



February 3, 2012

Ms. Alyssa Schiffman
Finance Director
Southern Marin Fire Protection District
308 Reed Blvd.
Mill Valley, CA 94941

Re: Southern Marin Fire Protection District ("SMFPD")
GASB 45 Actuarial Valuation as of July 1, 2011

Dear Ms. Schiffman:

This report sets forth the results of our GASB 45 actuarial valuation of SMFPD's retiree health insurance program as of July 1, 2011.

In June, 2004 the Government Accounting Standards Board (GASB) issued its final accrual accounting standard for retiree healthcare benefits, GASB 45. GASB 45 requires public employers such as SMFPD to perform periodic actuarial valuations to measure and disclose their retiree healthcare liabilities for the financial statements of both the employer and the trust, if any, set aside to pre-fund these liabilities. SMFPD must obtain actuarial valuations of its retiree health insurance program under GASB 45 not less frequently than once every three years.

To accomplish these objectives SMFPD selected Demsey, Filliger and Associates (DF&A) to perform an actuarial valuation of the retiree health insurance program as of July 1, 2011. This report may be compared with the valuation performed by DF&A as of July 1, 2009, to see how the liabilities have changed since the last valuation. We are available to answer any questions SMFPD may have concerning the report.

Financial Results

We have determined that the amount of actuarial liability for current and future retirees, as of July 1, 2011, is \$7,198,248. This represents the present value of all benefits expected to be paid by SMFPD for its current and future retirees. If SMFPD were to place this amount in a fund earning interest at the rate of 6.5% per year, and all other actuarial assumptions were exactly met, the fund would have exactly enough to pay all expected benefits.

This includes benefits for 29 current retirees as well as 32 active employees who may become eligible to retire and receive benefits in the future. It does not include employees hired after the valuation date.

If we apportion the \$7,198,248 into past service and future service components under the Projected Unit Credit Cost Method, the past service liability (or Accrued Liability) component is \$5,485,282 as of July 1, 2011. This represents the present value of all benefits earned to date assuming that an employee earns retiree medical benefits ratably over his or her career. The \$5,485,282 is comprised of liabilities of \$1,789,590 for active employees and \$3,695,692 for retirees. SMFPD has adopted an irrevocable trust (the "Public Agency Retirement Services (PARS) GASB 45 Program") for the pre-funding of retiree healthcare benefits. Trust assets have an actuarial value of \$200,000 as of July 1, 2011, so the Unfunded Accrued Liability (called the UAL, equal to the AL less assets) is \$5,285,282.

We have determined that SMFPD's "Annual Required Contributions", or "ARC", for the fiscal year 2011-12, is \$577,830. The \$577,830 is comprised of the present value of benefits accruing in the current year, called the "Service Cost", and a 30-year amortization of the UAL. We estimate that SMFPD's pay-as-you-go cost for retiree healthcare for the 2011-12 fiscal year will be approximately \$336,488, so the difference between the accrual accounting expense (ARC) and pay-as-you-go is an increase of \$241,342.

There are two adjustments to the ARC that are required in order to determine SMFPD's Annual OPEB Cost (AOC) for the 2011-12 fiscal year. We have calculated these adjustments based on a Net OPEB Obligation of \$318,036 as of June 30, 2011, resulting in an AOC for 2011-12 of \$574,148.

We summarize the valuation results in the table on the next page and in Exhibit II at the end of the report. All amounts are net of expected future retiree contributions.

Southern Marin Fire Protection District
Actuarial Liabilities and Annual Expense under
GASB 45 Accrual Accounting Standard

Item	Amounts for Fiscal 2011-12
Present Value of Future Benefits (PVFB)	
Active	\$3,502,556
Retired	<u>3,695,692</u>
Total: PVFB	\$7,198,248
Accrued Liability (AL)	
Actives	\$1,789,590
Retired	<u>3,695,692</u>
Total: AL	\$5,485,282
Assets	<u>(200,000)</u>
Total: Unfunded AL	\$5,285,282
Annual Required Contributions (ARC)	
Service Cost At Year-End	\$173,097
30-year Amortization of Unfunded AL	<u>404,733</u>
Total: ARC	\$577,830
Adjustments to ARC	
Interest on Net OPEB Obligation*	20,672
Adjustment to ARC*	<u>(24,354)</u>
Total: Annual OPEB Cost for 2011-12	\$574,148

*Amounts based on June 30, 2011 Net OPEB Obligation of \$318,036.

The ARC of \$577,830, shown above, should be used for the 2011-12, 2012-13 and 2013-14 fiscal years, but the Annual OPEB Cost for 2012-13 must include adjustments based on the Net OPEB Obligation as reported in the District's June 30, 2012 financial statement, which is not known in advance.

When SMFPD begins preparation of the June 30, 2012 government-wide financial statements, DF&A will provide SMFPD and its auditors with complimentary assistance in preparation of footnotes and required supplemental information for compliance with GASB 45.

We determined the July 1, 2011 asset value of \$200,000 by using the June 30, 2011 value of the District's PARS GASB 45 Program account, without adjustment.

Differences from Prior Valuation

The most recent prior valuation was completed by DF&A as of July 1, 2009. The Accrued Liability as of that date was \$6,456,667, compared to \$5,485,282 on July 1, 2011. In this section, we provide a reconciliation between the 2009 AL and the 2011 AL, so that it is possible to track the numbers from one actuarial report to the next.

Several factors have caused the AL to change since 2009. The passage of time increases the AL as the employees accrue more service and get closer to receiving benefits. There are actuarial gains/losses from one valuation to the next, and changes in actuarial assumptions and methodology for the current valuation. The most important of these factors were as follows:

1. There was a loss (an increase in the AL) of \$77,353 due to increases in healthcare premiums greater than expected.
2. We increased the initial healthcare trend rate from 5% to 8% to reflect our expectations of an approaching spike in medical trend, coupled with the uncertain effects of the recently enacted federal healthcare legislation. This change caused an increase in the AL of \$363,094.
3. We increased the discount rate from 5% to 6.5% to reflect SMFPD's adoption of, and investment in, the PARS GASB 45 Program trust. The 6.5% represents an approximate blended average of the trust's benchmark rate of return of 7.13% and an unfunded discount rate of 5%. This change caused a decrease in the AL of \$1,216,469.
4. In the 2009 valuation, we assumed that the District's current and future retirees would be covered by various agreements applicable to Marin County firefighters, absent any specific language in the District's MOUs. We reflected new District MOU language in the 2011 valuation, including a phase-in for current retirees scheduled to begin on July 1, 2012 and end on July 1, 2014. This change caused a decrease in the AL of \$662,267.
5. There was a net census loss (an increase in the AL) of \$132,198.

The changes to the AL since the July 1, 2009 valuation may be summarized as follows:

Changes to AL	AL
AL as of 7/1/09	\$6,456,667
Passage of time	334,706
Loss from premium increases > expected	77,353
Change in trend rates	363,094
Change in discount rate	(1,216,469)
Plan changes	(662,267)
Census loss	<u>132,198</u>
AL as of 7/1/11	\$5,485,282

Sample Funding Schedules

There are many ways to approach the pre-funding of retiree healthcare benefits. In the *Financial Results* section, we determined the annual expense for all SMFPD-paid benefits. The expense is an orderly methodology, developed by the GASB, to account for retiree healthcare benefits. This amount will fluctuate from year to year based on the asset performance and as the population matures. It will eventually reach zero when the last eligible retiree dies. The GASB 45 expense has no direct relation to amounts SMFPD may set aside to pre-fund healthcare benefits.

The table on the next page provides SMFPD with three alternative schedules for funding (as contrasted with expensing) retiree healthcare benefits. The schedules all assume SMFPD earns 6.5% on its trust assets and that contributions and benefits are paid mid-year. A starting asset value of \$200,000 is used for the projection.

The schedules are:

1. A level contribution amount for the next 20 years.
2. A level percentage of the Unfunded Accrued Liability (UAL).
3. A contribution that increases by 3% per year for the next 20 years.

We provide these funding schedules to give SMFPD a sense of the various alternatives available to it to pre-fund its retiree healthcare obligation. The three funding schedules are simply three different examples of how SMFPD may choose to spread its costs.

By comparing the schedules, you can see the effect that pre-funding has on the total amount SMFPD will eventually have to pay. Because of investment earnings on fund assets, the earlier contributions are made, the less SMFPD will have to pay in the long run. Of course, the advantages of pre-funding will have to be weighed against other uses of the money.

The table on the following page shows the required annual outlay under the pay-as-you-go method and each of the above schedules. **The three funding schedules include the “pay-as-you-go” costs; therefore, the amount of pre-funding is the excess over the “pay-as-you-go” amount.**

These numbers are computed on a closed group basis, assuming no new entrants.

Southern Marin Fire Protection District

Sample Funding Schedules (Closed Group)

Starting Actuarial Asset Value of \$200,000 as of July 1, 2011

Fiscal Year	Pay-as-you-go	Level Contribution For 20 years	Level % of Unfunded Liability	Constant Percentage Increase
2011	\$336,488	\$615,460	\$977,777	\$486,940
2012	331,100	615,460	880,039	501,548
2013	327,593	615,460	794,084	516,595
2014	312,921	615,460	718,540	532,093
2015	333,742	615,460	651,679	548,055
2016	358,033	615,460	593,846	564,497
2017	366,748	615,460	543,958	581,432
2018	387,754	615,460	500,369	598,875
2019	410,807	615,460	462,679	616,841
2020	428,310	615,460	430,135	635,346
2021	439,108	615,460	401,827	654,407
2022	451,531	615,460	376,954	674,039
2023	472,705	615,460	355,095	694,260
2024	497,415	615,460	336,059	715,088
2025	517,614	615,460	319,499	736,541
2026	548,517	615,460	304,892	758,637
2027	565,815	615,460	292,153	781,396
2028	591,633	615,460	280,627	804,838
2029	611,918	615,460	270,254	828,983
2030	627,837	615,460	260,676	853,852
2031	651,394	0	251,627	0
2032	669,314	0	243,083	0
2033	686,838	0	234,793	0
2034	701,211	0	226,631	0
2035	708,639	0	218,457	0
2036	717,017	0	210,128	0
2037	727,809	0	201,623	0
2038	706,294	0	192,925	0
2039	703,218	0	183,816	0
2040	705,818	0	174,492	0
2041	679,448	0	164,987	0
2042	675,379	0	155,256	0
2043	657,604	0	142,990	0
2044	646,875	0	125,033	0
2045	640,200	0	109,339	0
2046	598,558	0	95,621	0
2047	588,956	0	83,628	0
2048	578,509	0	73,146	0
2049	557,423	0	63,984	0
2050	536,799	0	55,974	0
2055	454,165	0	28,728	0
2060	348,305	0	14,800	0
2065	227,801	0	7,656	0
2070	119,316	0	3,969	0

Actuarial Assumptions

In order to perform the valuation, it is necessary for the actuary to make certain assumptions regarding such items as rates of employee turnover, retirement, and mortality, as well as economic assumptions regarding healthcare inflation and interest rates. Our assumptions are based on a standard set of assumptions we have used for similar studies, modified as appropriate for SMFPD. For example, turnover rates are taken from a standard actuarial table, T-5, reduced by 40% at all ages. This matches well with recent SMFPD experience. Retirement rates were also based on SMFPD experience. Both assumptions should be reviewed periodically to see if they are tracking well with actual turnover and retirement patterns.

The discount rate of 6.5% is based on our best estimate of expected long-term plan experience and is in accordance with our understanding of the guidelines for selection of these rates under GASB 45. The healthcare trend rates are based on our knowledge of the general healthcare environment and the specific coverages offered by SMFPD.

A complete description of the actuarial assumptions used in the valuation is set forth in the "Actuarial Assumptions" section later in the report.

Projected Pay-as-you-go Costs

As part of the valuation, we prepared a projection of the expected annual cash outlay of SMFPD to pay benefits on behalf of its retirees on a pay-as-you-go basis. These numbers are computed on a closed group basis, assuming no new entrants. The pay-as-you-go amount reaches a maximum of \$727,809 in FYB 2037. Projected pay-as-you-go amounts for selected years are as follows:

FYB	Pay-as-you-go
2011	\$336,488
2012	331,100
2013	327,593
2014	312,921
2015	333,742
2020	428,310
2025	517,614
2030	627,837
2035	708,639
2040	705,818
2045	640,200
2050	536,799
2055	454,165
2060	348,305
2065	227,801
2070	119,316

Breakdown by Employee/Retiree Group

Exhibit I, attached at the end of the report, shows a breakdown of the GASB 45 components (ARC, AL, Service Cost, and PVFB) by bargaining unit (or non-represented group) and separately by active employees (future retirees) and current retirees.

Net OPEB Obligation and Annual OPEB Cost (AOC)

Exhibit I shows a development of SMFPD's Net OPEB Obligation as of June 30, 2010 and 2011, and the Annual OPEB Cost for the fiscal years 2009-10, 2010-11, and 2011-12.

Certification

The actuarial certification, including a caveat regarding limitations of scope, if any, is contained in the "Actuarial Certification" section at the end of the report.

We have enjoyed working with SMFPD on this report, and are available to answer any questions you may have concerning any information contained herein.

Sincerely,
DEMSEY, FILLIGER AND ASSOCIATES

DRAFT

T. Louis Filliger, FSA, EA, MAAA
Partner & Actuary

Benefit Plan Provisions

This report analyzes the actuarially projected costs of the SMFPD's retiree health insurance program. Our findings and assumptions are based on census data as of July, 2011 and a 50-50 blend MCERA premiums effective for calendar years 2011 and 2012.

Active Employee Coverage

SMFPD provides health care for employees, and dependents (and also for retirees and their dependents) through the Marin County Employees' Retirement Association (MCERA). Employees may choose one of three medical options: Kaiser HMO High Option, Blue Cross Prudent Buyer Plus, and Blue Cross Prudent Buyer Classic. SMFPD also offers dental and vision insurance through BRMS.

Retiree Coverage

Firefighters

Effective for the 2011-12 fiscal year, Firefighters receive retiree health benefits pursuant to the terms of Section 11.1 of their Memorandum of Understanding (MOU), which states in relevant part that retired unit members with at least 20 years of service will receive a District contribution equal to 100% of the Kaiser HMO High Option single member premium (the Kaiser "S" rate). Members with at least 10 but fewer than 20 years of service at retirement will receive a District contribution equal to the Kaiser S rate multiplied by 50% plus 5% per year of service in excess of 10 years. Members with at least 30 years of service at retirement will also receive District-paid spousal coverage (up to 100% of the Kaiser "Plus 1" rate).

Administrative Employees

Retired administrative employees are eligible to receive an employer contribution equal to the retiree-only premium for the Kaiser HMO High Option (similar to Firefighters).

Fire Chief Officers' Association (SMFCOA)

Retired Deputy Chief and Battalion Chiefs covered by IAFF Local 1775 are eligible to receive an employer contribution towards medical and dental insurance after the completion of 5 years of service and retirement from SMFPD through the Marin County Retirement System. Full-time employees of SMFCOA with 15 years of service qualify for continuation of District-paid spousal coverage. These provisions apply only to existing members of SMFCOA and Fire Chiefs who were employed and promoted prior to July 1, 2001. SMFCOA members hired or promoted after that date are subject to the same provisions as Firefighters, with the exception that SMFCOA retirees with at least 15 years of service are also eligible to receive District-paid dental insurance.

**Benefit Plan Provisions
(Continued)**

Phase-in of MOU provisions

The provisions governing amount of District contribution, described on the previous page, are to be phased in commencing on July 1, 2012. Retirees currently receiving amounts in excess of the MOU provisions will be required to contribute 1/3 of the excess between July 1, 2012 and June 30, 2013, and 2/3 of the excess between July 1, 2013 and June 30, 2014. Beginning on July 1, 2014, all retirees will have their District contributions determined according to the MOU provisions applicable to new retirees. The terms of the phase-in have been reflected in this actuarial report.

Medical and Dental Premiums

The following table shows January 1, 2011 premiums for retirees in MCERA:

	Kaiser HMO High Option	BC Prudent Buyer Classic	BC Prudent Buyer Plus	Delta Dental
<u>Basic Plan</u>				
Retiree	\$578.89	\$737.75	\$1,394.50	\$52.75
Retiree + 1	1,157.78	1,475.50	2,789.00	105.50
<u>Medicare Coordinated</u>				
Retiree	\$424.13	\$589.60	\$945.67	\$52.75
Retiree + 1ME	848.26	1,179.20	1,891.34	105.50

Valuation Data

Active and Retiree Census

Age distribution of eligible retirees and surviving spouses

Age	Count
Under 50	0
50-54	4
55-59	9
60-64	5
65-69	9
70-74	2
75-79	0
80-84	0
85-89	0
90+	<u>0</u>
Total	29
Average Age	61.31

Age/Years of service distribution of active employees included in the valuation

Years→	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
<u>Age</u>									
<25	0								0
25-29	1	0							1
30-34	3	3	0						6
35-39	2	5	1	0					8
40-44	1	1	4	0	0				6
45-49	0	4	1	1	2	0			8
50-54	0	0	0	0	0	1	1		2
55-59	0	0	0	0	0	0	0	1	1
60-64	0	0	0	0	0	0	0	0	0
65+	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
All Ages	7	13	6	1	2	1	1	1	32

Average Age: 40.69
Average Service: 10.06

Actuarial Assumptions

The liabilities set forth in this report are based on the actuarial assumptions described in this section.

- Valuation Date: July 1, 2011
- Actuarial Cost Method: Projected Unit Credit
- Discount Rate: 6.5% per annum
- Return on Assets: 6.5% per annum
- Amortization Method: 30 year, level dollar, open period
- Pre-retirement Turnover: According to the Crocker-Sarason Table T-5 less mortality, reduced by 40% at all ages. Sample rates are as follows:

Age	Turnover (%)
25	4.6%
30	4.3
35	3.8
40	3.1
45	2.4
50	1.5
55	0.6

Pre-retirement Mortality: 1994 Group Annuity Mortality, Male and Female tables. Sample deaths per 1,000 employees are as follows:

Age	Males	Females
25	0.71	0.31
30	0.86	0.38
35	0.92	0.51
40	1.15	0.76
45	1.70	1.05
50	2.77	1.54
55	4.76	2.47
60	8.58	4.77

Post-retirement Mortality: 1994 Group Annuity Mortality, Male and Female tables. Sample deaths per 1,000 employees are as follows:

Age	Males	Females
65	15.63	9.29
70	25.52	14.73
75	40.01	24.39
80	66.70	42.36
85	104.56	72.84
90	164.44	125.02

Actuarial Assumptions (Continued)
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Claim Cost per Retiree or Spouse:

Age	Medical/Rx	Dental
45-64	\$8,547	\$1,266
65+	4,815	1,266

Retirement Rates:

Age	Percent Retiring*
45-49	3.0%
50	15.0
51	20.0
52	25.0
53	30.0
54	40.0
55	50.0
56	60.0
57	70.0
58	80.0
59	90.0
60	100.0

* Of those having met eligibility to receive retirement benefits. The percentage refers to the probability that an active employee who has reached the stated age will retire within the following year.

Trend Rates:

Year	Medical/Rx	Dental
2011	8.0%	4.0%
2012	7.0	4.0
2013	6.0	4.0
2014+	5.0	4.0

Claim Cost Derivation:

We used unadjusted premiums for the valuation because we believe that the retiree rates charged by MCERA are actuarially sufficient to pay for expected retiree claim costs.

Percent of Retirees with Spouses:

Future Retirees: 25% of future retirees were assumed to have spouses. Female spouses assumed three years younger than male spouses.

Current Retirees: Based on actual spousal data.

Actuarial Certification

The liabilities set forth in this report are based on our actuarial valuation of SMFPD's retiree health insurance program as of July 1, 2011.

The valuation was performed in accordance with generally accepted actuarial principles and practices. We relied on census data for active employees and retirees provided to us by SMFPD in January, 2012. We made use of claims, premium, expense, and enrollment data, and copies of relevant sections of healthcare documents provided to us by SMFPD. We have also relied on monthly asset statements for amounts held in trust provided to SMFPD by PARS.

The assumptions used in performing the valuation, as summarized in this report, and the results based thereupon, represent our best estimate of the actuarial costs of the program under GASB 43 and GASB 45, and the existing and proposed Actuarial Standards of Practice for measuring post-retirement healthcare benefits.

Throughout the report, we have used unrounded numbers, because rounding and the reconciliation of the rounded results would add an additional, and in our opinion unnecessary, layer of complexity to the valuation process. By our publishing of unrounded results, no implication is made as to the degree of precision inherent in those results. Clients and their auditors should use their own judgment as to the desirability of rounding when transferring the results of this valuation report to the clients' financial statements.

The undersigned actuary meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report.

Certified by:

DRAFT

T. Louis Filliger, FSA, EA, MAAA Date: _____
Partner & Actuary

Southern Marin Fire Protection District
GASB 45 Valuation Results By Employee Group

	7/1/2011 Valuation Results <u>Firefighters</u>	7/1/2011 Valuation Results <u>Chiefs</u>	7/1/2011 Valuation Results <u>Administrators</u>	7/1/2011 Valuation Results <u>Total All Groups</u>
District-paid Present Value of Benefits:				
Actives	\$ 2,971,109	\$ 440,045	\$ 91,402	\$ 3,502,556
Retirees	<u>2,085,552</u>	<u>1,514,699</u>	<u>95,441</u>	<u>3,695,692</u>
Total District-Paid PVFB:	\$ 5,056,661	\$ 1,954,744	\$ 186,843	\$ 7,198,248
District-paid Accrued Liability:				
Actives	\$ 1,377,017	\$ 359,255	\$ 53,318	\$ 1,789,590
Retirees	<u>2,085,552</u>	<u>1,514,699</u>	<u>95,441</u>	<u>3,695,692</u>
Total District-Paid AL:	\$ 3,462,569	\$ 1,873,954	\$ 148,759	\$ 5,485,282
Assets*	<u>(126,249)</u>	<u>(68,327)</u>	<u>(5,424)</u>	<u>(200,000)</u>
District-paid Unfunded Accrued Liability ("UAL")	\$ 3,336,320	\$ 1,805,627	\$ 143,335	\$ 5,285,282
<u>GASB 45 ARC ("Annual Required Contributions")</u>				
Service Cost at Year-end	\$ 153,301	\$ 11,684	\$ 8,112	\$ 173,097
30-year amortization of District-paid UAL	<u>255,487</u>	<u>138,270</u>	<u>10,976</u>	<u>404,733</u>
Total ARC (District's Annual Expense)	\$ 408,788	\$ 149,954	\$ 19,088	\$ 577,830

*Assets, if any, allocated in proportion to AL for illustration purposes only; GASB 45 does not provide authority for this calculation

**Southern Marin Fire Protection District
Development of Annual OPEB Costs**

Exhibit II

	Amount
ARC for 2009-10	575,707
Interest on Net OPEB Obligation	-
Amortization adjustment to ARC	-
Annual OPEB Cost 2009-10	575,707
Employer Contribution	<u>(296,844)</u>
Change in Net OPEB Obligation 2009-10	278,863
Net OPEB Obligation 6/30/2009	<u>-</u>
Net OPEB Obligation 6/30/2010	278,863
ARC for 2010-11	575,707
Interest on Net OPEB Obligation	13,943
Amortization adjustment to ARC	<u>(18,140)</u>
Annual OPEB Cost 2010-11	571,510
Employer Contribution	<u>(532,337)</u>
Change in Net OPEB Obligation 2010-11	39,173
Net OPEB Obligation 6/30/2010	<u>278,863</u>
Net OPEB Obligation 6/30/2011	318,036
ARC for 2011-12	577,830
Interest on Net OPEB Obligation	20,672
Amortization adjustment to ARC	<u>(24,354)</u>
Annual OPEB Cost 2011-12	574,148