

# Model Disclosure Elements for Actuarial Valuation Reports on Public Retirement Systems in California

(Applicable to Pension and Other Post-Employment Benefits)

As part of its effort to provide impartial and independent information regarding actuarial practice for public retirement systems in California, the California Actuarial Advisory Panel has adopted a set of model disclosure elements for actuarial valuation reports of public retirement systems in California.

Actuaries should comply with actuarial standards of practice. These model disclosure elements are meant to complement rather than replace the current standards of practice. They represent an inventory of disclosure elements that actuaries should strive towards including in their reports on the actuarial valuations of public retirement systems in the State of California. This inventory of disclosure elements is consistent with policy objectives and considerations set forth in the CAAP's document "Actuarial Funding Policies and Practices for Public Pension and OPEB Plans and Level Cost Allocation Model." Many of these model disclosure elements have been adopted by pension and OPEB actuaries practicing in the public sector in California.

These disclosure elements are organized as basic disclosures generally suitable for the regular (often annual) actuarial valuation reports followed by enhanced disclosures that may be appropriate for inclusion either in the regular actuarial valuation report or in other reports specific to a given purpose. It is not anticipated that these disclosures would be included in every actuarial communication. Furthermore, these disclosures generally are not intended for reports that primarily present accounting and financial reporting information, as disclosures in such reports are governed by applicable accounting standards.

**Basic Disclosures:** The basic disclosure elements shown below include both valuation results and the basis for the valuation and represent a modest extension of current actuarial practice in the public sector in California. Much, if not all, of the information below can be found in current actuarial valuation reports or readily derived from information already available in those reports.

## Basic Disclosures – Valuation Results

### 1. Normal Cost

- A. General. The Normal Cost should be disclosed in sufficient detail so that the user can understand how this element of the recommended contribution is determined and how it is to be paid. This should include separate Normal Costs for different tiers or cost groups, where appropriate.
- B. Form. The Normal Cost would usually be determined as either a percent of pay or a dollar amount<sup>1</sup>. If the normal cost is not determined as a dollar amount, the estimated dollar amount of the contributions should also be disclosed.

---

<sup>1</sup> Where there are active members, the Normal Cost will usually be expressed as a percentage of pay. However, in some circumstances (including many OPEB plans which do not generally have pay-related benefits) it may be appropriate to determine the normal cost on some other basis such as a level dollar amount. Where there are no active members, the normal cost would normally be determined as \$0.

- C. Timing. The disclosure should indicate the assumed timing of the normal cost within the contribution year: beginning of year, during the year (e.g., by pay period), end of year, etc.
- D. Funding source. For contributory plans the disclosure should indicate the total normal cost and the portions funded by active member contributions, employer contributions and any other funding source.

2. Present Value of Benefits (PVB)

The disclosure should include the PVB both in total and separately for significant membership groups (such as active, terminated vested, and retired).

3. Actuarial Accrued Liability (AAL)

The disclosure should include the AAL both in total and separately for significant membership groups (such as active, terminated vested, and retired).

4. Market Value of Assets (MVA) and Actuarial Value of Assets (AVA)

5. Unfunded Actuarial Accrued Liability (UAAL) or Surplus<sup>2</sup>

On both an AVA basis and a MVA basis

6. Current Contributions

- A. Actuarially Determined Contribution (ADC). The funding contribution that would be required if the plan were currently being funded in accordance with the stated actuarial assumptions and methods, ignoring any restrictions on contributions.
- B. In accordance with current funding policy. The funding contribution that is expected to be made in accordance with the current actuarial assumptions and methods, reflecting any restrictions on contributions imposed by law, regulation or otherwise.
- C. If the ADC in A. includes an Output Smoothing Method<sup>3</sup>, the actuarially determined contribution without such smoothing should be disclosed.

As with the Normal Cost, these items should be disclosed in sufficient detail so that the user can understand how the contributions are determined and how they are to be paid. The current contributions would usually be determined as either percentages of pay or dollar amounts.<sup>4</sup> If the current contributions are not determined as dollar amounts, the estimated dollar amounts of the contributions should also be disclosed.

Also, as with the Normal Cost, the current contributions should include general information as to the timing and funding sources of the contributions.

---

<sup>2</sup> “Surplus” refers to a negative UAAL, where assets exceed the AAL.

<sup>3</sup> A common example of an Output Smoothing Method is phasing-in the cost impact of an assumption change.

<sup>4</sup> Where there are active members, the current contribution requirement will usually be expressed as a percentage of pay. However, in some circumstances (including many OPEB plans which do not generally have pay-related benefits) it may be appropriate to determine the current contribution requirement on some other basis such as a fixed dollar amount. Where there are no active members, the current contribution requirement would normally be determined as a fixed dollar amount.

7. Funded Ratios on both an AVA and MVA basis (AVA/AAL, MVA/AAL)

8. Asset Smoothing Ratio (AVA/MVA) before and after any MVA corridor

9. Volatility Ratios

Asset Volatility Ratio:  $MVA/Payroll^5$  – This ratio provides an indication of the potential contribution volatility for any given level of investment volatility. A plan with an Asset Volatility Ratio of 10 would have double the level of contribution volatility of a plan with an Asset Volatility Ratio of 5.<sup>6</sup> This is a current measure since it is based on the current level of assets.

Liability Volatility Ratio:  $AAL/Payroll$  – This ratio provides an indication of the longer-term potential for contribution volatility for any given level of investment volatility.<sup>7</sup> In addition, this ratio provides an indication of the potential contribution volatility due to liability experience (gains and losses) and liability remeasurements (assumption changes).

10. Reconciliation of changes in UAAL or Surplus

A schedule of changes in UAAL since the previous actuarial valuation date should include:

- A. The UAAL as of the previous valuation date
- B. Expected changes in UAAL, including Normal Cost, interest and contributions<sup>8</sup>
- C. Other changes in UAAL, listed separately, including gains and losses<sup>9</sup>, assumption changes, method changes and plan amendments
- D. The resulting UAAL as of the current valuation date

11. UAAL Amortization

A. The UAAL Amortization Schedule

- i. The UAAL amortization schedule should include the current UAAL amount(s), the remaining amortization period(s) and the current UAAL amortization payment(s). There should be separate UAAL amortization schedules for different tiers or cost groups, where appropriate.

---

<sup>5</sup> The payroll used for this purpose would normally be the covered payroll on which contributions are being made. However, it may be appropriate in some circumstances to use other definitions of payroll provided that the basis is clearly documented. For example, in a situation where there are multiple tiers of benefits, it may be appropriate to combine the tiers for the purpose of disclosing the volatility ratios.

<sup>6</sup> If a plan has an asset volatility ratio of 10, a 10% gain or loss on assets translates to 100% of payroll. This will have a substantial impact on actuarially determined contributions regardless of the asset smoothing or UAAL amortization mechanisms in use. However, for a plan with an asset volatility ratio of 5, a 10% gain or loss on assets translates to 50% of payroll and would only have half the impact on the actuarially determined contributions of a plan with an asset volatility ratio of 10.

<sup>7</sup> This is because the assets should track the liabilities over an extended period of time. If a plan is 50% funded on a market value basis, the liability volatility ratio would be double the asset volatility ratio and the plan sponsor should expect contribution volatility to increase over time as the plan becomes better funded.

<sup>8</sup> Contributions may be shown as either actual or expected, with consistent treatment of the disclosure of contribution gains or losses later in this schedule.

<sup>9</sup> While a complete reconciliation of gains/losses by source is not necessarily required, major sources of gain/loss should be separately identified, including investment related gain/loss.

As applicable, each schedule should include the original UAAL amortization amounts (for example, when the total UAAL is amortized in separate amounts based on the source of the UAAL), and the dates and sources of such amounts.

- ii. If a graded amortization method<sup>10</sup> is used, for each amortization layer the schedule should include the current phase-in/phase-out percentages and the UAAL payment in the first year after the phase-in is complete (either as a percentage of pay or dollar amount).

**B. Implications of the Amortization Policy**

- i. If the interest on the entire outstanding UAAL balance exceeds the total current UAAL payment, a disclosure should be included as to whether and when the total UAAL payment is expected to exceed the interest on the UAAL.
- ii. A disclosure should be included as to whether and when the UAAL is expected to be fully amortized.
- iii. If plan assets are expected to be depleted, a disclosure should be included as to the expected depletion date.

**12. Reconciliation of changes in the actuarially determined contribution/contribution rate (ADC)**

A schedule of changes in the ADC since the previous actuarial valuation date should include:

- A. The ADC as of the previous valuation date
- B. Changes in the ADC due to changes in existing amortization bases
- C. Changes in the ADC due to assumption changes, method changes and plan amendments
- D. Changes in the ADC due to demographic changes (including payroll) and the amortization of gains and losses
- E. The resulting ADC as of the current valuation date

**Basic Disclosures – Basis for Valuation:** These disclosures are intended to give the user of the report essential information as to the basis for measurement of plan costs and liabilities.

13. Disclose the assumptions<sup>11</sup> used in the actuarial valuation along with the rationale and process<sup>12</sup> for establishing those assumptions as well as any changes since the prior valuation.

14. Disclose the principal actuarial funding policies and related methodologies used in the actuarial valuation along with the rationale and process for establishing those policies. Such funding policies should include:

- A. The actuarial cost method used to allocate the present value of projected benefits to years of

---

<sup>10</sup> A graded amortization is one where the initial UAAL payments increase proportionally (phase-in), then remain level as a percentage of pay or dollar amount, and thereafter decrease proportionally (phase-out). The phase-in/phase-out, and level amortization periods should be stated in the amortization policy.

<sup>11</sup> One assumption that should be clearly disclosed is the provision for administrative expenses, either as an explicit assumption or as a component of a discount rate determined net of expenses.

<sup>12</sup> The rationale and process for establishing both assumptions and funding policies may be incorporated by reference to some other report or study, such as an experience investigation, statement of funding policy, or statute or regulation.

service for active members, including any variations in the “entry age” method such as “replacement life” or “funding to decrement”.

- B. The asset smoothing method used to determine the AVA, including the smoothing period and method as well as any constraints on the AVA such as an “MVA corridor”.
- C. The UAAL amortization policy including the following:
  - i. The structure (single UAAL layer vs. multiple UAAL layers),
  - ii. The method (level dollar vs. level percent of pay, graded dollar vs. graded percentage of pay, fixed [closed] vs. rolling [open] amortization periods) and
  - iii. The period(s) used for determining the amortization payments.
- D. The amortization policy for when the plan has a surplus.
- E. Any other methodologies used to determine the actuarial funding policy contribution amounts including any output smoothing methods. Examples of output smoothing methods are phasing-in the impact of assumption changes and limiting the amount that contributions can change in a given year.
- F. A description of any changes in any of the above since the prior valuation.

15. Provide an outline or summary of the benefits included in the actuarial valuation and of any significant benefits not included in the actuarial valuation<sup>13</sup>. The outline or summary of the benefits included in the actuarial valuation should include a description of how the member contributions are determined.

16. Disclose the basis for determining the actual contributions made to the plan if different from that determined under the actuarially determined contribution or actuarial funding policies.

**Enhanced Disclosures:** These disclosures go beyond the results of the current valuation and so generally will require additional work on the part of the actuary. Because of cost considerations and because different disclosures may be appropriate for different circumstances, these disclosures may be adopted more slowly and/or less universally than the basic disclosure elements above. Furthermore, these disclosures may be appropriate for reports separate from the actuarial valuation report. Nevertheless, we believe that these disclosures will generally enhance the information provided and so we encourage their adoption as the norm for public plan actuarial work where appropriate.

### **Enhanced Disclosures -- General**

17. Actuarially Determined Contribution on an MVA basis

Disclose the current ADC with the AVA set equal to the MVA. This calculation may be appropriate for inclusion in the actuarial report especially when the asset smoothing method is

---

<sup>13</sup> For example, some retirement systems either allow or are required to transfer some portion of investment earnings in excess of the assumed investment return into a reserve which is used to provide supplemental benefits. A statement indicating whether or not the impact of such transfers – past or future – on assets, liabilities, actuarially determined contributions and/or assumptions was included in the actuarial valuation would be appropriate.

deferring substantial market gains or losses. It is recommended here as an easily developed illustration of the approximate, ultimate effect of those deferred gains or losses. It should not be interpreted as recommending a policy alternative to the use of a smoothed AVA in determining the ADC.

18. Projections of future contributions and funded status.

Some projections may be more appropriate in some circumstances than others. Contribution projections may be particularly appropriate when the asset smoothing method is deferring substantial market gains or losses. Funded status projections are particularly useful when the employer is not contributing the actuarially determined contribution. They are also appropriate when the UAAL amortization policy is such that the funded status is not expected to increase even when all assumptions are met.

Projections could help illustrate the implications of items such as the amortization policy, phasing-in of assumption changes, asset smoothing, and the effect of new benefit tiers on normal cost.

**Enhanced Risk Disclosures:** These disclosures are intended to give the user of the report additional information and a better understanding of the risks associated with the funding of the pension plan. As with the General Enhanced Disclosures, these disclosures require additional work on the part of the actuary and so may be adopted more slowly and less generally than the basic disclosures. These risk disclosures could include but are not limited to:

19. A “sensitivity analysis” showing the impact on current valuation results of changes in key assumptions and methodologies.
20. A “deterministic stress test” projection of future results under appropriately chosen scenarios showing the effect of future actual experience different from that assumed in the valuation.
21. A “stochastic or probabilistic” analysis on the impact of statistical variation in key experience elements including the actual future investment returns.

**Enhanced Historical Disclosures:** These disclosures show the history of the valuation results, specifically for contributions and funded status. We encourage plans to provide as many years of past results as are available.

22. Contribution History (at least 10 years)

- A. ADC (based on estimated or actual payroll)
- B. Funding policy amount, if different (based on estimated or actual payroll)
- C. Actual contribution amount

23. Funded Status History (at least 10 years)

- A. AAL, MVA and AVA
- B. UAAL or Surplus, and funded ratios, on both an AVA basis and a MVA basis
- C. Other ratios, including Asset Smoothing Ratio and Volatility Ratios (see Basic

Disclosures 8 and 9)

**Required Disclosure of an Alternative Obligation Measure:** Effective February 15, 2023

Actuarial Standard of Practice No. 4 (ASOP No. 4) contains a new requirement that every funding valuation include the disclosure of a “low-default-risk obligation measure” (LDROM) of either the benefits or the costs accrued as of the measurement date. For most public retirement systems in California this requirement will first be effective with the June 30, 2023 or December 31, 2023 actuarial valuations.

24. Disclosures related to the determination of the LDROM

- A. Disclose the discount rate used. The discount rate should be derived from low-default-risk income securities whose cash flows are reasonably consistent with the pattern of benefits expected to be paid. Some examples provided in the ASOP are as follows:
  - i. Yields on U.S. Treasury securities
  - ii. Yields on high quality corporate bonds
  - iii. Yields on high quality tax-exempt general obligation municipal bonds.
- B. Disclose the actuarial cost method. The actuarial cost method should be an immediate gain method. In most cases, this would be the same cost method used to determine either Actuarial Accrued Liability (AAL) or a withdrawal liability, if calculated.
- C. Disclose any other actuarial assumptions that differ from those used in the funding valuation.
- D. Disclose any alternative valuation procedures that differ from those used in the funding valuation. These might include procedures used to value plan provisions that are difficult to measure under the traditional valuation procedures.

25. Commentary to help the intended user understand the significance of the LDROM with respect to funded status, plan contributions and the security of participant benefits. For example, the difference between LDROM and AAL could be considered as:

- A. the expected savings to taxpayers from having plan assets invested in a diversified portfolio, or
- B. the expected cost of reducing investment risk of plan assets to that of a portfolio of entirely low-default-risk securities.