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VIA E-MAIL ONLY

March 20, 2013

Ms. Marilyn Leedom
Chief Executive Officer
Contra Costa County Employees' Retirement Association
1355 Willow Way, Suite 221
Concord, CA 94520

Re: Contra Costa County Employees' Retirement Association
Review and Discussion of Actuarial Funding Policy

Dear Marilyn:

We have prepared this discussion of the significant provisions that would comprise an Actuarial Funding Policy for CCCERA. This review incorporates CCCERA's current funding policy elements and reviews those policies in light of emerging model actuarial practice in this area. Here is a brief summary of our recommendations:

- No change in actuarial cost method (Entry Age)
- No change in asset smoothing method (5-year smoothing with no corridor)
- We recommend that the Board consider a change to the amortization periods used for plan amendments and for when the plan has a surplus (assets greater than liabilities).

Another consideration in undertaking this review relates to the Governmental Accounting Standards Board (GASB)'s recently adopted Statements No. 67 and 68 that substantially revise financial reporting requirements for governmental pension plans and their sponsors[1]. Included in those Statements 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 this review is that CCCERA will have a readily accessible comprehensive statement of funding policy to use in meeting the new GASB requirements.

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

Please note that any recommended changes in funding policy are proposed for implementation in the December 31, 2012 actuarial valuation.

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, to the extent reasonably possible, 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 the periods 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, including the current year (Normal Cost) and 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 CCCERA. We are not recommending any change to the actuarial cost method or to the asset smoothing method (that was recently reviewed by the Board in 2009). We would recommend that the Board consider a change to the amortization periods used for plan amendments and for when the plan has a surplus. Accordingly, the next sections briefly review the first two major policy components, followed by a detailed discussion of the amortization policy.

ACTUARIAL COST METHOD

The ultimate cost of the plan is determined by the actual benefits and expenses 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 method[2]. 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 Entry Age method.

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2 Recent guidance from both GASB and the California Actuarial Advisory Panel (CAAP) refer to this method as the Entry Age actuarial cost method. We will use that newer terminology throughout this discussion.

This method produces individual Normal Costs that are determined as a level percent of compensation over each member's career. The AAL is calculated on an individual basis and is based on each individual's past Normal Costs, allocated as a level percent of compensation.

CCCERA is currently using the individual Entry Age method which is the version of Entry Age method required under the recently adopted GASB Statements. Under this method, the Normal Cost and AAL for each of the cost groups is calculated by summing up the individual Normal Cost and AAL for each member covered in that cost group. Note that the Normal Cost rate would then be that total Normal Cost divided by the total compensation for that cost group. More information on the various Normal Cost and AAL cost sharing groups can be found later in this report under "Cost Sharing Arrangements".

We recommend that for funding purposes the Board continue to use the current Entry Age actuarial cost method.

ASSET SMOOTHING METHOD

In 2009 the Board conducted a comprehensive review of the asset smoothing method. 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 different MVA corridors in developing 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 few exceptions, such as that the UAAL has to be amortized over a period not to exceed 30 years under Section 31453.5 of the 1937 CERL[3], governmental or public defined benefit plans like CCCERA are 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 define an Annual Required Contribution (ARC) that, despite its name, is actually the amount of expense that the employer must recognize each year. Also, the prior GASB accounting standards provide considerable policy latitude when determining the ARC[4].

Even though this leaves governmental or public plans relatively free to set funding policy, it is worth noting that all long term funding policy structures – corporate, multiemployer and GASB – 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, 10 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 CCCERA, the UAAL amortization policy was last reviewed in March 2009 for the December 31, 2008 valuation. As a result of that review, any future sources of UAAL are amortized over 18 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,

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3 Note that Section 7522.52 was recently enacted as part of the California Public Employees' Pension Reform Act (PEPRA) 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 (i.e., surplus) may be amortized and used to reduce the Normal Cost of the plan.

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. The new standards eliminate the linkage between actuarial funding and financial reporting found in the prior standards. 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.

we note only that for plans with a 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*. This means that the contribution amount would be the Normal Cost *minus* an amount that will in effect spend down the surplus over the amortization period.

Unlike for UAAL, longer amortization periods now 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 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. This subject is discussed in more detail below, in the section on "Amortization of Surplus".

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 CCCERA UAAL amortization policy elements and some possible changes that may be considered by the Board.

- 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 CCCERA 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 CCCERA) 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.

In March 2009, the Board of Retirement elected to continue to amortize the outstanding balance of the December 31, 2007 UAAL over a declining 15-year period. The Board also elected to amortize any additional amounts of UAAL, as determined in each subsequent actuarial valuation, over separate 18-year periods. As noted above, these additional amounts generally arise from (1) actuarial experience (gains and losses), (2) assumption or method changes, or (3) plan amendments and other changes in member benefits.

As described above, the layered approach adopted by CCCERA provides reassurance that any past UAAL will be paid off at a specific time (i.e., 18 years). 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.

Based on all of the above, we recommend no changes to CCCERA's 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 current CCCERA 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 CCCERA 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 CCCERA's 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 CCCERA), this happens whenever the amortization period is longer than about 18 years. This means that the outstanding balance of the UAAL does not decrease until there are 18 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 Board should be aware of its consequences, especially for amortization periods substantially longer than 18 years. We understand that based on the previous action taken in March 2009 the Board intends to use an amortization period that has no negative amortization.

When is it Appropriate to "Restart" the Amortization Layers?

Unless the Board intends to substantially accelerate CCCERA's progress to 100% funding through increased employer contributions, Segal recommends that CCCERA continue to amortize its current UAAL of $1.49 billion as of December 31, 2011 in layers over the current respective remaining fixed periods. As discussed earlier, any new increases or decreases in underfunding would be amortized over separate layers each with its own fixed amortization period.

Under the recommended 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 when the plan goes from surplus to UAAL, or from UAAL to surplus. This would be done to avoid possible anomalies that can arise from using layered amortiation.

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 this situation, the Board should consider combining all the UAAL layers and restarting the amortization.

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 plan 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 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 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 overfunded 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 reducing contribution volatility by using a longer amortization period and 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.

For CCCERA, we believe it would be reasonable for the Board to continue to use 18-year amortization periods for actuarial gains and losses.

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 some method changes[5].

For CCCERA, we believe it would be reasonable for the Board to continue using 18-year amortization periods for assumption and method changes.

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[5] 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 method. Since CCCERA already uses the Entry Age method, it may be appropriate to consider using the same amortization period for method changes as is used for assumption changes.

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 future working 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 the third consideration would limit the period to around 18 years or less. Accordingly, we would recommend that the Board consider a maximum amortization period for plan amendments of 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

Recent experience indicates that funding policy for overfunded plans, those that have a surplus instead of a UAAL, requires separate consideration. As discussed above, generally surplus is amortized the same way as a UAAL, except that instead of producing an amortization *charge*, there is an amortization *credit*. This means that the contribution amount is the Normal Cost *minus* an amount that will in effect spend the surplus down over the amortization period.

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 "contribution 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. We note that this would be inconsistent with the actuarial principle that the 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 periods. For example, CalPERS uses a 30-year amortization when there is a surplus. This same 30-year period can also be found as Recommendation 7 in the Report of the (California) Public Employee Post-Employment Benefits Commission. We recommend that the actuarial funding policy include a 30-year period for surplus amortization subject to any legal constraints[6].

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6 Before PEPRA, a public pension plan could start to amortize surplus when the funded ratio is greater than 100%. Since PEPRA 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. In practice, we understand that PEPRA may effectively preclude the amortization of surplus.

Recommended Amortization Periods for Future Changes in UAAL

Based on the above discussions, the table below summarizes our recommendations with respect to amortization periods that the Board may want to consider with respect to any future changes in UAAL.

	Current Policy	Recommended for Consideration
Actuarial Gains or Losses	18	18
Assumption or Method Changes	18	18
Plan Amendments	18	15 or less
ERIPs	18	Up to 5
Actuarial Surplus	18	30

Please note that with all of the above recommendations, we recommend that the Board maintain its current policies of using 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 has recently become available. 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 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 CCCERA, it is no coincidence that the elements of the funding policy developed by Segal for CCCERA 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 section[7].

Cost Impact

It is not possible to quantify in advance the full future cost impact associated with adopting any of the alternative amortization periods 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 economic assumptions approved for the actuarial valuation as of December 31, 2012.

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 in 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) apply to the fiscal year beginning 18 months after the valuation date. As a result of that scheduled delay, the UAAL contribution rates in subsequent valuations will reflect either a gain or a loss when the actual contribution rate paid is higher or lower than the contribution rate calculated in the prior year's valuation.

Note that the contribution gain or loss as a result of this anticipated delay in implementing the contribution rate can be built into the development of the UAAL rate for the current valuation, rather than waiting until the following valuation and reflecting the delay as a gain or loss in the UAAL. CCCERA's current practice, which is the most common practice, is to reflect the delay as a gain or loss in the following valuation, rather than building the anticipated delay into the development of the current rate. We are not recommending a change to this practice for

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[7] The "model" UAAL amortization periods are expressed as a set of ranges 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

CCCERA at this time based on the expectation that in the long term, there would be about the same number of occurrences of contribution gains or losses.

Cost Sharing Arrangements

Starting with the December 31, 2009 Actuarial Valuation, the Board took action to depool CCCERA's assets, liabilities and Normal Cost by employer when determining employer contribution rates. The Board action included a review of experience back to December 31, 2002. This did not involve recalculation of any employer rates prior to December 31, 2009. However, it did involve establishing the depooled assets so as to reflect the separate experience of the employers in each individual cost group from December 31, 2002 through December 31, 2009. In addition, the Board action called for a discontinuation of certain cost sharing adjustments for both member and employer contribution rates for General Tier 1 and Safety Tier A.

Even under the depooling structure, there are a few remaining cost sharing arrangements. Here is a summary of the cost sharing arrangements:

- Most smaller employers (less than 50 active members) were pooled with the applicable County tier. Two small employers with non-enhanced benefits were pooled together. Safety members from the East Contra Costa Fire Protection District were pooled with Safety members of the Contra Costa County Fire Protection District.

- Due to a statutory requirement, the Superior Court is pooled with the County regardless of how many members the Court has.

- UAAL costs are pooled between Cost Group #1 and Cost Group #2 which represent General County and Small Districts for Tiers 1 and 3. UAAL costs are also pooled for Cost Groups #7 and #9 which are Safety County Tiers A and C.

  This was done because Cost Group 1 and Cost Group 7 had active members but were generally closed to new members. If the UAAL for these two cost groups is not pooled with another cost group that is open to new active members then the UAAL rate for these generally closed cost groups would increase substantially in future years. This is due to the fact that the UAAL for CCCERA is amortized as a level percent of payroll and the payroll growth for the generally closed cost group would be less than the payroll growth assumption (currently 4.00%). This will help stabilize the employer contribution rates for the mostly closed Cost Group 1 and Cost Group 7. Normal Cost rates for those cost groups are not pooled.

  There are some substantial differences between the Safety Tier A Enhanced and Safety Tier C Enhanced benefits, such as the period over which final average salaries are determined and the COLA. However, since the County is the only employer in these two cost groups, they will be the only employer affected by this particular pooling.

Employer/Member Cost Sharing of the Cost Impact of Terminal Pay

For new members after January 1, 2013, PEPRA mandates a 50:50 sharing of the total Normal Cost between members and the employers. The specific funding policy parameter discussed here involves the sharing of Normal Cost for pre-PEPRA members. Even prior to PEPRA, the cost to provide a cost-of-living adjustment (COLA) has always been shared 50:50 between the employer and the member (Section 31873). This means that the COLA member rate has been increased to anticipate terminal pay as part of the 50:50 cost sharing. This practice is similar to other county retirement systems that recognize that pay element.

However, this is not the current cost sharing arrangement for the cost of the Basic benefits. The Basic member contribution rate is not affected by the terminal pay assumption (i.e. the effect of terminal pay is an employer only cost). This occurs because, after the Paulson Settlement, a terminal pay assumption was added to the employer rate calculation but not to the calculation of CCCERA's Basic member rates. The reasons for this may be that different member groups have different levels of possible terminal pay and that the level of terminal pay observed at the assumed retirement ages for setting COLA member rates may not represent the terminal pay at the fixed retirement age used for the Basic member rates. This practice of not anticipating terminal pay in developing the Basic member rates varies among other county retirement systems.

We recommend that the Board include the details of this and other similar cost sharing practices in the funding policy.

Additional Employer UAAL Payments

Historically, certain participating employers have on occasion contributed additional contributions towards their UAAL (sometimes via proceeds from a Pension Obligation Bond (POB)). The additional contributions were then separately tracked and amortized as a level percent of payroll over the remaining period of CCCERA's single amortization layer (which was the prior amortization policy), and used to reduce that employer's UAAL contribution rate over that same period.

Beginning with the December 31, 2008 Actuarial Valuation, CCCERA began using multiple amortization "layers". No employers have made additional contributions since CCCERA adopted this approach. With the December 31, 2009 Actuarial Valuation, the Board depooled CCCERA's UAAL. This eliminated the need for separately tracking and amortizing any additional contribution for employers that are in their own cost group. However, this need still exists for employers that are in a cost group with more than one employer. For example, small Districts remain pooled with the County.

From an actuarial perspective, we believe it would be reasonable for CCCERA to accept additional UAAL payments in exchange for a corresponding reduction in UAAL contribution rate over period(s) and in a manner consistent with that employer's outstanding UAAL amortization layers and payments.

The outstanding balance of the additional UAAL payment amount is credited with earnings at CCCERA's investment return assumption in effect at each valuation date (currently, 7.25% per year). This means that any gain or loss on the investment of those additional payments that occurs during the amortization period over which the additional UAAL payment is recognized will be pooled across all of the employers in that particular employer's cost group. Note that additional UAAL payments from small employers would generally not significantly increase the volatility of the UAAL contribution rates for their cost groups.

If the Board would like to eliminate or reduce the pooling of these gains or losses due to investment returns on the additional UAAL payments then the following are two possibilities for addressing this:

1. Instead of tracking the outstanding balance of the additional UAAL payment based on CCCERA's investment return assumption, the tracking could be done based on actual market value returns.

2. Instead of using the tracking mechanism described earlier, any additional UAAL payments could be set aside in a "prepayment account". This account would not be a part of the valuation value of assets used to determine contribution rates in the actuarial valuation. However, the account would be part of retirement plan assets and could be invested similarly to the rest of CCCERA's assets. This account would be credited with actual market returns. Employers' could draw down any balance they had in the account and apply those funds towards their contribution requirements. Because of the accounting and reporting issues involved with this type of prepayment account, more discussions with CCCERA staff and outside auditors and legal counsel would have to occur before implementation.

We invite direction from the Board as to whether further analysis and discussion is desired on any of these policy parameters.

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,

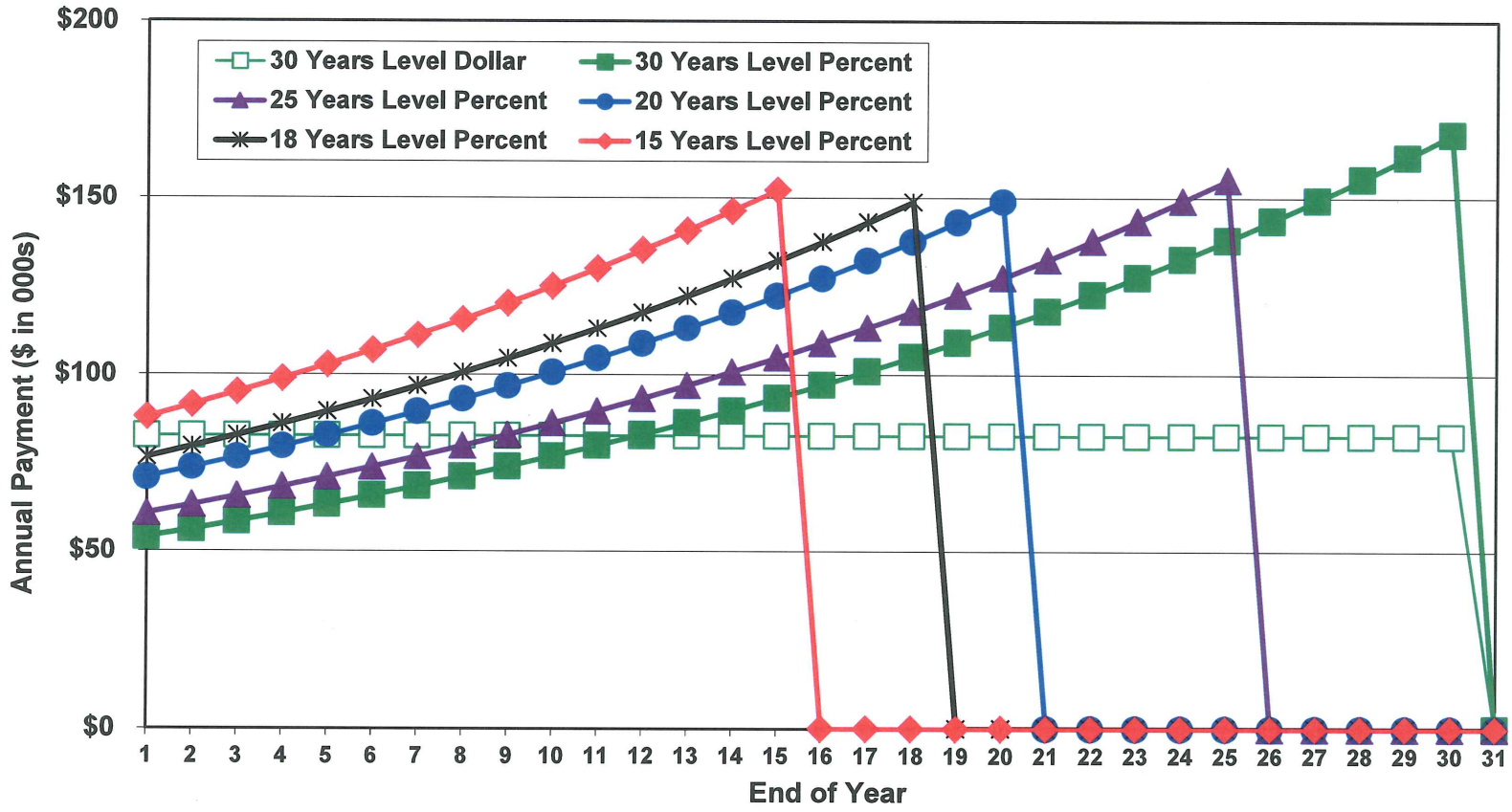
Paul Angelo, FSA, MAAA, FCA, EA
Senior Vice President & Actuary

John Monroe, ASA, MAAA, EA
Vice President & Associate Actuary

JZM/gxk
Enclosures

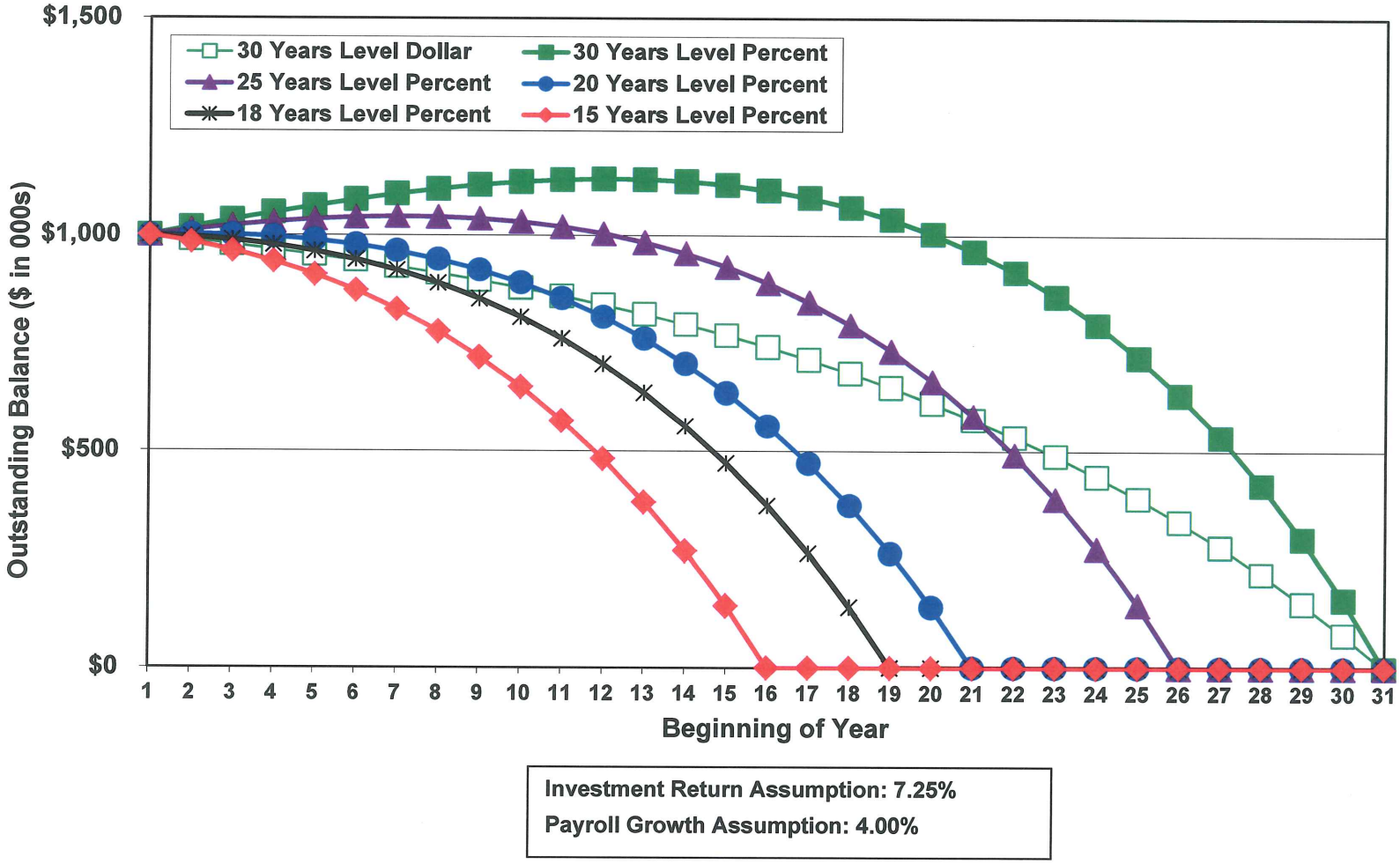
cc: Kurt Schneider

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



Investment Return Assumption: 7.25%
Payroll Growth Assumption: 4.00%

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



Investment Return Assumption: 7.25%
Payroll Growth Assumption: 4.00%

SEGAL | CCCERA Actuarial Funding Policy

Actuarial Funding Policy
March 27, 2013

PAUL ANGELO, FSA
Senior Vice President and Actuary
JOHN MONROE, ASA
Vice President and Associate Actuary
The Segal Company

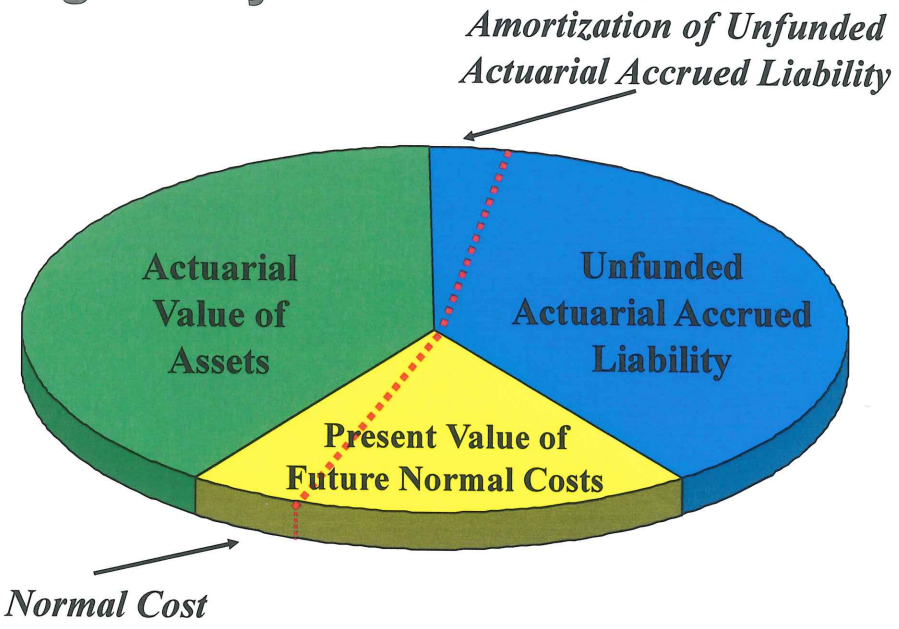
5228154v4

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

Funding Policy and Annual Cost



General Policy Objectives

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

General Policy Objectives

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

General Policy Objectives

- 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

CCCERA Current Funding Policy

- Cost method
  - Entry Age Normal (EAN)
- Asset smoothing method
  - 5-year smoothing period with no market value corridor
  - Reaffirmed by the Board in 2009
- UAAL amortization policy
  - Layered approach for UAAL established after 12/31/2007
    - 18-year periods
  - Approved by the Board effective with 12/31/2008 valuation
  - Level percent of pay amortization

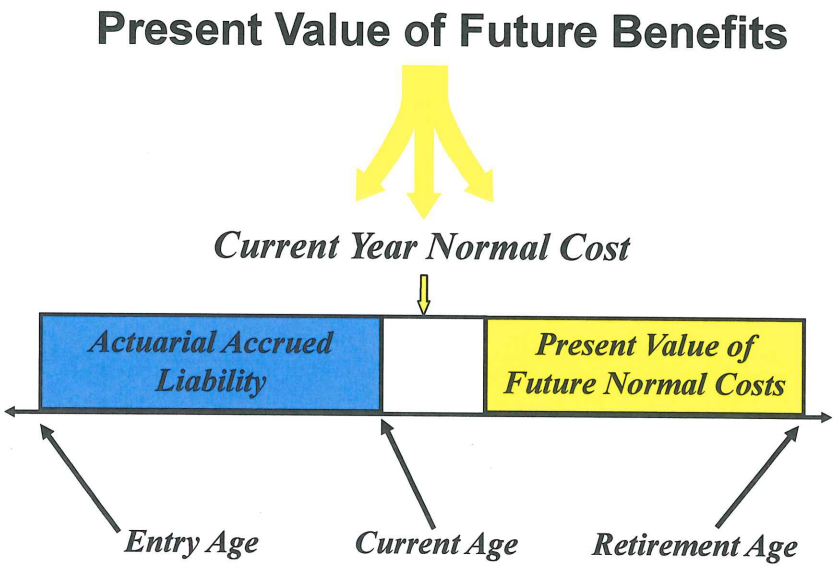
Review of CCCERA Funding Policy

- 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 part of this review
  - Interest crediting and excess earnings allocation policy

Funding Policy Recommendations

- No change to Entry Age Normal Cost Method
- No change to asset smoothing method
- Emerging model practices for UAAL amortization
  - Actuarial Gains/Losses, Assumption/Method Changes
    - No change to separate 18-year layers
  - 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

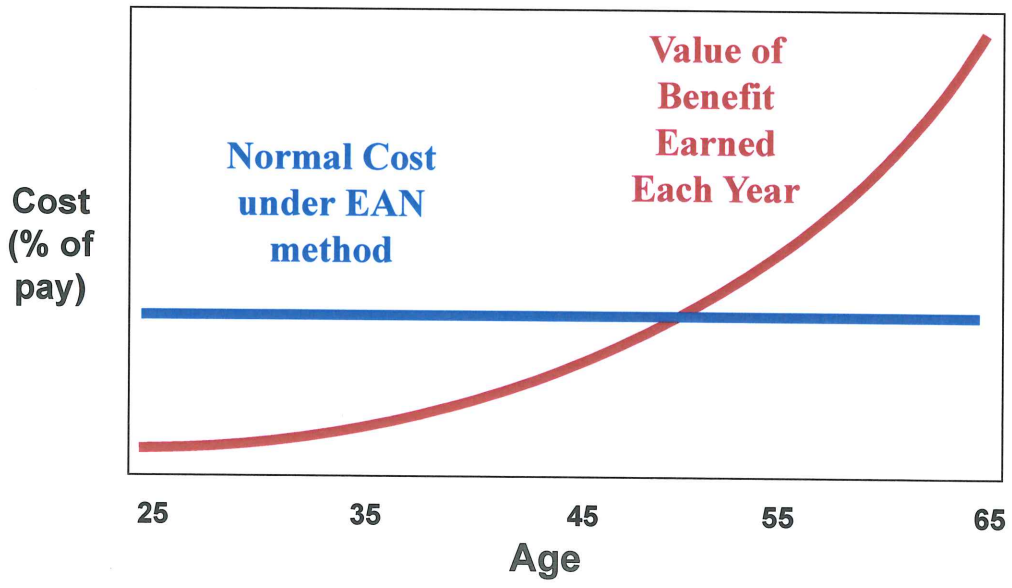
Actuarial Cost Method



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 and 68
- Normal cost is <u>not</u> just the value of benefit earned

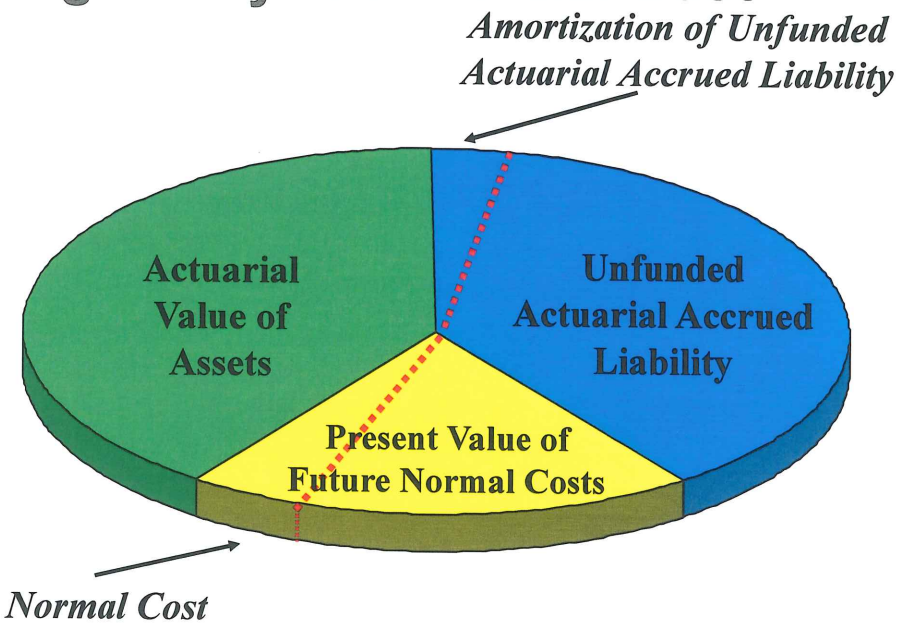
Normal Cost vs Earned Benefit



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

Funding Policy and Annual Cost



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"

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**

Example: one good year

Year	1	2	3	4	5	6	7
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%

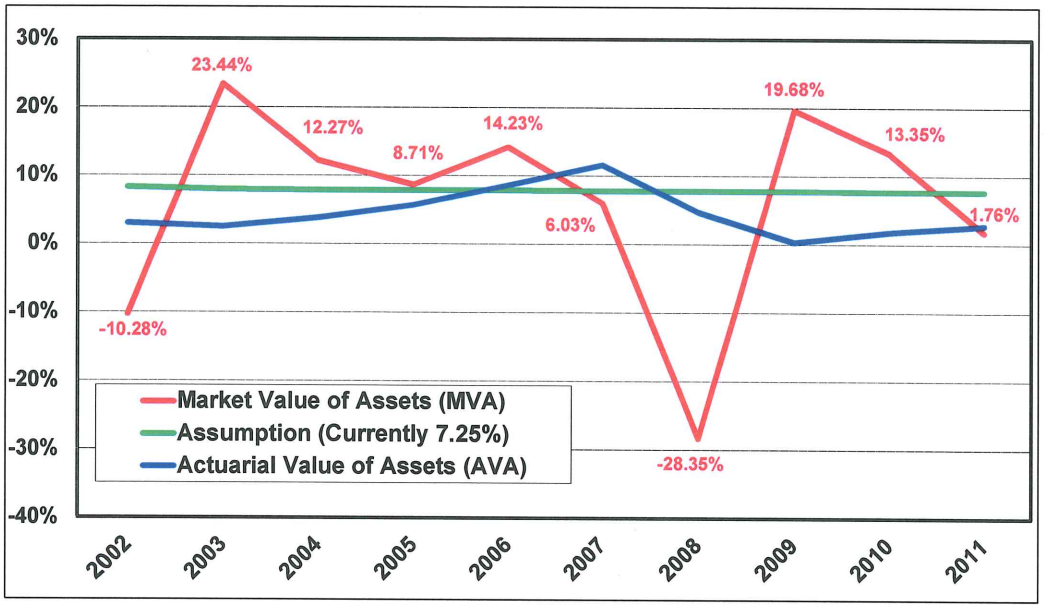
* Using 8% as assumed return.

Example: one good, then one bad year

Year	1	2	3	4	5	6	7
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.

CCCERA Investment Rates of Return



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**

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

(Market G/L measured in six month increments - $000s)

Year-end	Market Value Gain/(loss) thru Dec.	Market Value Gain/(loss) thru June	Percent not recognized		Amount not recognized
2007	($168,393)	$67,289	90%	80%	($97,722)
2006	$262,227	($647)	70%	60%	$183,171
2005	$71,553	($53,290)	50%	40%	$14,461
2004	$190,029	($57,177)	30%	20%	$45,573
2003	$243,581	$127,205	10%	0%	$24,358
Net GAINS not yet recognized					$169,841
Market Value of Assets					$5,199,117
PLUS LOSSES not yet recognized					($169,841)
Actuarial Value of Assets					$5,029,276
AVA/MVA ratio					97%

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

(Market G/L measured in six month increments - $000s)

Year-end	Market Value Gain/(loss) thru Dec.	Market Value Gain/(loss) thru June	Percent not recognized		Amount not recognized
2008	($1,318,200)	($553,808)	90%	80%	($1,629,425)
2007	($168,393)	$67,289	70%	60%	($77,502)
2006	$262,227	($647)	50%	40%	$130,855
2005	$71,553	($53,290)	30%	20%	$10,808
2004	$190,029	($57,177)	10%	0%	$19,003
Net LOSSES not yet recognized					($1,546,262)
Market Value of Assets					$3,749,699
PLUS LOSSES not yet recognized					$1,546,262
Actuarial Value of Assets					$5,295,961
AVA/MVA ratio					141%

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

(Market G/L measured in six month increments - $000s)

Year-end	Market Value Gain/(loss) thru Dec.	Market Value Gain/(loss) thru June	Percent not recognized		Amount not recognized
2009	$478,545	($39,514)	90%	80%	$399,079
2008	($1,318,200)	($553,808)	70%	60%	($1,255,025)
2007	($168,393)	$67,289	50%	40%	($57,281)
2006	$262,227	($647)	30%	20%	$78,539
2005	$71,553	($53,290)	10%	0%	$7,155
Net LOSSES not yet recognized					($827,532)
Market Value of Assets					$4,476,730
PLUS LOSSES not yet recognized					$827,532
Actuarial Value of Assets					$5,304,262
AVA/MVA ratio					118%

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SEGAL | CCCERA – Actuarial Funding Policy

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

(Market G/L measured in six month increments - $000s)

Year-end	Market Value Gain/(loss) thru Dec.	Market Value Gain/(loss) thru June	Percent not recognized		Amount not recognized
2010	$517,825	($268,336)	90%	80%	$251,374
2009	$478,545	($39,514)	70%	60%	$311,273
2008	($1,318,200)	($553,808)	50%	40%	($880,623)
2007	($168,393)	$67,289	30%	20%	($37,060)
2006	$262,227	($647)	10%	0%	$26,223
Net LOSSES not yet recognized					($328,814)
Market Value of Assets					$5,027,157
PLUS LOSSES not yet recognized					$328,814
Actuarial Value of Assets					$5,355,971
AVA/MVA ratio					107%

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

(Market G/L measured in six month increments - $000s)

Year-end	Market Value Gain/(loss) thru Dec.	Market Value Gain/(loss) thru June	Percent not recognized		Amount not recognized
2011	($409,527)	$97,328	90%	80%	($290,712)
2010	$517,825	($268,336)	70%	60%	$201,476
2009	$478,545	($39,514)	50%	40%	$223,467
2008	($1,318,200)	($553,808)	30%	20%	($506,222)
2007	($168,393)	$67,289	10%	0%	($16,839)
Net LOSSES not yet recognized					($388,830)
Market Value of Assets					$5,052,289
PLUS LOSSES not yet recognized					$388,830
Actuarial Value of Assets					$5,441,119
AVA/MVA ratio					108%

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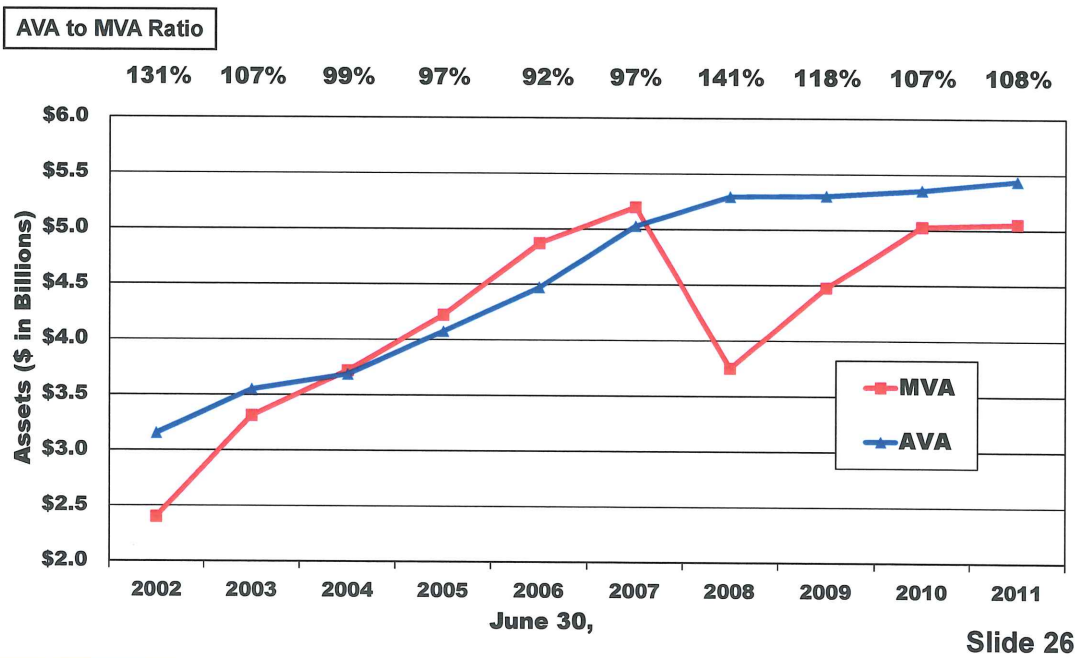
Historical MVA and AVA



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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 widened their 20% MVA Corridors
  - Others, including CCCERA, had no corridor and reaffirmed that policy

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

5-year Smoothing and MVA Corridor

- Under ASOP 44, 5 years is "sufficiently short"
  - Widespread use, industry opinions
  - 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)

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
- Note: after losses, longer smoothing means higher ultimate contribution rates
- Recommend no change to asset smoothing method

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

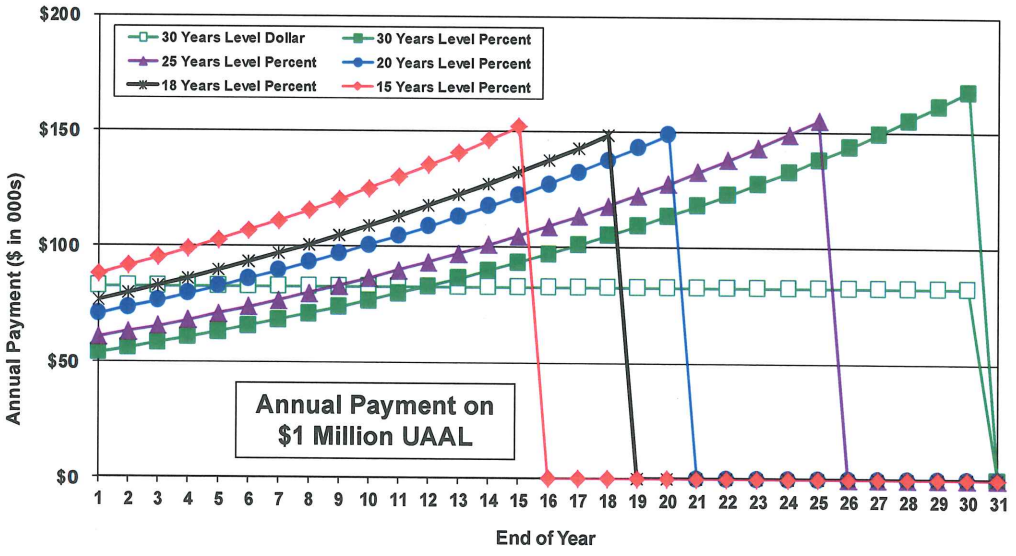
Amortization Structure

- CCCERA using multiple layer, 18-year declining periods
- Model approach: multiple amortization layers
  - First layer is current UAAL (as of policy adoption)
  - Each year, new layer of UAAL for gain/loss, assumption/method changes, plan amendments
  - Can use different periods for different sources of UAAL
    - CCCERA currently uses the same 18-year amortization period for all sources of UAAL
- Recommend no changes to current UAAL layers already established as of December 31, 2011

Illustration of Amortization Methods

7.25% interest 4.00% salary incr.	30 years Flat dollar	30 years % of pay	25 years % of pay	20 years % of pay	18 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	1,000,000
Amortization factor	12.1037	18.5457	16.5126	14.1413	13.0858	11.3757
(first year)	0.082620	0.053921	0.060560	0.070715	0.076418	0.087907
Amortization amount						
Year 1	$ 82,620	$ 53,921	$ 60,560	$ 70,715	$ 76,418	$ 87,907
Year 15	$ 82,620	$ 93,374	$ 104,870	$ 122,455	$ 132,332	$ 152,226
Year 20	$ 82,620	$ 113,603	$ 127,591	$ 148,985	$ 0	$ 0
Year 30	$ 82,620	$ 168,161	$ 0	$ 0	$ 0	$ 0
Total amount paid						
Principal	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Interest	1,478,589	2,024,153	1,522,072	1,105,748	959,782	760,209
Total	$ 2,478,589	$ 3,024,153	$ 2,522,072	$ 2,105,748	$ 1,959,782	$ 1,760,209

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

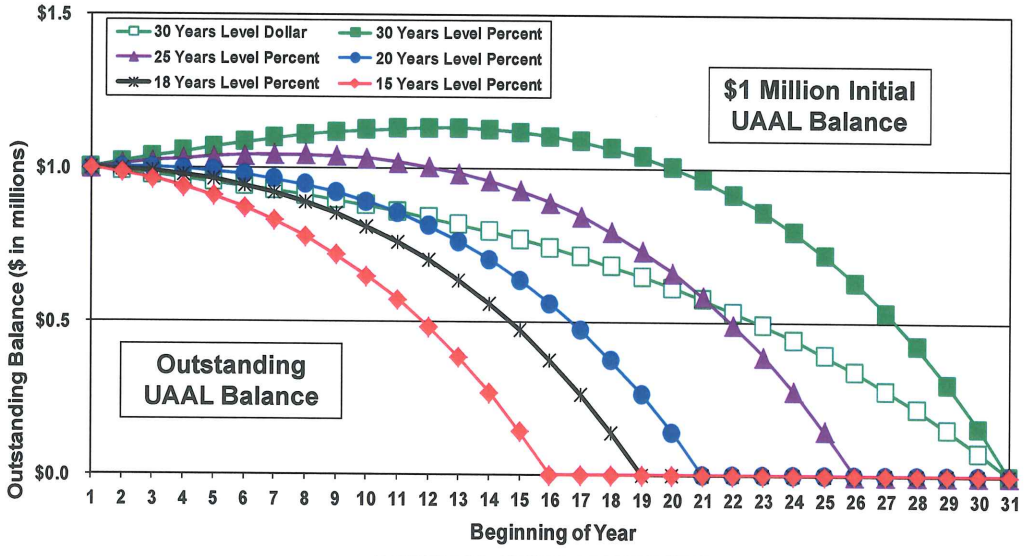


Investment Return Assumption: 7.25%
Payroll Growth Assumption: 4.00%

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
- CCCERA's 18 year period avoids any negative amortization

Illustration of Amortization Periods – Outstanding UAAL Balance ($ in millions)



Investment Return Assumption: 7.25%
Payroll Growth Assumption: 4.00%

Model Fixed Layer Periods

- Tradeoff between and demographic matching and volatility management
  - Two aspects of "interperiod equity"
  - Constraint: consideration of negative amortization
  - Exception: volatility 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"

Model Amortization Periods

- Gains and losses: 15 to 20 years
  - Volatility management, but avoid too long a period
- Assumption and method changes: 15 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 inactives
  - Much shorter for Early Retirement Incentives (< 5 yrs)

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 greater than 120%
  - Other conditions also apply

Recommended Periods for Future UAALs

Source	Current Policy	Recommended
Actuarial Gains or Losses	18	18
Assumptions or Method Changes	18	18
Plan Amendments	18	15 or less
ERIPs	18	Up to 5
Actuarial Surplus	18	30

- Applies to future changes in UAAL
  - Fixed (declining) layer periods, level percent of payroll (except rolling (open) period for surplus)
  - No impact on current UAAL layers or current contribution rates

Other Funding Policy Parameters

- Adjustment for 18-Month Delay between Rate Calculation and Rate Implementation
  - CCCERA does not make this adjustment
  - Of our 12 1937 Act clients, two make this adjustment
- Cost Sharing Arrangments ("Depooling")
  - Adopted by Board effective with 12/31/2009 valuation
  - Details can be found in funding policy letter or valuation report

Other Funding Policy Parameters

- Employer/Member cost sharing of impact of terminal pay
  - Only an issue for pre-PEPRA members
    - Since PEPRA requires 50:50 cost sharing of Normal Cost
  - Impact of terminal pay currently handled as follows:
    - Basic rates – All paid by employer
    - COLA rates – 50:50 sharing by employer/member
  - This and other similar cost sharing practices can be included in funding policy
- Additional employer UAAL contributions
  - Currently, tracked separately for employers in cost groups with multiple employers
    - Balance is amortized to determine UAAL rate credit
  - Balance is credited with assumed return
  - Consider tracking with actual market returns or use of "prepayment account"

QUESTIONS