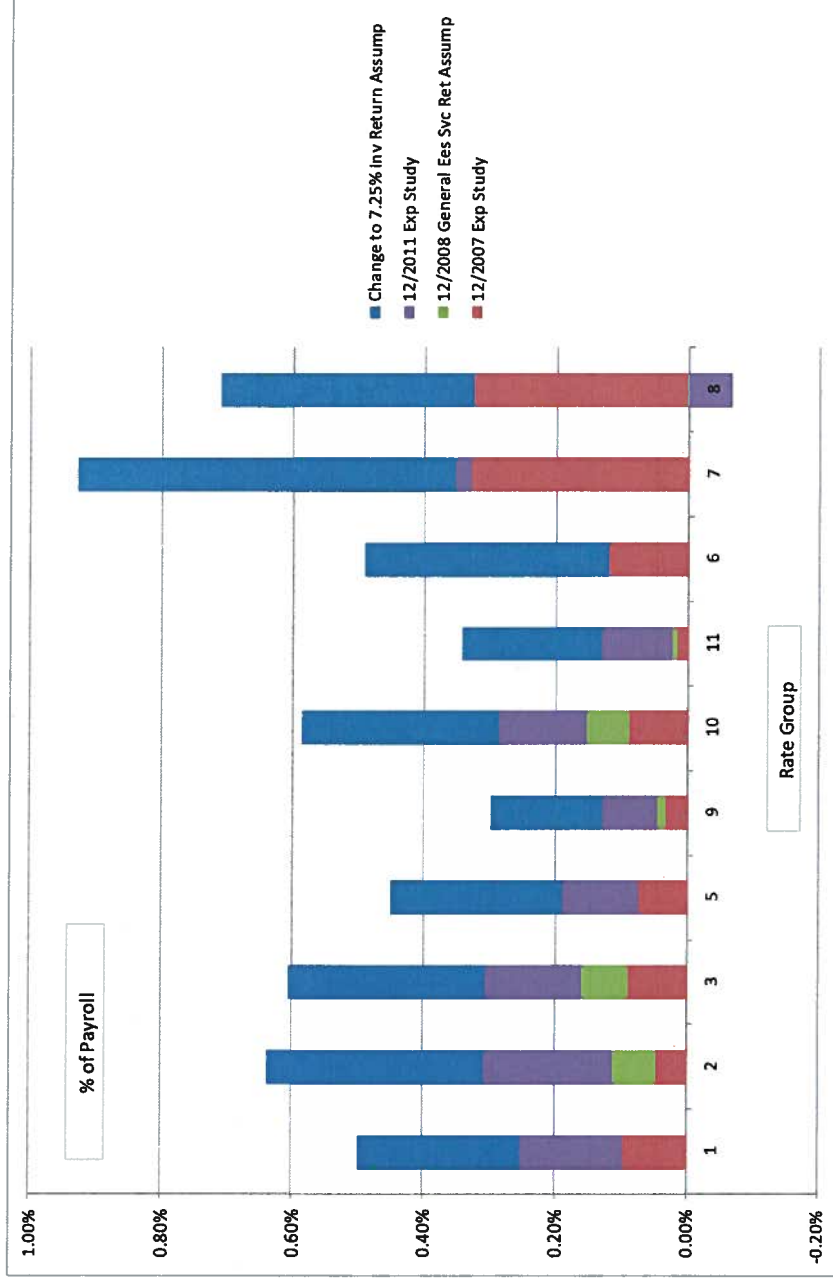
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Enclosures

cc: Brenda Shott
Julie Wyne

ATTACHMENT A

Rate Impact* of Using 25 Instead of 30 Years to Amortize UAAL from Change in Assumptions** Over the Last 6 Years

	1	2	3	5	9	10	11	6	7	8
12/2007 Exp Study	0.10%	0.05%	0.09%	0.07%	0.03%	0.09%	0.02%	0.12%	0.33%	0.33%
12/2008 General Ees Svc Ret Assump	0.15%	0.07%	0.07%	0.12%	0.01%	0.07%	0.01%	0.00%	0.02%	-0.07%
12/2011 Exp Study	0.25%	0.20%	0.15%	0.26%	0.08%	0.13%	0.11%	0.37%	0.57%	0.39%
Change to 7.25% Inv Return Assump	0.33%	0.30%	0.30%	0.45%	0.17%	0.30%	0.21%	0.49%	0.93%	0.64%
Total***	0.50%	0.64%	0.61%	0.45%	0.30%	0.59%	0.34%	0.49%	0.93%	0.64%



* Impact of 18-month delay in implementing contribution rate from a valuation is not reflected in this calculation.

** If that 25-year period had been adopted 6 years ago.

*** Total is provided for illustrative purposes only and has not been "normalized" to reflect different payrolls used in calculating contribution rate impacts as of such dates.

ATTACHMENT B

	System #1	System #2 System #3	System #4	System #5 System #6	System #7	System #8	System #9	System #10	System #11
Effective with Valuation on	12/31/12	6/30/13 6/30/12	6/30/10	6/30/12 6/30/12	Pending ¹	6/30/12	6/30/11	Pending ²	6/30/12
Past UAAL	No Change	No Change	No Change ³	No Change	No Change	No Change	No Change	No Change	No Change
Future Change in UAAL									
Actuarial Gains/Losses	20	15	15	20	18	20	15	15	18
Assumptions or Methods	20	20	30 ⁴	25	18	20	15	25	18
Plan Amendments	15	15	15	15	18	15	15	15	15
ERIPs	5	5	5	5	18 ¹	5	5	5	5
Surplus	30	30	30	30	18 ¹	30	30	25 ⁵	30

- 1 A discussion is pending on recommendation to change the amortization periods for plan amendments to up to 15 years, ERIP to up to 5 years and actuarial surplus to 30 years.
- 2 An amendment in the governing statute is required before the changes described below may be implemented by the System.
- 3 Originally, there was no change in the amortization period for the past UAAL when the System conducted its review of amortization periods as part of reaffirming its actuarial funding policy for the June 30, 2010 valuation. However, as part of the June 30, 2012 valuation, the System changed from the Projected Unit Credit Funding Method to the Entry Age Normal Funding Method, which increased the liability for the System. As a result of that increase in liability, the System decided to reamortize all the past UAAL over a 30-year period.
- 4 The System chose a 30-year period before the California Actuarial Advisory Panel issued its model practice guidelines in February 2013 recommending a 15-25 year period for amortizing UAAL from assumptions or method changes.
- 5 Prior to the investment losses in 2008 (that effectively eliminated most of the surplus), the System had a surplus for over a decade and the System was required by its governing statute to distribute its surplus to provide contribution relief and additional benefits. The System had used 15 years to amortize surplus during that time.



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MEMORANDUM

TO: Mark Nichols
Executive Director, Association of Orange County Deputy Sheriffs

FROM: Jonathan Hassen and Wendy Londa

DATE: December 10, 2012

RE: Orange County Employees' Retirement System - Funding Policy Options

As requested, we have examined various funding policy options available to the Orange County Employees' Retirement System (OCERS) in light of the Plan's current funded position, employer contribution levels and market losses experienced in the last five years. The information below highlights possible options as well as their viability.

Funding Policy Options for OCERS

We have analyzed the impact on the Plan of nine funding policy changes. A few of these options are variations of the legal provisions in the Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010 ("PRA") as signed by President Obama on June 25, 2010. This legislation was passed in an effort to help fundamentally sound private sector pension plans which had become financially challenged by the economic downturn in the last few years. Although the law only applies to the private sector, some of the funding relief provisions would be considered reasonable for the public sector. The options we evaluated are as follows:

1. Restart the amortization period of all amortization bases to a fixed and declining 25-year period as of December 31, 2011 (25-year layered)¹.
2. Restart the amortization period of all amortization bases to a fixed and declining 30-year period as of December 31, 2011 (30-year layered).
3. Extend the amortization period for valuation value investment losses incurred in the 2011 Plan Year from 15 years to 30 years.
4. Smooth the market value investment loss incurred in the 2011 Plan Year over 7 years.

¹ With the exception of actuarial assumption bases with amortization periods currently exceeding 25 years.

5. Smooth the market value investment loss incurred in the 2011 Plan Year over 10 years
6. Combination of options 1 and 4: restart the amortization period of all amortization bases to a fixed and declining 25-year period and smooth the market value investment loss incurred in the 2011 Plan Year over 7 years.
7. Combination of options 1 and 5: restart the amortization period of all amortization bases to a fixed and declining 25-year period and smooth the market value investment loss incurred in the 2011 Plan Year over 10 years.
8. Combination of options 2 and 4: restart the amortization period of all amortization bases to a fixed and declining 30-year period and smooth the market value investment loss incurred in the 2011 Plan Year over 7 years.
9. Combination of options 2 and 5: restart the amortization period of all amortization bases to a fixed and declining 30-year period and smooth the market value investment loss incurred in the 2011 Plan Year over 10 years.

As expected, the above options have a favorable impact on the employer contribution rate for the Fiscal Year beginning July 1, 2013, although to varying degrees. The estimated savings for General and Safety members combined are shown in the chart below.

<i>Funding Option</i>	<i>Estimated Reduction in Employer Contributions</i>	<i>Estimated Reduction in Employer Contribution Rate</i>
1 ¹	\$49,737,000	3.07%
2 ²	\$74,494,000	4.60%
3	\$12,530,000	0.77%
4	\$3,300,000	0.20%
5	\$5,775,000	0.36%
6	\$52,073,000	3.22%
7	\$53,825,000	3.32%
8	\$76,600,000	4.73%
9	\$78,179,000	4.83%

¹ For Safety members, Option 1 (restart amortization over 25 years) is an estimated reduction in the Safety employer contribution of **\$12,760,000** with an associated **3.44%** estimated reduction in the Safety employer contribution rate.

² For Safety members, Option 2 (restart amortization over 30 years) is an estimated reduction in the Safety employer contribution of **\$20,117,000** with an associated **5.43%** estimated reduction in the Safety employer contribution rate.

Mr. Mark Nichols
Executive Director
December 10, 2012
Page 3

Although the PRA relief afforded to private sector multiemployer pension plans only offered relief for the two plan years ending after August 31, 2008, we have not priced any funding policy options specific to the 2008 and 2009 investment years in our analysis. Since the Plan incurred an investment loss in the 2008 calendar year and investment losses are recognized over 5 years (20% per year) for purposes of determining the valuation value of assets, the Plan has already recognized 80% of the \$2.2 billion investment loss incurred in the 2008 Plan Year. The loss will have been fully recognized as of December 31, 2012. The Plan could retroactively utilize an extended amortization or smoothing period for the investment loss incurred in the 2008 Plan Year and apply the associated reduction as a credit to subsequent employer contributions. However, we have assumed this is not a desirable option for purposes of this analysis.

As a comparable alternative to the private sector pension relief offered for the 2008 and 2009 Plan Years, we have included in Options 3-5 the impact of recognizing the investment loss incurred in the 2011 Plan Year over an extended period. If the Plan were to incur a significant investment loss in a subsequent plan year, both years could be afforded some variation of pension relief. For your information, the chart on page 6 shows some modified versions of relief adopted by other major public retirement systems.

Additional discussion on these funding policy options is included below. Please note that the options presented in our analysis are for illustration only and other alternative funding policies may, for example, consist of combinations of the above.

Discussion of Options

Option 1 entails collapsing all current amortization bases, with the exception of actuarial assumption bases with amortization periods currently exceeding 25 years, into one base and amortizing that base over 25 years. Each new base resulting from actuarial gains or losses, assumption changes or plan provision changes would be amortized over the applicable OCERS stipulated period. The OCERS Plan currently amortizes changes in the unfunded actuarial accrued liability over various periods depending on the cause of the change. For instance, actuarial assumption changes are amortized over 30 years whereas experience gains or losses are amortized over 15 years. This option would mitigate the effect of any future losses incurred.

Option 2 is similar to Option 1 except that all current amortization bases would collapse into one base and be amortized over 30 years. Note that the Pension Relief Act of 2010 provided a one-time option to private sector defined benefit plans to amortize the investment losses incurred in the two plan years following August 31, 2008 over an amortization period of 30 years with all future bases amortized using current rules (generally over 15 years).

Under current Government Accounting Standards (GASB), a 30-year amortization period is considered acceptable. However, under new Government Accounting Standard guidelines (GASB 67/68, as amended by GASB 50), investment experience will need to be recognized over a 5-year period and demographic experience will need to be recognized over the average future working lifetime of plan participants. In general, the average future working lifetime varies by population but is generally 15-25 years. These new standards will take effect for fiscal years beginning after June 15, 2013 for pension plans and after June 15, 2014 for employers. Note that accounting compliance under GASB is completely separate from funding requirements and may be determined under different methodologies.

Option 3 isolates the valuation value investment loss incurred during the 2011 Plan Year and extends the time to amortize the loss to 30 years rather than 15 years as under the current funding policy. Note that the Plan incurred a total experience loss of \$272.1 million in the 2011 Plan Year. However, this was comprised of an investment loss of \$388.9 million offset by a demographic gain of \$116.8 million. Under Option 3, the \$388.9 million investment loss would be amortized over an extended period of 30 years to provide temporary relief.

Option 4 uniquely targets the market value investment loss incurred during the 2011 Plan Year by applying a smoothing period of 7 years rather than the current 5-year smoothing methodology in the determination of the valuation value of assets. Note that the smoothing period used to determine the valuation value of assets would revert back to the current 5-year smoothing methodology effective with the market value investment gains or losses incurred in the 2012 Plan Year. This would provide employers with additional time to pay off the 2011 asset loss.

Option 5 is similar to Option 4 but extends the smoothing period from 7 years to 10 years. As expected, this option provides further relief by spreading the market losses over 10 years; this is a reasonable time frame given the extent of the loss and comparability to private sector relief which also afforded pension plans with the option to smooth losses incurred in the two plan years ending after August 31, 2008 over 10 years. Bear in mind, this only affects the loss for the 2011 Plan Year. All future gains or losses would be smoothed according to the current method although future losses could also be smoothed over an extended period.

Options 6-9 are combinations of Options 1-2 and 4-5. These options involve combining the 25 or 30-year collapsed amortization of all bases along with a 7 or 10-year extended smoothing period of the investment loss incurred in the 2011 Plan Year for purposes of determining the valuation value of assets. In aggregate, these options produce the greatest cost savings although the savings are not significantly higher than Options 1 and 2 on a stand-alone basis. Note that PRA relief provided private sector plans with the option to both amortize net investment losses incurred in the 2008 and 2009 Plan Years over 30 years and to extend the smoothing period for recognizing such losses to 10 years. Options 6-9 are similar in nature to these relief provisions.

Amortization Options

Note that the amortization options included in this analysis (Options 1 and 2) are considered fixed and declining amortization methods or “closed” amortization periods. The base is initially established at the effective date and the calculated amortization amount covers both the interest and principal owed on the base. By the end of the 30-year amortization period, the amortization base has been fully paid off. This is the amortization methodology currently utilized by OCERS. Subsequent to the restart amortization of the unfunded actuarial liability established as of December 31, 2004 (currently amortized over 23 years), OCERS incorporated a “closed” layered approach for subsequent experience gains and losses. This results in a new amortization base each year to the extent unfunded liabilities differ from actuarial expectations. This base is amortized over 15 years which is similar in length to private sector multiemployer pension plans.

An alternative to the fixed and declining or “closed” amortization approach is a rolling or “open” amortization method. A rolling amortization method resets the amortization period to the stipulated period each year and replaces the previous year’s base with a new or “open” amortization base. The drawback of a rolling or “open” amortization method is that the base never fully gets paid off because the amortization period resets each year. As a result, the amortization amounts are lower than under a fixed and declining method after the first year. This approach can be advantageous in difficult financial times because it provides the Plan with a longer period of time to recover from financial struggles. On the negative side, it can prevent a Plan from recognizing fruitful financial gains in periods of economic prosperity. Since our analysis of funding policy Options 1 and 2 reflects a fresh reset of the amortization period to 25 and 30 years as of December 31, 2011 respectively, there is no difference between the “closed” and “open” amortization approaches in the initial year of establishment. The difference in methods would only come into play in subsequent years to the extent the plan’s unfunded liability deviated from actuarial expectations.

Consider the following examples of the estimated effect on the Plan’s December 31, 2012 amortization payment if the Plan were to incur a valuation value investment loss of \$500 million versus a gain of \$500 million in the 2012 Plan Year assuming the Plan had previously established Option 2 as of December 31, 2011 (30-year restart amortization of all bases):

<i>Amortization Method</i>	<i>2012 Amortization with Valuation Value <u>Gain</u> of \$500m in the 2012 Plan Year</i>	<i>2012 Amortization with Valuation Value <u>Loss</u> of \$500m in the 2012 Plan Year</i>
Closed	\$214,557,000	\$303,591,000
Open	\$225,932,000	\$282,752,000

As shown above, an investment loss results in a lower amortization payment under the rolling or “open” amortization approach while an investment gain results in a lower amortization payment under the fixed and declining or “closed” amortization approach. Although public sector pension plans are generally considered ongoing plans and thus may reasonably select an “open” amortization period, we would not recommend this method over a period in exceed of 20 years. A 30-year rolling amortization period is simply too long in our view.

Other Major California Public Retirement Systems

For illustration purposes, we’ve listed below the amortization methods for experience gains and losses followed by a sampling of major public retirement systems in California based on their most recently published actuarial valuation reports. Note that there are certain exceptions and not all amortization bases are amortized over the stated period:

<i>Public Retirement System</i>	<i>Amortization Approach for Experience G/L</i>
LACERS	Switched from 5-year recognition of investment gains and losses to 7-year recognition in 2010. Combined bases and amortized over 30-year fixed and declining period in 2012. Subsequent gain/loss bases amortized over 15-year fixed and declining period (layered).
LACERA	30-year fixed and declining (layered).
SBCERS	Switched from 15-year fixed and declining period to 17-year rolling “open” amortization period in 2010.
VCERA	15-year fixed and declining period (layered).
SDCERS	15-year fixed and declining period (layered).
SFERS	15-year rolling “open” amortization period.

Mr. Mark Nichols
Executive Director
December 10, 2012
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Other Considerations

One issue to keep in mind when selecting a funding policy is the potential for negative amortization. This occurs when scheduled amortization payments do not cover the interest accrued on the outstanding balance (Unfunded Actuarial Accrued Liability, or UAAL). In this case, the amount by which the interest exceeds the payment is added to the outstanding balance, thus increasing the UAAL. Although negative amortization is not a desired feature of an amortization schedule, it is important to note that the long-term health of the Plan should be the main focus. If the funded ratio continues to improve and contributions are at a manageable rate, negative amortization is acceptable for a short period of time.

Note that, as of December 31, 2011, certain existing amortization bases are operating in a negative amortization environment and there is the potential for negative amortization under a combined amortization funding policy approach. Depending on future investment and demographic experience, a minimum funding requirement may be considered such as interest on the UAAL.

In the December 31, 2011 actuarial valuation, several assumptions were updated by the actuary and the impact of those changes was amortized over a 30-year period allocated among general and safety member participant groups. At the time, the investment return assumption was maintained at 7.75% although the actuary recommended a reduction in the assumption. However, we understand that OCERS recently voted to lower the investment return assumption by 50 basis points. This reduction in the investment rate assumption will further increase actuarial liabilities and employer contributions. To prevent significant increases in the contribution rate due to pivotal assumptions such as the investment return assumption, some systems have opted to phase-in the effect of the change over a period of years. These assumptions should continue to be monitored and reviewed for reasonability.

We are available to discuss the options or other analysis included in this memo in further detail. Please let us know if you have any questions.


APPENDIX
ASSOCIATION OF ORANGE COUNTY DEPUTY SHERIFFS
STATEMENT OF ACTUARIAL OPINION

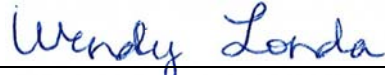
The analysis presented in this memorandum is based on the information included in the actuarial valuation reports for the Orange County Employees' Retirement System for the 2010, 2011 and 2012 Plan Years as well as the actuarial assumption review for the December 31, 2011 actuarial valuation as prepared by The Segal Group, Inc. All data, methods and assumptions are the same as used in the December 31, 2011 actuarial valuation, except where noted otherwise.

Future actuarial measurements may differ significantly from the current measurements presented in this memorandum due to factors such as plan experience differing from that anticipated by the economic or demographic assumptions, changes in economic or demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Actuarial computations presented in this letter are for purposes of determining alternative funding policy options. The calculations in this letter have been made on a basis consistent with our understanding of OCERS current funding requirements. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this letter. Accordingly, additional determinations may be needed for other purposes. Rael & Letson's work is prepared solely for the internal business uses of the Association of Orange County Deputy Sheriffs. Rael & Letson's advice is not intended to be a substitute for qualified legal or accounting counsel. Note that we have not explored any legal issues with respect to the proposed funding policy options.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this funding policy options memorandum is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are actuaries for Rael & Letson, are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Certified by:  E.A., F.C.A., M.A.A.A.
Jonathan Hassen
Enrolled Actuary No. 11-07913

Reviewed by:  E.A., A.S.A., F.C.A., M.A.A.A.
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