

Monterey Bay Area Self Insurance Authority

**An Actuarial Review of the
Liability Self-Insurance Program**

**BAY ACTUARIAL CONSULTANTS
Moraga, California
April 3, 2015**

Bay Actuarial Consultants

April 3, 2015

Mr. Michael Simmons
Vice Chairman
Alliant Insurance Services
100 Pine Street, 11th Floor
San Francisco, CA 94111

Dear Mr. Simmons:

We are pleased to present Bay Actuarial's Actuarial Review of the Monterey Bay Area Self Insurance Authority's General and Auto Liability self-insurance program. We appreciate the opportunity to serve the Authority.

If you have any questions, please call me at (925) 377-5269.

Respectfully,

BAY ACTUARIAL CONSULTANTS



Jack Joyce, FCAS, MAAA
Principal

Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Liability Self-Insurance Program

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Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Liability Self-Insurance Program

Introduction

Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Liability Self-Insurance Program

Introduction

Background & Purpose

The Monterey Bay Area Self Insurance Authority (“MBASIA”) self-insures its general and auto liability claims. The Authority has asked Bay Actuarial Consultants to provide an actuarial report on its liability self-insurance program. The specific topics covered in this report include the following:

- 1) **Projected 2015-16 Loss Rate.** A projection of the losses expected to be incurred during 2015-16, expressed in terms of a rate of loss per \$100 of payroll.
- 2) **Unpaid Losses.** We projected the Authority’s liability for unpaid losses as of June 30, 2015.
- 3) **Discounting.** We have also discounted the projected 2015-16 losses and the liabilities to present value, assuming a 1% interest rate. The discounted estimates take into account the time value of money as general and auto liability costs discharge over an extended timeframe.
- 4) **Variability of Estimates.** We have included an analysis of items (1) and (2) above, in terms of “probability levels.”
- 5) **Short-Term versus Long-Term.** We have broken out the liabilities into their short-term and long-term components.

Conditions & Limitations

This report has been prepared for the Authority's internal use. Copies of this report may be provided to the Authority's auditors. Any other use of this report is not authorized without the prior written permission of Bay Actuarial. In particular, those interested in providing insurance to the Authority must perform their own actuarial analysis and may not rely upon our work.

In this report, we relied upon loss data provided by Risk Management Services and payroll information provided by Alliant Insurance Services. We have not audited this data and are not responsible for its accuracy. With any actuarial analysis, the accuracy and relevance of the conclusions, and the reasonableness of the recommendations, depend upon the accuracy and relevance of the underlying data.

Unless otherwise noted, the term "losses" refers to all costs that can be tied to specific claims. These include loss payments, attorney's fees, and other expenses linked to specific claims.

The actuarial projections in this report are estimates so they are uncertain. This uncertainty is unavoidable because many of the events that will determine future claims costs have not yet taken place. These events include, but are not limited to, future legislation that may affect the tort liability system, changes in the rate of inflation, and the outcomes of current and future litigation and settlement negotiations. Our projections are based upon the Authority's historical experience. We have not anticipated any extraordinary changes in the various factors that might affect the future cost of claims. We used actuarial methods that should produce reasonable results given current information. There is no guarantee, express or implied, that losses will develop as projected in this report.

Organization of the Report

We have divided the remainder of this report into seven sections: the *Management Summary*, the *Technical Approach* section, the *Summary Exhibits*, the *Fiscal Year End Exhibits*, the *Loss Projection Exhibits*, the *Future Loss Exhibits*, and the *Discounting Exhibits*.

The *Management Summary* gives an overview of the results of our analysis. The *Technical Approach* section explains and discusses the assumptions and details underlying our calculations. The *Exhibits* document the actual calculations used in developing our results.

Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Liability Self-Insurance Program

Management Summary

Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Liability Self-Insurance Program

Management Summary

Projected 2015-16 Losses and Loss Rates

Tables I and II shows the projected 2015-16 losses and loss rates at various probability levels, discounted and undiscounted. The rates in Table I are gross of the \$10,000 per loss deductible, while those in Table II are net of that deductible. We discounted the rates at 1.0% interest. The items in Tables I and II do not include claims handling fees (“ULAE”), administrative costs, or the cost of excess insurance coverage. The losses have been calculated assuming that CARMA will cover any general and auto liability losses that exceed \$1,000,000, and that the Employment Risk Management Authority (“ERMA”) will cover any EPL losses that exceed \$500,000.

Tables I and II show actuarial central estimates, plus estimates at various probability levels. The probability level rates correspond to the estimated probabilities that the indicated rate will be adequate. For example, we estimate that there is a 70% probability that the actual 2015-16 discounted loss rate, gross of deductibles (Table I) will be less than **\$2.76**.

Table V on page 11 shows factors to adjust these rates for interest rates other than 1.0%.

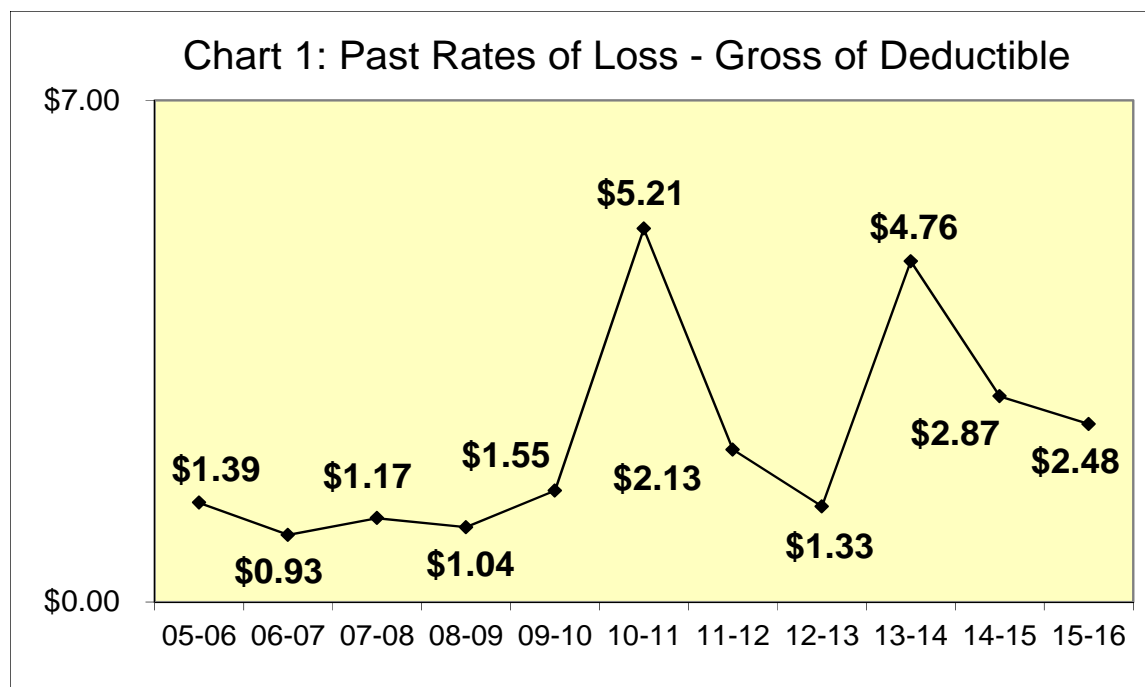
| Table I: Projected 2015-16 Losses and Loss Rates | | | | |
|---|-------------------------------|-----------------------------|----------------------------------|--------------------------------|
| \$1M SIR (\$500K EPL SIR), Gross of \$10K Deductible, 1.0% Interest Rate | | | | |
| Probability <u>Level</u> | Undiscounted <u>Losses</u> | Discounted <u>Losses</u> | Undiscounted <u>Loss Rate</u> | Discounted <u>Loss Rate</u> |
| Central Estimate | \$1,113,211 | \$1,086,494 | \$2.48 | \$2.42 |
| 70% | 1,380,382 | 1,347,252 | 3.08 | 3.00 |
| 80% | 1,669,817 | 1,629,741 | 3.72 | 3.63 |
| 90% | 2,115,101 | 2,064,338 | 4.72 | 4.60 |
| 2014-15 C.E. | \$1,009,739 | \$978,437 | \$2.34 | \$2.26 |
| % Change from 14-15 | +10.2% | +11.0% | +6.0% | +7.1% |

| Table II: Projected 2015-16 Losses and Loss Rates | | | | |
|---|---------------------|-------------------|------------------------|----------------------|
| \$1M SIR (\$500K EPL SIR), NET of \$10K Deductible, 1.0% Interest Rate | | | | |
| Probability Level | Undiscounted Losses | Discounted Losses | Undiscounted Loss Rate | Discounted Loss Rate |
| Central Estimate | \$963,382 | \$939,297 | \$2.15 | \$2.09 |
| 70% | 1,223,495 | 1,192,907 | 2.73 | 2.66 |
| 80% | 1,541,411 | 1,502,875 | 3.44 | 3.35 |
| 90% | 1,926,763 | 1,878,594 | 4.30 | 4.19 |
| 2013-14 C.E. | \$860,198 | \$831,811 | \$1.99 | \$1.92 |
| % Change from 13-14 | +12.0% | +12.9% | +8.0% | +8.9% |

The \$10,000 deductible rates in Table II are about 13% lower than the Table I rates.

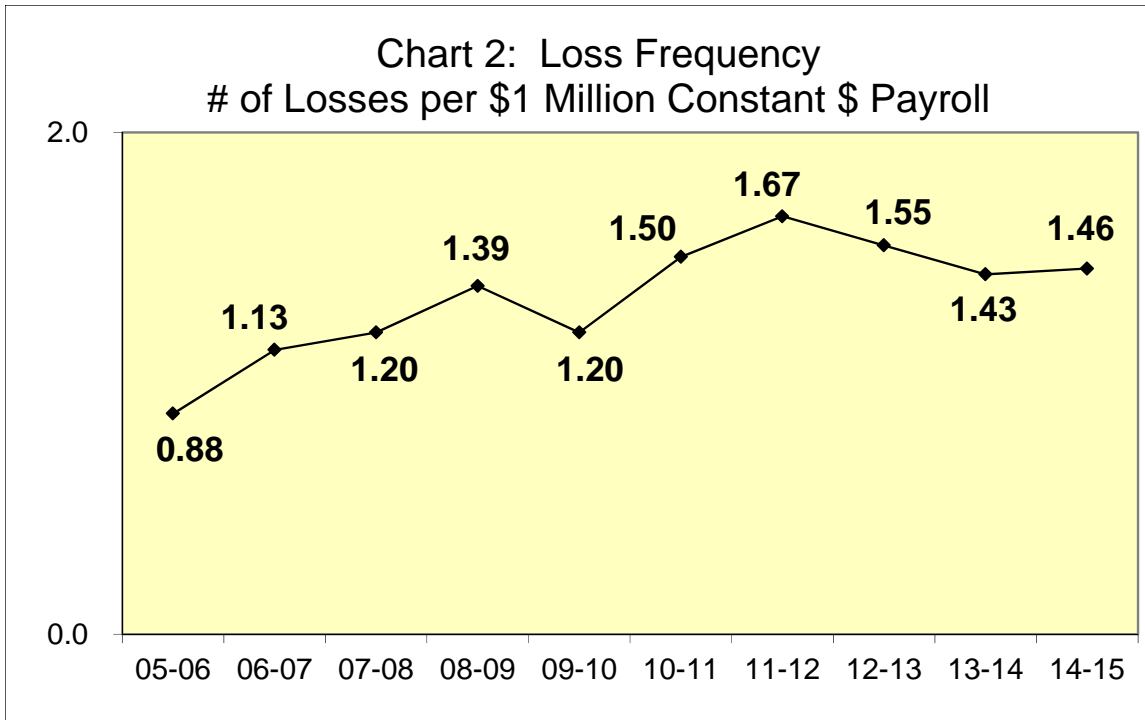
The Authority's Past Rates of Loss

Chart 1 shows the Authority's estimated past rates of loss. The rate is equal to the estimated total losses for the year divided by the total insured payroll measured in hundreds of dollars. These rates are not discounted. The rate of **\$2.34** projected for 2015-16 in Chart 1 matches the undiscounted central estimate rate in Table I.



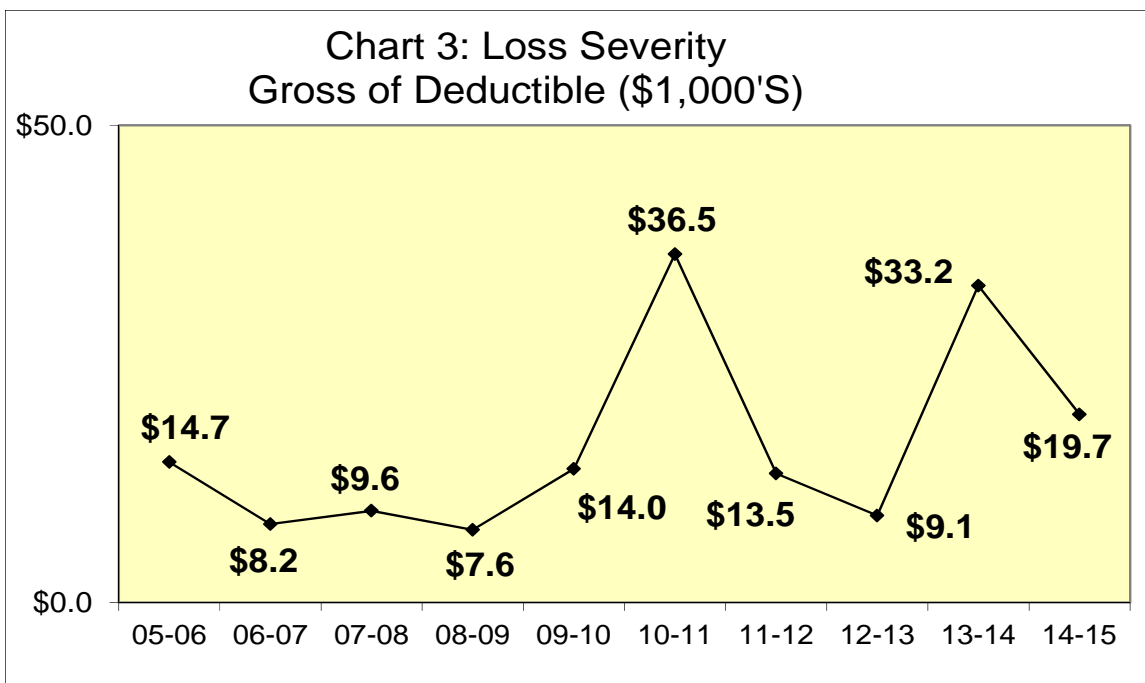
Loss Frequency

Loss “frequency” is the number of losses divided by 2014 payroll. Chart 2 shows recent loss frequency.



Average Loss Amount

The average loss amount is the estimated ultimate losses divided by the number of losses. Chart 3 shows the estimated average cost per loss.



Liability for Unpaid Losses – 6/30/15

We project that the Authority’s liability for unpaid losses, undiscounted, will be **\$2,793,000** on June 30, 2015, or **\$2,754,000** if discounted at 1.0% interest. Table III shows the actuarial central estimate plus various probability levels. The estimates in Table III are net of the \$10,000 deductible that the members pay on each loss.

| Table III: Projected Liability for Unpaid Losses As of June 30, 2015 – Net of Deductibles | | |
|--|-------------------------------|------------------------------|
| Probability <u>Level</u> | Undiscounted <u>Losses</u> | Discounted <u>at 1.0%</u> |
| 50% | 2,653,254 | 2,616,108 |
| Central Estimate | \$2,792,749 | \$2,753,798 |
| 60% | 2,904,615 | 2,863,950 |
| 70% | 3,211,834 | 3,166,868 |
| 80% | 3,602,839 | 3,552,399 |
| 90% | 4,217,277 | 4,158,235 |

Table IV shows the projected liability gross of deductibles.

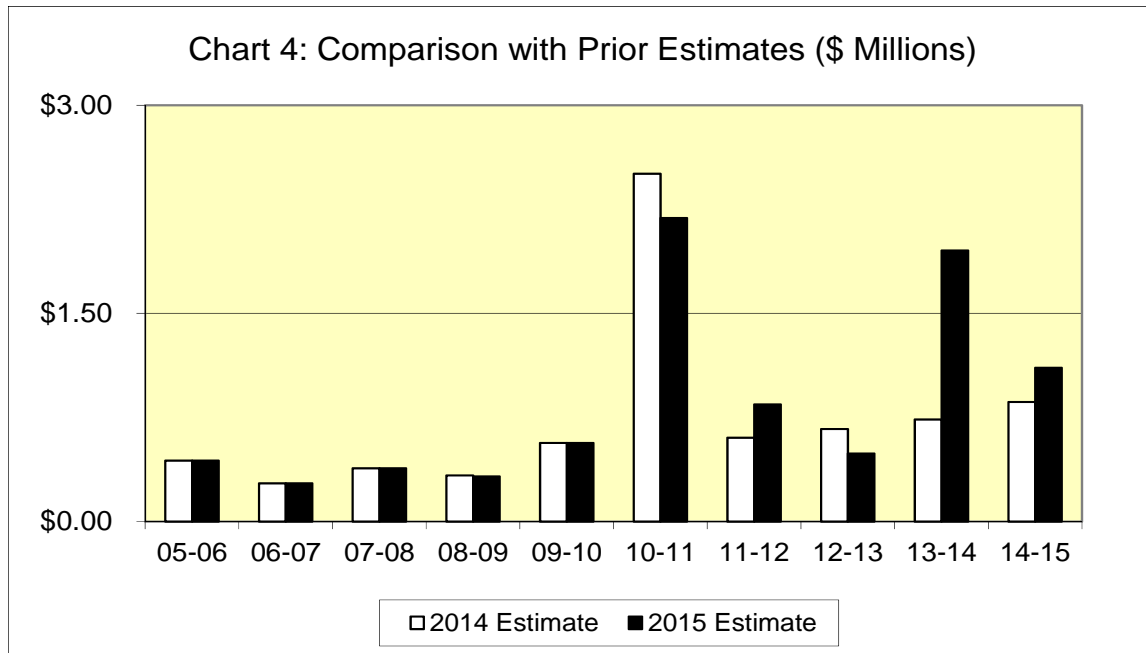
| Table IV: Projected Liability for Unpaid Losses As of June 30, 2015 – Gross of Deductibles | | |
|---|-------------------------------|------------------------------|
| Probability <u>Level</u> | Undiscounted <u>Losses</u> | Discounted <u>at 1.0%</u> |
| 50% | 2,801,194 | 2,761,829 |
| Central Estimate | \$2,948,468 | \$2,907,189 |
| 60% | 3,066,571 | 3,023,477 |
| 70% | 3,390,920 | 3,343,268 |
| 80% | 3,803,727 | 3,750,273 |
| 90% | 4,452,425 | 4,389,855 |

ULAE Liability

We estimate the liability for unpaid unallocated loss adjustment expenses (“ULAE”) will be \$171,000 on June 30, 2015. See page 20.

Comparison with 2014 Estimates

Chart 4 compares the prior estimates of the net losses by program year with the new estimates.



The overall increase in the estimates, for all years through 2013-14, was \$953,000. The big increase in the 2013-14 estimate was due to a claim regarding cars being impounded and sold for profit. That claim, which was not in last year's 12/31/13 data, is currently projected to exceed the \$1,000,000 SIR.

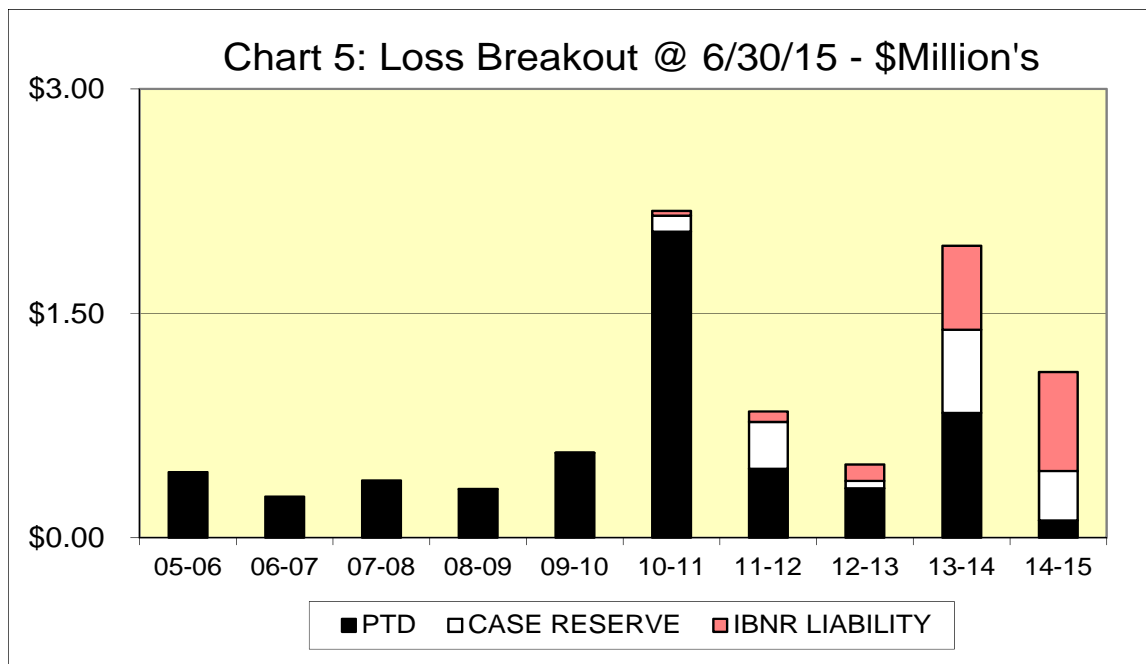
Reconciliation of 12/31/13 & 12/31/14 Estimates

These estimates are based on analysis of the 12/31/14 data. Last year we used 12/31/13 data and estimated a gross liability of \$2,494,000 on that date. Claims expenditures were \$1,302,000 during 2014. We increased the losses estimates for 12/31/13 and prior by \$340,000 in this report. We estimate the losses incurred during 2014 at \$1,650,000.

Therefore starting with last year's 12/31/13 liability estimate, subtracting the claims payments and adding the change in the estimates, and then adding the 2014 losses, produces \$3,182,000 as the estimated liability on 12/31/14. This matched the direct calculation shown on page 25.

Loss Breakout as of 6/30/15

In Table III we projected that the Authority's 6/30/15 liability, net of deductibles, would be **\$2,793,000**. This comprises **\$1,354,000** in case reserves for known claims and an IBNR liability of **\$1,439,000**. Chart 5 breaks out the projected total program year losses into their components: losses paid, case reserves, and IBNR liability. The details are on [page 22](#). There is \$1.06 of IBNR liability for every \$1.00 of case reserves. Total IBNR is up 38% from last year while case reserves are up 10%.



Short-Term Liability

Short-term liabilities are those expected to be discharged within twelve months. The total projected 6/30/14 liability of **\$2,793,000** comprises **\$1,229,000** of short-term and **\$1,564,000** of long-term liabilities.

Interest Rates

The discounted liabilities and rates in this report were discounted at 1.0% interest. Here are the adjustments to make for different interest rate assumptions:

| Interest Rate | 0.0% | 0.40% | 0.71% | 1.0% | 1.5% |
|---------------|-------|-------|-------|------|-------|
| Gross Rates | +2.6% | +1.5% | +0.8% | 0.0% | -1.2% |
| Net Rates | +2.6% | +1.5% | +0.7% | 0.0% | -1.2% |
| Liabilities | +1.4% | +0.8% | +0.4% | 0.0% | -0.7% |

The Table includes columns for 0.40% and 0.71% interest rates. Those are the “risk-free buy-and-hold” interest rates. We obtained them by calculating the overall yield on a hypothetical portfolio of US Treasuries selected to mature to match the future claims expenditures. The portfolio that matches the payments on the 2015-16 losses yields 0.71% and the portfolio matching the 6/30/15 liability expenditures yields 0.40%.

Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Liability Self-Insurance Program

Technical Approach

Monterey Bay Area Self Insurance Authority

An Actuarial Review of the Liability Self-Insurance Program

Technical Approach

This section describes the actuarial calculations.

Exhibits

Summary Exhibits

These exhibits summarize the analysis and conclusions. Summary Exhibit 1 shows the projected liabilities for unpaid losses as of June 30, 2015. Summary Exhibit 2 shows our projected rate for the 2015-16 program year, which runs from July 1, 2015 to June 30, 2016. Summary Exhibit 3 shows the projected unpaid losses as of June 30, 2015 by program year on both discounted and non-discounted bases.

Fiscal Year End Exhibits

These exhibits show the calculation of the projected unpaid losses as of June 30, 2015.

Loss Projection Exhibits

These exhibits show the various actuarial projection methods and summarize the results for each program year.

We used five different actuarial methods:

- 1) Reported loss projection method;
- 2) Paid loss projection method;
- 3) IBNR to Case Reserves Ratio method;
- 4) Bornhuetter-Ferguson method using reported losses; and
- 5) Frequency times Severity method.

Loss Projection Exhibit 1 summarizes the results of these methods.

Limited Loss Exhibits - \$250,000 Limit

These exhibits show the estimated ultimate losses limited to \$250,000 per loss. We use this limited loss analysis to calculate the projected 2015-16 loss rate.

Future Loss Exhibits

These exhibits show the projection of the expected rate for 2015-16.

Discounting Exhibits

These exhibits show the discounting of the remaining unpaid losses and the projected future loss rate. They also include the Program Information Exhibit.

Deductibles Exhibits

These exhibits show the estimation of the losses that fall under the \$10,000 deductible.

Claims Data

We included development triangles for reported losses, paid losses, and number of claims reported, plus a Program Information Exhibit.

Monterey Bay Area Self Insurance Authority

**Actuarial Analysis of the
General and Auto Liability Program**

Summary Exhibits

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Unpaid Losses as of 06/30/15
Losses Limited to SIR, NET of \$10K Deductible

| | <u>06/30/15</u> |
|---|-----------------|
| (1) Projected Unpaid Losses: | \$2,792,749 |
| (2) Discounted Value of Unpaid Losses: (Assuming 1.0% Interest Rate) | \$2,753,798 |

Probability Levels for 06/30/15 Liabilities

| Probability Level <u>(3)</u> | Probability Factor <u>(4)</u> | Discounted * Liability <u>(5)</u> |
|------------------------------------|-------------------------------------|---|
| 50% | 0.95 | 2,616,108 |
| Central Estimate | 1.00 | \$2,753,798 |
| 60% | 1.04 | 2,863,950 |
| 70% | 1.15 | 3,166,868 |
| 80% | 1.29 | 3,552,399 |
| 90% | 1.51 | 4,158,235 |

* Multiply by 1.014 to obtain undiscounted values.

Notes:

- (1) Page 19, Column (1).
- (2) Page 19, Column (2).
- (3) Estimated probability that funding will be adequate.
- (4) Estimated by BAC.
- (5) (2) x (4).

Monterey Bay Area Self Insurance Authority
 General and Auto Liability Program

Projected Loss Funding Rate for 2015-16
Losses Limited to \$1,000,000, NET of \$10K Deductible

(1) Discounted Loss Rate: Loss Rates
\$2.09
 (as of July 1, 2015, 1.0% interest rate)

| <u>Probability Levels</u> | | |
|------------------------------------|-------------------------------------|------------------------------------|
| Probability Level <u>(2)</u> | Probability Factor <u>(3)</u> | Discounted * Rate <u>(4)</u> |
| 50% | 0.84 | 1.76 |
| Central Estimate | 1.00 | \$2.09 |
| 60% | 1.05 | 2.19 |
| 70% | 1.27 | 2.65 |
| 80% | 1.56 | 3.26 |
| 90% | 2.01 | 4.20 |

* Multiply by 1.026 to obtain undiscounted values.

Notes:

- (1) [Page 51, Column] x [Page 57, Column (4)],
adjusted for \$10,000 deductible.
- (2) Estimated probability that funding will be adequate.
- (3) Estimated by BAC.
- (4) (1) x (3).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Projected Unpaid Losses as of June 30, 2015
Losses Limited to SIR, NET of \$10K Deductible

| Program Year | Undiscounted Value: Claims Liabilities as of 6/30/15 <u>(1)</u> | Discounted (1.0% Interest) Claims Liabilities as of 6/30/15 <u>(2)</u> | Estimated Ultimate Losses <u>(3)</u> |
|-----------------|---|--|---|
| 2005-06 | \$0 | \$0 | \$437,893 |
| 2006-07 | 0 | 0 | 274,868 |
| 2007-08 | 0 | 0 | 382,509 |
| 2008-09 | 0 | 0 | 323,426 |
| 2009-10 | 0 | 0 | 566,348 |
| 2010-11 | 139,354 | 138,662 | 2,185,588 |
| 2011-12 | 382,556 | 379,056 | 843,397 |
| 2012-13 | 160,963 | 159,137 | 489,194 |
| 2013-14 | 1,118,203 | 1,102,267 | 1,952,186 |
| 2014-15 | 991,672 | 974,676 | 1,106,649 |
| Total | \$2,792,749 | \$2,753,798 | \$8,562,056 |

Notes:

- (1) Page 22, Column (6).
- (2) Page 55, Column (3).
- (3) Page 22, Column (1).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

ULAE Projections and Calculation of Unpaid ULAE

(1) Selected ULAE Ratio: **8.7%**

| | Case Reserves with <u>Development</u> | "True" <u>IBNR</u> | <u>Total</u> |
|--|---|-----------------------|--------------|
| (2) ULAE Ratio: | 4.3% | 8.7% | |
| (3) Estimated Unpaid Losses as of 12/31/14: | \$2,401,442 | \$780,287 | \$3,181,729 |
| (4) Estimated Unpaid ULAE as of 12/31/14: | \$103,262 | \$67,714 | \$170,976 |
| (5) Discounted Unpaid ULAE as of 12/31/14: (1.0% interest rate) | | | \$168,582 |

We project that the 6/30/15 ULAE liability
will equal the 12/31/14 ULAE liability.

Notes:

- (1) Estimated by BAC.
- (2) "50-50 Rule."
- (3) Page 28, assuming 50% of IBNR is
development on known claims.
- (4) (2) x [(3)].
- (5) (4) x [Page 55, Item].

Monterey Bay Area Self Insurance Authority

**Actuarial Analysis of the
General and Auto Liability Program**

Fiscal Year End Exhibits

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Projected Unpaid Losses as of June 30, 2015
Losses Limited to SIR, NET of \$10K Deductible

| Program Year | Estimated Ultimate Losses (1) | Projected Losses Paid as of 6/30/15 (2) | Projected Case Reserves 6/30/15 (3) | Projected Losses Reported as of 6/30/15 (4) | Projected IBNR as of 6/30/15 (5) | Projected Unpaid Losses as of 6/30/15 (6) |
|-----------------|--|---|---|---|--|---|
| 2005-06 | \$437,893 | \$437,893 | \$0 | \$437,893 | \$0 | \$0 |
| 2006-07 | 274,868 | 274,867 | 0 | 274,867 | 0 | 0 |
| 2007-08 | 382,509 | 382,509 | 0 | 382,509 | 0 | 0 |
| 2008-09 | 323,426 | 323,426 | 0 | 323,426 | 0 | 0 |
| 2009-10 | 566,348 | 566,348 | 0 | 566,348 | 0 | 0 |
| 2010-11 | 2,185,588 | 2,046,234 | 106,456 | 2,152,690 | 32,898 | 139,354 |
| 2011-12 | 843,397 | 460,840 | 313,080 | 773,920 | 69,476 | 382,556 |
| 2012-13 | 489,194 | 328,231 | 49,328 | 377,558 | 111,636 | 160,963 |
| 2013-14 | 1,952,186 | 833,982 | 555,444 | 1,389,427 | 562,759 | 1,118,203 |
| 2014-15 | 1,106,649 | 114,978 | 329,905 | 444,882 | 661,767 | 991,672 |
| Total | \$8,562,056 | \$5,769,308 | \$1,354,213 | \$7,123,520 | \$1,438,536 | \$2,792,749 |

Notes:

(1) through (6) Page 23 entries minus Page 26 entries.

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Projected Unpaid Losses as of June 30, 2015
Losses Limited to SIR, Gross of \$10K Deductible

| Program Year | Estimated Ultimate Losses (1) | Projected Losses Paid as of 6/30/15 (2) | Projected Case Reserves 6/30/15 (3) | Projected Losses Reported as of 6/30/15 (4) | Projected IBNR as of 6/30/15 (5) | Projected Unpaid Losses as of 6/30/15 (6) |
|-----------------|--|---|---|---|--|---|
| 2005-06 | \$556,750 | \$556,750 | \$0 | \$556,750 | \$0 | \$0 |
| 2006-07 | 401,336 | 401,336 | 0 | 401,336 | 0 | 0 |
| 2007-08 | 500,365 | 500,365 | 0 | 500,365 | 0 | 0 |
| 2008-09 | 455,371 | 455,371 | 0 | 455,371 | 0 | 0 |
| 2009-10 | 729,487 | 729,487 | 0 | 729,487 | 0 | 0 |
| 2010-11 | 2,370,000 | 2,225,910 | 111,192 | 2,337,102 | 32,898 | 144,090 |
| 2011-12 | 970,000 | 580,065 | 320,393 | 900,458 | 69,542 | 389,935 |
| 2012-13 | 610,000 | 433,185 | 64,339 | 497,524 | 112,476 | 176,815 |
| 2013-14 | 2,060,000 | 905,729 | 579,341 | 1,485,070 | 574,930 | 1,154,271 |
| 2014-15 | 1,240,000 | 156,644 | 354,058 | 510,702 | 729,298 | 1,083,356 |
| Total | \$9,893,309 | \$6,944,841 | \$1,429,323 | \$8,374,164 | \$1,519,145 | \$2,948,468 |

Notes:

- (1) Page 30, Column (6).
- (2) Page 24, Column (3).
- (3) (4) - (2).
- (4) Page 24, Column (6).
- (5) (1) - (4).
- (6) (3) + (5).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Projected Paid and Reported Losses between 1/1/15 and 6/30/15
Losses Limited to SIR, Gross of \$10K Deductible

| Program Year | Losses Paid as of 12/31/14 (1) | Projected Losses Paid 1/1/15 - 6/30/15 (2) | Projected Losses Paid as of 6/30/15 (3) | Losses Reported as of 12/31/14 (4) | Projected Losses Reported 1/1/15 - 6/30/15 (5) | Projected Losses Reported as of 6/30/15 (6) |
|-----------------|--|---|--|--|---|--|
| 2005-06 | \$556,750 | \$0 | \$556,750 | \$556,750 | \$0 | \$556,750 |
| 2006-07 | 401,336 | 0 | 401,336 | 401,336 | 0 | 401,336 |
| 2007-08 | 500,365 | 0 | 500,365 | 500,365 | 0 | 500,365 |
| 2008-09 | 455,371 | 0 | 455,371 | 455,371 | 0 | 455,371 |
| 2009-10 | 729,487 | 0 | 729,487 | 729,487 | 0 | 729,487 |
| 2010-11 | 2,200,040 | 25,870 | 2,225,910 | 2,303,742 | 33,360 | 2,337,102 |
| 2011-12 | 387,140 | 192,925 | 580,065 | 856,093 | 44,365 | 900,458 |
| 2012-13 | 372,953 | 60,232 | 433,185 | 453,748 | 43,776 | 497,524 |
| 2013-14 | 478,371 | 427,358 | 905,729 | 1,436,702 | 48,368 | 1,485,070 |
| 2014-15 | 9,767 | 146,877 | 156,644 | 13,142 | 497,560 | 510,702 |
| Total | \$6,091,580 | \$853,261 | \$6,944,841 | \$7,706,735 | \$667,429 | \$8,374,164 |

Notes:

- (1) Page 32, Column (1).
- (2) Projected by BAC.
- (3) (1) + (2).
- (4) Page 31, Column (1).
- (5) Projected by BAC.
- (6) (4) + (5).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Estimated Unpaid Losses as of December 31, 2014
Losses Limited to SIR, Gross of \$10K Deductible

| Program Year | Estimated Ultimate Losses (1) | Losses Paid as of 12/31/14 (2) | Case Reserves 12/31/14 (3) | Losses Reported as of 12/31/14 (4) | Estimated IBNR as of 12/31/14 (5) | Estimated Unpaid Losses as of 12/31/14 (6) |
|-----------------|--|---|-------------------------------------|---|---|--|
| 2005-06 | \$556,750 | \$556,750 | \$0 | \$556,750 | \$0 | \$0 |
| 2006-07 | 401,336 | 401,336 | 0 | 401,336 | 0 | 0 |
| 2007-08 | 500,365 | 500,365 | 0 | 500,365 | 0 | 0 |
| 2008-09 | 455,371 | 455,371 | 0 | 455,371 | 0 | 0 |
| 2009-10 | 729,487 | 729,487 | 0 | 729,487 | 0 | 0 |
| 2010-11 | 2,370,000 | 2,200,040 | 103,702 | 2,303,742 | 66,258 | 169,960 |
| 2011-12 | 970,000 | 387,140 | 468,953 | 856,093 | 113,907 | 582,860 |
| 2012-13 | 610,000 | 372,953 | 80,794 | 453,748 | 156,252 | 237,047 |
| 2013-14 | 2,060,000 | 478,371 | 958,331 | 1,436,702 | 623,298 | 1,581,629 |
| 2014-15 | 620,000 | 9,767 | 3,375 | 13,142 | 606,858 | 610,233 |
| Total | \$9,273,309 | \$6,091,580 | \$1,615,155 | \$7,706,735 | \$1,566,574 | \$3,181,729 |

Notes:

- (1) Page 30, Column (6).
2014-15 entry adjusted for partial year through 12/31/14.
- (2) Page 32, Column (1).
- (3) (4) - (2).
- (4) Page 31, Column (1).
- (5) (1) - (4).
- (6) (3) + (5).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Projected Unpaid Deductibles as of June 30, 2015
Losses Limited to \$10K Deductible

| Program Year | Estimated Ultimate Deductibles (1) | Projected Ded Paid as of 6/30/15 (2) | Projected Case Reserves 6/30/15 (3) | Projected Ded Reported as of 6/30/15 (4) | Projected Deductible IBNR as of 6/30/15 (5) | Projected Deductible Losses as of 6/30/15 (6) |
|-----------------|---|--|---|--|---|---|
| 2005-06 | \$118,857 | \$118,857 | \$0 | \$118,857 | \$0 | \$0 |
| 2006-07 | 126,468 | 126,468 | 0 | 126,468 | 0 | 0 |
| 2007-08 | 117,856 | 117,856 | 0 | 117,856 | 0 | 0 |
| 2008-09 | 131,945 | 131,945 | 0 | 131,945 | 0 | 0 |
| 2009-10 | 163,139 | 163,139 | 0 | 163,139 | 0 | 0 |
| 2010-11 | 184,412 | 179,676 | 4,737 | 184,412 | 0 | 4,737 |
| 2011-12 | 126,603 | 119,225 | 7,313 | 126,538 | 66 | 7,379 |
| 2012-13 | 120,806 | 104,954 | 15,012 | 119,966 | 840 | 15,852 |
| 2013-14 | 107,814 | 71,747 | 23,896 | 95,643 | 12,171 | 36,067 |
| 2014-15 | 133,351 | 41,666 | 24,153 | 65,819 | 67,531 | 91,684 |
| Total | \$1,331,253 | \$1,175,534 | \$75,110 | \$1,250,644 | \$80,608 | \$155,719 |

Notes:

- (1) Page 59, Column (3).
- (2) Page 27, Column (3).
- (3) (4) - (2).
- (4) Page 27, Column (6).
- (5) (1) - (4).
- (6) (3) + (5).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Projected Paid and Reported Deductibles between 1/1/15 and 6/30/15
Losses Limited to \$10K Deductible

| Program Year | Ded Paid as of 12/31/14 (1) | Projected Losses Paid 1/1/15 - 6/30/15 (2) | Projected Losses Paid as of 6/30/15 (3) | Losses Reported as of 12/31/14 (4) | Projected Losses Reported 1/1/15 - 6/30/15 (5) | Projected Losses Reported as of 6/30/15 (6) |
|-----------------|---|---|--|--|---|--|
| 2005-06 | \$118,857 | \$0 | \$118,857 | \$118,857 | \$0 | \$118,857 |
| 2006-07 | 126,468 | 0 | 126,468 | 126,468 | 0 | 126,468 |
| 2007-08 | 117,856 | 0 | 117,856 | 117,856 | 0 | 117,856 |
| 2008-09 | 131,945 | 0 | 131,945 | 131,945 | 0 | 131,945 |
| 2009-10 | 163,139 | 0 | 163,139 | 163,139 | 0 | 163,139 |
| 2010-11 | 175,781 | 3,895 | 179,676 | 184,412 | 0 | 184,412 |
| 2011-12 | 117,755 | 1,470 | 119,225 | 126,472 | 66 | 126,538 |
| 2012-13 | 97,061 | 7,893 | 104,954 | 119,247 | 719 | 119,966 |
| 2013-14 | 54,484 | 17,263 | 71,747 | 83,665 | 11,979 | 95,643 |
| 2014-15 | 9,767 | 31,899 | 41,666 | 13,142 | 52,678 | 65,819 |
| Total | \$1,113,114 | \$62,420 | \$1,175,534 | \$1,185,203 | \$65,441 | \$1,250,644 |

Notes:

- (1) Page 28, Column (2).
- (2) Projected by BAC.
- (3) (1) + (2).
- (4) Page 28, Column (4).
- (5) Projected by BAC.
- (6) (4) + (5).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Estimated Unpaid Deductibles as of December 31, 2014
Losses Limited to \$10K Deductible

| Program Year | Estimated Ultimate Deductibles (1) | Ded Paid as of 12/31/14 (2) | Case Reserves 12/31/14 (3) | Ded Reported as of 12/31/14 (4) | Estimated Deductible IBNR as of 12/31/14 (5) | Estimated Deductible Losses as of 12/31/14 (6) |
|-----------------|---|--------------------------------------|-------------------------------------|--|--|--|
| 2005-06 | \$118,857 | \$118,857 | \$0 | \$118,857 | \$0 | \$0 |
| 2006-07 | 126,468 | 126,468 | 0 | 126,468 | 0 | 0 |
| 2007-08 | 117,856 | 117,856 | 0 | 117,856 | 0 | 0 |
| 2008-09 | 131,945 | 131,945 | 0 | 131,945 | 0 | 0 |
| 2009-10 | 163,139 | 163,139 | 0 | 163,139 | 0 | 0 |
| 2010-11 | 184,412 | 175,781 | 8,632 | 184,412 | 0 | 8,632 |
| 2011-12 | 126,603 | 117,755 | 8,717 | 126,472 | 132 | 8,848 |
| 2012-13 | 120,806 | 97,061 | 22,185 | 119,247 | 1,559 | 23,745 |
| 2013-14 | 107,814 | 54,484 | 29,181 | 83,665 | 24,150 | 53,330 |
| 2014-15 | 66,675 | 9,767 | 3,375 | 13,142 | 53,534 | 56,909 |
| Total | \$1,264,577 | \$1,113,114 | \$72,089 | \$1,185,203 | \$79,374 | \$151,463 |

Notes:

- (1) Page 59, Column (3).
2014-15 adjusted for partial year through 12/31/14.
- (2) Provided by Risk Management Services.
- (3) (4) - (2).
- (4) Page 60, Column (1).
- (5) (1) - (4).
- (6) (3) + (5).

Monterey Bay Area Self Insurance Authority

**Actuarial Analysis of the
General and Auto Liability Program**

Loss Projection Exhibits

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Selected Ultimate Losses
Losses Limited to SIR, Gross of \$10K Deductible

| Program Year | Reported Projection (1) | Paid Projection (2) | IBNR to Case Reserves Ratio (3) | B-F Method Using Reported (4) | Frequency Times Severity (5) | Selected Ultimate Losses (6) |
|-----------------|-------------------------------|---------------------------|--|---|---------------------------------------|---------------------------------------|
| 2005-06 | \$556,750 | \$557,863 | \$556,750 | \$556,750 | \$590,795 | \$556,750 |
| 2006-07 | 401,335 | 404,149 | 401,336 | 401,336 | 784,991 | 401,336 |
| 2007-08 | 500,865 | 506,392 | 500,365 | 501,333 | 858,502 | 500,365 |
| 2008-09 | 456,738 | 465,465 | 455,371 | 458,365 | 1,021,013 | 455,371 |
| 2009-10 | 733,101 | 773,092 | 729,487 | 734,632 | 911,700 | 729,487 |
| 2010-11 | 2,347,481 | 2,475,686 | 2,324,586 | 2,323,880 | 1,173,739 | 2,370,000 |
| 2011-12 | 904,225 | 462,330 | 1,084,473 | 913,908 | 1,338,450 | 970,000 |
| 2012-13 | 554,762 | 811,683 | 494,792 | 658,133 | 1,282,494 | 610,000 |
| 2013-14 | 3,120,362 | 2,890,044 | 3,190,448 | 2,061,127 | 1,222,189 | 2,060,000 |
| 2014-15 | 1,344,716 | 1,499,860 | 1,037,938 | 1,192,110 | 1,278,900 | 1,240,000 |
| Total | \$10,920,335 | \$10,846,564 | \$10,775,545 | \$9,801,573 | \$10,462,773 | \$9,893,309 |

Notes:

- (1) Page 31, Column (3).
- (2) Page 32, Column (3).
- (3) Page 33, Column (6).
- (4) Page 34, Column (6).
- (5) Page 38, Column (4).
- (6) Selected on the basis of (1) - (5).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Reported Loss Development
Losses Limited to SIR, Gross of \$10K Deductible

| Program Year | Cumulative Reported Losses as of 12/31/14 (1) | Reported Development Factor as of 12/31/14 (2) | Projected Ultimate Losses (3) |
|-----------------|---|---|--|
| 2005-06 | \$556,750 | 1.000 | \$556,750 |
| 2006-07 | 401,336 | 1.000 | 401,335 |
| 2007-08 | 500,365 | 1.001 | 500,865 |
| 2008-09 | 455,371 | 1.003 | 456,738 |
| 2009-10 | 729,487 | 1.005 | 733,101 |
| 2010-11 | 2,303,742 | 1.019 | 2,347,481 |
| 2011-12 | 856,093 | 1.056 | 904,225 |
| 2012-13 | 453,748 | 1.223 | 554,762 |
| 2013-14 | 1,436,702 | 2.172 | 3,120,362 |
| 2014-15 | 13,142 | 102.326 | 1,344,716 |
| Total | \$7,706,735 | | \$10,920,335 |

Notes:

- (1) Provided by Risk Management Services.
- (2) Page 63.
- (3) (1) x (2), rounded.

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Paid Loss Projection
Losses Limited to SIR, Gross of \$10K Deductible

| Program Year | Cumulative Paid Losses as of 12/31/14 (1) | Paid Development Factor as of 12/31/14 (2) | Projected Ultimate Losses (3) |
|-----------------|---|---|--|
| 2005-06 | \$556,750 | 1.002 | \$557,863 |
| 2006-07 | 401,336 | 1.007 | 404,149 |
| 2007-08 | 500,365 | 1.012 | 506,392 |
| 2008-09 | 455,371 | 1.022 | 465,465 |
| 2009-10 | 729,487 | 1.060 | 773,092 |
| 2010-11 | 2,200,040 | 1.125 | 2,475,686 |
| 2011-12 | 387,140 | 1.194 | 462,330 |
| 2012-13 | 372,953 | 2.176 | 811,683 |
| 2013-14 | 478,371 | 6.041 | 2,890,044 |
| 2014-15 | 9,767 | 153.568 | 1,499,860 |
| Total | \$6,091,580 | | \$10,846,564 |

Notes:

- (1) Provided by Risk Management Services.
- (2) Page 64.
- (3) (1) x (2), rounded.

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

IBNR to Case Reserves Ratio Method
Losses Limited to SIR, Gross of \$10K Deductible

| Program Year | Reported Development Factor as of 12/31/14 <u>(1)</u> | Paid Development Factor as of 12/31/14 <u>(2)</u> | IBNR to Case Reserves Ratio <u>(3)</u> | Case Reserves 12/31/14 <u>(4)</u> | Estimated IBNR as of 12/31/14 <u>(5)</u> | Estimated Ultimate Losses <u>(6)</u> |
|-----------------|--|--|--|--|--|---|
| 2005-06 | 1.000 | 1.002 | 0.000 | \$0 | \$0 | \$556,750 |
| 2006-07 | 1.000 | 1.007 | 0.000 | 0 | 0 | 401,336 |
| 2007-08 | 1.001 | 1.012 | 0.092 | 0 | 0 | 500,365 |
| 2008-09 | 1.003 | 1.022 | 0.160 | 0 | 0 | 455,371 |
| 2009-10 | 1.005 | 1.060 | 0.096 | 0 | 0 | 729,487 |
| 2010-11 | 1.019 | 1.125 | 0.201 | 103,702 | 20,844 | 2,324,586 |
| 2011-12 | 1.056 | 1.194 | 0.487 | 468,953 | 228,380 | 1,084,473 |
| 2012-13 | 1.223 | 2.176 | 0.508 | 80,794 | 41,044 | 494,792 |
| 2013-14 | 2.172 | 6.041 | 1.830 | 958,331 | 1,753,746 | 3,190,448 |
| 2014-15 | 102.326 | 153.568 | 303.663 | 3,375 | 1,024,796 | 1,037,938 |
| Total | | | | \$1,615,155 | \$3,068,810 | \$10,775,545 |

Notes:

- (1) Page 31, Column (2).
- (2) Page 32, Column (2).
- (3) $[(1) - 1.000] \times (2) / [(2) - (1)]$.
- (4) Page 31, Column (1) - Page 32, Column (1).
- (5) (3) x (4), rounded.
- (6) (5) + Page 31, Column (1).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Bornhuetter-Ferguson Using Reported Losses
Losses Limited to SIR, Gross of \$10K Deductible

| Program Year | <i>A Priori</i> Ultimate Losses (1) | Cumulative Reported Loss Development Factors (2) | Percentage of Losses Not Yet Reported (3) | Expected Unreported Losses (4) | Losses Reported as of 12/31/14 (5) | Estimated Ultimate Losses (6) |
|-----------------|--|--|---|---|--|--|
| 2005-06 | \$912,212 | 1.000 | 0.0% | \$0 | \$556,750 | \$556,750 |
| 2006-07 | 939,602 | 1.000 | 0.0% | 0 | 401,336 | 401,336 |
| 2007-08 | 968,183 | 1.001 | 0.1% | 968 | 500,365 | 501,333 |
| 2008-09 | 997,955 | 1.003 | 0.3% | 2,994 | 455,371 | 458,365 |
| 2009-10 | 1,028,918 | 1.005 | 0.5% | 5,145 | 729,487 | 734,632 |
| 2010-11 | 1,059,881 | 1.019 | 1.9% | 20,138 | 2,303,742 | 2,323,880 |
| 2011-12 | 1,090,843 | 1.056 | 5.3% | 57,815 | 856,093 | 913,908 |
| 2012-13 | 1,122,997 | 1.223 | 18.2% | 204,385 | 453,748 | 658,133 |
| 2013-14 | 1,156,342 | 2.172 | 54.0% | 624,425 | 1,436,702 | 2,061,127 |
| 2014-15 | 1,190,877 | 102.326 | 99.0% | 1,178,968 | 13,142 | 1,192,110 |
| | \$10,467,810 | | | \$2,094,838 | \$7,706,735 | \$9,801,573 |

Notes:

- (1) Page 35, Column (3).
- (2) Page 31, Column (2).
- (3) $100\% - [1.000 / (2)]$.
- (4) (1) x (3).
- (5) Page 31, Column (1).
- (6) (4) + (5).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

A Priori Losses for Bornhuetter-Ferguson
Losses Limited to SIR, Gross of \$10K Deductible

| Program Year | <i>A Priori</i> 2014-15 Loss (1) | Factor to Remove Trend (2) | <i>A Priori</i> Ultimate Losses (3) |
|-----------------|---|-------------------------------------|--|
| 2005-06 | \$1,190,877 | 0.766 | \$912,212 |
| 2006-07 | 1,190,877 | 0.789 | 939,602 |
| 2007-08 | 1,190,877 | 0.813 | 968,183 |
| 2008-09 | 1,190,877 | 0.838 | 997,955 |
| 2009-10 | 1,190,877 | 0.864 | 1,028,918 |
| 2010-11 | 1,190,877 | 0.890 | 1,059,881 |
| 2011-12 | 1,190,877 | 0.916 | 1,090,843 |
| 2012-13 | 1,190,877 | 0.943 | 1,122,997 |
| 2013-14 | 1,190,877 | 0.971 | 1,156,342 |
| 2014-15 | 1,190,877 | 1.000 | 1,190,877 |
| Total | | | \$10,467,810 |

Notes:

- (1) Page 36, Average of Column (3).
- (2) 1.000 / [Page 36, Column (2)].
- (3) (1) x (2).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

A Priori Loss Rate for Bornhuetter-Ferguson Method
At \$1M SIR, Gross of \$10K Deductible

| Program Year | <i>A Priori</i> Ultimate Losses (1) | Estimated Pure Premium Trend (2) | Constant Dollar Ultimate Losses (3) |
|-----------------|--|--|---|
| 2005-06 | \$556,750 | 1.306 | \$726,948 |
| 2006-07 | 401,336 | 1.267 | 508,552 |
| 2007-08 | 500,365 | 1.230 | 615,241 |
| 2008-09 | 455,371 | 1.193 | 543,227 |
| 2009-10 | 729,487 | 1.158 | 844,627 |
| 2010-11 | 2,408,406 | 1.124 | 2,707,495 |
| 2011-12 | 856,093 | 1.092 | 934,862 |
| 2012-13 | 647,177 | 1.061 | 686,339 |
| 2013-14 | 3,059,458 | 1.030 | 3,150,604 |
| 2014-15 | 1,406,754 | 1.000 | 1,406,754 |
| Average | | | \$1,212,465 |
| 05/06-13/14 | | | \$1,190,877 |
| | | (4) A Priori 2014-15 Losses: | \$1,190,877 |

Notes:

- (1) Page 37, Column (3).
- (2) Estimated by BAC.
- (3) (1) x (2).
- (4) Average of (3) excluding 2014-15.

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

A Priori Ultimate losses
Losses Limited to SIR, Gross of \$10K Deductible

| Program Year | Reported Loss Projection (1) | Paid Loss Projection (2) | <i>A Priori</i> Selection (3) |
|-----------------|---------------------------------------|-----------------------------------|-------------------------------------|
| 2005-06 | \$556,750 | \$557,863 | \$556,750 |
| 2006-07 | 401,335 | 404,149 | 401,336 |
| 2007-08 | 500,865 | 506,392 | 500,365 |
| 2008-09 | 456,738 | 465,465 | 455,371 |
| 2009-10 | 733,101 | 773,092 | 729,487 |
| 2010-11 | 2,347,481 | 2,475,686 | 2,408,406 |
| 2011-12 | 904,225 | 462,330 | 856,093 |
| 2012-13 | 554,762 | 811,683 | 647,177 |
| 2013-14 | 3,120,362 | 2,890,044 | 3,059,458 |
| 2014-15 | 1,344,716 | 1,499,860 | 1,406,754 |
| Total | \$10,920,335 | \$10,846,564 | \$11,021,196 |

Notes:

- (1) Page 31, Column (3).
- (2) Page 32, Column (3).
- (3) Selected on the basis of (1) and (2).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Frequency Times Severity Method
Losses Limited to SIR, Gross of \$10K Deductible

| Program Year | Selected Claim Severity (1) | Factor to Remove Trend (2) | Selected Ultimate Claims (3) | Estimated Ultimate Losses (4) |
|-----------------|--------------------------------------|-------------------------------------|---------------------------------------|--|
| 2005-06 | \$20,300 | 0.766 | 38 | \$590,795 |
| 2006-07 | 20,300 | 0.789 | 49 | 784,991 |
| 2007-08 | 20,300 | 0.813 | 52 | 858,502 |
| 2008-09 | 20,300 | 0.838 | 60 | 1,021,013 |
| 2009-10 | 20,300 | 0.864 | 52 | 911,700 |
| 2010-11 | 20,300 | 0.890 | 65 | 1,173,739 |
| 2011-12 | 20,300 | 0.916 | 72 | 1,338,450 |
| 2012-13 | 20,300 | 0.943 | 67 | 1,282,494 |
| 2013-14 | 20,300 | 0.971 | 62 | 1,222,189 |
| 2014-15 | 20,300 | 1.000 | 63 | 1,278,900 |
| Total | | | | \$10,462,773 |

Notes:

- (1) Page 39, Item (5).
- (2) $1.000 / [\text{Page 39, Column (2)}]$.
- (3) Page 40, Column (3).
- (4) $(1) \times (2) \times (3)$.

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Calculation of Expected Claim Severity
Frequency Times Severity Method
At \$1M SIR, Gross of \$10K Deductible

| Program Year | <i>A Priori</i> Ultimate Losses (1) | Estimated Severity Trend (2) | Selected Claim Count (3) | Trended Claim Severity (4) |
|-----------------|--|---------------------------------------|-----------------------------------|-------------------------------------|
| 2005-06 | \$556,750 | 1.306 | 38 | \$19,130 |
| 2006-07 | 401,336 | 1.267 | 49 | 10,379 |
| 2007-08 | 500,365 | 1.230 | 52 | 11,832 |
| 2008-09 | 455,371 | 1.193 | 60 | 9,054 |
| 2009-10 | 729,487 | 1.158 | 52 | 16,243 |
| 2010-11 | 2,408,406 | 1.124 | 65 | 41,654 |
| 2011-12 | 856,093 | 1.092 | 72 | 12,984 |
| 2012-13 | 647,177 | 1.061 | 67 | 10,244 |
| 2013-14 | 3,059,458 | 1.030 | 62 | 50,816 |
| 2014-15 | 1,406,754 | 1.000 | 63 | 22,329 |
| Total | \$11,021,196 | | 580 | \$20,467 |
| 05/06-13/14 | \$9,614,442 | | 517 | \$20,260 |
| | | | (5) Selected Severity: | \$20,300 |

Notes:

- (1) Page 37, Column (3).
- (2) Estimated by BAC.
- (3) Page 40, Column (3).
- (4) $(1) \times (2) / (3)$.
- (5) Selected on the basis of (4).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Selected Claim Counts

| Program Year | Reported Claim Count Projection (1) | Bornhuetter- Ferguson Method (2) | Selected Claim Count (3) |
|-----------------|--|---|-----------------------------------|
| 2005-06 | 38 | | 38 |
| 2006-07 | 49 | | 49 |
| 2007-08 | 52 | | 52 |
| 2008-09 | 60 | | 60 |
| 2009-10 | 52 | | 52 |
| 2010-11 | 65 | | 65 |
| 2011-12 | 72 | | 72 |
| 2012-13 | 67 | | 67 |
| 2013-14 | 62 | | 62 |
| 2014-15 | 80 | 63 | 63 |
| Total | 597 | | 580 |

Notes:

- (1) Page 41, Column (3).
- (2) Page 42, Column (6).
- (3) Selected on the basis of (1) and (2).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Projection of Ultimate Claim Counts
Projection of Reported Claims

| Program Year | Total Claims Reported 12/31/14 <u>(1)</u> | Development Factors as of 12/31/14 <u>(2)</u> | Projected Ultimate Claims <u>(3)</u> |
|------------------------|---|---|---|
| 2005-06 | 38 | 1.000 | 38 |
| 2006-07 | 49 | 1.000 | 49 |
| 2007-08 | 52 | 1.000 | 52 |
| 2008-09 | 60 | 1.000 | 60 |
| 2009-10 | 52 | 1.000 | 52 |
| 2010-11 | 65 | 1.000 | 65 |
| 2011-12 | 72 | 1.000 | 72 |
| 2012-13 | 66 | 1.020 | 67 |
| 2013-14 | 58 | 1.068 | 62 |
| 2014-15 | 19 | 4.202 | 80 |
| Average | | | 60 |
| 05/06-13/14 Average | | | 57 |

Notes:

- (1) Provided by Risk Management Services.
- (2) Page 63.
- (3) (1) x (2), rounded.

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Projection of Ultimate Claim Counts
Bornhuetter-Ferguson Method

| Program Year | A Priori Claim Count (1) | Claim Development Factor (2) | Estimated Percentage of Claims Unreported (3) | Estimated Unreported Claims (4) | Reported Claims as of 12/31/14 (5) | Projected Ultimate Claims (6) |
|-----------------|-----------------------------------|---------------------------------------|---|--|--|--|
| 2014-15 | 57 | 4.202 | 76.2% | 44 | 19 | 63 |

Notes:

- (1) Page 41, Column (3), average 2005-06 to 2013-14.
- (2) Page 41, Column (2).
- (3) $100\% - [1.000 / (2)]$.
- (4) $(1) \times (3)$.
- (5) Page 41, Column (1).
- (6) $(4) + (5)$.

Monterey Bay Area Self Insurance Authority

**Actuarial Analysis of the
General and Auto Liability Program**

**Limited Loss Analysis
Losses Limited to \$250,000 per Loss**

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Selected Ultimate Losses
Losses Limited to \$250,000, Gross of \$10K Deductible

| Program Year | Reported Projection (1) | Paid Projection (2) | IBNR to Case Reserves Ratio (3) | B-F Method Using Reported (4) | B-F Method Using Paid (5) | Selected Ultimate Losses (6) |
|-----------------|-------------------------------|---------------------------|--|---|---------------------------------------|---------------------------------------|
| 2005-06 | \$556,750 | \$557,046 | \$556,750 | \$556,750 | \$557,662 | \$556,750 |
| 2006-07 | 401,335 | 402,215 | 401,336 | 401,336 | 403,215 | 401,336 |
| 2007-08 | 500,571 | 502,822 | 500,365 | 500,365 | 505,206 | 500,365 |
| 2008-09 | 455,795 | 460,309 | 455,371 | 456,369 | 466,349 | 455,371 |
| 2009-10 | 700,074 | 719,370 | 699,177 | 700,162 | 726,756 | 699,177 |
| 2010-11 | 1,282,446 | 1,296,980 | 1,279,830 | 1,277,145 | 1,262,822 | 1,280,000 |
| 2011-12 | 751,000 | 444,400 | 830,054 | 755,585 | 505,863 | 780,000 |
| 2012-13 | 518,257 | 754,426 | 480,168 | 591,736 | 936,034 | 530,000 |
| 2013-14 | 1,172,445 | 2,315,132 | 876,771 | 937,635 | 986,238 | 1,000,000 |
| 2014-15 | 996,932 | 947,472 | 1,172,004 | 769,686 | 768,611 | 770,000 |
| Total | \$7,335,605 | \$8,400,172 | \$7,251,825 | \$6,946,768 | \$7,118,756 | \$6,972,999 |

Notes:

- (1) Page 45, Column (3).
- (2) Page 46, Column (3).
- (3) Page 47, Column (6).
- (4) Page 48, Column (6).
- (5) Page 49, Column (6).
- (6) Selected on the basis of (1) - (5).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Reported Loss Development
Losses Limited to \$250,000, Gross of \$10K Deductible

| Program Year | Cumulative Reported Losses as of 12/31/14 (1) | Reported Development Factor as of 12/31/14 (2) | Projected Ultimate Losses (3) |
|-----------------|---|---|--|
| 2005-06 | \$556,750 | 1.000 | \$556,750 |
| 2006-07 | 401,336 | 1.000 | 401,335 |
| 2007-08 | 500,365 | 1.000 | 500,571 |
| 2008-09 | 455,371 | 1.001 | 455,795 |
| 2009-10 | 699,177 | 1.001 | 700,074 |
| 2010-11 | 1,269,586 | 1.010 | 1,282,446 |
| 2011-12 | 728,895 | 1.030 | 751,000 |
| 2012-13 | 453,748 | 1.142 | 518,257 |
| 2013-14 | 655,202 | 1.789 | 1,172,445 |
| 2014-15 | 13,142 | 75.861 | 996,932 |
| Total | \$5,733,571 | | \$7,335,605 |

Notes:

- (1) Provided by Risk Management Services.
- (2) Estimated by BAC.
- (3) (1) x (2), rounded.

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Paid Loss Development
Losses Limited to \$250,000, Gross of \$10K Deductible

| Program Year | Cumulative Paid Losses as of 12/31/14 (1) | Paid Development Factor as of 12/31/14 (2) | Projected Ultimate Losses (3) |
|-----------------|---|---|--|
| 2005-06 | \$556,750 | 1.001 | \$557,046 |
| 2006-07 | 401,336 | 1.002 | 402,215 |
| 2007-08 | 500,365 | 1.005 | 502,822 |
| 2008-09 | 455,371 | 1.011 | 460,309 |
| 2009-10 | 699,177 | 1.029 | 719,370 |
| 2010-11 | 1,215,955 | 1.067 | 1,296,980 |
| 2011-12 | 387,140 | 1.148 | 444,400 |
| 2012-13 | 372,953 | 2.023 | 754,426 |
| 2013-14 | 478,371 | 4.840 | 2,315,132 |
| 2014-15 | 9,767 | 97.010 | 947,472 |
| Total | \$5,077,185 | | \$8,400,172 |

Notes:

- (1) Provided by Risk Management Services.
- (2) Estimated by BAC.
- (3) (1) x (2), rounded.

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

IBNR to Case Reserves Ratio Method
Losses Limited to \$250,000, Gross of \$10K Deductible

| Program Year | Reported LDF (1) | Paid LDF (2) | IBNR to Case Reserves Ratio (3) | Case Reserves as of 12/31/14 (4) | Estimated IBNR as of as of 12/31/14 (5) | Estimated Ultimate Losses (6) |
|-----------------|------------------------|--------------------|---|---|---|--|
| 2005-06 | 1.000 | 1.001 | 0.000 | \$0 | \$0 | \$556,750 |
| 2006-07 | 1.000 | 1.002 | 0.000 | 0 | 0 | 401,336 |
| 2007-08 | 1.000 | 1.005 | 0.092 | 0 | 0 | 500,365 |
| 2008-09 | 1.001 | 1.011 | 0.095 | 0 | 0 | 455,371 |
| 2009-10 | 1.001 | 1.029 | 0.048 | 0 | 0 | 699,177 |
| 2010-11 | 1.010 | 1.067 | 0.191 | 53,632 | 10,244 | 1,279,830 |
| 2011-12 | 1.030 | 1.148 | 0.296 | 341,754 | 101,159 | 830,054 |
| 2012-13 | 1.142 | 2.023 | 0.327 | 80,794 | 26,420 | 480,168 |
| 2013-14 | 1.789 | 4.840 | 1.253 | 176,831 | 221,569 | 876,771 |
| 2014-15 | 75.861 | 97.010 | 343.389 | 3,375 | 1,158,862 | 1,172,004 |
| Total | | | | \$656,386 | \$1,518,254 | \$7,251,825 |

Notes:

- (1) Page 45, Column (2).
- (2) Page 46, Column (2).
- (3) $[(1) - 1.000] \times (2) / [(2) - (1)]$.
- (4) Page 45, Column (1) - Page 46, Column (1).
- (5) (3) x (4), rounded.
- (6) (5) + Page 45, Column (1).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Bornhuetter-Ferguson Using Reported Losses
Losses Limited to \$250,000, Gross of \$10K Deductible

| Program Year | <i>A Priori</i> Ultimate Losses (1) | Cumulative Reported Loss Development Factors (2) | Percentage of Losses Not Yet Reported (3) | Expected Unreported Losses (4) | Losses Reported as of 12/31/14 (5) | Estimated Ultimate Losses (6) |
|-----------------|--|--|---|---|--|--|
| 2005-06 | \$912,212 | 1.000 | 0.0% | \$0 | \$556,750 | \$556,750 |
| 2006-07 | 939,602 | 1.000 | 0.0% | 0 | 401,336 | 401,336 |
| 2007-08 | 968,183 | 1.000 | 0.0% | 0 | 500,365 | 500,365 |
| 2008-09 | 997,955 | 1.001 | 0.1% | 998 | 455,371 | 456,369 |
| 2009-10 | 984,982 | 1.001 | 0.1% | 985 | 699,177 | 700,162 |
| 2010-11 | 755,922 | 1.010 | 1.0% | 7,559 | 1,269,586 | 1,277,145 |
| 2011-12 | 920,332 | 1.030 | 2.9% | 26,690 | 728,895 | 755,585 |
| 2012-13 | 1,112,809 | 1.142 | 12.4% | 137,988 | 453,748 | 591,736 |
| 2013-14 | 640,438 | 1.789 | 44.1% | 282,433 | 655,202 | 937,635 |
| 2014-15 | 766,509 | 75.861 | 98.7% | 756,544 | 13,142 | 769,686 |
| Total | \$8,998,943 | | | \$1,213,197 | \$5,733,571 | \$6,946,768 |

Notes:

- (1) Page 30, Column (6), adjusted for \$250K limit.
- (2) Page 45, Column (2).
- (3) $100\% - [1.000 / (2)]$.
- (4) $(1) \times (3)$.
- (5) Page 45, Column (1).
- (6) $(4) + (5)$.

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Bornhuetter-Ferguson Using Paid Losses
Losses Limited to \$250,000, Gross of \$10K Deductible

| Program Year | <i>A Priori</i> Ultimate Losses (1) | Cumulative Paid Loss Development Factors (2) | Percentage of Losses Not Yet Paid (3) | Expected Unpaid Losses (4) | Losses Paid as of 12/31/14 (5) | Estimated Ultimate Losses (6) |
|-----------------|--|--|---|-------------------------------------|--|--|
| 2005-06 | \$912,212 | 1.001 | 0.1% | \$912 | \$556,750 | \$557,662 |
| 2006-07 | 939,602 | 1.002 | 0.2% | 1,879 | 401,336 | 403,215 |
| 2007-08 | 968,183 | 1.005 | 0.5% | 4,841 | 500,365 | 505,206 |
| 2008-09 | 997,955 | 1.011 | 1.1% | 10,978 | 455,371 | 466,349 |
| 2009-10 | 984,982 | 1.029 | 2.8% | 27,579 | 699,177 | 726,756 |
| 2010-11 | 755,922 | 1.067 | 6.2% | 46,867 | 1,215,955 | 1,262,822 |
| 2011-12 | 920,332 | 1.148 | 12.9% | 118,723 | 387,140 | 505,863 |
| 2012-13 | 1,112,809 | 2.023 | 50.6% | 563,081 | 372,953 | 936,034 |
| 2013-14 | 640,438 | 4.840 | 79.3% | 507,867 | 478,371 | 986,238 |
| 2014-15 | 766,509 | 97.010 | 99.0% | 758,844 | 9,767 | 768,611 |
| Total | \$8,998,943 | | | \$2,041,571 | \$5,077,185 | \$7,118,756 |

Notes:

- (1) Page 48, Column (1).
- (2) Page 46, Column (2).
- (3) $100\% - [1.000 / (2)]$.
- (4) $(1) \times (3)$.
- (5) Page 46, Column (1).
- (6) $(4) + (5)$.

Monterey Bay Area Self Insurance Authority

**Actuarial Analysis of the
General and Auto Liability Program**

Future Loss Exhibits

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Projected \$1M Loss Rate for 2015-16
All Gross of \$10K Deductible

Based on \$250K Limit Analysis

| Program Year | 250K Limit Loss Rate (1) | Factor for \$1M SIR (2) | Projected \$1M SIR Loss Rate (3) |
|--------------|-----------------------------|----------------------------|-------------------------------------|
| 2015-16 | \$1.75 | 1.563 | \$2.74 |

Based on \$1M Limit Analysis

| Program Year | 1M Limit Loss Rate (4) | Factor for \$1M SIR (5) | Projected \$1M SIR Loss Rate (6) |
|--------------|---------------------------|----------------------------|-------------------------------------|
| 2015-16 | \$2.48 | 1.000 | \$2.48 |

| Program Year | Selected 2015-16 \$1M SIR Loss Rate (7) | Projected 2015-16 Payroll (\$00's) (8) | Projected Ultimate Losses (9) |
|--------------|--|---|----------------------------------|
| 2015-16 | \$2.48 | \$448,438 | \$1,113,211 |

Notes:

- (1) Page 52, Item (5).
- (2) Estimated by BAC.
- (3) (1) x (2), rounded.
- (4) Page 53, Item (5).
- (5) Estimated by BAC.
- (6) (4) x (5), rounded.
- (7) Selected by BAC.
- (8) Page 66, Column (2).
- (9) (7) x (8), rounded.

Monterey Bay Area Self Insurance Authority
 General and Auto Liability Program

Projected Future Loss Rate
 Losses Limited to \$250,000, Gross of \$10K Deductible

| Program Year | Estimated Ultimate Losses (1) | Trend Factor (2) | Losses Trended to 2015-16 (3) |
|--|--|------------------------|--|
| 2005-06 | \$556,750 | 1.270 | \$707,304 |
| 2006-07 | 401,336 | 1.239 | 497,303 |
| 2007-08 | 500,365 | 1.209 | 604,856 |
| 2008-09 | 455,371 | 1.180 | 537,166 |
| 2009-10 | 699,177 | 1.152 | 805,206 |
| 2010-11 | 1,280,000 | 1.124 | 1,439,302 |
| 2011-12 | 780,000 | 1.098 | 856,465 |
| 2012-13 | 530,000 | 1.072 | 568,282 |
| 2013-14 | 1,000,000 | 1.047 | 1,047,272 |
| 2014-15 | 770,000 | 1.023 | 787,887 |
| Average 05-06 through 13-14: | | | \$784,795 |
| (4) Projected 2015-16 Payroll (\$00's): | | | \$448,438 |
| (5) Projected 2015-16 \$250K Limit Rate: | | | \$1.75 |

Notes:

- (1) Page 44, Column (6).
- (2) Estimated by BAC.
- (3) (1) x (2).
- (4) Page 66, Column (2).
- (5) Average (3) / (4).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Projected Future Loss Rate
Losses Limited to \$1,000,000, Gross of \$10K Deductible

| Program Year | Estimated Ultimate Losses (1) | Trend Factor (2) | Losses Trended to 2015-16 (3) |
|-----------------|---|------------------------|--|
| 2005-06 | \$556,750 | 1.344 | \$748,498 |
| 2006-07 | 401,336 | 1.305 | 523,628 |
| 2007-08 | 500,365 | 1.266 | 633,479 |
| 2008-09 | 455,371 | 1.228 | 559,331 |
| 2009-10 | 729,487 | 1.192 | 869,666 |
| 2010-11 | 2,370,000 | 1.158 | 2,743,302 |
| 2011-12 | 970,000 | 1.124 | 1,090,650 |
| 2012-13 | 610,000 | 1.092 | 666,090 |
| 2013-14 | 2,060,000 | 1.060 | 2,184,258 |
| 2014-15 | 1,240,000 | 1.030 | 1,276,759 |
| | Average 05-06 through 13-14: | | \$1,113,211 |
| | (4) Projected 2015-16 Payroll (\$00's): | | \$448,438 |
| | (5) Projected 2015-16 \$1M Limit Rate: | | \$2.48 |

Notes:

- (1) Page 30, Column (6).
- (2) Estimated by BAC.
- (3) (1) x (2).
- (4) Page 66, Column (2).
- (5) (3) / (4).

Monterey Bay Area Self Insurance Authority

**Actuarial Analysis of the
General and Auto Liability Program**

Discounting Exhibits

Monterey Bay Area Self Insurance Authority
 General and Auto Liability Program

Discounted Value of Unpaid Losses as of June 30, 2015
 Assuming a 1.0% Interest Rate

Losses Limited to SIR, NET of \$10K Deductible

| Program Year | Projected Unpaid Losses (1) | Discount Factor (2) | Discounted Unpaid Losses (3) |
|-----------------|--------------------------------------|---------------------------|---------------------------------------|
| 2005-06 | \$0 | 1.000 | \$0 |
| 2006-07 | 0 | 1.000 | 0 |
| 2007-08 | 0 | 1.000 | 0 |
| 2008-09 | 0 | 1.000 | 0 |
| 2009-10 | 0 | 1.008 | 0 |
| 2010-11 | 139,354 | 0.995 | 138,662 |
| 2011-12 | 382,556 | 0.991 | 379,056 |
| 2012-13 | 160,963 | 0.989 | 159,137 |
| 2013-14 | 1,118,203 | 0.986 | 1,102,267 |
| 2014-15 | 991,672 | 0.983 | 974,676 |
| | | | |
| Total | \$2,792,749 | | \$2,753,798 |

(4) Indicated Discount Factor: 0.986

Notes:

- (1) Page 22, Column (6).
- (2) (3) / (1).
- (3) Based upon a 1.0% interest rate.
- (4) [Sum of Column (3)] / [Sum of Column (1)].

Monterey Bay Area Self Insurance Authority
 General and Auto Liability Program

Discounted Value of 2015-16 Losses as of July 1, 2015
 Assuming a 1.0% Interest Rate

Losses Limited to \$1M SIR, Gross of \$10K Deductible

| Program Year | Projected Loss Payments (1) | Discounted Value Factor (2) | Discounted Value of Payments (3) |
|-----------------|--------------------------------------|--------------------------------------|---|
| 2015-16 | \$140,627 | 0.995 | \$139,929 |
| 2016-17 | 348,823 | 0.985 | 343,655 |
| 2017-18 | 301,084 | 0.975 | 293,687 |
| 2018-19 | 100,034 | 0.966 | 96,610 |
| 2019-20 | 154,962 | 0.956 | 148,176 |
| 2020-21 | 67,680 | 0.947 | 64,076 |
| 2021-22 | 0 | 0.937 | 0 |
| 2022-23 | 0 | 0.928 | 0 |
| 2023-24 | 0 | 0.919 | 0 |
| 2024-25 | 0 | 0.910 | 0 |
| 2025-26 | 0 | 0.901 | 0 |
| Total | \$1,113,211 | | \$1,086,133 |

(4) Indicated Discount Factor: 0.976

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 1.0% interest rate.
- (3) (1) x (2).
- (4) [Sum of Column (3)] / [Sum of Column (1)].

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Discounted Value of 2015-16 Losses as of July 1, 2015
Assuming a 1.0% Interest Rate

Losses Limited to \$1M SIR, NET of \$10K Deductible

| Program Year | Projected Loss Payments (1) | Discount Factor (2) | Discounted Value of Payments (3) |
|-----------------|--------------------------------------|---------------------------|---|
| 2015-16 | \$100,093 | 0.995 | \$99,596 |
| 2016-17 | 311,468 | 0.985 | 306,854 |
| 2017-18 | 234,832 | 0.975 | 229,062 |
| 2018-19 | 172,482 | 0.966 | 166,578 |
| 2019-20 | 83,082 | 0.956 | 79,444 |
| 2020-21 | 61,425 | 0.947 | 58,154 |
| 2021-22 | 1 | 0.937 | 1 |
| 2022-23 | 0 | 0.928 | 0 |
| 2023-24 | 0 | 0.919 | 0 |
| 2024-25 | 0 | 0.910 | 0 |
| 2025-26 | 0 | 0.901 | 0 |
| Total | \$963,382 | | \$939,689 |

(4) Indicated Discount Factor: 0.975

Notes:

- (1) Based upon the observed payment pattern.
- (2) Based upon a 1.0% interest rate.
- (3) (1) x (2).
- (4) [Sum of Column (3)] / [Sum of Column (1)].

Monterey Bay Area Self Insurance Authority

Actuarial Analysis of the General and Auto Liability Program

Deductibles

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Selected Ultimate Deductible Losses
Losses Limited to \$10,000 Deductible

| Program Year | Reported Projection <u>(1)</u> | B-F Method Using Reported <u>(2)</u> | Selected Ultimate Losses <u>(3)</u> |
|-----------------|--------------------------------------|--|--|
| 2005-06 | \$118,857 | \$118,857 | \$118,857 |
| 2006-07 | 126,468 | 126,468 | 126,468 |
| 2007-08 | 117,857 | 117,856 | 117,856 |
| 2008-09 | 131,947 | 131,945 | 131,945 |
| 2009-10 | 163,141 | 163,139 | 163,139 |
| 2010-11 | 184,490 | 184,412 | 184,412 |
| 2011-12 | 126,606 | 126,601 | 126,603 |
| 2012-13 | 121,066 | 120,546 | 120,806 |
| 2013-14 | 102,365 | 113,264 | 107,814 |
| 2014-15 | 523,326 | 133,351 | 133,351 |
| Total | \$1,716,123 | \$1,336,439 | \$1,331,253 |

Notes:

- (1) Page 60, Column (3).
- (2) Page 61, Column (6).
- (3) Selected on the basis of (1) - (2).

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Reported Loss Development
Deductible Losses Limited to \$10,000

| Program Year | Cumulative Reported Losses as of 12/31/14 (1) | Reported Development Factor as of 12/31/14 (2) | Projected Ultimate Losses (3) |
|-----------------|---|---|--|
| 2005-06 | \$118,857 | 1.000 | \$118,857 |
| 2006-07 | 126,468 | 1.000 | 126,468 |
| 2007-08 | 117,856 | 1.000 | 117,857 |
| 2008-09 | 131,945 | 1.000 | 131,947 |
| 2009-10 | 163,139 | 1.000 | 163,141 |
| 2010-11 | 184,412 | 1.000 | 184,490 |
| 2011-12 | 126,472 | 1.001 | 126,606 |
| 2012-13 | 119,247 | 1.015 | 121,066 |
| 2013-14 | 83,665 | 1.224 | 102,365 |
| 2014-15 | 13,142 | 39.822 | 523,326 |
| Total | \$1,185,203 | | \$1,716,123 |

Notes:

- (1) Provided by Risk Management Services.
- (2) Estimated by BAC.
- (3) (1) x (2), rounded.

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Bornhuetter-Ferguson Using Reported Losses
Deductible Losses Limited to \$10,000

| Program Year | <i>A Priori</i> Ultimate Losses (1) | Cumulative Reported Loss Development Factors (2) | Percentage of Losses Not Yet Reported (3) | Expected Unreported Losses (4) | Limited Losses Reported as of 12/31/14 (5) | Estimated Ultimate Deductible Losses (6) |
|-----------------|--|--|---|---|---|--|
| 2005-06 | \$98,065 | 1.000 | 0.0% | \$0 | \$118,857 | \$118,857 |
| 2006-07 | 69,893 | 1.000 | 0.0% | 0 | 126,468 | 126,468 |
| 2007-08 | 86,172 | 1.000 | 0.0% | 0 | 117,856 | 117,856 |
| 2008-09 | 77,577 | 1.000 | 0.0% | 0 | 131,945 | 131,945 |
| 2009-10 | 117,881 | 1.000 | 0.0% | 0 | 163,139 | 163,139 |
| 2010-11 | 213,576 | 1.000 | 0.0% | 0 | 184,412 | 184,412 |
| 2011-12 | 128,802 | 1.001 | 0.1% | 129 | 126,472 | 126,601 |
| 2012-13 | 86,613 | 1.015 | 1.5% | 1,299 | 119,247 | 120,546 |
| 2013-14 | 161,744 | 1.224 | 18.3% | 29,599 | 83,665 | 113,264 |
| 2014-15 | 123,291 | 39.822 | 97.5% | 120,209 | 13,142 | 133,351 |
| Total | \$1,163,615 | | | \$151,236 | \$1,185,203 | \$1,336,439 |

Notes:

- (1) Page 44, Column (6), adjusted for \$10K limit.
- (2) Page 60, Column (2).
- (3) $100\% - [1.000 / (2)]$.
- (4) $(1) \times (3)$.
- (5) Page 60, Column (1).
- (6) $(4) + (5)$.

Monterey Bay Area Self Insurance Authority

**Actuarial Analysis of the
General and Auto Liability Program**

Claims Data Exhibits

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Cumulative Reported Losses (\$000's) - Limited to \$1M per Loss - Includes ALAE - 12/31/14

| Program | <u>Months of Development</u> | | | | | | | | | | |
|------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|------------------|------------------|-------------------|
| | <u>6</u> | <u>18</u> | <u>30</u> | <u>42</u> | <u>54</u> | <u>66</u> | <u>78</u> | <u>90</u> | <u>102</u> | <u>114</u> | <u>126</u> |
| 2005 | | | | | | 427 | 437 | 437 | 437 | 437 | 437 |
| 2006 | | | | | 618 | 557 | 557 | 557 | 557 | 557 | 557 |
| 2007 | | | | 451 | 424 | 401 | 401 | 401 | 401 | | |
| 2008 | | | 662 | 617 | 500 | 500 | 500 | 500 | | | |
| 2009 | | 541 | 307 | 355 | 405 | 452 | 455 | | | | |
| 2010 | 151 | 569 | 1,025 | 1,082 | 721 | 729 | | | | | |
| 2011 | 76 | 819 | 2,507 | 2,500 | 2,304 | | | | | | |
| 2012 | 19 | 278 | 593 | 856 | | | | | | | |
| 2013 | 55 | 343 | 454 | | | | | | | | |
| 2014 | 7 | 1,443 | | | | | | | | | |
| 2015 | 13 | | | | | | | | | | |
| | <u>6 - 18</u> | <u>18 - 30</u> | <u>30 - 42</u> | <u>42 - 54</u> | <u>54 - 66</u> | <u>66 - 78</u> | <u>78 - 90</u> | <u>90 - 102</u> | <u>102 - 114</u> | <u>114 - 126</u> | <u>126 - Ult.</u> |
| 5 YR VOL | 11.201 | 1.915 | 1.062 | 0.870 | 0.989 | 1.006 | 1.000 | 1.000 | 1.000 | 1.000 | |
| 5 YR AVG | 47.114 | 1.776 | 1.117 | 0.896 | 0.995 | 1.006 | 1.000 | 1.000 | 1.000 | 1.000 | |
| REFERENCE | 6.641 | 1.671 | 1.198 | 1.037 | 1.014 | 1.002 | 1.006 | 1.003 | 1.004 | 1.003 | 1.000 |
| SELECT | 47.114 | 1.776 | 1.158 | 1.037 | 1.014 | 1.002 | 1.002 | 1.001 | 1.000 | 1.000 | 1.000 |
| CUMULATIVE | 102.326 | 2.172 | 1.223 | 1.056 | 1.019 | 1.005 | 1.003 | 1.001 | 1.000 | 1.000 | 1.000 |

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Cumulative Paid Losses (\$000's) - Limited to \$1M per Loss - Includes ALAE - 12/31/14

| Program | <u>Months of Development</u> | | | | | | | | | | |
|------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|------------------|------------------|-------------------|
| | <u>6</u> | <u>18</u> | <u>30</u> | <u>42</u> | <u>54</u> | <u>66</u> | <u>78</u> | <u>90</u> | <u>102</u> | <u>114</u> | <u>126</u> |
| 2005 | | | | | | 411 | 437 | 437 | 437 | 437 | 437 |
| 2006 | | | | | 565 | 557 | 557 | 557 | 557 | 557 | 557 |
| 2007 | | | | 386 | 406 | 401 | 401 | 401 | 401 | 401 | |
| 2008 | | | 337 | 497 | 500 | 500 | 500 | 500 | | | |
| 2009 | | 151 | 255 | 274 | 306 | 372 | 455 | | | | |
| 2010 | 15 | 122 | 524 | 727 | 721 | 729 | | | | | |
| 2011 | 5 | 194 | 646 | 1,932 | 2,200 | | | | | | |
| 2012 | 13 | 113 | 177 | 387 | | | | | | | |
| 2013 | 3 | 124 | 373 | | | | | | | | |
| 2014 | 4 | 478 | | | | | | | | | |
| 2015 | 10 | | | | | | | | | | |
| | <u>6 - 18</u> | <u>18 - 30</u> | <u>30 - 42</u> | <u>42 - 54</u> | <u>54 - 66</u> | <u>66 - 78</u> | <u>78 - 90</u> | <u>90 - 102</u> | <u>102 - 114</u> | <u>114 - 126</u> | <u>126 - Ult.</u> |
| 5 YR VOL | 25.419 | 2.805 | 1.969 | 1.083 | 1.025 | 1.049 | 1.000 | 1.000 | 1.000 | 1.000 | |
| 5 YR AVG | 42.361 | 2.776 | 1.822 | 1.061 | 1.040 | 1.057 | 1.000 | 1.000 | 1.000 | 1.000 | |
| REFERENCE | 8.242 | 3.565 | 1.915 | 1.165 | 1.083 | 1.016 | 1.004 | 1.019 | 1.000 | 1.025 | 1.010 |
| SELECT | 25.419 | 2.776 | 1.822 | 1.061 | 1.062 | 1.037 | 1.010 | 1.005 | 1.005 | 1.002 | 1.000 |
| CUMULATIVE | 153.568 | 6.041 | 2.176 | 1.194 | 1.125 | 1.060 | 1.022 | 1.012 | 1.007 | 1.002 | 1.000 |

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Cumulative # of Reported Losses - 12/31/14

| Program | <u>Months of Development</u> | | | | | | | | | |
|------------|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|------------------|-------------------|
| | <u>6</u> | <u>18</u> | <u>30</u> | <u>42</u> | <u>54</u> | <u>66</u> | <u>78</u> | <u>90</u> | <u>102</u> | <u>114</u> |
| 2006 | | | | | 41 | 40 | 40 | 40 | 39 | 38 |
| 2007 | | | | 56 | 56 | 56 | 56 | 49 | 49 | |
| 2008 | | | 57 | 55 | 55 | 55 | 54 | 52 | | |
| 2009 | | 56 | 61 | 62 | 62 | 61 | 60 | | | |
| 2010 | 17 | 46 | 49 | 52 | 51 | 52 | | | | |
| 2011 | 21 | 121 | 128 | 65 | 65 | | | | | |
| 2012 | 22 | 75 | 72 | 72 | | | | | | |
| 2013 | 17 | 62 | 66 | | | | | | | |
| 2014 | 14 | 58 | | | | | | | | |
| 2015 | 19 | | | | | | | | | |
| | <u>6 - 18</u> | <u>18 - 30</u> | <u>30 - 42</u> | <u>42 - 54</u> | <u>54 - 66</u> | <u>66 - 78</u> | <u>78 - 90</u> | <u>90 - 102</u> | <u>102 - 114</u> | <u>114 - Ult.</u> |
| ALLYR VOL | 3.978 | 1.044 | 0.834 | 0.997 | 0.996 | 0.991 | 0.940 | 0.989 | 0.974 | |
| ALL YR AVG | 3.933 | 1.047 | 0.910 | 0.996 | 0.996 | 0.991 | 0.946 | 0.988 | 0.974 | 1.000 |
| SELECT | 3.933 | 1.047 | 1.020 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| CUMULATIVE | 4.202 | 1.068 | 1.020 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |

Monterey Bay Area Self Insurance Authority
General and Auto Liability Program

Program Information
Program Years run July 1 to June 30

| Program Year | Self-Insured Retention (SIR) (1) | Payroll (\$00's) (2) | Exposure Index (3) | Deductible (4) |
|--------------|-------------------------------------|-------------------------|-----------------------|-------------------|
| 2005-06 | \$1,000,000 | \$401,860 | 1.000 | \$10,000 |
| 2006-07 | 1,000,000 | 429,640 | 1.000 | 10,000 |
| 2007-08 | 1,000,000 | 428,182 | 1.000 | 10,000 |
| 2008-09 | 1,000,000 | 437,000 | 1.000 | 10,000 |
| 2009-10 | 1,000,000 | 470,000 | 1.000 | 10,000 |
| 2010-11 | 1,000,000 | 455,000 | 1.000 | 10,000 |
| 2011-12 | 1,000,000 | 456,468 | 1.000 | 10,000 |
| 2012-13 | 1,000,000 | 457,935 | 1.000 | 10,000 |
| 2013-14 | 1,000,000 | 433,156 | 1.000 | 10,000 |
| 2014-15 | 1,000,000 | 432,210 | 1.000 | 10,000 |
| 2015-16 | ? | 448,438 | 1.000 | 10,000 |

Notes:

- (1) Provided by MBASIA.
EPL SIR is \$500,000 claims made starting 2011-12.
- (2) Provided by MBASIA.
- (4) Provided by MBASIA.
Deductible assumed to apply to combined loss & ALAE.
(Unconfirmed).