

**MARINWOOD COMMUNITY  
SERVICES DISTRICT**

Actuarial Valuation of  
Postemployment Medical Benefits  
Valuation Date: July 1, 2009



May 19, 2009

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Mr. Thomas Horne  
District Manager  
Marinwood Community Services District  
775 Miller Creek Road  
San Rafael, California 94903

Dear Mr. Horne:

Re: Actuarial Valuation of Postemployment Medical Plans

The Nicolay Consulting Group is pleased to present the results of the July 1, 2009 actuarial valuation of the Marinwood Community Services District postemployment medical program. In preparing this report we relied on employee data and plan information provided by the District. On the basis of that information, this report has been prepared in accordance with generally accepted actuarial principles and methods. It is our opinion that the actuarial assumptions used are reasonably related to the actual experience of the plan and to anticipated future experience.

The financial projections presented in this report are intended for the District's internal use in evaluating the potential cost of the retiree medical program. Because future events frequently do not occur as expected, it should be recognized that there are usually differences between anticipated and actual results. These differences may be material, especially if there are significant changes in the employee or retiree population. Consequently, we can express no assurance that the projected values will occur. We recommend that the District obtain an updated actuarial valuation on a periodic basis.

We, the undersigned, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. Questions about the report should be directed to Doug Tokerud at (415) 512-5300 x220 or Dennis Daugherty at (415) 512-5300 x221.

Sincerely,

Nicolay Consulting Group

By: Douglas R. Tokerud  
Douglas R. Tokerud, F.S.A.  
Member, American Academy  
of Actuaries

By: Dennis Daugherty  
Dennis Daugherty, F.S.A.  
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# MARINWOOD COMMUNITY SERVICES DISTRICT

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*Valuation Date: July 1, 2009*

# SECTION I

## Introduction

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The Marinwood Community Services District provides postemployment medical benefits to retirees who satisfy certain eligibility requirements. This report provides a July 1, 2009 estimate of the District's postemployment medical benefits liability attributable to past service rendered by employees and retirees, illustrations of the effect of the new GASB 45 accounting rules and a ten-year projection of the District's cost to provide the benefits. **Section II** contains valuation results. **Section III** describes the plans and presents a demographic summary. **Section IV** lists the actuarial assumptions used to complete the valuation. **Section V** contains a Glossary of several of the terms used in this report.

### Accounting Requirements

In July 2004 the Governmental Accounting Standards Board issued **Statement 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions**. This statement requires governmental entities to begin accounting for postemployment benefits on an accrual basis. With the adoption of the new accounting rules public entities that sponsor postemployment benefits will be required to account for the cost of those benefits using accrual accounting rather than pay-as-you-go accounting. This means that each employee's benefit will "accrue" throughout their working lifetime and that employers will be required to show the annual accruals as a current year expense.

Employers must adopt Statement 45 no later than the fiscal year that begins after December 15, 2006, 2007 or 2008 depending on the annual revenues in FY 2000 of the entity (entities with total annual revenues of \$100 million or more will adopt no later than the first year listed above, entities with total annual revenues of \$10 to \$100 million no later than the second year and entities with total annual revenues of less than \$10 million will adopt no later than the third year).

## SECTION II

### Valuation Results

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A primary goal of GASB 45 is to require employers to recognize postemployment healthcare expense systematically over periods approximating employees' years of service. Tables 2-1a and 2-1b illustrate the District's Actuarial Accrued Liability at 4.00% and 7.75% discount rates. Table 2-1a assumes the District will continue its current "pay-as-you-go" approach. Table 2-1b assumes the District will join the CalPERS Trust and begin contributing the full ARC ("annual required contribution") each year as defined in GASB 45. The 7.75% discount rate is the rate that CalPERS expects to earn over the long term on Trust investments.

Table 2-1a

**Present Value of Future Postemployment Medical Benefits Attributable to Past Service  
As of July 1, 2009  
Entry Age Normal Actuarial Cost Method  
Discount Rate: 4.00%**

	Fire	Non-Fire	Total
Actives	\$1,410,480	\$1,197,127	\$2,607,607
Retirees and Spouses	<u>\$1,333,138</u>	<u>\$482,052</u>	<u>\$1,815,190</u>
Actuarial Accrued Liability	\$2,743,618	\$1,679,179	\$4,422,797

Table 2-1b

**Present Value of Future Postemployment Medical Benefits Attributable to Past Service  
As of July 1, 2009  
Entry Age Normal Actuarial Cost Method  
Discount Rate: 7.75%**

	Fire	Non-Fire	Total
Actives	\$686,136	\$623,248	\$1,309,384
Retirees and Spouses	<u>\$828,484</u>	<u>\$356,847</u>	<u>\$1,185,331</u>
Actuarial Accrued Liability	\$1,514,620	\$980,095	\$2,494,715

## Projected pay-as-you-go costs

Tables 2-2 contains ten-year projections of the District's pay-as-you-go cost to provide postemployment medical benefits.

2009/10	\$85,795
2010/11	\$96,813
2011/12	\$108,300
2012/13	\$120,449
2013/14	\$131,547
2014/15	\$145,321
2015/16	\$156,256
2016/17	\$166,192
2017/18	\$180,649
2018/19	\$187,715

## Health Benefit Costs Under GASB 45

The first year Annual Required Contribution (ARC) consists of the Normal Cost plus the current period amortization of the Unfunded Actuarial Accrued Liability.

Normal Cost is the portion of the actuarial present value of future benefits that is allocated to a particular year. Another interpretation is that the Normal Cost is the present value of future benefits that are "earned" by employees for service rendered during the current year. This valuation is based on the Entry Age Normal actuarial cost method and an attribution period that runs from date of hire until the expected retirement date.

In the year the new accounting rules become effective an employer is allowed to commence amortization of the Unfunded Actuarial Accrued Liability, over a period not to exceed 30 years. The following Tables are based on a level percent of projected payroll amortization over a closed 30-year period. Note: Statement 45 also allows amortization using a level dollar method.

Tables 2-3a and 2-3b present the District's 2009/10 Actuarial Accrued Liability, Unfunded Actuarial Accrued Liability and Annual Required Contribution at 4.00% and 7.75% discount rates.

Table 2-3a

**Development of Illustrative Fiscal Year 2009/10  
OPEB Annual Required Contribution – based on a 4.00% discount rate**

Actuarial Accrued Liability	\$4,422,797
Actuarial Value of Assets	<u>\$0</u>
Unfunded Actuarial Accrued Liability	\$4,422,797
Illustrative Amortization Period	30 years
Level percent of pay Amortization Factor (based on a 4.00% discount rate and a 3.25% annual increase in payroll)	26.023
Annual Level Percentage of Pay Amort. of Unfunded AAL	\$169,955
Normal Cost (based on the Entry Age Normal Method)	<u>\$225,040</u>
Annual Required Contribution	\$394,995*

**\*\$238,480 for firefighters plus \$156,515 for others**

Table 2-ba

**Development of Illustrative Fiscal Year 2009/10  
OPEB Annual Required Contribution – based on a 7.75% discount rate**

Actuarial Accrued Liability	\$2,494,715
Actuarial Value of Assets	<u>\$0</u>
Unfunded Actuarial Accrued Liability	\$2,494,715
Illustrative Amortization Period	30 years
Level percent of pay Amortization Factor (based on a 7.75% discount rate and a 3.25% annual increase in payroll)	16.042
Annual Level Percentage of Pay Amort. of Unfunded AAL	\$155,507
Normal Cost (based on the Entry Age Normal Method)	<u>\$86,230</u>
Annual Required Contribution	\$241,737*

**\*\$144,389 for firefighters plus \$97,348 for others**

Table 2-4a presents a five-year projection under the assumptions that the District continues **pay-as-you-go funding** of its postemployment medical program, the discount rate remains 4.00% and the Normal Cost component of the ARC increases by 6.00% per year throughout the five year period.

Table 2-4a  
**Marinwood Community Services District**  
 Five-year Projection of Annual OPEB Cost and Net OPEB Obligation  
 Based on a 4.00% discount rate the Entry Age Normal Actuarial Cost Method and  
 assuming pay-as-you-go funding

	2009/10	2010/11	2011/12	2012/13	2013/14
<b>Actuarial Accrued Liability (AAL)</b>	\$4,422,797	\$4,737,255	\$5,066,557	\$5,411,629	\$5,773,286
<b>Actuarial Value of Assets at beginning of year</b>	\$0	\$0	\$0	\$0	\$0
<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	\$4,422,797	\$4,737,255	\$5,066,557	\$5,411,629	\$5,773,286
<b>Remaining Amortization Period</b>	30	29	28	27	26
Normal Cost	\$225,040	\$238,542	\$252,855	\$268,026	\$284,108
Amortization of UAAL	\$169,955	\$187,660	\$207,148	\$228,650	\$252,426
Annual Required Contribution (ARC)	\$394,995	\$426,202	\$460,003	\$496,676	\$536,534
Annual Required Contribution (ARC)	\$394,995	\$426,202	\$460,003	\$496,676	\$536,534
Interest on net OPEB Obligation	\$0	\$12,368	\$25,548	\$39,594	\$54,554
Adjustment to ARC	\$0	(\$12,249)	(\$26,114)	(\$41,822)	(\$59,632)
<b>Annual OPEB Cost*</b>	<b>\$394,995</b>	<b>\$426,321</b>	<b>\$459,437</b>	<b>\$494,448</b>	<b>\$531,456</b>
Pay-as-you-go Cost	(\$85,795)	(\$96,813)	(\$108,300)	(\$120,449)	(\$131,547)
Increase in net OPEB Obligation	\$309,200	\$329,508	\$351,137	\$373,999	\$399,909
<b>Net OPEB Obligation - Beginning of Year</b>	<b>\$0</b>	<b>\$309,200</b>	<b>\$638,708</b>	<b>\$989,845</b>	<b>\$1,363,844</b>
<b>Net OPEB Obligation - End of Year</b>	<b>\$309,200</b>	<b>\$638,708</b>	<b>\$989,845</b>	<b>\$1,363,844</b>	<b>\$1,763,753</b>
Projected pay-as-you-go Cost	\$85,795	\$96,813	\$108,300	\$120,449	\$131,547

\* Includes retiree premiums paid by District



Table 2-4b presents a five-year projection under the assumptions that the District commences pre-funding the obligation, **the District contributes the full Annual Required Contribution to the CalPERS Trust**, the Trust earns 7.75% per year, the discount rate remains 7.75% and the Normal Cost component of the ARC increases by 6.00% per year throughout the five year period. We assumed mid-year additions to and subtractions from the Trust.

<b>Marinwood Community Services District</b> <b>Five-year Projection of Annual OPEB Cost and Net OPEB Obligation</b> <b>Based on a 7.75% discount rate the Entry Age Normal Actuarial Cost Method and</b> <b>assuming annual pre-funding equal to the ARC</b>					
	2009/10	2010/11	2011/12	2012/13	2013/14
<b>Actuarial Accrued Liability (AAL)</b>	\$2,494,715	\$2,685,228	\$2,884,243	\$3,092,241	\$3,309,561
<b>Actuarial Value of Assets at beginning of year</b>	\$0	\$161,985	\$335,090	\$520,127	\$717,791
<b>Unfunded Actuarial Accrued Liability (UAAL)</b>	\$2,494,715	\$2,523,243	\$2,549,153	\$2,572,114	\$2,591,770
<b>Remaining Amortization Period</b>	30	29	28	27	26
Normal Cost	\$86,230	\$91,404	\$96,888	\$102,701	\$108,863
Amortization of UAAL	\$155,507	\$159,971	\$164,546	\$169,232	\$174,030
Annual Required Contribution (ARC)	\$241,737	\$251,375	\$261,434	\$271,933	\$282,893
Annual Required Contribution (ARC)	\$241,737	\$251,375	\$261,434	\$271,933	\$282,893
Interest on net OPEB Obligation	\$0	\$0	\$0	\$0	\$0
Adjustment to ARC	\$0	\$0	\$0	\$0	\$0
<b>Annual OPEB Cost*</b>	<b>\$241,737</b>	<b>\$251,375</b>	<b>\$261,434</b>	<b>\$271,933</b>	<b>\$282,893</b>
Annual District Contributions	(\$241,737)	(\$251,375)	(\$261,434)	(\$271,933)	(\$282,893)
Increase in net OPEB Obligation	\$0	\$0	\$0	\$0	\$0
<b>Net OPEB Obligation - Beginning of Year</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Net OPEB Obligation - End of Year</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Projected pay-as-you-go Cost	\$85,795	\$96,813	\$108,300	\$120,449	\$131,547

\*Includes retiree premiums paid by District



## SECTION III

### Plan Description and Demographic Summary

#### Eligibility and Contribution Requirements

District employees who retire at age 50 or older with 5 or more years of service are eligible for lifetime medical benefits. Benefits are also provided to spouses and surviving spouses of eligible retirees. Retirees may enroll in any available CalPERS medical plan. There are no dental, vision or other similar benefits for retirees.

The District contributes up to 95% of the CalPERS Bay Area "pre-age 65" Kaiser premium rates for the applicable family status. Retirees pay any premiums exceeding that limit.

#### Demographic Data

Tables 3-1 and 3-2 contain summaries of the demographic information provided by the District. These employees and retirees were included in the valuation

Table 3-1

#### Full-Time Active -Employees Age and Service Table

as of July 1, 2009

Age	Years of Service						Total
	<5	5-9	10-14	15-19	20-24	25+	
Under 25	0	0	0	0	0	0	0
25-29	3	0	0	0	0	0	3
30-34	3	4	0	0	0	0	7
35-39	0	2	0	1	0	0	3
40-44	0	0	2	0	1	0	3
45-49	0	0	1	0	0	0	1
50-54	0	1	0	0	1	0	2
55-59	0	0	0	1	1	0	2
60-64	0	0	1	0	0	0	1
65-69	0	0	0	0	0	0	0
70 and Older	0	0	0	0	0	0	0
<b>Total</b>	<b>6</b>	<b>7</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>22*</b>

\* Includes 11 Fire employees and 11 non-Fire employees

Table 3-2

**Participating Retirees Age and Gender Table**

as of July 1, 2009

<b>Age</b>	<b><u>Fire</u></b>	<b><u>Non-Fire</u></b>	<b><u>Total</u></b>
Younger than 50	1	0	<b>1</b>
50-54	0	0	<b>0</b>
55-59	3	0	<b>3</b>
60-64	0	1	<b>1</b>
65-69	0	0	<b>0</b>
70-74	1	0	<b>1</b>
75-79	0	1	<b>1</b>
80+	<u>0</u>	<u>2</u>	<u><b>2</b></u>
<b>Total</b>	<b>5</b>	<b>4</b>	<b>9</b>

## **SECTION IV**

### **Actuarial Method and Assumptions**

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In order to project the District's liabilities into the future, a number of economic, demographic, and baseline cost assumptions are necessary. For this valuation, we have used assumptions consistent with those specified in the "OPEB Assumption Model" released by the CalPERS Health Benefits Committee.

#### **Actuarial Cost Method**

The valuation was completed using the Entry Age Normal Cost Method. An Actuarial Cost Method is a procedure for allocating the actuarial present value of benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability. The Entry Age Normal cost method allocates the present value of future benefits on a level basis over the earnings or service (in this case earnings) of each employee individual between the hire date and assumed retirement age. The portion of the present value of future benefits allocated to a valuation year is called the Normal Cost. The portion allocated to all prior years is called the Actuarial Accrued Liability.

#### **Valuation Date**

The valuation date is July 1, 2009. This date is the starting point from which current health premium costs are increased according to the assumed annual rates of health care cost trend. The District census is projected from the valuation date to the date of the final benefit payment for each employee and retiree on the census. After calculating future costs for the projected retiree and dependent population, all liabilities are discounted back to the valuation date to obtain the present value of future costs.

#### **Economic Assumptions**

##### **Discount Rate**

A discount rate is required to calculate the present value of future benefit payments which are used to determine financial statement expense. This valuation is based on the 4.00% discount rate specified for public agencies that join the CalPERS sponsored California Employers' Retiree Benefit Trust Fund and contribute the full ARC each year.

## Health Care Trend

The rate of increase in per capita health care costs is commonly referred to as the *health care trend* rate. Although the term “health care inflation” is sometimes used synonymously with the trend rate, health care inflation is only one of several components of the trend rate. The analysis recognizes the following influences on health care trend: pure medical inflation, utilization changes, technological changes, regulatory requirements, Medicare cost shifting, and aging.

Based on our experience with postemployment health plans, we assumed the following annual increases in CalPERS premium rates:

<u>Calendar year Beginning January 1</u>	<u>Estimated Increase</u>
2010	8.2%
2011	7.9%
2012	7.6%
2013	7.3%
2014	7.0%
2015	6.7%
2016	6.4%
2017	6.1%
2018	5.8%
2019 and later	5.6%

## Payroll Increases

In this valuation we assumed a 3.25% annual rate of increase in future payroll. This rate is a component of the Entry Age Normal Actuarial Cost Method and is used in the calculation of the amortization component of the Annual Required Contribution and in calculation of the Normal Cost.

## Amortization Methodology

GASB 45 allows amortization of the Unfunded Actuarial Accrued Liability based on a level dollar approach or as a level percentage of covered payroll. The maximum amortization period is 30 years.

This valuation is based on a closed, 30-year amortization of the Unfunded Actuarial Accrued Liability as a level percentage of earnings; increasing each year as earnings increase.

## Baseline Cost

Estimates of retiree health benefit obligations are normally based on current year costs. We refer to this as the *baseline cost*. The components of baseline cost, such as average per capita cost, and the current plan population are projected into the future to estimate the cost of future benefits.

The District participates in the CalPERS medical program. 2009 calendar year CalPERS Bay Area/Sacramento area premium rates are shown in Table 4-2. We assumed that CalPERS premium rates will increase by 8.2% on January 1, 2010. The District contributes an amount not to exceed 95% of the CalPERS Kaiser Bay/Area premium rate. We assumed that all participating retirees will receive the maximum District contribution.

Table 4-2

### 2009 Monthly Premium Rates per Retiree or Spouse

#### Early Retirees

Blue Shield Access+ HMO	\$560.57
Kaiser	\$508.30
PERSCare	\$749.83
PERS Choice	\$482.48

#### Supplement/Managed Medicare

Blue Shield Access+ HMO	\$341.44
Kaiser	\$280.17
PERSCare	\$404.60
PERS Choice	\$349.11

CalPERS has indicated that its medical program is a “community rated” plan as described in GASB 45. Essentially, this means that all participating employers located in the same region pay the same premium rates even though older employees and early retirees generally have higher medical costs than younger employees. If CalPERS changes its present practice and at a future date decides to modify the premium structure so that it charges more on average for non-Medicare retirees than for active employees, then higher costs would need to be allocated to retirees, and this could result in a substantial increase in the District’s Actuarial Accrued Liability and Annual Required Contribution.

**Administrative Expenses**

We did not include the CalPERS administrative charge or any other internal administrative expenses in this valuation.

**Plan Assets**

We understand that the District has not pre-funded any portion of this obligation.

## Demographic Assumptions

In estimating this obligation, a number of demographic assumptions are needed. These assumptions are the same as those used in the most recent California PERS pension valuations.

## Withdrawal

We selected withdrawal rates that match those used in the most recent California PERS Public Agency Miscellaneous retirement plan valuations. Sample rates are shown below.

Table 4-3  
**Public Agency Miscellaneous Employees Withdrawal Rates**

<u>Service</u>	----- Entry Age -----						
	20	25	30	35	40	45	50
0	0.17600	0.16910	0.16220	0.15525	0.14830	0.14140	0.13450
1	0.15610	0.14920	0.14230	0.13535	0.12840	0.12150	0.11460
2	0.13620	0.12930	0.12240	0.11545	0.10850	0.10160	0.09470
3	0.11630	0.10940	0.10250	0.09555	0.08860	0.08170	0.07480
4	0.09640	0.08950	0.08260	0.07565	0.06870	0.06180	0.05490
5	0.07650	0.06965	0.06270	0.05575	0.04880	0.03085	0.01290
6	0.07270	0.06580	0.05880	0.05190	0.04500	0.02810	0.01120
7	0.06890	0.06190	0.05500	0.04815	0.04110	0.02535	0.00960
8	0.06500	0.05805	0.05120	0.04425	0.03730	0.02265	0.00800
9	0.06120	0.05430	0.04730	0.04040	0.03350	0.02000	0.00650
10	0.05740	0.05045	0.04350	0.03660	0.00950	0.00730	0.00510
15	0.04460	0.03755	0.03070	0.00645	0.00460	0.00270	0.00080
20	0.03180	0.02490	0.00410	0.00250	0.00090	0.00055	0.00020
25	0.01900	0.00215	0.00090	0.00055	0.00020	0.00020	0.00020
30	0.00100	0.00060	0.00020	0.00020	0.00020	0.00020	0.00020
35	0.00020	0.00020	0.00020	0.00020	0.00020	0.00010	0.00000



The rates in Table 4-4 match rates used in the most recent California PERS Fire 3% @50 retirement plan valuation. Selected rates are shown below.

<b>Completed Years of Service</b>	<b>Annual Rate</b>
0	0.09470
1	0.07390
2	0.05310
3	0.03230
4	0.02900
5	0.02570
6	0.02230
7	0.01890
8	0.01560
9	0.01230
10	0.00900
15	0.00790
20	0.00690
25	0.00570
30	0.00540
35	0.00090

## Retirement Rates

We used the retirement rates that were used in the most recent California PERS 2% @60 Public Agency Miscellaneous employees retirement plan valuation. Selected rates are shown below.

Table 4-5  
Public Agency Miscellaneous Employees Annual Rates of Retirement

<u>Age</u>	----- Years of Service -----						
	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>
50	0.00850	0.01200	0.01460	0.01650	0.01840	0.02060	0.02260
51	0.00590	0.00820	0.01000	0.01130	0.01260	0.01420	0.01550
52	0.00920	0.01290	0.01570	0.01780	0.01980	0.02220	0.02440
53	0.01040	0.01460	0.01770	0.02000	0.02240	0.02510	0.02750
54	0.01090	0.01540	0.01870	0.02110	0.02360	0.02640	0.02900
55	0.01980	0.02790	0.03390	0.03830	0.04270	0.04790	0.05260
56	0.01810	0.02540	0.03080	0.03480	0.03890	0.04360	0.04780
57	0.02080	0.02920	0.03540	0.04000	0.04470	0.05010	0.05500
58	0.02620	0.03680	0.04470	0.05050	0.05640	0.06320	0.06930
59	0.03350	0.04710	0.05720	0.06460	0.07210	0.08090	0.08870
60	0.06150	0.08650	0.10510	0.11870	0.13250	0.14850	0.16300
61	0.06280	0.08830	0.10730	0.12120	0.13530	0.15170	0.16640
62	0.12580	0.17670	0.21470	0.24260	0.27080	0.30360	0.33310
63	0.12630	0.17750	0.21560	0.24360	0.27200	0.30490	0.33450
64	0.09720	0.13660	0.16590	0.18750	0.20930	0.23460	0.25740
65	0.17310	0.24320	0.29550	0.33390	0.37270	0.41780	0.45840
66	0.09460	0.13300	0.16160	0.18250	0.20380	0.22840	0.25060
67	0.12720	0.17870	0.21710	0.24530	0.27380	0.30690	0.33670
68	0.07790	0.10950	0.13300	0.15030	0.16780	0.18800	0.20630
69	0.09930	0.13960	0.16950	0.19160	0.21390	0.23970	0.26300
70	0.12060	0.16940	0.20580	0.23250	0.25960	0.29100	0.31920
71	0.08220	0.11550	0.14030	0.15860	0.17700	0.19840	0.21770
72	0.09670	0.13590	0.16510	0.18650	0.20820	0.23340	0.25610
73	0.05520	0.07760	0.09430	0.10660	0.11900	0.13340	0.14630
74	0.08800	0.12360	0.15010	0.16960	0.18940	0.21230	0.23290
75	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

For Fire employees we used the retirement rates used in the most recent California PERS 3% @50 Firefighter retirement plan valuation. Sample rates are shown below.

Table 4-6  
**Fire Safety Employees  
Annual Rates of Retirement**

<b>Age</b>	<b>Years of Service</b>						
	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>	<b>30</b>	<b>35</b>
50	0.03410	0.03410	0.03410	0.04770	0.06790	0.08040	0.08610
51	0.04630	0.04630	0.04630	0.06470	0.09220	0.10910	0.11690
52	0.06930	0.06930	0.06930	0.09670	0.13770	0.16300	0.17460
53	0.08350	0.08350	0.08350	0.11660	0.16610	0.19650	0.21050
54	0.10250	0.10250	0.10250	0.14310	0.20380	0.24120	0.25840
55	0.12650	0.12650	0.12650	0.17660	0.25160	0.29770	0.31900
56	0.12100	0.12100	0.12100	0.16900	0.24070	0.28480	0.30520
57	0.10100	0.10100	0.10100	0.14110	0.20100	0.23780	0.25480
58	0.11840	0.11840	0.11840	0.16520	0.23540	0.27860	0.29850
59	0.10020	0.10020	0.10020	0.13990	0.19930	0.23580	0.25260
60	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

**Mortality**

The mortality rates used in this valuation are the rates used in the most recent California PERS pension valuations. Annual mortality rates for selected ages are shown in Table 4-7.

Table 4-7  
**Sample Mortality Rates**

<b>Age</b>	<b>Active Employees</b>		<b>Retired Employees</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
55	0.248%	0.178%	0.429%	0.253%
60	0.344%	0.256%	0.721%	0.442%
65	0.480%	0.369%	1.302%	0.795%
70	0.671%	0.537%	2.135%	1.276%
75			3.716%	2.156%
80			6.256%	3.883%
85			10.195%	7.219%
90			17.379%	12.592%

## Disability Retirement

Sample disability rates for Fire employees are shown in Table 4-8. These rates match those used in the most recent California PERS pension valuations.

Because of the low incidence of disability retirements for non-fire employees we did not value disability retirement for non-firefighters.

Age	Fire Employees
25	0.1%
30	0.2%
35	0.3%
40	0.5%
45	0.9%
50	1.6%
55	2.7%

## Health Plan Participation

We assumed that 100% of eligible retirees will elect to participate in the postemployment program and those employees and retirees will not change their medical plan enrollment.

In our projection of future retiree spouse benefits, we assumed that each future retiree will have the same marital status as he or she has now.

We assumed that non-firefighters will not have dependent children when they retire. We also assumed that firefighters who currently are covering dependent children will also have a covered child at retirement, the child will be 35 years younger than the retiree and that dependent child coverage will end when the child reaches age 23.

## Medicare Coverage

We assumed that all current and future retirees will be eligible for Medicare when they reach age 65.

## SECTION V

### Glossary

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- Accrual Accounting – A method of matching the cost of an employee's service, including long term obligations such as OPEB, to that employee's period of active service.
- Actuarial Accrued Liability (AAL) – The Actuarial Present Value of all postemployment benefits attributable to past service. Note: the AAL is sometimes referred to as the Past Service Liability.
- Actuarial Cost Method – A procedure for allocating the actuarial present value of benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Accrued Liability.
- Actuarial Present Value – The value of an amount or series of amounts payable or receivable at various times. Each such amount or series of amounts is:
  - a. adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, Social Security, marital status, etc.)
  - b. multiplied by the probability of the occurrence of an event (such as survival, death, disability, termination of employment, etc.) on which the payment is conditioned, and
  - c. discounted according to an assumed rate (or rates) of return to reflect the time value of money
- Actuarial Valuation – The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets and related Actuarial Present Values.
- Actuarial Value of Assets – The value of cash, investments and other property belonging to a plan. These are amounts that may be applied to fund the Actuarial Accrued Liability. Note: assets must be segregated and placed in a Trust in order to be considered OPEB assets
- Amortization Payment – That portion of the Annual OPEB cost which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

In the year that Statement 45 becomes effective an employer is allowed to commence amortization of the Unfunded Actuarial Accrued Liability, over a period not to exceed 30 years.

- Annual Other Postemployment Benefit Cost (OPEB) cost - An accrual-basis measure of the periodic cost of an employer's participation in a defined benefit OPEB plan. The annual OPEB cost is the amount that must be calculated and reported as an expense.

When an employer has no net OPEB obligation (e.g., in the year of implementation) the annual OPEB cost is equal to the Annual Required Contribution (ARC).

In subsequent years the Annual OPEB cost will include:

- the ARC (equal to the Normal Cost plus one year's amortization of the Unfunded Actuarial Accrued Liability);
  - one year's interest on the net OPEB obligation at the beginning of the year using the valuation discount rate; and
  - an adjustment to the ARC. This adjustment is intended to provide a reasonable approximation of that portion of the ARC that consists of interest associated with past contribution deficiencies. GASB Statement No. 45 specifies that this adjustment should be equal to an amortization of the discounted present value of the net OPEB obligation at the beginning of the year. The amortization should be calculated using the same amortization method and period used in determining the ARC for that year. If the net OPEB obligation is positive the adjustment should be deducted from the ARC.
  - Note: As long as the net OPEB obligation is zero, there will not be any interest charge or adjustment to the ARC. However, if an employer does not contribute the full amount of the ARC, a net OPEB obligation will emerge.
- Annual required contributions of the employer (ARC) - The employer's periodic required contributions to a defined benefit OPEB plan, calculated in accordance with the parameters.
  - Defined benefit OPEB plan - An OPEB plan having terms that specify the *benefits* to be provided at or after separation from employment. The benefits may be specified in dollars (for example, a flat dollar payment or an amount based on one or more factors, such as age, years of service, and compensation), or as a type or level of coverage (for example, prescription drugs or a percentage of healthcare insurance premiums).

- Defined contribution plan - A pension or OPEB plan having terms that (a) provide an individual account for each plan member and (b) specify how contributions to an active plan member's account are to be determined, rather than the income or other benefits the member or his beneficiaries are to receive at or after separation from employment. Those benefits will depend only on the amounts contributed to the member's account, earnings on investments of those contributions, and forfeitures of contributions made for other members that may be allocated to the member's account. For example, an employer may contribute a specified amount to each active member's postemployment healthcare account each month. At or after separation from employment, the balance of the account may be used by the member or on the member's behalf for the purchase of health insurance or other healthcare benefits.
- Employer's contributions - Contributions made in relation to the annual required contributions of the employer (ARC). An employer has made a contribution in relation to the ARC if the employer has (a) made payments of benefits directly to or on behalf of a retiree or beneficiary, (b) made premium payments to an insurer, or (c) irrevocably transferred assets to a trust, or an equivalent arrangement, in which plan assets are dedicated to providing benefits to retirees and their beneficiaries in accordance with the terms of the plan and are legally protected from creditors of the employer(s) or plan administrator.
- Entry Age Normal Actuarial Cost Method – An actuarial cost method under which the Actuarial Present Value of the Projected Benefits of each individual included in the valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age(s). The portion of this Actuarial Present Value allocated to a valuation year is called the Normal Cost. The portion allocated to prior years of service is called the Actuarial Accrued Liability.
- Healthcare cost trend rate - The rate of change in per capita health claims costs over time as a result of factors such as medical inflation, utilization of healthcare services, plan design, and technological developments.
- Investment return assumption (discount rate) - The rate used to adjust a series of future payments to reflect the time value of money.
- Net OPEB obligation - The cumulative difference since the effective date of GASB Statement 45 between annual OPEB cost and the employer's contributions to the plan, including the OPEB liability (asset) at transition, if any, and excluding (a) short-term differences and (b) unpaid contributions that have been converted to OPEB-related debt.

Most employers will have no net OPEB obligation at the beginning of the year in which Statement 45 is implemented.

If an employer contributes the annual OPEB cost to the plan each year, and there are no actuarial or investment gains or losses then the net OPEB Obligation will remain zero.

- Normal Cost - That portion of the Actuarial Present Value of benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method. Another interpretation is that the Normal Cost is the present value of future benefits that are “earned” by employees for service rendered during the current year.
- OPEB assets - The amount recognized by an employer for contributions to an OPEB plan greater than OPEB expenses.
- OPEB expense - The amount recognized by an employer in each accounting period for contributions to an OPEB plan on the accrual basis of accounting.
- Other postemployment benefits (OPEB) - Postemployment benefits other than pension benefits. Other postemployment benefits (OPEB) include postemployment healthcare benefits, regardless of the type of plan that provides them, and all postemployment benefits provided separately from a pension plan, except benefits defined as special termination benefits.
- Plan assets - Resources, usually in the form of stocks, bonds, and other classes of investments, that have been segregated and restricted in a trust, or in an equivalent arrangement, in which (a) employer contributions to the plan are irrevocable, (b) assets are dedicated to providing benefits to retirees and their beneficiaries, and (c) assets are legally protected from creditors of the employer(s) or plan administrator, for the payment of benefits in accordance with the terms of the plan.
- Present Value – See Actuarial Present Value.
- Projected Unit Credit Cost Method – An actuarial cost method under which the projected benefits of each individual included in an Actuarial Valuation are separately calculated and allocated to each year service by a consistent formula.
- Substantive plan - The terms of an OPEB plan as understood by the employer(s) and plan members.
- Unfunded Actuarial Accrued Liability (UAAL) – The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.
- Valuation date – The date as of which the Postemployment benefit obligation is determined.