



**Alameda County Employees' Retirement Association
BOARD OF RETIREMENT**

***ACTUARIAL COMMITTEE/BOARD MEETING
NOTICE and AGENDA***

ACERA MISSION:

To provide ACERA members and employers with flexible, cost-effective, participant-oriented benefits through prudent investment management and superior member services.

**Thursday, February 21, 2019
11:00 am**

| LOCATION | COMMITTEE MEMBERS | |
|---|------------------------------|-----------------|
| ACERA C.G. "BUD" QUIST BOARD ROOM 475 14 TH STREET, 10 TH FLOOR OAKLAND, CALIFORNIA 94612-1900 MAIN LINE: 510.628.3000 FAX: 510.268.9574 | DALE AMARAL, CHAIR | ELECTED SAFETY |
| | ELIZABETH ROGERS, VICE CHAIR | ELECTED GENERAL |
| | OPHELIA BASGAL | APPOINTED |
| | HENRY LEVY | EX-OFFICIO |
| | LIZ KOPPENHAVER | ELECTED RETIRED |
| | | |

Should a quorum of the Board attend this meeting, this meeting shall be deemed a joint meeting of the Board and Committee.

The order of agenda items is subject to change without notice. Board and Committee agendas and minutes are available online at www.acera.org.

Note regarding public comments: Public comments are limited to four (4) minutes per person in total.

Note regarding accommodations: The Board of Retirement will provide reasonable accommodations for persons with special needs of accessibility who plan to attend Board meetings. Please contact ACERA at (510) 628-3000 to arrange for accommodation.

Any materials required by law to be made available to the public prior to a meeting of the Board of Retirement can be inspected at 475-14th Street, Suite 1000 during normal business hours.

ACTUARIAL COMMITTEE/BOARD MEETING

NOTICE and AGENDA, Page 2 of 3 – Thursday, February 21, 2019

Call to Order: 11:00 am

Public Comment

Action Items: Matters for Discussion and Possible Motion by the Committee

1. Discussion and possible motion to determine a triggering event has occurred for the purposes of applying the Declining Employer Payroll Policy as it applies to the Alameda County Office of Education, based on the Board of Retirement policy adopted October 18, 2018.

Margo Allen

- Andy Yeung, Segal Consulting

Recommendation

Staff recommends that the Actuarial Committee recommend to the Board of Retirement that the Board determine a triggering event has occurred October 18, 2018, for the purposes of applying the Declining Employer Payroll Policy as it applies to the Alameda County Office of Education, based on the Board of Retirement Policy adopted October 18, 2018. Staff further recommends that the Actuarial Committee recommend to the Board of Retirement that the employer's contributions determined under the Policy be paid in level, fixed-dollar amounts over a period of twenty (20) years, beginning no later than July 1, 2019, for fiscal year 2019/2020.

2. Discussion and possible motion to determine a triggering event has occurred for the purposes of applying the Declining Employer Payroll Policy as it applies to the Livermore Area Recreation and Parks District (LARPD), based on a the Board of Retirement policy adopted October 18, 2018.

- Margo Allen

- Andy Yeung, Segal Consulting

Recommendation

Staff recommends that the Actuarial Committee recommend to the Board of Retirement that the Board determine a triggering event has occurred October 18, 2018, for the purposes of applying the Declining Employer Payroll Policy as it applies to the Livermore Area Recreation and Parks District (LARPD), based on the Board of Retirement Policy adopted October 18, 2018. Staff further recommends that the Actuarial Committee recommend to the Board of Retirement that the employer's contributions determined under the Policy be paid in level percent of pay (including payrolls from all of LARPD's Tier 1, Tier 3 and Tier 4 members) over a period of twenty (20) years, beginning no later than the effective date for the December 31, 2018 valuation determined contribution rates in 2019, for fiscal year 2019/2020.

ACTUARIAL COMMITTEE/BOARD MEETING

NOTICE and AGENDA, Page 3 of 3 – Thursday, February 21, 2019

3. Discussion and possible motion to adopt the recommended risk reporting methodology for Actuarial Standard of Practice (ASOP) No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Contributions, based on the ACERA Actuarial Valuation and Review as of December 31, 2018,

- Margo Allen
- Andy Yeung, Segal Consulting

Recommendation

Staff recommends that the Actuarial Committee recommend to the Board of Retirement that the Board approve the recommended deterministic scenario test for ACERA's Actuarial Valuation and Review as of December 31, 2018, and the recommended deterministic sensitivity test and stochastic projections for ACERA's Actuarial Valuation and Review as of December 31, 2019, as outlined in the staff memo, to satisfy disclosure requirements for the new ASOP No. 51.

Information Items: These items are not presented for Committee action but consist of status updates and cyclical reports

Discussion of 2019 Actuarial Committee Work Plan

- Margo Allen

Trustee Input

Future Discussion Items

None

Establishment of Next Meeting Date

April 18, 2019 at 11:00 am



MEMORANDUM TO THE ACTUARIAL COMMITTEE

DATE: February 21, 2019

TO: Members of the Actuarial Committee

FROM: Margo Allen, Fiscal Services Officer

SUBJECT: Declining Employer Payroll Policy Implementation for the Alameda County Office of Education and the Livermore Area Recreation Park District

Executive Summary

Staff and Segal Consulting (Segal) are prepared to discuss the provisions for implementing ACERA's Declining Employer Payroll Policy as it pertains to the Alameda County Office of Education (Office of Education or OE) and the Livermore Area Recreation Park District (LARPD).

With Board adoption of this Policy, staff and Segal bring forth explanations for determining that triggering events have occurred for two ACERA participating employers and provide recommendations for the purposes of applying the Policy. Each explanation will include a description of the triggering event, a reference date for the triggering event, a determination of initial Unfunded Actuarial Accrued Liability (UAAL) and payment of UAAL by the respective employer, and a payment amortization recommendation. Additionally, a Declining Employer Payroll Policy Employer Communication Timeline is provided for review in Table 1, p.3, of this memo.

Declining Employer Payroll Policy as Applied to Office of Education

Triggering Event Resulting from Ceasing to Enroll New Hires: The Office of Education (OE) ceased to enroll new hires in ACERA since at least 1991. The payroll of OE's active employees enrolled in ACERA decreased to zero as of the December 31, 2017 valuation.

Triggering Event Occurrence Date: While OE had not enrolled new hires in ACERA many years ago, for purposes of applying the Policy, ACERA staff recommends that the triggering event be set to the date the Board of Retirement adopted the Policy on October 18, 2018.

Determination of Initial UAAL and Payment of UAAL by OE: Based on a triggering event date of October 18, 2018, Segal has been directed to prepare a pro-rata share of the UAAL for OE based on the employer's Actuarial Accrued Liability (AAL) at the last valuation as of December 31, 2017. Using that AAL, Segal determined that OE's pro-rata share of the Valuation Value of Assets (VVA) as of December 31, 2017.

Methodology: Both the AAL and VVA will be rolled forward and used to determine the UAAL contributions required to be paid under the policy by OE in the December 31, 2018 valuation for fiscal year 2019/2020.

Payment Amortization Recommendation: As an Alameda County agency, ACERA staff is comfortable that OE is a financially-viable entity and is recommending that the Board consider applying a 20-year level dollar amortization schedule in determining OE's UAAL payment beginning ***no later than*** July 1, 2019, for fiscal year 2019/2020.

By way of illustration and as requested by OE, if OE's UAAL of \$1,356,871 determined as of December 31, 2017 under the Policy is paid with a first installment on April 1, 2019 of \$750,000 in fiscal year 2018/2019, the level dollar installments for each of the next 19 years will be \$72,051 if paid on each subsequent April 1.

Declining Employer Payroll Policy as Applied to LARPD Tier 1

Triggering Event Resulting from Ceasing to Enroll New Hires: LARPD adopted General Tier 3 formula effective October 1, 2008. Consequently, LARPD Tier 3 (and later LARPD Tier 4) are placed in their own rate group. As such, there have been no new LARPD employees added to the other existing pooled General rate group (i.e., Tier 1 and Tier 2) covering the other non LARPD Tier 3 and Tier 4 members. Therefore the payrolls used to assess UAAL contributions from LARPD for the other General rate group have declined materially over time.

Triggering Event Occurrence Date: LARPD has not enrolled new hires in the other General rate group since 2008, so for purposes of applying the Policy, ACERA staff recommends that the triggering event be set to the date the Board of Retirement adopted the Policy on October 18, 2018.

Determination of Initial UAAL and Payment of UAAL by LARPD: Based on a triggering event date of October 18, 2018, Segal has been directed to prepare a pro-rata share of the UAAL for LARPD Tier 1 based on the employer's Tier 1 Actuarial Accrued Liability (AAL) at the last valuation as of December 31, 2017. Using that AAL, Segal determined that LARPD Tier 1's pro-rata share of the Valuation Value of Assets (VVA) as of December 31, 2017.

Methodology: Both the AAL and VVA will be rolled forward and used to determine the additional UAAL contributions required to be paid under the Policy by LARPD in the December 31, 2018 valuation for fiscal year 2019/2020.

Payment Amortization Recommendation: Since LARPD continues to be an active participating employer with ACERA, and new hires continue to be enrolled in LARPD Tier 3 and Tier 4 rate groups, ACERA staff is comfortable that LARPD is a financially-viable entity. Furthermore, even though LARPD Tier 1 payroll will continue to decline, the combined LARPD Tiers 1, 3 and 4 will still be an open group as new active members from LARPD will continue to be enrolled in LARPD Tier 4. Based on the assumption that the payroll for LARPD should continue to increase, ACERA staff is recommending that the Board consider applying a 20-year level percentage amortization schedule in determining LARPD's additional UAAL payment beginning no later than the effective date for the December 31, 2018 valuation determined contribution rates in 2019, for fiscal year 2019/2020.

By way of illustration, if the LARPD's Tier 1 UAAL of \$6,167,078 determined as of December 31, 2017 were payable at the end of each month commencing immediately as of January 1, 2018, the annual payment would have been \$439,791 and will be increased by 3.5% each year. Because LARPD is expected to pay the Tier 1 UAAL annual amortization payment of \$116,224 as

determined in the December 31, 2017 valuation before applying this Policy, the increase in annual amortization payment is \$323,567.

| Table 1 | |
|--|--|
| Declining Employer Payroll Policy Employer Communication Timeline | |
| February 2018 | Discussion between ACERA and Segal on Alameda County Office of Education (ACOE) active payroll declining to zero in the data reported for the 12/31/2017 valuation |
| March - April 2018 | ACERA drafted Declining Employer Payroll Policy (and related Withdrawing Plan Sponsor Policy) |
| April 2018 | ACERA and Segal met with Chief Financial Officer from ACOE on preliminary results of applying the Declining Employer Payroll Policy to ACOE |
| April - May 2018 | Discussion between ACERA and Segal on applicability of Declining Employer Payroll Policy to Livermore Area Recreation and Park District (LARPD) Tier 1 members |
| April - May 2018 | ACERA identified active and inactive members from ACOE and LARPD reported in the membership data provided for 12/31/2017 annual valuation |
| May - July 2018 | Segal prepared UAAL allocation and annual contribution amounts for ACOE and LARPD under Declining Employer Payroll Policy |
| August 2018 | ACERA and Segal discussed Declining Employer Payroll Policy (and related Withdrawing Plan Sponsor Policy) at Participating Employers' meeting. ACERA provided ACOE and LARPD with their respective UAAL allocation and annual contribution amounts under Declining Employer Payroll Policy |
| September – October 2018 | Discussion with Operations Committee on draft Declining Employer Payroll Policy (and related Withdrawing Plan Sponsor Policy) in September. Approval of final Declining Employer Payroll and Withdrawing Plan Sponsor Policies by the Operations Committee and the full Board in October. |
| September - November 2018 | Discussion with LARPD on UAAL allocation and annual contribution amounts under Declining Employer Payroll Policy |
| November - December 2018 | Discussion with ACOE on UAAL allocation and annual contribution amounts under Declining Employer Payroll Policy. Answer questions raised by ACOE on calculation methodology. |
| January 2019 | Provided alternative illustrative payment schedule as requested by ACOE |
| February 2019 | Provided employers with updated UAAL payment information based on a revised actuarial file used for the 2018 valuation. |

Recommendation #1

Staff recommends that the Actuarial Committee recommend to the Board of Retirement that the Board determine a triggering event has occurred October 18, 2018, for the purposes of applying the Declining Employer Payroll Policy as it applies to the Alameda County Office of Education, based on the Board of Retirement Policy adopted October 18, 2018. Staff further recommends that the Actuarial Committee recommend to the Board of Retirement that the employer's contributions determined under the Policy be paid in level, fixed-dollar amounts over a period of twenty (20) years, beginning no later than July 1, 2019, for fiscal year 2019/2020.

Recommendation #2

Staff recommends that the Actuarial Committee recommend to the Board of Retirement that the Board determine a triggering event has occurred October 18, 2018, for the purposes of applying the Declining Employer Payroll Policy as it applies to the Livermore Area Recreation and Parks District (LARPD), based on the Board of Retirement Policy adopted October 18, 2018. Staff further recommends that the Actuarial Committee recommend to the Board of Retirement that the employer's contributions determined under the Policy be paid in level percent of pay (including payrolls from all of LARPD's Tier 1, Tier 3 and Tier 4 members) over a period of twenty (20) years, beginning no later than the effective date for the December 31, 2018, valuation determined contribution rates in 2019, for fiscal year 2019/2020.

Attachments:

Declining Employer Payroll Policy – LARPD Tier 1 Unfunded Actuarial Accrued Liability as of December 31, 2017 – Revised, Segal Consulting

Declining Employer Payroll Policy - Office of Education Unfunded Actuarial Accrued Liability as of December 31, 2017 – Revised, Segal Consulting



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T 415.263.8200 www.segalco.com

VIA EMAIL & USPS

February 13, 2019

Ms. Margo Allen
Fiscal Services Officer
Alameda County Employees' Retirement Association
475 14th Street, Suite 1000
Oakland, CA 94612-1916

**Re: Declining Employer Payroll Policy – LARPD Tier 1
Unfunded Actuarial Accrued Liability as of December 31, 2017 - Revised**

Dear Margo:

In our December 7, 2018 letter, we determined the Unfunded Actuarial Accrued Liability (UAAL) and annual contributions for Livermore Area Recreation and Park District (LARPD) Tier 1 based on the procedures and guidelines as outlined in ACERA's Declining Employer Payroll Policy (Policy) adopted by the Board of Retirement (Board) on October 18, 2018. Subsequent to that determination, ACERA reported 3 additional beneficiaries under LARPD Tier 1 using the employer code for retirees and beneficiaries provided for the first time in the December 31, 2018 valuation data.¹ We have therefore updated our original determination to reflect these additional beneficiaries.

Background

The Board has adopted the Declining Employer Payroll Policy to ensure that a participating employer that may have experienced a material decline in payroll will continue to pay its share of the ACERA UAAL, and in line with that policy, ACERA has requested that we determine the Actuarial Accrued Liability (AAL), allocated Valuation Value of Assets (VVA), allocated UAAL, and UAAL amortization payments for LARPD Tier 1, as of December 31, 2017.² The results of our calculations are provided herein.

¹ The addition of the employer code for retirees and beneficiaries was a result of the expansion of Segal's data request and ACERA's extract of the payee files for the December 31, 2018 valuation.

² LARPD Tier 1 is a closed group and the payroll for LARPD members in that tier has been declining as active members retired or terminated. This is in contrary to the combined LARPD Tiers 3 and 4 which is an open group as new active members from LARPD are continued to be enrolled in that ACERA rate group.

Census Data

We worked with ACERA staff to determine which members in the December 31, 2017 valuation data should be classified as belonging to LARPD Tier 1, and ACERA has confirmed that the following counts of members should be included in this study for LARPD Tier 1:

| Counts of Members Included in the December 31, 2017 Valuation Data | |
|---|----------------------------|
| <u>Status</u> | <u>LARPD Tier 1</u> |
| Active | 9 |
| Vested Terminated | 7 |
| Retired Members and Beneficiaries | <u>33</u> |
| All Statuses Combined | 49 |

Methodology

The LARPD Tier 1 members are currently included in ACERA's General (excluding LARPD Tier 3 and Tier 4) pooled rate group for UAAL contribution rate purposes. Also included in that rate group are members from the County and other special districts.

Based on the methodology described in the Policy, a participating employer with declining payroll would be allocated a pro-rata share of the total UAAL for their rate group. That pro-rata share would be allocated based on the employer's AAL as compared to the AAL for all the employers within that rate group. This method explicitly assumes that liabilities for all employers in the pooled rate group are funded to the same degree (i.e., same funded ratio). Note that this means that the initial UAAL payments for LARPD Tier 1 would no longer be allocated in proportion to its covered payroll, but rather in proportion to its AAL.

The initial VVA is determined by a pro-rata allocation based on the proportion of LARPD's Tier 1 initial AAL to the AAL for all the employers within the rate group. The initial UAAL is the initial AAL minus the initial VVA. The specific steps in the determination of the initial UAAL and the UAAL amortization payments for LARPD Tier 1 are as follows:

1. Determine the AAL for LARPD Tier 1 and for all employers in the General group (excluding LARPD Tier 3 and Tier 4) as of December 31, 2017

The December 31, 2017 AAL for LARPD Tier 1 was calculated using the membership data for LARPD Tier 1 provided as of December 31, 2017 and confirmed by ACERA. This AAL reflects the new actuarial assumptions adopted for the December 31, 2017 valuation, including the 7.25% investment return assumption. The December 31, 2017 AAL for LARPD Tier 1 is \$21,254,331.

The AAL for all employers in the General group (excluding LARPD Tier 3 and Tier 4) is \$6,447,588,000.

2. Determine the allocated VVA for LARPD Tier 1 as of December 31, 2017

We have allocated a pro-rata share of the VVA to LARPD Tier 1. That pro-rata share was calculated by dividing the AAL for LARPD Tier 1 by the AAL for all the employers within the General group (excluding LARPD Tier 3 and Tier 4).

The VVA for the General group (excluding LARPD Tier 3 and Tier 4) we used for this allocation excludes the assets from Pension Obligation Bonds (POB) and Implicit Retiree Health Benefit Subsidy transfers.³ This VVA is \$4,576,780,000. Accordingly, the allocated VVA for LARPD Tier 1 as of December 31, 2017 would be \$15,087,253. This is determined by multiplying the total VVA for the General group (excluding LARPD Tier 3 and Tier 4) of \$4,576,780,000 by the ratio of the December 31, 2017 AAL for LARPD Tier 1 of \$21,254,331 to the AAL for all employers in the General group (excluding LARPD Tier 3 and Tier 4) of \$6,447,588,000. In the future, this amount would be rolled forward using the actual contributions, benefit payments and actual (smoothed) return for each year.

3. Determine the UAAL for LARPD Tier 1 as of December 31, 2017

The UAAL for LARPD Tier 1 as of December 31, 2017 is equal to the AAL for LARPD Tier 1 minus the allocated VVA for LARPD Tier 1 as of December 31, 2017 (i.e., \$21,254,331 - \$15,087,253, or \$6,167,078).

4. Determine the UAAL amortization payment for LARPD Tier 1

We determined the annual UAAL amortization payments for LARPD Tier 1 based on the “allocated UAAL” determined in item 3 above. Based on the Policy, the amortization payments are determined on a level, fixed-dollar basis over 20 years. For illustrative purposes and assuming payments would be made immediately in calendar year 2018, the annual UAAL amortization payment for LARPD Tier 1 is \$574,634, assuming that one-twelfth of that amount is paid at the end of each month.

As noted earlier, even though LARPD Tier 1 is a closed group with a declining payroll, the combined LARPD Tiers 3 and 4 is still an open group as new active members from LARPD are continued to be enrolled in LARPD Tier 4. Based on the argument that LARPD Tiers 1, 3 and 4 as a whole is expected to have payroll that will grow with the assumed payroll growth assumption of 3.5%, we have provided an alternative UAAL amortization payment calculation using a level percentage of pay basis over 20 years. Assuming payments would be made in 2018, the annual UAAL amortization payment for LARPD Tier 1 under this alternative basis is \$439,791 for the first year and the payment amount will increase at 3.5% per year. Again, these annual UAAL amortization payments assume that one-twelfth of that amount is paid at the end of each month.

³ LARPD Tier 1 did not participate in the Pension Obligation Bonds and the Implicit Retiree Health Benefit Subsidy is only applicable to the County.

Finally, since LARPD still has active members under Tier 1 and would have paid the UAAL rate determined in the December 31, 2017 report based on their Tier 1 active payroll, we have also shown the increase in UAAL amortization payment as compared to the contribution required under the current pooling method.

In addition to an increase in LARPD's UAAL payment to reflect that their Tier 1 payroll in the rate group has declined overtime, there is another increase to reflect that under the Policy, LARPD Tier 1 is no longer pooled with the liabilities for the other General employers. This is significant as we reflect for the first time the higher ratio of nonactive members to active members at LARPD as compared to the rest of the General population. For example, as of December 31, 2017, the ratio of nonactive members to active members is 1.4 for LARPD and 1.0 for General (non-LARPD). This means that LARPD has proportionately fewer active members to pay off the active and nonactive UAAL compared to the rest of the General group.

We are available to provide the payment amount over payment periods shorter than 20 years if we are requested to do so by your Office.

Again, for illustration purposes, the above UAAL amortization payments have been determined assuming that the amounts are payable at the end of each month commencing immediately in 2018. In practice, both the allocated VVA and AAL will be rolled forward and used to determine the UAAL contributions required to be paid under the Policy by LARPD in the December 31, 2018 valuation starting in fiscal year 2019/2020.

Summary of Results

Based on the census data and methodology described above, the calculations of the AAL, allocated VVA, allocated UAAL, and amortization payments for LARPD Tier 1 are summarized below:

| Results as of December 31, 2017 | | | |
|---------------------------------|--|---|--|
| 1a. | AAL for LARPD Tier 1 | \$21,254,331 | |
| 1b. | General (excl. LARPD Tier 3 and Tier 4) Total AAL | \$6,447,588,000 | |
| 2a. | General (excl. LARPD Tier 3 and Tier 4) VVA | \$5,152,443,000 | |
| 2b. | Less POB Outstanding Balance | 524,178,000 | |
| 2c. | Less Implicit Retiree Health Benefit Subsidy Outstanding Balance for General Members | <u>51,485,000</u> | |
| 2d. | Net General (excl. LARPD Tier 3 and Tier 4) VVA (2a. - 2b - 2c.) | \$4,576,780,000 | |
| 2e. | Allocated VVA to LARPD Tier 1 (2d. x 1a. / 1b.) | \$15,087,253 | |
| 3. | Allocated UAAL to LARPD Tier 1 (1a. - 2e.) | \$6,167,078 | |
| 4a. | UAAL Amortization Payment Method | Policy (Level Dollar, <u>20 years</u>) | Alternative (Level % of Pay, <u>20 years</u>) |
| 4b. | Annual LARPD Tier 1 UAAL Amortization Payment | \$574,634 | \$439,791 ⁴ |
| 4c. | Annual LARPD Tier 1 UAAL Amortization Payment based on 12/31/2017 Valuation ⁵ | <u>116,224</u> | <u>116,224</u> |
| 4d. | Increase in LARPD Tier 1 UAAL Amortization Payment (4b. - 4c.) | \$458,410 | \$323,567 |

We have provided the amortization schedules under 20 years level dollar and level percent of pay for LARPD's Tier 1 allocated UAAL in the Attachments A and B, respectively.

We are Members of the American Academy of Actuaries and meet the qualification requirements to render the actuarial opinion contained herein.

Please let us know if you have any questions.

Sincerely,



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



Eva Yum, FSA, MAAA, EA
Associate Actuary

DNA/bqb
Enclosures

⁴ This amount will increase at the assumed payroll growth of 3.5% per year.

⁵ Based on LARPD Tier 1 payroll of \$640,000 and their UAAL contribution rate of 18.16% from the 12/31/2017 valuation.

Alameda County Employees' Retirement Association Attachment A

LARPD Tier 1

UAAL Amortization Schedule Using Level and Fixed-Dollar Payment over 20 Years (Based on the Results of the December 31, 2017 Valuation)

Annual Interest Rate: 7.25%
Annual Payment Growth: 0.00%

| Calendar Year | Beginning of Period UAAL Balance | Annual Payment* | Interest Paid | Principal Paid | End of Period UAAL Balance |
|------------------|-------------------------------------|--------------------|------------------|-------------------|-------------------------------|
| 1 | \$ 6,167,078 | \$ 574,634 | \$ 428,260 | \$ 146,375 | \$ 6,020,704 |
| 2 | 6,020,704 | 574,634 | 417,648 | 156,987 | 5,863,717 |
| 3 | 5,863,717 | 574,634 | 406,266 | 168,368 | 5,695,349 |
| 4 | 5,695,349 | 574,634 | 394,059 | 180,575 | 5,514,774 |
| 5 | 5,514,774 | 574,634 | 380,968 | 193,667 | 5,321,107 |
| 6 | 5,321,107 | 574,634 | 366,927 | 207,708 | 5,113,399 |
| 7 | 5,113,399 | 574,634 | 351,868 | 222,766 | 4,890,633 |
| 8 | 4,890,633 | 574,634 | 335,718 | 238,917 | 4,651,716 |
| 9 | 4,651,716 | 574,634 | 318,396 | 256,238 | 4,395,478 |
| 10 | 4,395,478 | 574,634 | 299,819 | 274,816 | 4,120,662 |
| 11 | 4,120,662 | 574,634 | 279,895 | 294,740 | 3,825,922 |
| 12 | 3,825,922 | 574,634 | 258,526 | 316,108 | 3,509,814 |
| 13 | 3,509,814 | 574,634 | 235,608 | 339,026 | 3,170,787 |
| 14 | 3,170,787 | 574,634 | 211,029 | 363,606 | 2,807,182 |
| 15 | 2,807,182 | 574,634 | 184,667 | 389,967 | 2,417,215 |
| 16 | 2,417,215 | 574,634 | 156,395 | 418,240 | 1,998,975 |
| 17 | 1,998,975 | 574,634 | 126,072 | 448,562 | 1,550,413 |
| 18 | 1,550,413 | 574,634 | 93,552 | 481,083 | 1,069,330 |
| 19 | 1,069,330 | 574,634 | 58,673 | 515,961 | 553,369 |
| 20 | 553,369 | 574,634 | 21,266 | 553,369 | - |
| Total | | \$ 11,492,689 | \$ 5,325,611 | \$ 6,167,078 | |

* Payments are assumed to be made at the end of each month and are assumed to have begun January 31, 2018

Note: Totals may be slightly off due to rounding

Alameda County Employees' Retirement Association Attachment B

LARPD Tier 1

UAAL Amortization Schedule Using Level Percentage of Pay over 20 Years (Based on the Results of the December 31, 2017 Valuation)

Annual Interest Rate: 7.25%
Annual Payment Growth: 3.50%

| Calendar Year | Beginning of Period UAAL Balance | Annual Payment* | Interest Paid | Principal Paid | End of Period UAAL Balance |
|------------------|-------------------------------------|--------------------|------------------|-------------------|-------------------------------|
| 1 | \$ 6,167,078 | \$ 439,791 | \$ 432,774 | \$ 7,017 | \$ 6,160,061 |
| 2 | 6,160,061 | 455,184 | 431,764 | 23,420 | 6,136,641 |
| 3 | 6,136,641 | 471,116 | 429,546 | 41,569 | 6,095,072 |
| 4 | 6,095,072 | 487,605 | 425,995 | 61,609 | 6,033,462 |
| 5 | 6,033,462 | 504,671 | 420,972 | 83,699 | 5,949,764 |
| 6 | 5,949,764 | 522,334 | 414,328 | 108,006 | 5,841,757 |
| 7 | 5,841,757 | 540,616 | 405,901 | 134,714 | 5,707,043 |
| 8 | 5,707,043 | 559,537 | 395,518 | 164,020 | 5,543,023 |
| 9 | 5,543,023 | 579,121 | 382,988 | 196,134 | 5,346,890 |
| 10 | 5,346,890 | 599,391 | 368,107 | 231,283 | 5,115,606 |
| 11 | 5,115,606 | 620,369 | 350,655 | 269,714 | 4,845,892 |
| 12 | 4,845,892 | 642,082 | 330,393 | 311,689 | 4,534,203 |
| 13 | 4,534,203 | 664,555 | 307,063 | 357,492 | 4,176,711 |
| 14 | 4,176,711 | 687,814 | 280,386 | 407,428 | 3,769,283 |
| 15 | 3,769,283 | 711,888 | 250,063 | 461,825 | 3,307,458 |
| 16 | 3,307,458 | 736,804 | 215,768 | 521,036 | 2,786,422 |
| 17 | 2,786,422 | 762,592 | 177,152 | 585,440 | 2,200,983 |
| 18 | 2,200,983 | 789,283 | 133,838 | 655,445 | 1,545,538 |
| 19 | 1,545,538 | 816,908 | 85,417 | 731,490 | 814,047 |
| 20 | 814,047 | 845,500 | 31,452 | 814,047 | - |
| Total | | \$ 12,437,161 | \$ 6,270,083 | \$ 6,167,078 | |

* Payments are assumed to be made at the end of each month and are assumed to have begun January 31, 2018

Note: Totals may be slightly off due to rounding



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VIA EMAIL & USPS

February 13, 2019

Ms. Margo Allen
Fiscal Services Officer
Alameda County Employees' Retirement Association
475 14th Street, Suite 1000
Oakland, CA 94612-1916

**Re: Declining Employer Payroll Policy - Office of Education
Unfunded Actuarial Accrued Liability as of December 31, 2017 - Revised**

Dear Margo:

In our December 7, 2018 letter, we determined the Unfunded Actuarial Accrued Liability (UAAL) and annual contributions for the Office of Education (OE) based on the procedures and guidelines as outlined in ACERA's Declining Employer Payroll Policy (Policy) adopted by the Board of Retirement (Board) on October 18, 2018. Subsequent to that determination, ACERA reported 2 additional beneficiaries under OE using the employer code for retirees and beneficiaries provided for the first time in the December 31, 2018 valuation data.¹ We have therefore updated our original determination to reflect these additional beneficiaries.

Furthermore, based on discussions with OE, we were informed that OE plans to make a lump sum payment of \$750,000 on April 1, 2019. Accordingly, we have updated the UAAL amortization schedule attached to this letter to reflect this lump sum payment, with the remaining 19 annual payments assumed to be made each April 1 thereafter, on a level, fixed dollar basis.

Background

The Board has adopted the Declining Employer Payroll Policy to ensure that a participating employer that may have experienced a material decline in payroll will continue to pay its share of the ACERA UAAL, and in line with that policy, ACERA has requested that we determine the Actuarial Accrued Liability (AAL), allocated Valuation Value of Assets (VVA), allocated UAAL, and UAAL amortization payments for OE, as of December 31, 2017. The results of our calculations are provided herein.

¹ The addition of the employer code for retirees and beneficiaries was a result of the expansion of Segal's data request and ACERA's extract of the payee files for the December 31, 2018 valuation.

Census Data

We worked with ACERA staff to determine which members in the December 31, 2017 valuation data should be classified as belonging to Office of Education, and ACERA has confirmed that the following counts of members should be included in this study for OE:

| Counts of Members Included in the December 31, 2017 Valuation Data | |
|---|-----------------------------------|
| <u>Status</u> | <u>Office of Education</u> |
| Active | 0 |
| Vested Terminated | 0 |
| Retired Members and Beneficiaries | <u>8²</u> |
| All Statuses Combined | 8 |

Methodology

The OE's former employees are currently included in ACERA's General (excluding LARPD Tier 3 and Tier 4) pooled rate group for UAAL contribution rate purposes. Also included in that rate group are members from the County and other special districts.

Based on the methodology described in the Policy, a participating employer with declining payroll would be allocated a pro-rata share of the total UAAL for their rate group. That pro-rata share would be allocated based on the employer's AAL as compared to the AAL for all the employers within that rate group. This method explicitly assumes that liabilities for all employers in the pooled rate group are funded to the same degree (i.e., same funded ratio). Note that this means that the initial UAAL payments for Office of Education would no longer be allocated in proportion to its covered payroll (which has declined to \$0), but rather in proportion to its AAL.

The initial VVA is determined by a pro-rata allocation based on the proportion of the OE's initial AAL to the AAL for all the employers within the rate group. The initial UAAL is the initial AAL minus the initial VVA. The specific steps in the determination of the initial UAAL and the UAAL amortization payments for OE are as follows:

-
- 2 We were informed that the last OE member who was active in the December 31, 2016 valuation data, and who subsequently retired and then died prior to December 31, 2017, has a beneficiary who ACERA has recently determined to be eligible for a continuance benefit. The beneficiary was not included in the December 31, 2017 valuation data we received from ACERA. Based on updated information we received from ACERA after the valuation was completed and for purposes of this UAAL allocation, we have now included the beneficiary in the calculation of the Actuarial Accrued Liability (AAL) for the Office of Education. Note, however, that the beneficiary's AAL was not reflected in the December 31, 2017 valuation (as he was not included in the valuation data provided by ACERA). The effect of this exclusion is not material for the allocated UAAL calculations.

(We have since confirmed with the data provided for the December 31, 2018 valuation that this beneficiary was receiving a benefit as of December 31, 2018.)

1. Determine the AAL for OE and for all employers in the General group (excluding LARPD Tier 3 and Tier 4) as of December 31, 2017

The December 31, 2017 AAL for OE was calculated using the membership data for OE provided as of December 31, 2017, except that the cost of the additional benefits payable to the beneficiary of the member who died in early 2017 was also included in this AAL. Again, this beneficiary was not included in the December 31, 2017 valuation data as explained under the Census Data section earlier. This AAL reflects the new actuarial assumptions adopted for the December 31, 2017 valuation, including the 7.25% investment return assumption. The December 31, 2017 AAL for OE is \$4,676,346.

The AAL for all employers in the General group (excluding LARPD Tier 3 and Tier 4) is \$6,447,588,000.

2. Determine the allocated VVA for OE as of December 31, 2017

We have allocated a pro-rata share of the VVA to OE. That pro-rata share was calculated by dividing the AAL for OE by the AAL for all the employers within the General group (excluding LARPD Tier 3 and Tier 4).

The VVA for the General group (excluding LARPD Tier 3 and Tier 4) we used for this allocation excludes the assets from Pension Obligation Bonds (POB) and Implicit Retiree Health Benefit Subsidy transfers.³ This VVA is \$4,576,780,000. Accordingly, the allocated VVA for OE as of December 31, 2017 would be \$3,319,475. This is determined by multiplying the total VVA for the General group (excluding LARPD Tier 3 and Tier 4) of \$4,576,780,000 by the ratio of the December 31, 2017 AAL for OE of \$4,676,346 to the AAL for all employers in the General group (excluding LARPD Tier 3 and Tier 4) of \$6,447,588,000. In the future, this amount would be rolled forward using the actual contributions, benefit payments and actual (smoothed) return for each year.

3. Determine the UAAL for OE as of December 31, 2017

The UAAL for OE as of December 31, 2017 is equal to the AAL for OE minus the allocated VVA for OE as of December 31, 2017 (i.e., \$4,676,346 - \$3,319,475, or \$1,356,871).

4. Determine the UAAL amortization payment for OE

We determined the annual UAAL amortization payments for OE based on the “allocated UAAL” determined in item 3 above. The amortization payments are determined on a level, fixed-dollar basis over 20 years, with the exception that a first payment of \$750,000 is anticipated to be made on April 1, 2019 as per direction from OE. The remaining payments would be paid on a level, fixed-dollar basis over 19 years, starting April 1, 2020. For illustrative purposes, the annual UAAL amortization payment for OE starting April 1, 2020 is \$72,051.

³ Office of Education did not participate in the Pension Obligation Bonds and the Implicit Retiree Health Benefit Subsidy is only applicable to the County.

We are available to provide the payment amount over payment periods shorter than 20 years if we are requested to do so by your Office.

Summary of Results

Based on the census data and methodology described above, the calculations of the AAL, allocated VVA, allocated UAAL, and amortization payments for OE are summarized below:


| Results as of December 31, 2017 | | |
|---------------------------------|--|-------------------|
| 1a. | AAL for OE | \$4,676,346 |
| 1b. | General (excl. LARPD Tier 3 and Tier 4) Total AAL | 6,447,588,000 |
| 2a. | General (excl. LARPD Tier 3 and Tier 4) VVA | \$5,152,443,000 |
| 2b. | Less POB Outstanding Balance | 524,178,000 |
| 2c. | Less Implicit Retiree Health Benefit Subsidy Outstanding Balance for General members | <u>51,485,000</u> |
| 2d. | Net General (excl. LARPD Tier 3 and Tier 4) VVA (2a. – 2b. – 2c.) | \$4,576,780,000 |
| 2e. | Allocated VVA to OE (2d. x 1a. / 1b.) | \$3,319,475 |
| 3. | Allocated UAAL to OE (1a. – 2e.) | \$1,356,871 |
| 4. | Lump Sum Payment to be paid by OE on 4/1/2019 | \$750,000 |
| 5. | Annual UAAL Amortization Payment for OE for 19 years starting on 4/1/2020 | \$72,051 |


We have provided the amortization schedule for the Office of Education's allocated UAAL in the Attachment.

We are Members of the American Academy of Actuaries and meet the qualification requirements to render the actuarial opinion contained herein.

Please let us know if you have any questions.

Sincerely,


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


Eva Yum, FSA, MAAA, EA
Associate Actuary

DNA/hy
Enclosure

Alameda County Employees' Retirement Association

Office of Education

UAAL Amortization Schedule Using Level and Fixed-Dollar Payment over 20 Years* (Based on the Results of the December 31, 2017 Valuation)

Annual Interest Rate: 7.25%
Annual Payment Growth: 0.00%

| Year | Calendar Year | Beginning of Period UAAL Balance | Annual Payment ⁽¹⁾ | Interest Paid | Principal Paid | End of Period UAAL Balance |
|-------|---------------|-------------------------------------|----------------------------------|------------------------|-------------------|-------------------------------|
| | 2017 | \$ - | \$ - | \$ - | \$ - | \$ 1,356,871 |
| | 2018 | 1,356,871 | - | - | - | 1,455,245 ⁽²⁾ |
| 1 | 2019 | 1,455,245 | 750,000 | 163,457 ⁽³⁾ | 586,543 | 770,328 |
| 2 | 2020 | 770,328 | 72,051 | 51,965 | 20,086 | 750,242 |
| 3 | 2021 | 750,242 | 72,051 | 50,509 | 21,542 | 728,700 |
| 4 | 2022 | 728,700 | 72,051 | 48,947 | 23,104 | 705,596 |
| 5 | 2023 | 705,596 | 72,051 | 47,272 | 24,779 | 680,817 |
| 6 | 2024 | 680,817 | 72,051 | 45,476 | 26,575 | 654,242 |
| 7 | 2025 | 654,242 | 72,051 | 43,548 | 28,503 | 625,739 |
| 8 | 2026 | 625,739 | 72,051 | 41,483 | 30,568 | 595,171 |
| 9 | 2027 | 595,171 | 72,051 | 39,266 | 32,785 | 562,386 |
| 10 | 2028 | 562,386 | 72,051 | 36,889 | 35,162 | 527,224 |
| 11 | 2029 | 527,224 | 72,051 | 34,340 | 37,711 | 489,513 |
| 12 | 2030 | 489,513 | 72,051 | 31,606 | 40,445 | 449,068 |
| 13 | 2031 | 449,068 | 72,051 | 28,674 | 43,377 | 405,691 |
| 14 | 2032 | 405,691 | 72,051 | 25,529 | 46,522 | 359,169 |
| 15 | 2033 | 359,169 | 72,051 | 22,156 | 49,895 | 309,274 |
| 16 | 2034 | 309,274 | 72,051 | 18,539 | 53,512 | 255,762 |
| 17 | 2035 | 255,762 | 72,051 | 14,659 | 57,392 | 198,370 |
| 18 | 2036 | 198,370 | 72,051 | 10,498 | 61,553 | 136,817 |
| 19 | 2037 | 136,817 | 72,051 | 6,036 | 66,015 | 70,802 |
| 20 | 2038 | 70,802 | 72,051 | 1,249 | 70,802 | - |
| Total | | | \$ 2,118,976 | \$ 762,105 | \$ 1,356,871 | |

⁽¹⁾ Payments are assumed to be made on each April 1 and are assumed to have begun April 1, 2019.

⁽²⁾ The UAAL balance as of 12/31/2018 includes \$98,374 of interest accrued for calendar year 2018 at 7.25%.

⁽³⁾ We have adjusted \$163,457 to include the \$98,374 interest calculated in footnote (2).

Note: Totals may be slightly off due to rounding

* With the exception that a first payment of \$750,000 is anticipated to be made on April 1, 2019 as per direction from OE. The remaining payments would be paid on a level, fixed-dollar basis over 19 years, starting April 1, 2020.



MEMORANDUM TO THE ACTUARIAL COMMITTEE

DATE: February 21, 2019

TO: Members of the Actuarial Committee

FROM: Margo Allen, Fiscal Services Officer

SUBJECT: Reporting Methodology for Actuarial Standard of Practice No 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions (ASOP No. 51)

Executive Summary

Staff and Segal Consulting (Segal) are prepared to discuss recommended methodology to satisfy disclosure requirements for the new ASOP No. 51, effective for a measurement date on or after November 1, 2018 and for ACERA's December 31, 2018, valuation.

In mid-2018, staff had the opportunity to thoroughly review the various risk assessment methodologies proposed by Segal. Staff agrees with Segal that a deterministic scenario tests would adequately address ACERA's December 31, 2018, valuation risk exposure, and that a deterministic sensitivity test and stochastic projections would adequately address ACERA's December 31, 2019, valuation risk exposure. Rationale and recommended risk tests and projections are as follows:

- Deterministic Scenario Test:** Assesses the impact of one possible event, several simultaneous events, or several sequential events, for example, modeling of an economic recession that may impact both actual investment returns and employment levels.
Recommended Scenario Test for ACERA: Provide hypothetical projections for 0%, 7.25% and 14.50% returns for 2019 in December 31, 2018, risk report
- Deterministic Sensitivity Test:** Assesses the impact of a change in actuarial assumption, for example, change in the investment return assumption in a future year.
Recommended Sensitivity Test for ACERA: Consider the impact of different long term investment return and/or inflation assumptions in December 31, 2019, risk report, before new assumptions are approved in triennial experience study for the December 31, 2020, valuation.
- Stochastic Projections¹:** Considers the impact of employer contribution rates and Supplemental Retiree Benefit Reserve (SRBR) sufficiency periods under different probabilistic market returns in December 31, 2019, risk report, and provides information on impact of the 50/50 allocation of future excess earnings to the SRBR (for disclosure purposes) before the next triennial experience study.

¹ Staff and Segal further recommend stochastic projections to address key audit recommendations of ACERA's December 31, 2017, Actuarial Funding Valuation and Report.

Financial Impact and Considerations

The estimated fees to prepare the initial risk report based on the December 31, 2018, valuation and subsequent risk reports, i.e. December 31, 2019, valuation are as follows:

- One time set up costs: \$5,000;
- Deterministic projections: \$15,000 to \$20,000 (fees may vary based on the number of projections); and,
- Stochastic projections: \$15,000 to \$20,000 (in addition to fees on deterministic projections).

Recommendation

Staff recommends that the Actuarial Committee recommend to the Board of Retirement that the Board approve the recommended deterministic scenario test for ACERA's Actuarial Valuation and Review as of December 31, 2018, and the recommended deterministic sensitivity test and stochastic projections for ACERA's Actuarial Valuation and Review as of December 31, 2019, as outlined in the staff memo, to satisfy disclosure requirements for the new ASOP No. 51.

Attachments:

ACERA- Assessment and Disclosure of Risk presentation, Segal Consulting



Alameda County Employees' Retirement Association - Assessment and Disclosure of Risk

Actuarial Committee

February 21, 2019

(Originally presented to the Actuarial Committee on October 18, 2018)

Presented by:

Andy Yeung, ASA, EA, MAAA, FCA

Eva Yum, FSA, EA, MAAA

 Segal Consulting

Agenda

1. New Actuarial Standard on Risk Assessment

- Analyses Required to Satisfy New Disclosure Requirements

2. Sample Deterministic Projections

- Scenario Test
- Sensitivity Test

3. Sample ALM/Stochastic Projection

4. Content of Risk Report for ACERA

Introduction

- Risk is one of the biggest concerns facing public sector pension plan sponsors, boards and stakeholders
- To identify and address risk requires an understanding of what the risks are and what information is useful to assess risk
- Certain tools can help identify and quantify the types of risk and their magnitude
- Plan sponsors and boards can then make more informed and better decisions for the long term

In this presentation, Segal will discuss some of the risks we see today and unfolding in the future

Plans Have More Inactive Members Relative to Active Members

- Public sector pension plans have aging populations...



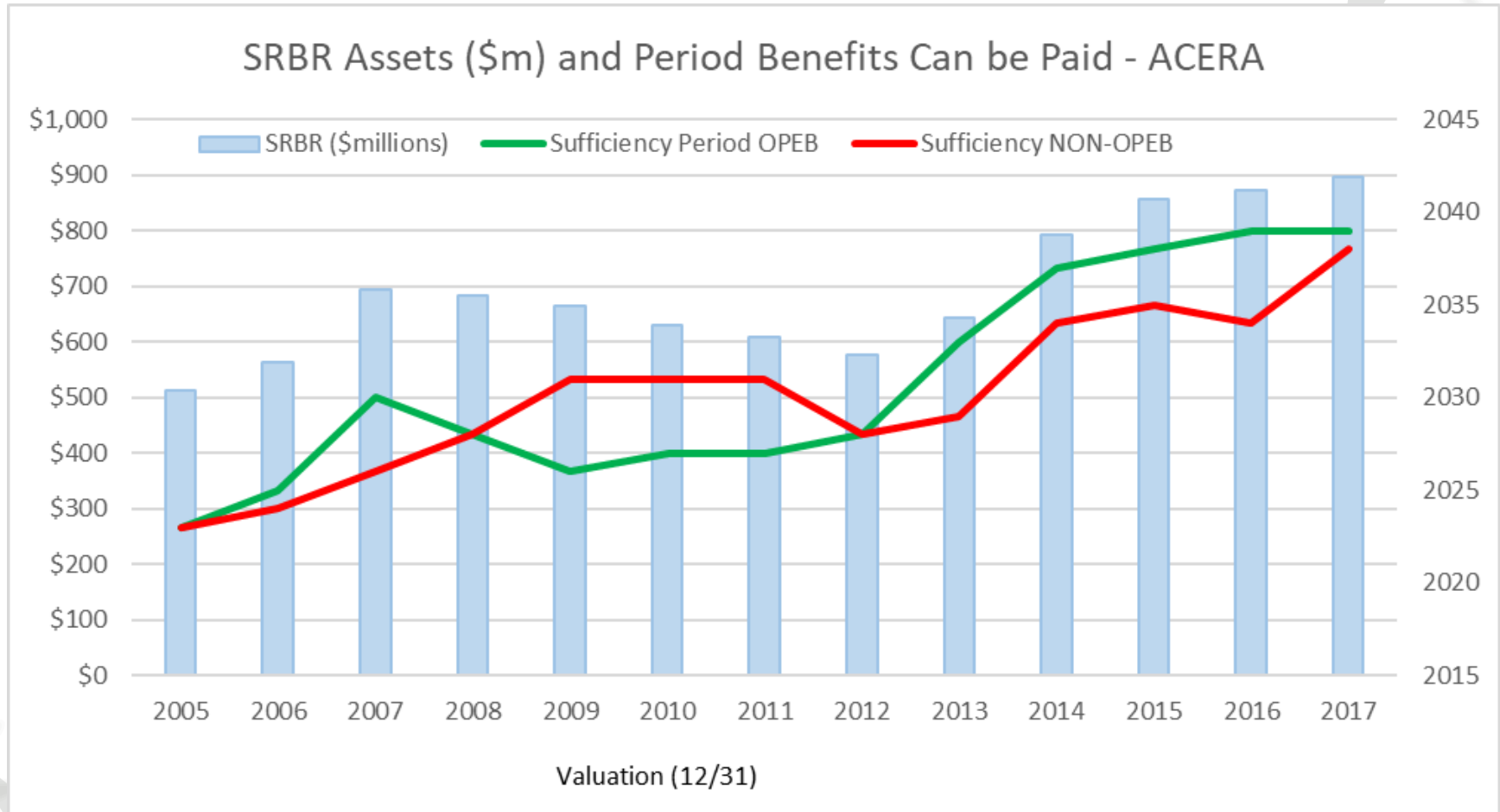
Plan Risks Increase as Liabilities Increase

- ...and their actuarial accrued liabilities (AAL) are getting larger relative to their sponsoring entities ...



Plans With Special Financial and Benefit Arrangements May be Subject to Additional Risks

- As an Article 5.5 County, OPEB and non-OPEB benefits are paid subject to availability of funds in the SRBR



Assessment and Disclosure of Risk

➤ Recent Actuarial Standards Board (ASB) activities

- ASB Pension Committee has been reviewing and developing pension-related standards
- New Actuarial Standard of Practice (ASOP) No. 51 on risk assessment effective for measurement date on or after November 1, 2018
 - Effective with December 31, 2018 valuation for ACERA

➤ Why is the standard needed?

- Actuarial calculations require use of assumptions regarding future economic and demographic experience
- Intended users of these measurements may not understand the:
 - Effect of future experience differing from the assumptions
 - Potential volatility of future measurements resulting from such differences

Assessment and Disclosure of Risk (cont.)

- When does this standard apply to actuaries?
 - When performing a funding valuation
 - When performing a pricing valuation of a proposed change that would, in the actuaries' opinion, significantly change the types or levels of risk
- What does the actuary need to do to comply?
 - Include an assessment of each of the risks that the actuary identifies
 - Assessment need not be based on numerical calculations – either qualitative or quantitative
 - Assessment should account for applicable plan circumstances – funding policy, investment policy, funded status, demographics, etc.

Steps the Actuary Needs to Take

- **Identify and assess risks** that may affect the plan's future financial conditions
 - Standard does not require numerical assessment
- Recommend a **more detailed assessment** if actuary believes it would be beneficial to intended users
- Calculate and disclose **plan maturity measures**
- Identify and disclose **historical values of actuarial measurements** that are significant in understanding plan risks
- Prepare actuarial communication



Identification of Risks

Risks related to economic variables

- Investment return
- Inflation
 - Price inflation
 - Wage inflation

Risks related to demographic events

- Mortality
- Payroll and/or population changes
- Retirement, disability, termination

Risks related to external forces

- Governance risk
- Regulatory risk
- Litigation risk
- Political risk



These risks are challenging to manage; however, not all of them are required to be studied under the ASOP

ASOP 51: Assessing Risks

- The risk assessment does **not** need to be based on numerical calculations
- The actuary should use professional judgment when deciding how to assess risk
- Non-numerical methods may include:
 - Commentary about actual experience and the effect on future results
 - Relevant statements relating to:
 - Asset performance and expected future returns
 - A reduction in membership payroll and its potential effect on future financial measurements
- When selecting risk assessment methods, the actuary:
 - Should take into account the nature, scale, and complexity of the plan
 - May consider practicality, usefulness, reliability, timeliness, cost efficiency
- The Actuary is NOT required to:
 - Evaluate ability/willingness of sponsor to make contributions when due
 - Anticipate future changes in applicable law

Numerically Based Methods for Assessing Risk

➤ Scenario tests

- Assessing impact of one possible event, several simultaneous events, or several sequential events
- *Example:* Projections modeling an economic recession that may impact both actual investment returns and employment levels

➤ Sensitivity tests

- Assessing impact of a change in actuarial assumption
- *Example:* Change the investment return assumption in a future year

➤ Stress tests

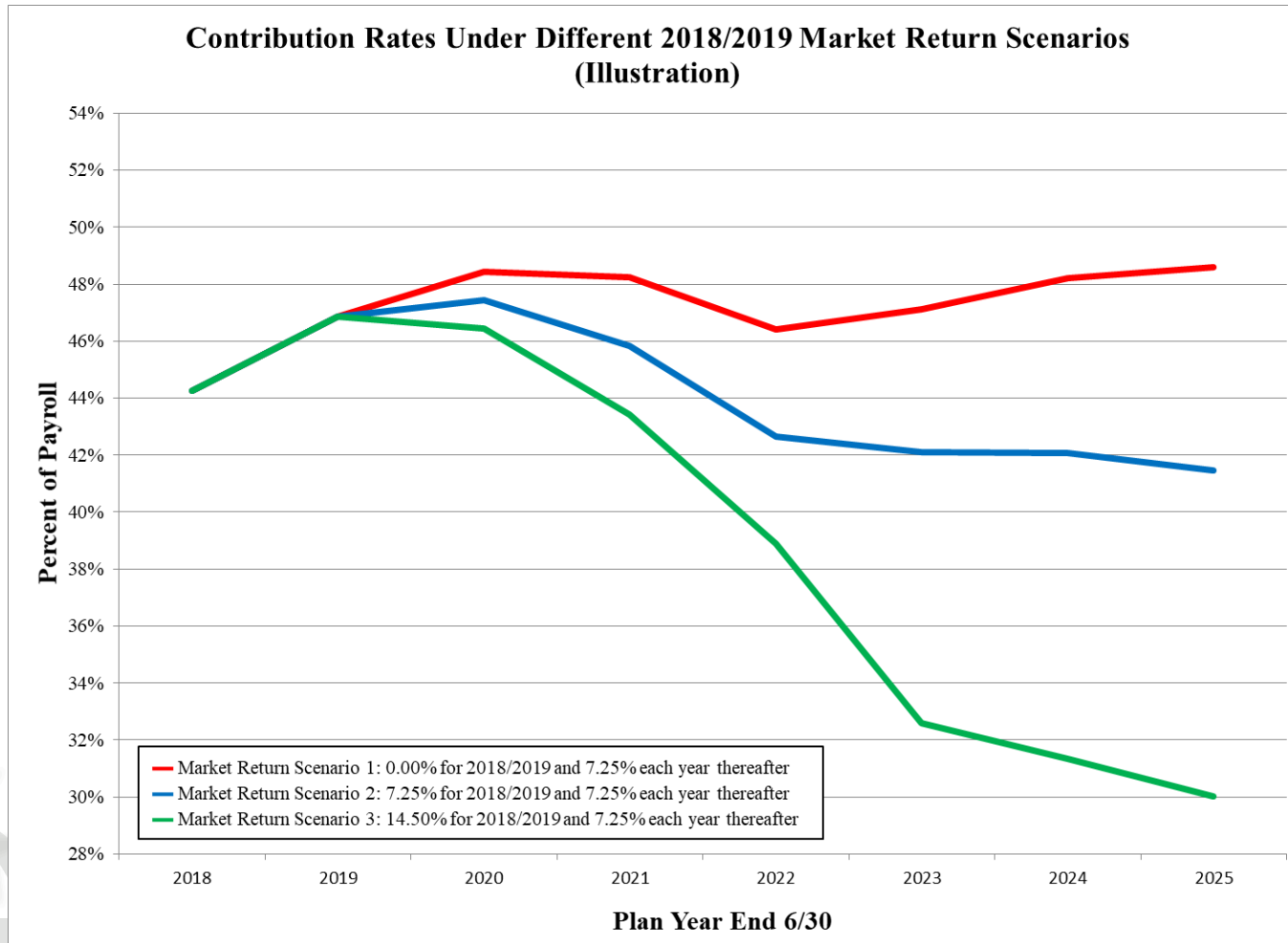
- Assessing impact of adverse changes in one or a few factors
- *Example:* Solve for actual investment return where any return lower will move the plan below a set funded level

➤ Stochastic modeling

- Generating numerous potential outcomes by allowing random variations (usually of investment returns)
- *Example:* Projections using a defined asset allocation mix to produce a distribution of possible returns and determine the probability of the Plan being funded at a set level in 10 years

Deterministic Scenario Tests - Illustration

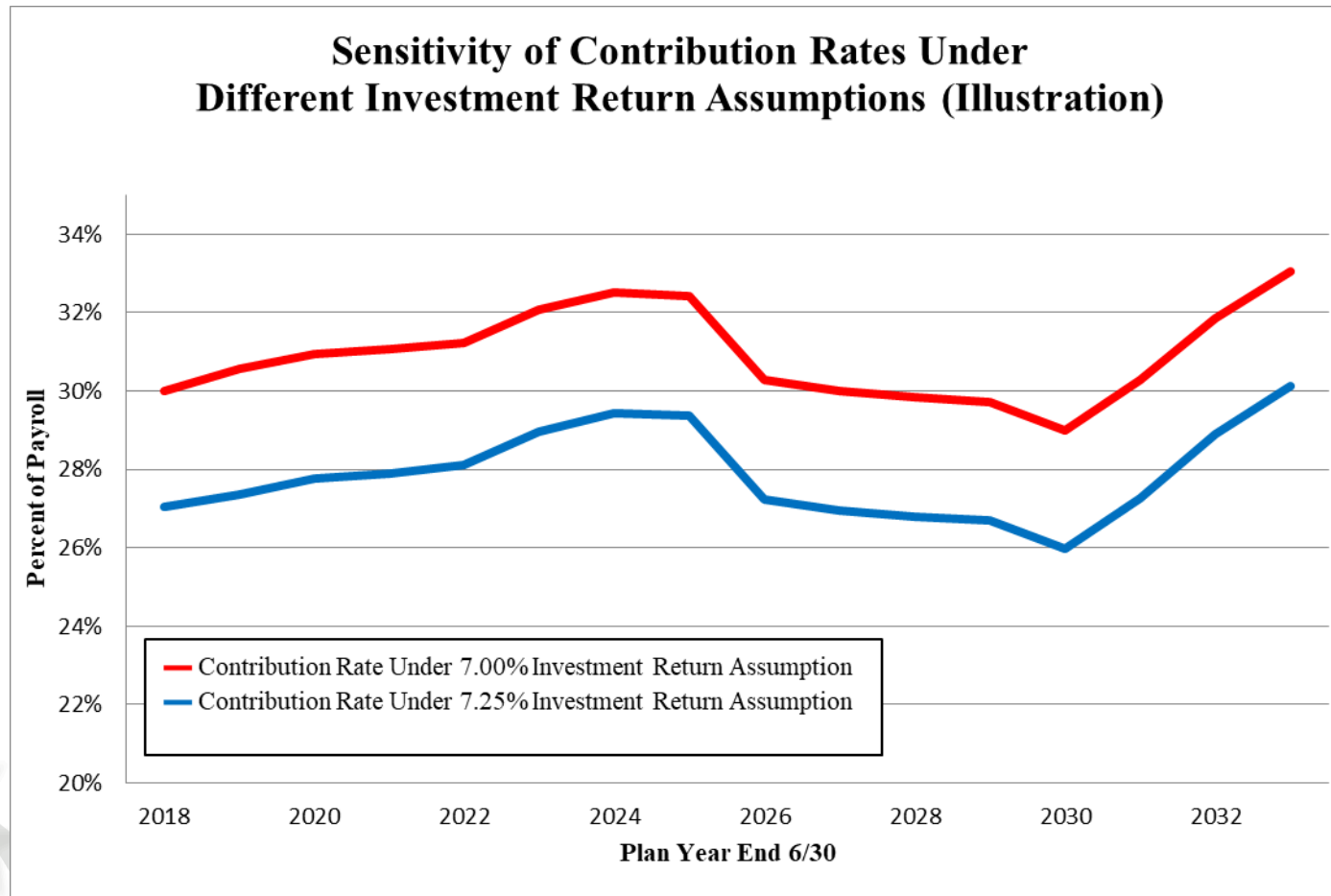
- What happens if a retirement system earns higher/lower market return in one year?
 - Sample retirement plan: 7.25% investment return assumption used in the June 30, 2018 valuation
 - Illustrated using: 14.50% or 0.00% earned in 2018/2019 (earned 7.25% above or below assumed rate)



Deterministic Sensitivity Test - Illustration

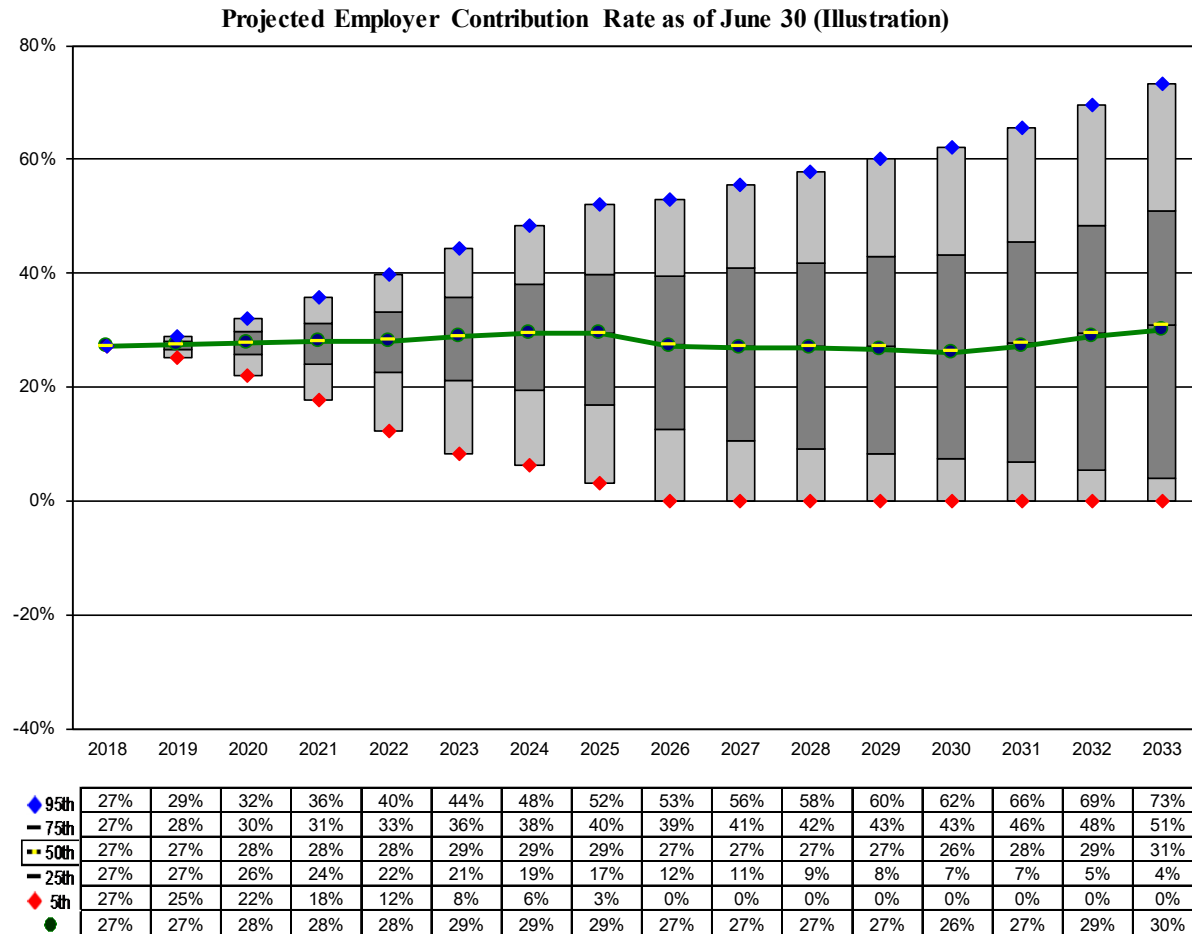
➤ What if a retirement system decreases the investment return assumption?

- Sample retirement plan: 7.25% investment return assumption used in the June 30, 2018 valuation
- Illustrated using: 7.00% investment return assumption used in the June 30, 2018 valuation



Stochastic Projection - Illustration

- What happens to retirement system's contribution rates under different future market returns?



● Baseline deterministic projection using current 7.25% investment return assumption

- In 50% of the trials, the employer contribution rate is between 4% and 51% in 15 years.

Examples of Plan Maturity Measures

- Ratio of market value of assets to payroll (asset volatility ratio or AVR)
- Ratio of actuarial accrued liability to payroll (liability volatility ratio or LVR)
- Ratio of inactive members to active members
- Ratio of net cash flow to market value of assets
- Ratio of benefit payments to contributions
- Duration of actuarial accrued liability



Examples of Historical Information

- Funded ratio
- Actuarially determined contribution
- Actuarial gains and losses
- Normal cost
- Comparison of actual contributions to actuarially determined contributions
- Plan participant count
- Covered payroll

Content of Risk Report for ACERA

➤ Deterministic scenario tests

- 0%, 7.25% and 14.50% returns for 2019 in December 31, 2018 risk report

➤ Deterministic sensitivity tests

- Consider impact of different long term investment return and/or inflation assumptions in December 31, 2019 risk report
- Before new assumptions are approved in triennial experience study for December 31, 2020 valuation

➤ Stochastic projections

- Consider impact of employer contribution rates and SRBR sufficiency periods under different market returns in December 31, 2019 risk report
- Provide information on impact of 50/50 allocation of future excess earnings to SRBR (for disclosure purposes) in next triennial experience study

➤ Plan maturity measures

➤ Historical information

➤ Other?

Questions and Discussions

