California Public Employees' Retirement System
Actuarial Office
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September 2023

Proposed PEPRA Safety Fire Plan for Esparto Fire Protection District
(CalPERS ID: 7735348195)
New Category Actuarial Valuation Report as of December 31, 2023
2% @ 57 PEPRA Safety with 3-year Final Average Compensation, 0% Prior Service

Dear Employer,

Enclosed please find a copy of the actuarial valuation conducted to determine the required contributions if the Esparto Fire Protection District elects to participate in the California Public Employees' Retirement System (CalPERS) and adopt the proposed new category. This valuation is based on a valuation date and a contract start date of December 31, 2023. CalPERS staff actuaries are available to discuss the contents of this report with you.

In the event your public agency elects to contract for the new category, your employees will be entitled to retirement benefits as provided by CalPERS per the Public Employees' Retirement Law. The contract for CalPERS membership will specify that, to the extent, if any, your employees may claim entitlement to additional benefits resulting from prior membership in a different retirement plan, such benefits will be the responsibility of your agency alone, and not of CalPERS.

Required Contribution

Fiscal Year	Employer Normal Cost Rate	Employer Amortization of Unfunded Accrued Liability	PEPRA Employee Rate
2023-24	10.85%	$0	11.00%
2024-25	11.05%	$0	11.00%
Projected Results			
2025-26	*11.1%*	*$0*	*TBD*

The rates shown above will be in effect unless there are further benefit or funding changes. If the membership or asset information is significantly different at the actual contract date, or if the actual contract effective date is delayed beyond the proposed effective date of December 31, 2023 by more than 90 days, the employer contribution rates shown above may have to be recalculated. The contribution rates shown above were based on the results of the June 30, 2021 and June 30, 2022 valuations.

The Employer Amortization of Unfunded Accrued Liability will be invoiced monthly, in an amount equal to one-twelfth of the annual amount, beginning the July following the contract date. As such, the FY 2024-25 payment of $0 assumes a contract date during FY 2023-24. The Estimated Employer Normal Cost for FY 2023-24 will depend on the number of applicable payroll reporting periods during the Fiscal Year.

In accordance with PEPRA, the member contribution rates shown above are set at 50% of the expected normal cost rate for the benefits that will apply to your PEPRA Safety Fire Plan during the fiscal years provided. Note that the member contribution rate may change over time if the total normal cost for PEPRA members fluctuates by more than 1% of payroll in future valuations.

Risk Analysis

The actuarial calculations supplied in this communication are based on a number of assumptions about long-term demographic and economic behavior. Unless these assumptions (e.g., terminations, deaths, disabilities, retirements, salary growth, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise the employer's rates from year to year. So, the rates will fluctuate, especially due to fluctuations in investment return.

The actuarial methods and assumptions used in determining your rate can be found in Section 2, Appendix A. A list of class 1 benefit provisions used in determining your rate is included in Section 1 of the report. A description of these provisions can be found in Section 2, Appendix B.

Please see the Contribution Volatility and Other Risks section of this report for a discussion of factors that can lead to volatility in actuarial valuation results, including required contributions, in the future.

If your agency would like to consider other benefit formulas or other combinations of benefit provisions, please contact us and we will be pleased to assist you.

Sincerely,

Scott Terando, ASA, EA, MAAA, FCA, CFA
Chief Actuary, CalPERS

New Category
Actuarial Valuation
as of December 31, 2023

For the
Proposed PEPRA Safety Fire Plan of the
Esparto Fire Protection District,
2% @ 57 PEPRA Safety Formula with
3-year Final Average Compensation and
0% Prior Service

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Section 1

Plan Specific Information
for the
Proposed PEPRA Safety Fire Plan of the
Esparto Fire Protection District

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Actuarial Certification

This report was prepared in order to provide the employer with information about the cost of benefits and the contributions required in order to assist in the decision as to whether or not to contract for the benefits.

Use of this report for other purposes is inappropriate.

Section 2 of this report is based on the member and financial data as of June 30, 2022 provided by employers participating in the Safety Pool to which the proposed plan will belong and the benefit provisions under the CalPERS contracts for those agencies.

As set forth in Section 2 of this report, the pool actuaries have certified that, in their opinion, the valuation of the risk pool that will contain your PEPRA Safety Fire Plan has been performed in accordance with generally accepted actuarial principles consistent with standards of practice prescribed by the Actuarial Standards Board, and that the assumptions and methods are internally consistent and reasonable for the risk pool of the June 30, 2022 valuation date and as prescribed by the CalPERS Board of Administration according to provisions set forth in the California Public Employees' Retirement Law.

Having relied upon the information set forth in Section 2 of this report and based on the census and benefit provision information for the plan, it is my actuarial opinion that the proposed employer contribution as of December 31, 2023 has been properly and accurately determined in accordance with the principles and standards stated above.

The undersigned is an actuary who satisfies the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* with regard to pensions.

May Shuang Yu, ASA, MAAA
Senior Actuary, CalPERS

Highlights and Executive Summary

- Introduction
- Purpose of Section 1
- Required Employer Contributions
- Funded Status – Funding Policy Basis
- Projected Employer Contributions
- Subsequent Events

Introduction

This report presents the results of the December 31, 2023 new category actuarial valuation of the PEPRA Safety Fire Plan of the Esparto Fire Protection District. This actuarial valuation sets the required employer contributions for Fiscal Years 2023-24 and 2024-25.

Purpose of Section 1

This Section 1 report for the PEPRA Safety Fire Plan of the Esparto Fire Protection District of CalPERS was prepared by the Actuarial Office. The purpose of the valuation is to:

- Set forth the assets and accrued liabilities of this plan as of December 31, 2023;
- Determine the minimum required employer contribution for this plan for the fiscal years July 1, 2023 through June 30, 2024 and July 1, 2024 through June 30, 2025; and
- Provide actuarial information as of December 31, 2023 to the CalPERS Board of Administration and other interested parties.

The pension funding information presented in this report should not be used in financial reports subject to GASB Statement No. 68 for a Cost Sharing Employer Defined Benefit Pension Plan. A separate accounting valuation report for such purposes is required.

The measurements shown in this actuarial valuation may not be applicable for other purposes. The employer should contact their actuary before disseminating any portion of this report for any reason that is not explicitly described above.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; changes in actuarial policies; and changes in plan provisions or applicable law.

Assessment and Disclosure of Risk

This report includes the following risk disclosures consistent with the recommendations of Actuarial Standards of Practice No. 51 and recommended by the California Actuarial Advisory Panel (CAAP) in the Model Disclosure Elements document:

- A “Scenario Test,” projecting future results under different investment income returns.
- A “Sensitivity Analysis,” showing the impact on current valuation results using alternative discount rates of 5.8% and 7.8%.
- A “Sensitivity Analysis,” showing the impact on current valuation results assuming rates of mortality are 10% lower or 10% higher than our current post-retirement mortality assumptions adopted in 2021.
- Plan maturity measures indicating how sensitive a plan may be to the risks noted above.

Required Employer Contributions

	Fiscal Year
Required Employer Contributions	**2024-25**
Employer Normal Cost Rate	**11.05%**
Plus	
Required Payment on Amortization Bases[1]	
1) Monthly Payment	**$0**
Or	
2) Annual Prepayment Option*	**$0**
Required PEPRA Member Contribution Rates	**11.00%**

The total minimum required employer contribution is the sum of the Plan's Employer Normal Cost Rate (expressed as a percentage of payroll and paid as payroll is reported) plus the Employer Unfunded Accrued Liability (UAL) Contribution Amount (billed monthly (1) or prepaid annually (2) in dollars).

** Only the UAL portion of the employer contribution can be prepaid **(which must be received in full no later than July 31)**.*

	Fiscal Year 2023-24	Fiscal Year 2024-25
Development of Normal Cost as a Percentage of Payroll[1]		
Base Total Normal Cost for Formula	21.85%	22.050%
Surcharge for Class 1 Benefits[2]		
None	0.000%	0.000%
Plan's Total Normal Cost	21.85%	22.05%
Offset Due to Employee Contributions	11.00%	11.00%
Employer Normal Cost Rate	10.85%	11.05%
Projected Payroll for the Contribution Fiscal Year[3]	$164,497	$169,103
Estimated Employer Contributions Based on Projected Payroll		
Plan's Estimated Employer Normal Cost[4]	TBD	$18,686
Plan's Payment on Amortization Bases	0	0
Estimated Total Employer Contribution	TBD	$18,686

[1] The Monthly Employer Dollar UAL Payment will be charged beginning the July following the contract date. As such, the FY 2024-25 Monthly UAL payment of $0 assumes a contract date during FY 2023-24. This payment is only to pay for prior service

[2] Appendix C of Section 2 contains the list of class 1 benefits with their corresponding surcharges.

[3] Payroll from the prior year is assumed to increase by the 2.8% payroll growth assumption.

[4] The Plan's Estimated Employer Normal Cost for FY 2023-24 will depend on the number of applicable payroll reporting periods during the Fiscal Year. The FY 2024-25 amount assumes payments made for the entire Fiscal Year.

Funded Status – Funding Policy Basis

The table below provides information on the current funded status of the plan under the funding policy. The funded status for this purpose is based on the market value of assets relative to the funding target produced by the entry age actuarial cost method and actuarial assumptions adopted by the board. The actuarial cost method allocates the total expected cost of a member's projected benefit (**Present Value of Benefits**) to individual years of service (the **Normal Cost**). The value of the projected benefit that is not allocated to future service is referred to as the **Accrued Liability** and is the plan's funding target on the valuation date. The **Unfunded Accrued Liability** (UAL) equals the funding target minus the assets. The UAL is an absolute measure of funded status and can be viewed as employer debt. The **funded ratio** equals the assets divided by the funding target. The funded ratio is a relative measure of the funded status and allows for comparisons between plans of different sizes.

	December 31, 2023
1. Present Value of Projected Benefits (PVB)	$592,765
2. Entry Age Normal Accrued Liability (AL)	0
3. Plan's Market Value of Assets (MVA)	0
4. Unfunded Accrued Liability (UAL) [(2) - (3)]	0
5. Funded Ratio [(3) / (2)]	0.0%

A funded ratio of 100% (UAL of $0) implies that the funding of the plan is on target and that future contributions equal to the normal cost of the active plan members will be sufficient to fully fund all retirement benefits if future experience matches the actuarial assumptions. A funded ratio of less than 100% (positive UAL) implies that in addition to normal costs, payments toward the UAL will be required. Plans with a funded ratio greater than 100% have a negative UAL (or surplus) but are required under current law to continue contributing the normal cost in most cases, preserving the surplus for future contingencies.

Calculations for the funding target reflect the expected long-term investment return of 6.8%. If it were known on the valuation date that future investment returns will average something greater/less than the expected return, calculated normal costs and accrued liabilities provided in this report would be less/greater than the results shown. Therefore, for example, if actual average future returns are less than the expected return, calculated normal costs and UAL contributions will not be sufficient to fully fund all retirement benefits. Under this scenario, required future normal cost contributions will need to increase from those provided in this report, and the plan will develop unfunded liabilities that will also add to required future contributions. For illustrative purposes, funded statuses based on a 1% lower and higher average future investment return (discount rate) are as follows:

	1% Lower Average Return	Current Assumption	1% Higher Average Return
Discount Rate	5.8%	6.8%	7.8%
1. Entry Age Accrued Liability	$0	$0	$0
2. Market Value of Assets (MVA)	0	0	0
3. Unfunded Accrued Liability (UAL) [(1) – (2)]	$0	$0	$0
4. Funded Ratio [(2) / (1)]	0.0%	0.0%	0.0%

The "Risk Analysis" section of the report provides additional information regarding the sensitivity of valuation results to the expected investment return and other factors. Also provided in that section are measures of funded status that are appropriate for assessing the sufficiency of plan assets to cover estimated termination liabilities.

Projected Employer Contributions

The table below shows projected employer contributions (before cost sharing) for the next six fiscal years. Projected results reflect the adopted changes to the discount rate described in Appendix A, “Statement of Actuarial Data, Methods and Assumptions” of the Section 2 report. The projections also assume that all actuarial assumptions will be realized and that no further changes to assumptions, contributions, benefits, or funding will occur during the projection period. In particular, the investment return beginning with FY 2022-23 is assumed to be 6.80% per year, net of investment and administrative expenses. Future contribution requirements may differ significantly from those shown below. The actual long-term cost of the plan will depend on the actual benefits and expenses paid and the actual investment experience of the fund.

	Required Contribution	**Projected Future Employer Contributions (Assumes 6.80% Return for Fiscal Year 2022-23)**				
Fiscal Year	**2024-25**	**2025-26**	**2026-27**	**2027-28**	**2028-29**	**2029-30**
Normal Cost %	11.05%	11.1%	11.1%	11.1%	11.1%	11.1%
UAL Payment	$0	$0	$0	$0	$0	$0

For ongoing plans, investment gains and losses are amortized using a 5-year ramp up. For more information, please see “Amortization of the Unfunded Actuarial Accrued Liability” under “Actuarial Methods” in Appendix A. This method phases in the impact of the change in UAL over a 5-year period in order to reduce employer cost volatility from year to year. As a result of this methodology, dramatic changes in the required employer contributions in any one year are less likely. However, required contributions can change gradually and significantly over the next five years. In years where there is a large increase in UAL the relatively small amortization payments during the ramp up period could result in a funded ratio that is projected to decrease initially while the contribution impact of the increase in the UAL is phased in.

For projected contributions under alternate investment return scenarios, please see the “Future Investment Return Scenarios” in the “Risk Analysis” section.

Subsequent Events

The contribution requirements determined in this actuarial valuation report are based on demographic and financial information as of December 31, 2023. Changes in the value of assets subsequent to that date are not reflected. Investment returns below the assumed rate of return will increase the required contribution, while investment returns above the assumed rate of return will decrease the required contribution.

CalPERS will be completing an Asset Liability Management (ALM) review process in November 2021 that will review the capital market assumptions and the strategic asset allocation and ascertain whether a change in the discount rate and other economic assumptions is warranted. In addition, the Actuarial Office will be completing its Experience Study to review the demographic experience within the pension system and make recommendations to modify future assumptions where appropriate.

Furthermore, this valuation does not reflect any impacts from the COVID-19 pandemic on your pension plan. The impact of COVID-19 on retirement plans is not yet known and CalPERS actuaries will continue to monitor the effects and, where necessary, make future adjustments to actuarial assumptions.

This actuarial valuation report reflects statutory changes, regulatory changes and CalPERS Board actions through January 2023. Any subsequent changes or actions are not reflected.

Assets and Liabilities

- Development of the Plan’s UAL
- Schedule of Plan’s Amortization Bases
- Amortization Schedule and Alternatives

Development of the Plan’s UAL

1.	Plan’s Accrued Liability:	$0
2.	Plan’s Market Value Assets:	$0
3.	Plan’s Unfunded Accrued Liability: (1) - (2)	$0

Schedule of Plan's Amortization Bases

The schedule of the plan's amortization bases is below.

- The assets, liabilities, and funded status of the plan are measured as of the date the new category is adopted: December 31, 2023.
- The required employer contributions determined by the valuation are for Fiscal Year 2024-25.

									Amounts for Fiscal 2024-25	
Reason for Base	**Date Established**	**Ramp Up/Down 2024-25**	**Escalat-ion Rate**	**Amorti-zation Period**	**Balance 6/30/22**	**Payment 2022-23**	**Balance 12/31/23**	**Payment 2023-24**	**Balance 6/30/24**	**Scheduled Payment for 2024-25**
PRIOR SERVICE	06/30/22	No Ramp	0.000%	N/A	N/A	N/A	$0	$0	$0	$0
TOTAL					**N/A**	**N/A**	**$0**	**$0**	**$0**	**$0**

If the total Unfunded Liability is negative (i.e., plan has a surplus), the scheduled payment is $0, because the minimum required contribution under PEPRA must be at least equal to the normal cost.

Amortization Schedule and Alternatives

The amortization schedule on the previous page shows the minimum contributions required according to the CalPERS amortization policy. Many agencies have expressed interest in paying off the unfunded accrued liabilities more quickly than required. As such, we have provided alternative amortization schedules to help analyze the current amortization schedule and illustrate the potential savings of accelerating unfunded liability payments.

Shown on the following page are future year amortization payments based on 1) the current amortization schedule reflecting the individual bases and remaining periods shown on the previous page, and 2) alternative “fresh start” amortization schedules using two sample periods that would both result in interest savings relative to the current amortization schedule.

The Current Amortization Schedule typically contains both positive and negative bases. Positive bases result from plan changes, assumption changes, method changes or plan experience that increase unfunded liability. Negative bases result from plan changes, assumption changes, method changes, or plan experience that decrease unfunded liability. The combination of positive and negative bases within an amortization schedule can result in unusual or problematic circumstances in future years, such as:

- When a negative payment would be required on a positive unfunded actuarial liability; or
- When the payment would completely amortize the total unfunded liability in a very short time period, and results in a large change in the employer contribution requirement.

In any year when one of the above scenarios occurs, the actuary will consider corrective action such as replacing the existing unfunded liability bases with a single “fresh start” base and amortizing it over a reasonable period.

The Current Amortization Schedule on the following page may appear to show that, based on the current amortization bases, one of the above scenarios will occur at some point in the future. It is impossible to know today whether such a scenario will in fact arise since there will be additional bases added to the amortization schedule in each future year. Should such a scenario arise in any future year, the actuary will take appropriate action based on guidelines in the CalPERS amortization policy.

Amortization Schedule and Alternatives

			Alternate Schedules			
	Current Amortization Schedule		N/A Year Amortization		N/A Year Amortization	
Date	**Balance**	**Payment**	**Balance**	**Payment**	**Balance**	**Payment**
6/30/2024	N/A	N/A	N/A	N/A	N/A	N/A
6/30/2025						
6/30/2026						
6/30/2027						
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6/30/2053						
Totals		**N/A**		**N/A**		**N/A**
Interest Paid		**N/A**		**N/A**		**N/A**
Estimated Savings				**N/A**		**N/A**

Risk Analysis

- Future Investment Return Scenarios
- Discount Rate Sensitivity
- Mortality Rate Sensitivity
- Maturity Measures
- Funded Status — Termination Basis

Future Investment Return Scenarios

Analysis using the investment return scenarios from the Asset Liability Management process completed in 2021 was performed to determine the effects of various future investment returns on required employer contributions. The projections below reflect the impact of the CalPERS Funding Risk Mitigation policy. The projections also assume that all other actuarial assumptions will be realized and that no further changes in assumptions, contributions, benefits, or funding will occur.

The first table shows projected contribution requirements if the fund were to earn either 3.0% or 10.8% annually. These alternate investment returns were chosen because 90% of long-term average returns are expected to fall between them over the 20-year period ending June 30, 2041.

Assumed Annual Return FY 2022-23 through 2041-42	**Projected Employer Contributions**				
	2025-26	**2026-27**	**2027-28**	**2028-29**	**2029-30**
3.0% (5th percentile)					
Normal Cost Rate	11.1%	11.1%	11.1%	11.1%	11.1%
UAL Contribution	$0	$15	$78	$220	$480
10.8% (95th percentile)					
Normal Cost Rate	11.3%	11.6%	11.8%	11.6%	11.8%
UAL Contribution	$0	$0	$0	$0	$0

Required contributions outside of this range are also possible. In particular, whereas it is unlikely that investment returns will average less than 3.0% or greater than 10.8% over a 20-year period, the likelihood of a single investment return less than 3.0% or greater than 10.8% in any given year is much greater. The following analysis illustrates the effect of an extreme, single year investment return.

The portfolio has an expected volatility (or standard deviation) of 12.0% per year. Accordingly, in any given year there is a 16% probability that the annual return will be -5.2% or less and a 2.5% probability that the annual return will be -17.2% or less. These returns represent one and two standard deviations below the expected return of 6.8%.

The following table shows the effect of a one or two standard deviation investment loss in FY 2022-23 on the FY 2025-26 contribution requirements. Note that a single-year investment gain or loss decreases or increases the required UAL contribution amount incrementally for each of the next five years, not just one, due to the 5-year ramp in the amortization policy. However, the contribution requirements beyond the first year are also impacted by investment returns beyond the first year. Historically, significant downturns in the market are often followed by higher than average returns. Such investment gains would offset the impact of these single year negative returns in years beyond FY 2025-26.

Assumed Annual Return for Fiscal Year 2022-23	**Required Employer Contributions**	**Projected Employer Contributions**
	2024-25	**2025-26**
(17.2)% (2 standard deviation loss)		
Normal Cost Rate	11.05%	11.1%
UAL Contribution	$0	$0
(5.2)% (1 standard deviation loss)		
Normal Cost Rate	11.05%	11.1%
UAL Contribution	$0	$0

- Without investment gains (returns higher than 6.8%) in year FY 2023-24 or later, projected contributions rates would continue to rise over the next four years due to the continued phase-in of the impact of the illustrated investment loss in FY 2022-23.
- The Pension Outlook Tool can be used to model projected contributions for these scenarios beyond FY 2025-26 as well as to model other investment return scenarios.

Discount Rate Sensitivity

The discount rate assumption is calculated as the sum of the assumed real rate of return and the assumed annual price inflation, currently 4.50% and 2.30%, respectively. Changing either the price inflation assumption or the real rate of return assumption will change the discount rate. The sensitivity of the valuation results to the discount rate assumption depends on which component of the discount rate is changed. Shown below are various valuation results as of December 31, 2023 assuming alternate discount rates by changing the two components independently. Results are shown using the current discount rate of 7.0% as well as alternate discount rates of 5.8% and 7.8%. The rates of 5.8% and 7.8% were selected since they illustrate the impact of a 1.0% increase or decrease to the 6.8% assumption.

Sensitivity to the Real Rate of Return Assumption

As of December 31, 2023	1% Lower Real Return Rate	Current Assumptions	1% Higher Real Return Rate
Discount Rate	**5.8%**	**6.8%**	**7.8%**
Inflation	2.3%	2.3%	2.3%
Real Rate of Return	**3.5%**	**4.5%**	**5.5%**
a) Total Normal Cost	27.16%	22.05%	18.13%
b) Accrued Liability	$0	$0	$0
c) Market Value of Assets	$0	$0	$0
d) Unfunded Liability/(Surplus) [(b) - (c)]	$0	$0	$0
e) Funded Status	0.0%	0.0%	0.0%

Sensitivity to the Price Inflation Assumption

As of December 31, 2023	1% Lower Inflation Rate	Current Assumptions	1% Higher Inflation Rate
Discount Rate	**5.8%**	**6.8%**	**7.8%**
Inflation	**1.3%**	**2.3%**	**3.3%**
Real Rate of Return	4.5%	4.5%	4.5%
a) Total Normal Cost	23.26%	22.05%	19.94%
b) Accrued Liability	$0	$0	$0
c) Market Value of Assets	$0	$0	$0
d) Unfunded Liability/(Surplus) [(b) - (c)]	$0	$0	$0
e) Funded Status	0.0%	0.0%	0.0%

Mortality Rate Sensitivity

The following table looks at the change in the plan costs and funded ratio as of December 31, 2023 under two different longevity scenarios, namely assuming post-retirement rates of mortality are 10% lower or 10% higher than our current mortality assumptions adopted in 2021. This type of analysis highlights the impact on the plan of improving or worsening mortality over the long-term.

As of December 31, 2023	10% Lower Mortality Rates	Current Assumptions	10% Higher Mortality Rates
a) Total Normal Cost	22.39%	22.05%	21.73%
b) Accrued Liability	$0	$0	$0
c) Market Value of Assets	$0	$0	$0
d) Unfunded Liability/(Surplus) [(b) - (c)]	$0	$0	$0
e) Funded Status	0.0%	0.0%	0.0%

Maturity Measures

As pension plans mature they become more sensitive to risks. Understanding plan maturity and how it affects the ability of a pension plan sponsor to tolerate risk is important in understanding how the pension plan is impacted by investment return volatility, other economic variables and changes in longevity or other demographic assumptions. Since it is the employer that bears the risk, it is appropriate to perform this analysis on a pension plan level considering all rate plans. The following measures are for one rate plan only.

One way to look at the maturity level of CalPERS and its plans is to look at the ratio of a plan's retiree liability to its total liability. A pension plan in its infancy will have a very low ratio of retiree liability to total liability. As the plan matures, the ratio starts increasing. A mature plan will often have a ratio above 60%-65%.

Ratio of Retiree Accrued Liability to Total Accrued Liability	**December 31, 2023**
1. Retired Accrued Liability	0
2. Total Accrued Liability	0
3. Ratio of Retiree AL to Total AL [(1) / (2)]	0.00

Another way to look at the maturity level of CalPERS and its plans is to look at the ratio of actives to retirees. A pension plan in its infancy will have a very high ratio of active to retired members. As the plan matures, and members retire, the ratio starts declining. A mature plan will often have a ratio near or below one. The average support ratio for CalPERS public agency plans is 0.82.

Support Ratio	**December 31, 2023**
1. Number of Actives	3
2. Number of Retirees	0
3. Support Ratio [(1) / (2)]	N/A

Maturity Measures (Continued)

The actuarial calculations supplied in this communication are based on various assumptions about long-term demographic and economic behavior. Unless these assumptions (e.g., terminations, deaths, disabilities, retirements, salary growth, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and serve to lower or raise required employer contributions from one year to the next. Therefore, employer contributions will inevitably fluctuate, especially due to the ups and downs of investment returns.

Asset Volatility Ratio (AVR)

Shown in the table below is the asset volatility ratio (AVR), which is the ratio of market value of assets to payroll. Plans that have higher AVR experience more volatile employer contributions (as a percentage of payroll) due to investment return. For example, a plan with an asset-to-payroll ratio of 8 may experience twice the contribution volatility due to investment return volatility than a plan with an asset-to-payroll ratio of 4. It should be noted that this ratio is a measure of the current situation. It increases over time but generally tends to stabilize as the plan matures.

Liability Volatility Ratio (LVR)

Also shown in the table below is the liability volatility ratio (LVR), which is the ratio of accrued liability to payroll. Plans that have a higher LVR experience more volatile employer contributions (as a percentage of payroll) due to investment return and changes in liability. For example, a plan with LVR ratio of 8 is expected to have twice the contribution volatility of a plan with LVR of 4. It should be noted that this ratio indicates a longer-term potential for contribution volatility. The AVR, described above, will tend to move closer to the LVR as a plan matures.

Contribution Volatility	December 31, 2023
1. Market Value of Assets	$0
2. Payroll	164,497
3. Asset Volatility Ratio (AVR) [(1) / (2)]	0.0
4. Accrued Liability	$0
5. Liability Volatility Ratio (LVR) [(4) / (2)]	0.0

Funded Status – Termination Basis

The funded status measured on a termination basis is an estimate of the financial position of the plan had the contract with CalPERS been terminated as of June 30, 2022. The accrued liability on a termination basis (termination liability) is calculated differently compared to the plan's ongoing funding liability. For the termination liability calculation, both compensation and service are frozen as of the valuation date and no future pay increases or service accruals are assumed. This measure of funded status is not appropriate for assessing the need for future employer contributions in the case of an ongoing plan, that is, for an employer that continues to provide CalPERS retirement benefits to active employees. Unlike the actuarial cost method used for ongoing plans, the termination liability is the present value of the benefits earned through the valuation date.

A more conservative investment policy and asset allocation strategy was adopted by the board for the Terminated Agency Pool. The Terminated Agency Pool has limited funding sources since no future employer contributions will be made. Therefore, expected benefit payments are secured by risk-free assets and benefit security for members is increased while limiting the funding risk. However, this asset allocation has a lower expected rate of return than the PERF and consequently, a lower discount rate is assumed. The lower discount rate for the Terminated Agency Pool results in higher liabilities for terminated plans.

The effective termination discount rate will depend on actual market rates of return for risk-free securities on the date of termination. As market discount rates are variable, the table below shows a range for the hypothetical termination liability based on the lowest and highest interest rates observed during an approximate 19-month period from 12 months before the valuation date to seven months after.

	Discount Rate: 1.75% Price Inflation: 2.50%			Discount Rate: 4.50% Price Inflation: 2.75%		
Market Value of Assets (MVA)	**Termination Liability[1,2]**	**Funded Ratio**	**Unfunded Termination Liability**	**Termination Liability[1,2]**	**Funded Ratio**	**Unfunded Termination Liability**
$0	$0	0.0%	$0	$0	0.0%	$0

[1] The termination liabilities calculated above include a 5% contingency load. The contingency load and other actuarial assumptions can be found in Appendix A of the Section 2 report.

[2] The discount rate used for termination valuations is a weighted average of the 10-year and 30-year U.S. Treasury yields where the weights are based on matching asset and liability durations as of the termination date. The discount rates used in the table are based on 20-year Treasury bonds, rounded to the nearest quarter percentage point, which is a good proxy for most plans. The 20-year Treasury yield was 3.38% on June 30, 2022, the valuation date.

In order to terminate the plan, first contact our Pension Contract Services unit to initiate a Resolution of Intent to Terminate. The completed Resolution will allow the plan actuary to provide a preliminary termination valuation with a more up-to-date estimate of the plan liabilities. Before beginning this process, please consult with the plan actuary.

Participant Data

The table below shows a summary of your plan's member data upon which this valuation is based:

	December 31, 2023
Reported Payroll	$164,497
Projected Payroll for Contribution Purposes	$169,103
Number of Members	
Active	3
Transferred	0
Separated	0
Retired	0

List of Class 1 Benefit Provisions

This plan has the additional Class 1 Benefit Provisions:

- None

Plan's Major Benefit Options

Shown below is a summary of your agency's proposed major optional benefits. A description of principal standard and optional plan provisions can be found in Appendix B of Section 2.

	Benefit Group	
Benefit Provision	Fire	
Benefit Formula	2% @ 57	
Social Security Coverage	No	
Full/Modified	Full	
Employee Contribution Rate	11.00%	
Final Average Compensation Period	Three Year	
Sick Leave Credit	Yes	
Non-Industrial Disability	Standard	
Industrial Disability	Standard	
Pre-Retirement Death Benefits		
Optional Settlement 2W	Yes	
1959 Survivor Benefit Level	Level 4	
Special	Yes	
Alternate (firefighters)	No	
Post-Retirement Death Benefits		
Lump Sum	$2000	
Survivor Allowance (PRSA)	No	
COLA	2%	

* 1959 Survivor Benefit is provided by a separate program and will be billed separately.

PEPRA Member Contribution Rates

The California Public Employees' Pension Reform Act of 2013 (PEPRA) established new benefit formulas, final compensation period, and contribution requirements for "new" employees (generally those first hired into a CalPERS-covered position on or after January 1, 2013). In accordance with Government Code Section 7522.30(b), "new members … shall have an initial contribution rate of at least 50% of the normal cost rate." The normal cost rate is dependent on the plan of retirement benefits, actuarial assumptions and demographics of the risk pool, particularly members' entry age. Should the total normal cost rate change by more than 1% from the base total normal cost rate, the new member rate shall be 50% of the new normal cost rate rounded to the nearest quarter percent.

The table below shows the determination of the PEPRA member contribution rates effective July 1, 2023, based on 50% of the total normal cost rate as of the June 30, 2021 valuation.

		Basis for Current Rate		Rates Effective July 1, 2023			
Rate Plan Identifier	**Benefit Group Name**	**Total Normal Cost**	**Member Rate**	**Total Normal Cost**	**Change**	**Change Needed**	**Member Rate**
TBD	PEPRA Safety Fire Plan	20.216%	10.00%	21.85%	1.634%	Yes	11.00%

The table below shows the determination of the PEPRA member contribution rates effective July 1, 2024, based on 50% of the total normal cost rate as of the June 30, 2022 valuation.

		Basis for Current Rate		Rates Effective July 1, 2024			
Rate Plan Identifier	**Benefit Group Name**	**Total Normal Cost**	**Member Rate**	**Total Normal Cost**	**Change**	**Change Needed**	**Member Rate**
TBD	PEPRA Safety Fire Plan	21.850%	11.00%	22.05%	0.200%	No	11.00%

Section 2

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Section 2 may be found on the CalPERS website (www.calpers.ca.gov) in the Forms and Publications section