

June 2002

Actuarial Valuation Report

Alameda County Employees' Retirement Association

As of December 31, 2001

MERCER

Human Resource Consulting

3 Embarcadero Center, Suite 1500
San Francisco, CA 94111-4015
415 743 8700

MERCER

Human Resource Consulting

Three Embarcadero Center, Suite 1500
San Francisco, CA 94111-4015
415 743 8700 Fax 415 743 8950
www.mercerHR.com

June 3, 2002

Board of Retirement
Alameda County Employees' Retirement Association
475 - 14th Street, Suite 1000
Oakland, CA 94612

Dear Members of the Board:

We are pleased to present the actuarial valuation report for the Alameda County Employees' Retirement Association prepared as of December 31, 2001 by Mercer Human Resource Consulting. The report includes:

- (1) A determination of the recommended employer contribution rates. These rates are calculated to be effective July 1, 2002;
- (2) A determination of the recommended member contribution rates, also to be effective on July 1, 2002;
- (3) A determination of the funded status as of December 31, 2001; and
- (4) Financial reporting and disclosure information pursuant to applicable accounting standards.

This report conforms to the requirements of the governing state and local statutes, accounting rules, and generally accepted actuarial principles and practices.

This report reflects the estimated impact on funding status and contribution rates of the Retirement Board's expansion of the pay items includable in Earnable Compensation in response to the 1997 California Supreme Court decision in the *Ventura County Deputy Sheriff's Association vs. Board of Retirement, Ventura County Employees' Retirement Association*, including retroactive benefit payments.

- Retirement benefits for those who are expected to retire after December 31, 2001 include an estimate for the terminal and non-terminal pay elements expected to be paid during members' final average compensation period.

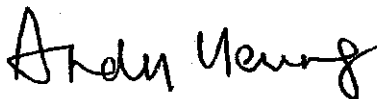
MERCER

Human Resource Consulting

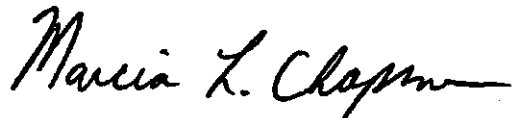
This report also incorporates the assumption changes adopted by the Board as a result of the November 30, 2001 triennial experience analysis.

The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion rendered herein.

Sincerely,



Andy Yeung, ASA, EA, MAAA



Marcia L. Chapman, FSA, EA, MAAA

Table of Contents

ACTUARIAL CERTIFICATION.....	1
▪ Actuarial Certification	2
BOARD MEMBER SUMMARY OF VALUATION RESULTS.....	7
▪ Summary of Recommendations	8
▪ Summary of Significant Actuarial Statistics and Measures	9
▪ Explanation of Changes in Actuarial Values.....	10
ACTUARIAL ASSUMPTIONS	12
▪ Economic Actuarial Assumptions	13
▪ Non-Economic Actuarial Assumptions.....	13
▪ Non-Economic Actuarial Assumptions.....	14
ACTUARIAL VALUATION METHODS	16
▪ Actuarial Funding Method	17
▪ Actuarial Value of Assets	19
▪ Actuarial Value of Assets	20
ACTUARIAL VALUATION RESULTS.....	21
▪ Employer and Member Contribution Rates.....	22
▪ Recommended Employer and Member Contribution Rates.....	22
▪ Explanation of Changes in Actuarial Values.....	23
FUNDING STATUS	31
▪ Evaluation of Funding Status	32
FUNDING HISTORY.....	34
▪ Funding History.....	35
ACTUARIAL BALANCE SHEET.....	37
▪ Actuarial Balance Sheet.....	38
ASSOCIATION ASSETS.....	42
▪ Association Assets.....	43
APPENDICES.....	45
A. Major Provisions of the Pension Plan	
B. Summary of Assumptions and Funding Method	
C. Summary of Membership and Benefit Statistics	
D. Members' Contribution Rates	
E. CAFR Actuarial Schedules	
F. Glossary of Actuarial Terminology	

ACTUARIAL CERTIFICATION

Actuarial Certification

The annual actuarial valuation required for the Alameda County Employees' Retirement Association has been prepared as of December 31, 2001 by Mercer Human Resource Consulting. In preparing this valuation, we have employed generally accepted actuarial methods and assumptions to determine a sound value for the Association's assets, liability and future contribution requirements. Our calculations are based upon member data, as of November 30, 2001 provided to us by the Association's staff and financial information as of December 31, 2001 provided by the unaudited report. The salary and service data for active members were then projected to December 31, 2001. This data has not been audited, but it has been reviewed and compared with data provided by the Association for the last valuation. There were significant changes to both the active and retiree liabilities as a result of more accurate data being provided by the Association's new Pension Gold data system.

The contribution requirements are determined as a percentage of payroll. The funding objective of the plan is to determine employer rates that provide for both normal cost and either a contribution to amortize the unfunded actuarial accrued liability or a credit when actuarial assets exceed the actuarial accrued liability. The amortization period is 17 years as of December 31, 2001; however, the amortization of the 1993 Golden Handshake liability over the 2½ years following December 31, 2001, and the excess interest return on the Pension Obligation Bonds is amortized over 8 years. The amortization periods are set by the Board of Retirement. The unfunded actuarial accrued liability contribution credit is calculated to remain level as a percentage of future payroll (including projected payroll for future members). Payments will increase at the assumed rate of inflation, which is 4.50% per year.

Contribution levels are recommended by the Actuary and adopted by the Board each year. The ratio of Actuarial Value of Assets to Actuarial Accrued Liabilities decreased from 107.9% to 105.8% during the year, primarily as a result of change in actuarial assumptions and asset returns less than expected.

The Actuarial Value of Assets reflects the Board's action to accelerate the recognition of about \$259 million in deferred actuarial gains in the December 31, 1998 valuation to offset the increase in actuarial accrued liability resulting from the settlement of the Ventura litigation.

There were no plan changes since our last valuation, as of December 31, 2000.

Mercer recommended the following assumption changes in the November 30, 2001 triennial experience analysis:

Pre-Retirement Assumptions

- **Withdrawal** – Separate rates were determined for members with less than five years of service, since they generally exhibit higher withdrawal rates. Slightly higher withdrawals were observed among General Tier 1 members and Safety Tier 2 members with less than five years of service, and Female General members with more than five years of service. The withdrawal assumptions were modified to reflect this trend. Other changes were only modest adjustments.

ACTUARIAL CERTIFICATION

- **Duty Disability** – There were more duty disabilities among General Tier 1 female and Safety members than expected. Adjustments were made to anticipate more duty disabilities.
- **Service Retirement Rates** – Service retirement took place earlier than expected for General Tier 1 members, and slight adjustments were made to the rates.
- **Termination with Vested Benefit** – We observed that several members terminated employment with fewer than five years of service and became entitled to a deferred retirement benefit (through reciprocal service with a prior or a new employer). We have extended the vested termination assumption to apply to members with less than five years of service.

Salary Increase

- **Salary Increase** – Changes were recommended to the merit and longevity salary increase assumptions to reflect the higher than expected salary increases over the last three years. We recommended an increase in the current average annual salary increase assumption of 5.6% to 5.9%.

Post-Retirement Mortality

- **Post-Retirement Mortality** – The actual mortality experience for retired male General and Safety members who retired from service and General Members who retired from disability reflect lower than expected deaths over the experience study period. Adjustments were made to reflect about a one-year improvement in life expectancy.

Investment Return Assumption

We recommended a decrease in the investment return assumption from 8.25% to 8.00%. This is primarily due to a decrease in the long-term expected return from the asset classes that ACERA invests in and an increase in the expected investment expenses paid by ACERA.

Asset Valuation Method

We recommended that the Board apply an 80% to 120% “market corridor” to ensure that the actuarial and interest crediting processes do not deviate too significantly from the actual market.

Amortization Period for Excess Investment Return on the County's Pension Obligation Bonds

We provide our analysis and recommendation on the period that the Board may use to amortize the excess investment return on the County's Pension Obligation Bonds (POB). We recommended that the Board maintain a fixed nine-year amortization schedule in amortizing the excess investment return on the County's POB.

ACTUARIAL CERTIFICATION

The Board decided to adopt all the demographic assumptions (pre-retirement and post-retirement), but continued to apply the current 8.25% investment return and salary scale assumptions, and to amortize the excess investment return on the Pension Obligation Bonds over eight years for one more year.

The Board also decided to explore fully the impact of the 80% to 120% market value corridor before adopting any changes in its current smoothing methodology.

The following are points to note regarding the Board's action on the assumption recommendations:

- (a) **Salary Increase** – After Mercer presented our findings from the triennial experience analysis, the County presented Mercer with additional information that would allow Mercer to more accurately validate the salary assumption changes we recommended to the Board.

Mercer will complete a full review of the new salary data within the next few months and the Board has already accepted Mercer's recommendation to implement new salary assumptions in the December 31, 2002 valuation.

We do not believe delaying the implementation of the new assumptions will create an unsound financial risk for the Association.

- (b) **Investment Return** – The Board wants to maintain the current investment return assumption for one more year in order to have more time to study the long-term expected return and the long-term investment expenses for its portfolio.

Mercer has provided the Board with a comparison of the long-term employer and member contribution rates and funding ratio resulting from a delayed implementation of the lower 8.00% recommended investment return assumption.

Even though the continuation of the current 8.25% investment return assumption will increase the probability of investment losses in the future, we do not believe maintaining the current assumption of 8.25% will create an unsound financial risk for the Association.

- (c) **Asset Valuation Method** – 80% to 120% market corridor

We will work with the Association to provide the Board with what they will need in order to implement this procedural change. Please note that this is a preventive measure and has no impact on the actuarial and interest crediting process as of December 31, 2001.

- (d) **Amortization of Excess Investment Return from Pension Obligation Bonds Over Eight Years** - Mercer's original recommendation to amortize the excess investment return from the Pension Obligation Bonds over nine years was to level out the County's contribution rate in future years.

We understand that the County is already working on a plan to smooth out contribution rates before the excess investment returns are exhausted. Therefore, we do not believe it is imprudent

ACTUARIAL CERTIFICATION

to amortize the excess investment returns over eight years, if the Board is satisfied that the County is moving forward to address this issue.

In our opinion, the combined operation of the assumptions and methods applied in this valuation, fairly represent past and anticipated future experience of the Association and meet the parameters required by GASB Statement 25.

A list of the supporting schedules we prepared for inclusion in the actuarial, statistical and financial sections of the Association's CAFR report is provided below.

1. Schedule of Active Member Valuation Data
2. Retirees and Beneficiaries Added to and Removed From Retiree Payroll
3. Solvency Test
4. Actuarial Analysis of Financial Experience
5. Schedule of Average Benefit Payments for Retirees and Beneficiaries
6. Schedule of Funding Progress
7. Schedule of Retiree Members by Type of Benefit

Future contribution requirements may differ from those determined in the valuation because of:

- Differences between actual experience and anticipated experience;
- Changes in actuarial assumptions or methods;
- Changes in statutory provisions; and
- Differences between the contribution rates determined by the valuation and those adopted by the Board.


This report reflects the current estimated impact on funding status and contribution rates of the Retirement Board's expansion of the pay items includable in Earnable Compensation in response to the 1997 California Supreme Court decision in *the Ventura County Deputy Sheriff's Association vs. Board of Retirement, Ventura County Employees' Retirement Association*, including retroactive benefit payments.

Retirement benefits for members who are expected to retire after December 31, 2001 include an estimate for the terminal pay elements expected to be paid during members' final average compensation period.

ACTUARIAL CERTIFICATION

The undersigned meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion rendered herein.


Mercer Human Resource Consulting



Andy Yeung, ASA, EA, MAAA

6/4/02

Date



Marcia L. Chapman, FSA, EA, MAAA

6/4/02

Date

**BOARD MEMBER SUMMARY OF
VALUATION RESULTS**

SUMMARY OF VALUATION RESULTS

Summary of Recommendations

Employer Contribution Rates	<u>December 31, 2001 *</u>	<u>December 31, 2000 *, **</u>	Increase/(Decrease)
Normal Cost Rate	9.35%	9.75%	(0.40%)
Rate of Contribution to Unfunded Actuarial Accrued Liability	-4.84%	-5.67%	0.83%
Total Employer Rate	4.51%	4.08%	0.43%
Estimated Annual Amount	\$26,647,000	\$24,081,000	\$2,566,000

Member Contribution Rates	<u>December 31, 2001 *</u>	<u>December 31, 2000 *</u>	Increase/(Decrease)
General Members (Tier 1)***			
25	8.77%	9.00%	(0.23%)
35	9.79%	10.04%	(0.25%)
45	11.11%	11.40%	(0.29%)
General Members (Tier 2)***			
25	6.18%	6.20%	(0.02%)
35	6.90%	6.92%	(0.02%)
45	7.83%	7.86%	(0.03%)
Safety Members (Tier 1)***			
21	10.62%	10.65%	(0.03%)
25	11.03%	11.07%	(0.04%)
30	11.69%	11.73%	(0.04%)
Safety Members (Tier 2)***			
21	8.91%	8.87%	0.04%
25	9.27%	9.21%	0.06%
30	9.81%	9.76%	0.05%
Estimated Annual Amount	\$45,462,000	\$45,755,000	(\$293,000)

Actuarial Assumptions	<u>December 31, 2001</u>	<u>December 31, 2000</u>	Increase/(Decrease)
Annual Inflation Rate	4.50%	4.50%	0.00%
Annual Investment Return	8.25%	8.25%	0.00%
Average Annual Salary Increases	5.60%	5.60%	0.00%

Other assumptions are based upon the November 30, 2001 experience analysis

* Result based on assumptions adopted by the Board (8.25% interest, 4.50% inflation and 1.10% average merit and longevity assumptions) and December 31, 2001 payroll

** Average employer contribution rates have been recalculated based on December 31, 2001 payroll

*** Contributions for the first \$161 of bi-weekly pay are based on 2/3 of the above rates

g:\retire\ace\2002\val-b\report01 clean.doc

SUMMARY OF VALUATION RESULTS

Summary of Significant Actuarial Statistics and Measures

	<u>December 31, 2001</u>	<u>December 31, 2000</u>	Increase/(Decrease)
Association Membership			
<i>Active Members</i>			
1 Number of Members	10,974	10,456	5.0%
2 Total Active Payroll	\$590,392,000	\$532,305,000	10.9%
3 Average Monthly Salary	\$4,483	\$4,242	5.7%
<i>Retired Members</i>			
1 Number of Members			
Service Retirement	4,443	4,352	2.1%
Disability Retirement	511	477	7.1%
Beneficiaries	913	870	4.9%
2 Total Retired Payroll	\$124,086,000	\$115,260,000	7.7%
3 Average Monthly Pension	\$1,762	\$1,685	4.6%
<i>Inactive Vested Members</i>			
1 Number of Members	1,025	975	5.1%
Asset Values (Net)			
Market Value	\$3,517,082,000	\$3,734,794,000	(5.8%)
Return on Market Value	-3.49%	-0.21%	
Actuarial Valuation Assets	\$3,321,794,000	\$3,169,178,000	4.8%
Return on Actuarial Valuation Assets	7.11%	8.48%	
Liability Values			
Actuarial Accrued Liability	\$3,140,216,000	\$2,936,631,000	6.9%
Unfunded Actuarial Accrued Liability (UAAL)	(\$181,578,000)	(\$232,547,000)	21.9%
Funding Ratios			
GASB No 25	105.8%	107.9%	(2.1%)

Explanation of Changes in Actuarial Values

Employer Contribution Rate

The average employer contribution rate increased from 4.08% to 4.52% due to the following causes:

Change in Employer's Rate

<u>Description</u>	<u>% of Payroll</u>	<u>Dollar Impact</u>
December 31, 2000 Employer Rate	4.08%	\$24,081,000
<i><u>Before Change in Actuarial Assumptions</u></i>		
Investment return less than expected	0.83%	\$4,882,000
Salary increase more than expected	0.22%	\$1,299,000
Dilution of Rate Credit from Surplus Assets	0.28%	\$1,680,000
Data Changes to Continuance Percent Reported for Retirees	-0.10%	(\$609,000)
Adjustment to Normal Cost Rate	-0.18%	(\$1,038,000)
Adjustment to Actuarial Accrued Liability for Active Members	-0.78%	(\$4,605,000)
Data Changes to Retirees with Added Annuity Option	-0.16%	(\$932,000)
Miscellaneous (gains)/ losses	-0.10%	(\$606,000)
Subtotal	0.01%	\$71,000
December 31, 2001 Employer Rate (Before Change in Actuarial Assumptions)	4.09%	\$24,152,000
<i><u>After Change in Actuarial Assumptions</u></i>		
Change in Demographics Assumptions	0.42%	\$2,495,000
December 31, 2001 Employer Rate (After Change in Actuarial Assumptions)	4.51%	\$26,647,000
Net Impact of Actuarial Experience and Assumptions	0.43%	\$2,566,000

SUMMARY OF VALUATION RESULTS

Explanation of Gain/ Loss Items

Before Change in Actuarial Assumptions

Investment return less than expected - The Association's actuarial valuation assets earned 7.11% which is less than the 8.25% return assumption

Salary increase more than expected - The average salary increase for continuing active members was 8.5% versus the assumed 5.6%

Dilution of rate credit from surplus assets - The employer's total payroll (from continuing as well as new active employees) grew by about 10.9% versus the 4.5% expected. As a result of this unexpected growth in payroll, the surplus assets now being used to reduce normal cost are smaller as a percentage of payroll.

Data Changes to Continuance Percent Reported for Retirees - Single retirees who were previously reported as married and entitled to a 60% continuance benefit.

Adjustment in Normal Cost Rate - This is the reduction in normal cost as a result of using more accurate historical service data provided by Pension Gold. In the past, benefit service earned by a member as of the date of valuation was not provided by Benesys. Mercer had estimated the service assuming a member always worked full time and had no gaps in his/her employment. This year, the actual service was reported by Pension Gold and used directly by Mercer in determining benefits.

Adjustment to Actuarial Accrued Liability for Active Members - This is the reduction in actuarial accrued liability as a result of using more accurate historical service data provided by Pension Gold. In the past, benefit service earned by a member as of the date of valuation was not provided by Benesys. Mercer had estimated the service assuming a member always worked full time and had no gaps in his/her employment. This year, the actual service was reported by Pension Gold and used directly by Mercer in determining benefits.

Data Changes to Retirees with Added Annuity Option - This is the reduction in actuarial accrued liability as a result of using more accurate data to value retirees who chose the added annuity option.

Miscellaneous (gains)/ losses - Other rate changes with untraced sources.

After Change in Actuarial Assumptions

Change in Demographics Assumptions - This is the contribution rate impact due to change in both pre-retirement and post-retirement demographic assumptions.

Member Contribution Rate

Change in Member's Rate

Description	% of Payroll	Dollar Impact
December 31, 2000 Employer Rate	7.75%	\$45,755,000
<u>Before Change in Actuarial Assumptions</u>		
Change in Cost to Provide Cost-of-Living Benefits	-0.05%	(\$293,000)
Subtotal	7.70%	\$45,462,000
<u>After Change in Actuarial Assumptions</u>		
Change in Demographic Assumptions	0.00%	\$0
December 31, 2001 Member Rate (After Change in Actuarial Assumptions)	7.70%	\$45,462,000

After Change in Actuarial Assumptions

Change in Demographics Assumptions - The combined General and Safety member contribution rate has not changed even though the contribution rates for General and Safety tier 1 members have slightly decreased and rates for Safety tier 2 members have slightly increased.

General tier 1 and Safety tier 1 member rates are going down because more General tier 1 and Safety tier 1 members are expected to retire after age 50 with a disability retirement. The amount of monthly benefit is not expected to go up as a result of the disability retirement (because the service retirement formula is expected to provide a greater benefit than the 50% of final average salary under the disability formula), but the retirees are expected to collect less cost-of-living benefit as a result of the shorter life expectancy.

The safety basic rates are going up to reflect the longer life expectancies for Safety members.

ACTUARIAL ASSUMPTIONS

Economic Actuarial Assumptions

In March 2002, we presented our report with our analysis of the economic and demographic experience of the Association over the past three years. Subsequent to that report the Board has spent considerable time analyzing our report and discussing the implications of the actuarial assumption changes we recommended. Based on our report and on this analysis, the Board took action.

A brief summary of our recommendations and Board actions follows:

- Inflation – We recommended a 4.5% inflation assumption. The Board agreed with our recommendation.

- Investment Return – Based primarily on decreases in projected long-term expected returns and on increases in investment expenses, we recommended that the Board adopt an 8.0% investment assumption. The Board decided to continue the current investment return assumption of 8.25% for one year in order to have the time to study the long-term expected return and long-term investment expenses for the portfolio.

- Merit and Longevity Salary Increases – Based on our observations, we recommended changes in the merit and longevity salary increases. The Board decided to postpone action on the salary increases in order to allow us to analyze additional information provided by the County.

For further information regarding our assumption recommendations, please see our report dated March, 2002 and our subsequent communications on April 26, 2002.

Non-Economic Actuarial Assumptions

We also reviewed the demographic experience of the Association. Details of our review can be found in our March, 2002 report. The Board adopted all of our recommended demographic assumption recommendations. Tables showing the assumptions used for this report can be found in Appendix B.

Non-Economic Actuarial Assumptions

General

Non-economic assumptions are based on observed experience by category of employment by age and/or service group.

The non-economic assumptions were reviewed at the time of November 30, 2001 experience investigation. Adjustments to the current assumptions were based upon a determination of the likelihood that the most recent experience could be produced as merely a statistical variation of the current assumptions.

If the most recent experience demonstrates a deviation from current assumptions which is deemed statistically significant, a credibility weighting is attached to this experience. The credibility weighting can vary significantly among the various components depending upon whether there is a low or high number of occurrences. The credibility weighting will also depend upon the presence of any non-recurring events that might affect the predictive ability of the recent experience.

Post-retirement mortality tables will generally be some variation of standard tables developed by actuarial professional organizations from a much wider base of data.

Components

1. Nonvested withdrawal
2. Service retirement
3. Disability retirement (service and nonservice connected)
4. Pre-retirement death benefits (while eligible for service retirement; before service retirement eligibility; service and nonservice connected)
5. Deferred retirement
6. Post-retirement mortality

Components 1 through 5 represent the probabilities of separation from active service due to various causes. Component 6 represents the length of time members will live after retirement.

Separation from Active Service

In the November 30, 2001 experience study, an analysis was carried out to determine the probability of members terminating from active service for various causes. The probabilities developed in that study are used as the basis of determining costs in this valuation.

The probabilities for each non-economic assumption component are listed in Appendix B.

Post-Retirement Mortality

In the November 30, 2001 experience study, the mortality of members after service and after disability retirement was also analyzed and changes were made to reflect a trend to toward improved mortality. The life expectancies based on the new tables are shown in Appendix B.

Mortality Basis for Members' Basic Contribution Rates

We have calculated member contribution rates utilizing a sex-independent mortality basis under Section 31676.1 and 31676.12 for General Tier 1 and Tier 2 members, respectively, and Section 31664 for Safety members. The mortality tables are the 1994 Group Annuity Mortality Table for males set back four years for General Members and the 1994 Group Annuity Mortality Table with a two-year setback for Safety Members. In our opinion, these tables can reasonably be expected to represent the aggregate future mortality for each group and provide an adequate and equitable mortality basis for determining member contribution rates.

ACTUARIAL VALUATION METHODS

Actuarial Funding Method

Responsibility of the Actuary

A retirement system is a long-term proposition. It contains benefit promises that extend many decades into the future. The fiduciaries responsible for funding the system cannot wait until these promises become due before seeking out the money needed to pay for them. The actuary's primary responsibility is to assist the Board to structure a financial plan to advance fund the benefit promises of the system and to monitor its performance. This financial plan is more commonly referred to as an actuarial funding method.

Employer Contributions

Employer contributions consist of two components:

1. *Normal Cost* - That annual contribution rate which, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement-related benefits. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution rate is expressed as a level percentage of the member's compensation.
2. *Contribution to the Unfunded Actuarial Accrued Liability (UAAL)* - That annual contribution rate which, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution is calculated to remain as a level percentage of future active member payroll (including payroll of new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments are scheduled to increase at the assumed annual inflation rate of 4.50%. The UAAL is being funded over the 17-year period following December 31, 2001. The Golden Handshake liabilities are being amortized over the 2½ -years following December 31, 2001. Excess interest on the Pension Obligation Bond proceeds is being amortized over 8 years.

The actuarial funding method just described, which has been adopted by the Board, is called the Entry Age Normal Funding Method.

A more complete definition of the Unfunded Actuarial Accrued Liability and other actuarial terms is provided in the Glossary of Actuarial Terms which can be found in Appendix F.

Member Contributions

Articles 6 and 6.8 of the 1937 Act define the methodology to be used in the calculation of member basic contribution rates for General and Safety members, respectively. The basic contribution rate is determined as that percentage of compensation which, if paid annually from a member's first year of membership through age 60 for General members (age 50 for Safety members), would accumulate to the amount necessary to fund an annuity at that age equal to 1/100 of Final Average Salary for General Tier 1 and Safety members (1/120 for General members under Tier 2). Accumulation includes annual crediting of interest at the assumed investment earnings rate. Members also pay 50% of the cost of living benefit.

Actuarial Value of Assets

Background

Under the Entry Age Normal Actuarial Funding Method, a determination is made of the target value of assets the Association would hold if current employer normal cost and member contribution rates had been paid from each member's entry age through the actuarial valuation date and credited with the current investment return assumption. This target value of assets is called the Actuarial Accrued Liability (AAL). The Unfunded Actuarial Accrued Liability (UAAL) is equal to the AAL less the Actuarial Value of Assets as of the actuarial valuation date.

Actuarial Standards

In 1993 the Actuarial Standards Board issued Standard of Practice (SOP) No. 4 entitled Measuring Pension Obligations. Section 5.2.6 of SOP No. 4 states, in part, that the Actuarial Value of Assets should generally reflect some function of market value; however, it may be appropriate to use methods which smooth out the effects of short-term volatility in market value.

In Mercer's opinion, the use of smoothing methods are especially important for employers with limited budgetary flexibility, such as governmental entities.

More detailed information on our recommendation may be found in our March 2002 experience study report.

Actuarial Value of Assets

Below is the development of the actuarial value of assets assuming the market value corridor was to be applied in the December 31, 2001 valuation (see steps 4 and 5). Since the actuarial asset was about 112%¹ of market value as of December 31, 2001, the application of the corridor has no impact on the determination of actuarial value of assets as of December 31, 2001.

Table 8

Six Month Period		Total Actual Market	Expected Market	Investment	Deferred	Deferred
From	To	Return (net)	Return (net)	Gain (Loss)	Factor	Return
Thru 12/98				184,411,036	0.25	46,102,759
1/99	6/99	208,849,267	134,948,767	73,900,500	0.4	29,560,200
7/99	12/99	297,386,717	146,683,006	150,703,711	0.5	75,351,856
1/00	6/00	75,158,786	157,462,253	(82,303,467)	0.6	(49,382,080)
7/00	12/00	(83,147,325)	158,464,713	(241,612,038)	0.7	(169,128,427)
1/01	6/01	(76,028,101)	153,144,503	(229,172,605)	0.8	(183,338,084)
7/01	12/01	(52,912,739)	148,172,548	(201,085,288)	0.9	(180,976,759)
1 Total deferred return						(431,810,535)
2. Market Value						3,517,082,363
3 Actuarial Value of Assets (Item 2 - Item 1)						3,948,892,898
4 Corridor Limit						
a. 80% of Net Market Value						2,813,665,890
b. 120% of Net Market Value						4,220,498,835
5. Actuarial Value (Item 3 after corridor applied)						3,948,892,898
6. Non-valuation reserves and designations.						
a. Reserve for Interest Fluctuations						100,265,797
b. Supplemental Retiree Benefits Reserve						520,349,815
c. Other non-valuation reserves (Includes the 401(h) Reserve)						6,483,471
d. Subtotal						627,099,083
7. Actuarial Value of Assets for valuation (Item 5 - Item 6)						3,321,793,815

The following table provides the losses to be recognized in each of the next four valuations.

Valuation Date	Recognition of Deferred Return Amount To Be Recognized
12/31/2002	(\$70,269,987)
12/31/2003	(\$126,226,146)
12/31/2004	(\$163,879,058)
12/31/2005	(\$71,435,345)
Total	(\$431,810,535)

¹ Similarly, the value of assets for reserving (or interest crediting) purposes was 109% of market value as of December 31, 2001

12/01

ACTUARIAL VALUATION RESULTS

Employer and Member Contribution Rates

The following Table 9 provides a comparison of the Employer and Member contribution rates and estimated annual contribution amounts under the current and recommended actuarial assumption. The estimated annual contribution amounts are based upon annual payroll as of the actuarial valuation date.

Table 9
Contribution Rates and Estimated Annual Contributions

Valuation Basis (Inflation/Investment Return/ Salary Increase)	Employer Contributions		Member Contributions	
	Rate*	Annual Amount*	Rate*	Annual Amount*
Current Rates (4.50%/8.25%/5.60%)	4.08%	\$24,081,000	7.75%	\$45,755,000
Recalculated Rates (4.50%/8.25%/5.60%)	4.51%	\$26,647,000	7.70%	\$45,462,000

* Based on total annual salaries as of December 31, 2001 of \$590,392,000

Recommended Employer and Member Contribution Rates

Mercer recommends the adoption of the recommended rates and the assumptions which underlie those rates. The component parts of the current and recommended member and employer contribution rates broken down among the various member categories can be found in Tables 10 and 11, respectively.

Please note that the County rate in Table 11 also applies to the Hospital Authority and will be supplemented with a Pension Obligation Bond debt service payment from the Authority to the County.

Explanation of Changes in Actuarial Values

Employer Contribution Rate

The average employer contribution rate increased from 4.08% to 4.52% due to the following causes:

Change in Employer's Rate

<u>Description</u>	<u>% of Payroll</u>	<u>Dollar Impact</u>
December 31, 2000 Employer Rate	4.08%	\$24,081,000
<i><u>Before Change in Actuarial Assumptions</u></i>		
Investment return less than expected	0.83%	\$4,882,000
Salary increase more than expected	0.22%	\$1,299,000
Dilution of Rate Credit from Surplus Assets	0.28%	\$1,680,000
Data Changes to Continuance Percent Reported for Retirees	-0.10%	(\$609,000)
Adjustment to Normal Cost Rate	-0.18%	(\$1,038,000)
Adjustment to Actuarial Accrued Liability for Active Members	-0.78%	(\$4,605,000)
Data Changes to Retirees with Added Annuity Option	-0.16%	(\$932,000)
Miscellaneous (gains)/ losses	-0.10%	(\$606,000)
Subtotal	0.01%	\$71,000
December 31, 2001 Employer Rate (Before Change in Actuarial Assumptions)	4.09%	\$24,152,000
<i><u>After Change in Actuarial Assumptions</u></i>		
Change in Demographics Assumptions	0.42%	\$2,495,000
December 31, 2001 Employer Rate (After Change in Actuarial Assumptions)	4.51%	\$26,647,000
Net Impact of Actuarial Experience and Assumptions	0.43%	\$2,566,000

ACTUARIAL VALUATION RESULTS

Explanation of Gain/ Loss Items

Before Change in Actuarial Assumptions

Investment return less than expected - The Association's actuarial valuation assets earned 7.11% which is less than the 8.25% return assumption

Salary increase more than expected - The average salary increase for continuing active members was 8.5% versus the assumed 5.6%

Dilution of rate credit from surplus assets - The employer's total payroll (from continuing as well as new active employees) grew by about 10.9% versus the 4.5% expected. As a result of this unexpected growth in payroll, the surplus assets now being used to reduce normal cost are smaller as a percentage of payroll.

Data Changes to Continuance Percent Reported for Retirees - Single retirees who were previously reported as married and entitled to a 60% continuance benefit.

Adjustment in Normal Cost Rate - This is the reduction in normal cost as a result of using more accurate historical service data provided by Pension Gold. In the past, benefit service earned by a member as of the date of valuation was not provided by Benesys. Mercer had estimated the service assuming a member always worked full time and had no gaps in his/her employment. This year, the actual service was reported by Pension Gold and used directly by Mercer in determining benefits.

Adjustment to Actuarial Accrued Liability for Active Members - This is the reduction in actuarial accrued liability as a result of using more accurate historical service data provided by Pension Gold. In the past, benefit service earned by a member as of the date of valuation was not provided by Benesys. Mercer had estimated the service assuming a member always worked full time and had no gaps in his/her employment. This year, the actual service was reported by Pension Gold and used directly by Mercer in determining benefits.

Data Changes to Retirees with Added Annuity Option - This is the reduction in actuarial accrued liability as a result of using more accurate data to value retirees who chose the added annuity option.

Miscellaneous (gains)/ losses - Other rate changes with untraced sources.

After Change in Actuarial Assumptions

Change in Demographics Assumptions - This is the contribution rate impact due to change in both pre-retirement and post-retirement demographic assumptions.

Member Contribution Rate

Change in Member's Rate

<u>Description</u>	<u>% of Payroll</u>	<u>Dollar Impact</u>
December 31, 2000 Employer Rate	7.75%	\$45,755,000
<u>Before Change in Actuarial Assumptions</u>		
Change in Cost to Provide Cost-of-Living Benefits	-0.05%	(\$293,000)
Subtotal	7.70%	\$45,462,000
<u>After Change in Actuarial Assumptions</u>		
Change in Demographic Assumptions	0.00%	\$0
December 31, 2001 Member Rate (After Change in Actuarial Assumptions)	7.70%	\$45,462,000

After Change in Actuarial Assumptions

Change in Demographics Assumptions - The combined General and Safety member contribution rate has not changed even though the contribution rates for General and Safety tier 1 members have slightly decreased and rates for Safety tier 2 members have slightly increased.

General tier 1 and Safety tier 1 member rates are going down because more General tier 1 and Safety tier 1 members are expected to retire after age 50 with a disability retirement. The amount of monthly benefit is not expected to go up as a result of the disability retirement (because the service retirement formula is expected to provide a greater benefit than the 50% of final average salary under the disability formula), but the retirees are expected to collect less cost-of-living benefit as a result of the shorter life expectancy.

The safety basic rates are going up to reflect the longer life expectancies for Safety members.

Table 10
Summary of Employee Contribution Rates

Current Member Rates *

4.50% inflation, 8.25% interest and 5.60% salary scale assumption

Entry Age	GENERAL		Entry Age	SAFETY	
	Tier 1	Tier 2		Tier 1	Tier 2
25	9.00%	6.20%	21	10.65%	8.87%
35	10.04%	6.92%	25	11.07%	9.21%
45	11.40%	7.86%	30	11.73%	9.76%

Recommended Member Rates *

4.50% inflation, 8.25% interest and 5.60% salary scale assumption

Entry Age	GENERAL		Entry Age	SAFETY	
	Tier 1	Tier 2		Tier 1	Tier 2
25	8.77%	6.18%	21	10.62%	8.91%
35	9.79%	6.90%	25	11.03%	9.27%
45	11.11%	7.83%	30	11.69%	9.81%

* Contributions for the first \$161 of biweekly payroll are based on 2/3 of the above rates.

Table 10 (continued)
Employee Contribution Rate Detail
Current Rates
4.50% inflation, 8.25% interest and 5.60% salary scale assumption

	<u>GENERAL</u>				<u>SAFETY</u>			
	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 1</u>	<u>Tier 2</u>
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Basic	5.82%	\$6,680,000	5.73%	\$21,967,000	7.24%	\$2,049,000	7.99%	\$5,096,000
COL	2.39%	\$2,744,000	1.30%	\$4,994,000	3.17%	\$897,000	2.08%	\$1,328,000
Total	8.21%	\$9,424,000	7.03%	\$26,961,000	10.41%	\$2,946,000	10.07%	\$6,424,000
Average rate for the total group = 7.75%								
NOTE: Contribution amounts are based on total annual salaries as of the valuation date								
	<u>GENERAL</u>		<u>SAFETY</u>					
Annual Salaries	<u>Tier 1</u>	<u>Tier 2</u>	<u>Tier 1</u>	<u>Tier 2</u>	<u>Total</u>			
County*	\$108,046,362	\$383,518,137	\$28,299,966	\$63,792,648	\$583,657,112			
District	\$6,735,023	\$0	\$0	\$0	\$6,735,023			
TOTAL	\$114,781,384	\$383,518,137	\$28,299,966	\$63,792,648	\$590,392,135			

* Includes payroll for employees of the Hospital Authority

Table 10 (continued)

**Employee Contribution Rate Detail
Recommended Rates based on following assumptions adopted by the Board
4.50% inflation, 8.25% interest and 5.60% salary scale assumption**

	<u>GENERAL</u>				<u>SAFETY</u>			
	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Basic	5.82%	\$6,680,000	5.73%	\$21,976,000	7.31%	\$2,069,000	8.06%	\$5,142,000
COL	2.18%	\$2,503,000	1.28%	\$4,909,000	3.07%	\$869,000	2.06%	\$1,314,000
Total	8.00%	\$9,183,000	7.01%	\$26,885,000	10.38%	\$2,938,000	10.12%	\$6,456,000
Average rate for the total group = 7.70%								

NOTE: Contribution amounts are based on total annual salaries as of the valuation date

Annual Salaries	<u>GENERAL</u>		<u>SAFETY</u>		Total
	Tier 1	Tier 2	Tier 1	Tier 2	
County*	\$108,046,362	\$383,518,137	\$28,299,966	\$63,792,648	\$583,657,112
District	\$6,735,023	\$0	\$0	\$0	\$6,735,023
TOTAL	\$114,781,384	\$383,518,137	\$28,299,966	\$63,792,648	\$590,392,135

* Includes payroll for employees of the Hospital Authority

**Table 11
Employer Contribution Rate Detail
Current Rates
4.50% inflation, 8.25% interest and 5.60% salary scale assumption**

	COUNTY RATES*				SAFETY			
	GENERAL		Tier 1		Tier 2		Aggregate	
	Tier 1	Tier 2	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Normal Cost	11.88%	8.43%	12.12%	\$ 3,430,000	12.82%	\$ 8,178,000	9.73%	\$ 56,775,000
Contribution to UAAL	5.21%	5.21%	4.69%	1,327,000	4.69%	2,952,000	5.13%	29,929,000
Pension Obligation	-10.78%	-11.02%	-11.71%	(3,314,000)	-11.71%	(7,470,000)	-10.93%	(63,374,000)
Board Credit	-5.57%	-5.57%	-7.02%	(1,987,000)	-7.02%	(4,478,000)	-5.80%	(33,845,000)
Net Contributions to UAAL	6.31%	2.86%	5.10%	\$ 1,443,000	5.80%	\$ 3,700,000	3.93%	\$ 22,930,000

	DISTRICT RATES				SAFETY			
	GENERAL		Tier 1		Tier 2		Aggregate	
	Tier 1	Tier 2	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Normal Cost	11.88%	N/A	N/A	N/A	N/A	N/A	11.88%	\$ 800,000
Contribution to UAAL	5.21%	N/A	N/A	N/A	N/A	N/A	5.21%	351,000
Total	17.09%	N/A	N/A	N/A	N/A	N/A	17.09%	\$ 1,151,000

Average rate for the total group = 4.08%

NOTE: Contribution amounts are based on total annual salaries as of the valuation date.

	GENERAL		SAFETY		TOTAL
	Tier 1	Tier 2	Tier 1	Tier 2	
Annual Salaries	\$108,046,362	\$383,518,137	\$63,792,648	\$0	\$583,657,112
County**	\$6,735,023	\$0	\$0	\$0	\$6,735,023
District	\$114,781,384	\$383,518,137	\$63,792,648	\$0	\$590,392,135
Total					

N/A - not applicable

* Hospital Authority pays the same rate as the County plus Pension Obligation Bond debt service
** Includes payroll for employees of the Hospital Authority

Table 11 (continued)
Employer Contribution Rate Detail
Recommended Rates based on following assumptions adopted by the Board
4.50% inflation, 8.25% interest and 5.60% salary scale assumption

	COUNTY RATES*											
	GENERAL				TIER 1				SAFETY TIER 2			
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Normal Cost	10.82%	\$ 11,691,000	8.29%	\$ 31,794,000	11.13%	\$ 3,150,000	12.33%	\$ 7,866,000	9.34%	\$ 54,501,000		
Contribution to UAAL	5.39%	5,824,000	5.39%	20,672,000	5.76%	1,630,000	5.76%	3,674,000	5.45%	31,800,000		
Pension Obligation												
Board Credit	-10.31%	(11,140,000)	-10.31%	(39,541,000)	-10.93%	(3,093,000)	-10.93%	(6,972,000)	-10.41%	(60,746,000)		
Net Contribution to UAAL	-4.92%	(5,316,000)	-4.92%	(18,869,000)	-5.17%	(1,463,000)	-5.17%	(3,298,000)	-4.96%	(28,946,000)		
Total	5.90%	\$ 6,375,000	3.37%	\$ 12,925,000	5.96%	\$ 1,687,000	7.16%	\$ 4,568,000	4.38%	\$ 25,555,000		

	DISTRICT RATES											
	GENERAL				TIER 1				SAFETY TIER 2			
	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount	% of Payroll	Annual Amount
Normal Cost	10.82%	\$ 729,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.82%	\$ 729,000
Contribution to UAAL	5.39%	363,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.39%	363,000
Total	16.21%	\$ 1,092,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	16.21%	\$ 1,092,000

Average rate for the total group = 4.51%

NOTE: Contribution amounts are based on total annual salaries as of the valuation date.

	GENERAL				SAFETY			
	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2
	Annual Amount	Annual Amount	Annual Amount	Annual Amount	Annual Amount	Annual Amount	Annual Amount	Annual Amount
Annual Salaries	\$108,046,362	\$383,518,137	\$28,299,966	\$0	\$63,792,648	\$0	\$583,657,112	\$0
Country**	\$6,735,023	\$0	\$0	\$0	\$6,735,023	\$0	\$6,735,023	\$0
District	\$114,781,384	\$383,518,137	\$28,299,966	\$0	\$63,792,648	\$0	\$590,392,135	\$0
Total								

N/A - not applicable

* Hospital Authority pays the same rate as the County plus Pension Obligation Bond debt service
 ** includes payroll for employees of the Hospital Authority

Breakdown of Employee Contribution Rate by Types of Benefit

We have been requested by the Association's Staff to provide a breakdown of the portion of the employer contribution rate by the various types of benefit provided. The breakdown is as follows:

Table 12

	<u>General</u>	<u>Safety</u>
Service Connected Disability	12%	19%
Service Retirement and Other Benefits	<u>88%</u>	<u>81%</u>
	100%	100%

Note: In developing these percentages, we assumed that the liabilities for all types of benefits are funded to the same degree and member contributions are available for both disability and non-disability benefits.

County of Alameda
 Recommended County Contribution Rates*
 After Pension Obligation Bond Credit
 Calculated as of December 31, 2001
 Effective pay period 02-20

	General - Tier 1 (Section 31676.12)		
	Integrated		Non-integrated
	1st \$350	Excess of \$350	
Basic	4.02%	6.03%	6.03%
COL	0.00%	0.00%	0.00%
Total	4.02%	6.03%	6.03%

	General - Tier 2 (Section 31676.1)		
	Integrated		Non-integrated
	1st \$350	Excess of \$350	
Basic	2.31%	3.47%	3.47%
COL	0.00%	0.00%	0.00%
Total	2.31%	3.47%	3.47%

	Safety - Tier 1 (Section 31664)		
	Integrated		Non-integrated
	1st \$350	Excess of \$350	
Basic	3.97%	5.96%	5.96%
COL	0.00%	0.00%	0.00%
Total	3.97%	5.96%	5.96%

	Safety - Tier 1 (Section 31664)		
	Integrated		Non-integrated
	1st \$350	Excess of \$350	
Basic	4.77%	7.16%	7.16%
COL	0.00%	0.00%	0.00%
Total	4.77%	7.16%	7.16%

In order to facilitate distribution of the County and District Contributions, the following percentage of the total rate should be credited to the two County Reserve Accounts

	General		Safety	
	Tier 1	Tier 2	Tier 1	Tier 2
Current Service	100.00%	100.00%	100.00%	100.00%
COL Benefit	0.00%	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%

** Based on 8.25% interest rate, 4.50% inflation and 5.60% total salary scale assumptions.

* Hospital Authority pays the same rate as the County plus Pension Obligation Bond debt service

County of Alameda
 Recommended District Contribution Rates*
 After Pension Obligation Bond Credit
 Calculated as of December 31, 2001
 Effective pay period 02-20

General - Tier 1 (Section 31676.12)			
	Integrated		Non-integrated
	1st \$350	Excess of \$350	
Basic	6.68%	10.02%	10.02%
COL	4.29%	6.43%	6.43%
Total	10.97%	16.45%	16.45%

In order to facilitate distribution of the District Contributions, the following percentage of the total rate should be credited to the two County Reserve Accounts:

General	
Tier 1	
Current Service	60.90%
COL Benefit	39.10%
Total	100.00%

** Based on 8.25% interest rate, 4.50% inflation and 5.60% total salary scale assumption

County of Alameda
 Recommended County and District Contribution Rates*
 Before Pension Obligation Bond Credit
 Calculated as of December 31, 2001
 Effective pay period 02-20

	General - Tier 1 (Section 31676.12)		
	Integrated		Non-integrated
	1st \$350	Excess of \$350	
Basic	6.73%	10.09%	10.09%
COL	4.33%	6.49%	6.49%
Total	11.06%	16.58%	16.58%

	General - Tier 2 (Section 31676.1)		
	Integrated		Non-integrated
	1st \$350	Excess of \$350	
Basic	5.81%	8.71%	8.71%
COL	3.57%	5.36%	5.36%
Total	9.38%	14.07%	14.07%

	Safety - Tier 1 (Section 31664)		
	Integrated		Non-integrated
	1st \$350	Excess of \$350	
Basic	7.15%	10.73%	10.73%
COL	4.11%	6.16%	6.16%
Total	11.26%	16.89%	16.89%

	Safety - Tier 1 (Section 31664)		
	Integrated		Non-integrated
	1st \$350	Excess of \$350	
Basic	8.76%	13.14%	13.14%
COL	3.30%	4.95%	4.95%
Total	12.06%	18.09%	18.09%

In order to facilitate distribution of the County and District Contributions, the following percentage of the total rate should be credited to the two County Reserve Accounts:

	General		Safety	
	Tier 1	Tier 2	Tier 1	Tier 2
Current Service	60.90%	61.90%	63.50%	72.60%
COL Benefit	39.10%	38.10%	36.50%	27.40%
Total	100.00%	100.00%	100.00%	100.00%

** Based on 8.25% interest rate, 4.50% inflation and 5.60% total salary scale assumptions
 * Hospital Authority pays the same rate as the County plus Pension Obligation Bond debt service

FUNDING STATUS

Evaluation of Funding Status

Background

The evaluation of the Association's funding status is simply the comparison of its actual value of assets to a target value of assets. There is one funding status measure calculated for the Association:

<u>Funding Status Measure</u>	<u>Target Assets</u>	<u>Actual Assets</u>	<u>Purpose</u>
Funding Progress (GASB No. 25)	Actuarial Accrued Liability	Actuarial Value of Assets	Progress toward funding UAAL

This section of the report provides the Association's funding status under this measure, followed by an exhibit which summarizes the Association's funding history.

Funding Progress — GASB No. 25

The GASB has issued two statements; Accounting for Pensions by State and Local Government Employers (GASB Statement No. 27); and Financial Reporting for Defined Benefit and Note Disclosures for Defined Contribution Plans (GASB Statement No. 25). These statements require funding status to be measured based upon the actuarial funding method adopted by the Board of Retirement, i.e., for ACERA, the Entry Age Normal Funding Method. Thus, the target value of assets is equal to the Actuarial Accrued Liability (AAL) and the actual value of assets is the Actuarial Value of Assets developed earlier in this report.

FUNDING STATUS

The GASB Statement No. 25 liabilities and assets from December 31, 1994 to December 31, 2001 are as follows:

Actuarial Valuation Date	Actuarial Value of Assets (1) (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
12/31/1994	\$1,443,470,000	\$1,715,028,000	\$271,558,000	84.2%	\$365,906,000	74.2%
12/31/1995	\$1,684,299,000	\$1,951,052,000	\$266,753,000	86.3%	\$373,605,000	71.4%
12/31/1996	\$2,113,009,000	\$2,067,916,000	(\$45,093,000)	102.2%	\$389,696,000	-11.6%
12/31/1997	\$2,313,787,000	\$2,218,319,000	(\$95,468,000)	104.3%	\$413,045,000	-23.1%
12/31/1998	\$2,830,438,000	\$2,613,012,000	(\$217,426,000)	108.3%	\$462,465,000	-47.0%
12/31/1999	\$2,997,932,000	\$2,762,524,000	(\$235,408,000)	108.5%	\$487,986,000	-48.2%
12/31/2000	\$3,169,178,000	\$2,936,631,000	(\$232,547,000)	107.9%	\$532,305,000	-43.7%
12/31/2001	\$3,321,794,000	\$3,140,216,000	(\$181,578,000)	105.8%	\$590,392,000	-30.8%

(1) Exclude accounts payable, SRBR, 401(h) account, reserve for interest fluctuations, and retiree death benefit reserves

FUNDING HISTORY

Funding History

It is informative to monitor the history of key actuarial and other financial results over time as a dynamic indicator of the Association's ongoing funding progress. The following exhibit provides a 16-year history of the following items:

- (1) Actuarial Accrued Liability (AAL)
- (2) Actuarial Value of Assets
- (3) Unfunded Actuarial Accrued Liability (UAAL)
- (4) Funding Method Progress Ratio
- (5) Investment Return Assumption
- (6) Rate of Return on Actuarial Value of Assets
- (7) Aggregate Employer Contribution Rate
- (8) Aggregate Member Contribution Rate
- (9) Total Contributions to the Association
- (10) Benefit Payments
- (11) Aggregate Contributions minus Benefit Payments
- (12) Investment Income
- (13) Aggregate Contributions plus Investment Income minus Benefit Payments

Alameda County Employees' Retirement Association Funding History
(All Dollars in 000's)

(1) Actuarial Valuation Date	(2) Actuarial Value of Assets (1)	(3) UAAL	(4) (2)/(1) GASB 25 Funding Ratio	(5) Investment Return Assumption	(6) Net Return on Actuarial Value of Assets	(7) Employer Contribution Rate	(8) Average Member Contribution Rate	(9) Prior Year Total Contributions to Association	(10) Prior Year Benefit Payments	(11) Prior Year Free Cash Flow (9)-(10)	(12) Prior Year Cash Investment Income	(13) Prior Year Total Cash Flow (11)+(12)
12/31/1986	N/A	N/A	N/A	9.50%	13.57%	9.56%	7.17%	\$41,441	\$35,920	\$5,521	\$75,700	\$81,221
12/31/1987	\$699,164	N/A	N/A	9.50%	13.55%	9.58%	7.13%	\$42,470	\$38,377	\$4,093	\$78,146	\$82,239
12/31/1988	\$752,315	N/A	N/A	8.50%	7.34%	13.43%	7.39%	\$42,576	\$40,789	\$1,787	\$48,535	\$50,342
12/31/1989	\$1,115,806	\$345,881	69.0%	8.50%	11.66%	10.20%	7.69%	\$46,981	\$48,083	(\$1,102)	\$76,291	\$75,189
12/31/1990	\$1,226,200	\$394,343	67.8%	8.50%	7.18%	10.41%	7.77%	\$54,277	\$51,412	\$2,865	\$56,756	\$59,621
12/31/1991	\$1,353,473	\$928,707	68.6%	8.50%	10.65%	10.64%	7.72%	\$60,592	\$53,885	\$6,707	\$79,719	\$86,426
12/31/1992	\$1,498,111	\$488,937	67.4%	8.25%	7.26%	11.80%	7.59%	\$65,779	\$57,266	\$8,513	\$77,432	\$85,945
12/31/1993	\$1,629,505	\$553,407	66.0%	8.00%	8.60%	13.97%	7.74%	\$68,321	\$71,000	(\$2,679)	\$138,659	\$135,980
12/31/1994	\$1,715,028	\$271,558	84.2%	8.00%	5.80%	5.34% ⁽¹⁾	7.72%	\$73,677	\$75,253	(\$1,576)	\$68,333	\$66,757
12/31/1995	\$1,951,052	\$1,684,299	86.3%	8.00%	11.70%	6.17% ⁽¹⁾	8.01%	\$371,522 ⁽²⁾	\$81,472	\$290,050	\$160,771	\$450,821 ⁽³⁾
12/31/1996	\$2,067,916	\$2,113,009 ⁽⁴⁾	102.2%	8.00%	12.00%	5.71%	7.95%	\$335,835	\$84,677	\$251,158	\$204,009	\$455,167
12/31/1997	\$2,218,319	\$2,313,787	104.3%	8.00%	13.32%	5.63%	8.06%	\$56,156	\$83,677	(\$29,521)	\$317,639	\$288,118
12/31/1998	\$2,613,012	\$2,830,438 ⁽⁵⁾	108.3%	8.25%	16.85%	4.46%	8.03%	\$60,138	\$105,583	(\$45,445)	\$251,321	\$205,876
12/31/1999	\$2,762,524	\$2,997,932	108.5%	8.25%	7.34%	4.18%	8.17%	\$65,400	\$118,978	(\$53,578)	N/A	N/A
12/31/2000	\$2,936,631	\$3,169,178	107.9%	8.25%	8.49%	4.14%	8.11%	\$64,873	\$161,550	(\$96,677)	N/A	N/A
12/31/2001	\$3,140,216	\$3,321,794	105.8%	8.25%	7.11%	4.51%	7.70%	\$70,904	\$159,674	(\$88,770)	N/A	N/A

(1) Excludes SRBR and Reserve for Interest Fluctuation
 (2) Includes \$307,923 from Pension Obligation Bonds issued 4/20/95. Assets include discounted value as of January 1, 1995
 (3) Employer Contribution Rate excluding the pension obligation bonds is 15.18%
 (4) Employer Contribution Rate excluding the pension obligation bonds is 16.61%
 (5) Includes \$283,485 in pension obligation bonds issued 12/1/996
 (6) Includes \$259,112 in accelerated actuarial gains from asset valuation method

ACTUARIAL BALANCE SHEET

Actuarial Balance Sheet

The purpose of the Actuarial Balance Sheet is to compare assets with liabilities in order to define the portion of the liabilities which need to be funded by the Employer and Members in the future.

Association liabilities equal the present value of all future benefits expected to be paid to current and future pensioners and beneficiaries of the Association.

Association assets are equal to the sum of:

- The assets currently available to pay benefits,
- The present value of future contributions expected to be made by current active members, and
- The present value of future contributions expected to be made by the employer.

The last item, the present value of future employer contributions, is made up of two parts:

1. The Present Value of Future Employer Normal Costs: Using the Entry Age Normal Cost Method, the employer budgets a certain percentage of payroll which will be sufficient to fund benefits for members from their entry into the Association. The Normal Cost is the level percentage of salary each year that is necessary to fund Members' benefits under the current benefit provisions. Normal Cost is funded from a Member's date of employment to the expected retirement date. An adjustment is made for the deductions which will be made from the future salaries of Association members. For this valuation, the Normal Costs are:

<u>Member Category</u>	<u>Contribution Rate</u>	<u>Annual Amount</u>
<i>County and Districts</i>		
General Tier 1	10.82%	\$ 12,420,000
General Tier 2	8.29%	\$ 31,794,000
Safety Tier 1	11.13%	\$ 3,150,000
Safety Tier 2	12.33%	\$ 7,866,000

The present value of these future Employer Normal Cost contributions represents one piece of the present value of future employer contributions.

ACTUARIAL BALANCE SHEET

2. **The Unfunded Actuarial Accrued Liability:** The portion of the present value of future employer contributions which will not be funded by the future Entry Age Normal Cost contributions is the Unfunded Actuarial Accrued Liability (UAAL). The UAAL arises from prior contributions that were less than the current Normal Cost. This usually results from benefits and assumption changes and the net effect of prior gains and losses. If the employer had always contributed the current Normal Cost, if there were no prior benefit or assumption changes and if actual experience exactly matched the actuarial assumptions, the Normal Cost would be sufficient to fund all benefits and there would be no UAAL.

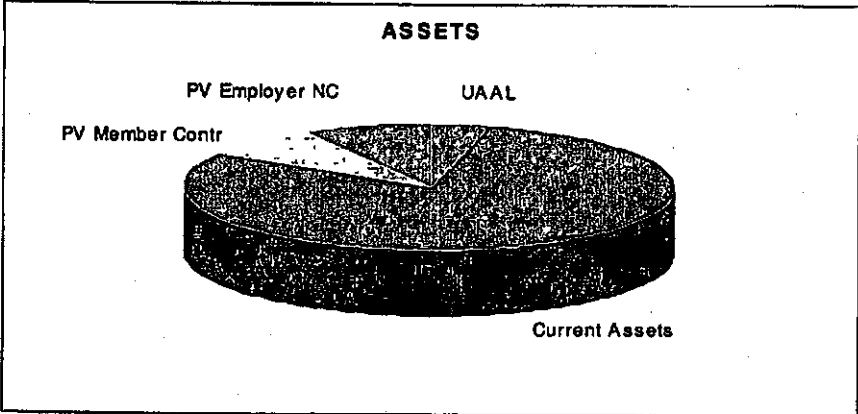
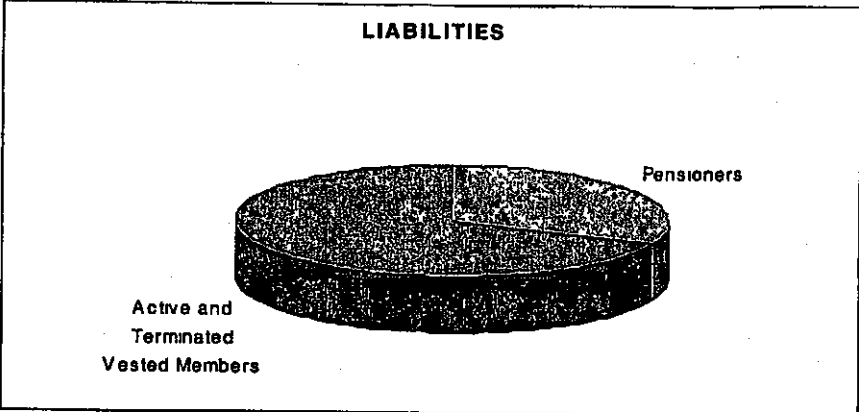
For the current year, we have determined that the appropriate amounts needed to fund the UAAL are:

<u>Member Category</u>	<u>Contribution Rate</u>	<u>Annual Amount*</u>
<i>County</i>		
General Tier 1	-4.92%	\$ (5,316,000)
General Tier 2	-4.92%	\$ (18,869,000)
Safety Tier 1	-5.17%	\$ (1,463,000)
Safety Tier 2	-5.17%	\$ (3,298,000)
<i>Districts</i>		
General Tier 1	5.39%	\$ 363,000

* Increases with inflation rate to remain as a level percentage of payroll for current and future members

ACTUARIAL BALANCE SHEET

The following chart illustrates the breakdown of Balance Sheet assets and liabilities of the Association. It shows that 31% of the Association's liabilities are due to the retired members and their beneficiaries and 69% to active members. About 82% of Association assets consist of current available assets with 18% consisting of future contributions from the employer and the members.



ACTUARIAL BALANCE SHEET

**ACTUARIAL BALANCE SHEET
(As of December 31, 2001)**

ASSETS			
	Basic	COL	Total
1 Total Assets at Actuarial Value (gross of current liabilities)	\$ 2,929,571,821	\$ 1,022,812,182	\$ 3,952,384,004
2 Present Value of Future Member Contributions	304,476,367	78,540,136	383,016,503
3 Present Value of Future Employer Contributions on Account of			
a) Normal Cost	350,707,512	73,955,459	424,662,972
b) Unfunded Actuarial Accrued Liability	(113,947,437)	(67,630,379)	(181,577,815)
4 Total Actuarial Assets	<u>\$ 3,470,808,264</u>	<u>\$ 1,107,677,399</u>	<u>\$ 4,578,485,663</u>
LIABILITIES			
5 Present Value of Retirement Allowances Payable	\$ 864,510,850	\$ 569,010,116	\$ 1,433,520,966
6 Present Value of Retirement Allowances to be Granted for			
a) Service Retirement*	1,707,399,718	474,702,377	2,182,102,096
b) Disability Retirement	170,909,834	41,387,117	212,296,951
7 Present Value of Death Benefits to be Granted for			
a) 6 Months' Salary and Return of Contributions	363,181	27,525	390,706
b) Death While Eligible to Retire	42,201,504	10,332,993	52,534,497
c) Duty Death	4,495,302	1,138,912	5,634,214
8 Present Value of Members' Contributions to be Returned Upon Withdrawal Before Retirement	50,337,686	11,078,358	61,416,044
9 Reserve for Interest Fluctuation	100,265,797	0	100,265,797
10 Supplemental Retirees Benefit Reserve	520,349,815	0	520,349,815
11 Death Benefit Reserve	4,862,494	0	4,862,494
12 Members' Deposits Reserve Unclaimed	87,725	0	87,725
13 Current Liabilities	5,024,358	0	5,024,358
14. Total Actuarial Liabilities	<u>\$ 3,470,808,264</u>	<u>\$ 1,107,677,399</u>	<u>\$ 4,578,485,663</u>

* Includes liability for current deferred vested members

ASSOCIATION ASSETS

Association Assets

The market value of assets and related financial information was provided to us by the Association staff. We have not audited or verified the financial statements.

	<u>December 31, 2001</u>	<u>December 31, 2000</u>	Percent Change
Market Value	\$3,517,082,363	\$3,734,793,684	-5.80%
Actuarial Valuation Assets	\$3,321,793,815	\$3,169,177,636	4.80%
Reserve Assets	\$3,850,506,131	\$3,611,511,220	6.60%

The approximate rates of return on plan assets are shown below, based on the following analysis

	Market Value	Actuarial Valuation Assets	Reserve Assets*
Value of Assets at 12/31/2000	\$3,734,793,684	\$3,169,177,636	\$3,611,511,220
Contributions			
Employer	\$23,315,033	\$23,315,033	\$23,315,033
Members	\$47,588,887	\$47,588,887	\$47,588,887
Benefits Paid to Participants	159,674,400	\$141,231,123	159,674,400
Expenses Paid	44,004,280	\$44,004,280	44,004,280
Investment Earnings	(84,936,561)	266,947,662	371,769,671
Value of Assets at 12/31/2001	3,517,082,363	3,321,793,815	3,850,506,131
NET RATE OF RETURN (Net of Expenses)	-3.49%	7.11%	9.19%

* Exclude non-interest bearing reserves, i.e., Market Stabilization and Contingency Reserves

ASSOCIATION ASSETS

**ASSOCIATION ACCOUNTING ASSETS,
RESERVES AND OTHER LIABILITIES**
As of December 31, 2001

Assets (Market Values)

Cash and Short-term Investments	\$	150,976,353
Accounts Receivable		31,361,622
Real Estate Investments		406,789,136
Common Stocks		1,827,419,535
Bonds		1,101,742,261
Fixed Assets		8,176,713
Securities Lending Collateral		55,242,161
Prepaid Expenses		382,023
		<hr/>
Total Assets	\$	3,582,089,804

Reserves and Liabilities

Normal Contributions	\$	686,079,325
Cost-of-Living Contribution	\$	177,787,681
Unclaimed Contribution	\$	87,725
County Advance Reserve	\$	634,211,957
Death Benefit Reserve	\$	4,862,494
Annuity Reserve	\$	362,424,701
Current Service Pension Reserve	\$	614,277,575
Prior Service Pension Reserve	\$	2,936,821
Survivors' Death Benefit Reserve	\$	1,911,977
Supplemental Retirees Benefit Reserves	\$	520,349,815
Cost of Living Reserve	\$	845,576,062
Accounts Payable	\$	65,007,440
Reserve for Interest Fluctuations	\$	100,265,797
		<hr/>
TOTAL LIABILITIES	\$	4,015,779,369
		<hr/>
Difference in Market to Actuarial Value	\$	(433,689,565)
		<hr/>
Gross Assets for Pension Benefit	\$	3,582,089,804

* Total pension reserve used in ACERA's interest accounting process is \$3,323,672,839
Total pension reserve used for the actuarial valuation is \$3,321,793,815

g:\retire\ace\2002\va-b\report01 clean.doc

APPENDICES

MAJOR PROVISIONS OF THE PRESENT SYSTEM**Benefit Sections 31676.1, 31676.12 and 31664
of the 1937 County Act**

Briefly summarized below are major provisions of the California Government Code, as amended through December 31, 2001, and as adopted by Alameda County.

Membership

Employees hired after June 30, 1983 become members under Tier 2. All other members are covered by Tier 1 provisions.

Final Average Salary

Final average salary (FAS) is defined as the highest 12 consecutive months of compensation earnable for Tier 1 and highest 36 consecutive months for Tier 2.

Return of Contributions

If a member should resign or die before becoming eligible for retirement, his or her contributions plus interest will be refunded. In lieu of receiving a return of contributions, a member with five or more years of service may elect to leave his or her contributions on deposit and receive a deferred vested benefit when eligible for retirement.

Service Retirement Benefit

Members with 10 years of service who have attained the age of 50 are eligible to retire. Members with 30 years of service (20 years for Safety), regardless of age, are eligible to retire.

The benefit is a percentage of monthly FAS per year of service, depending on age at retirement and is illustrated below for typical ages. For members integrated with Social Security, the benefit is reduced by 1/3 of the percentage shown below times the first \$350 of monthly FAS per year of service credited after January 1, 1956.

PERCENTAGE OF FINAL AVERAGE SALARY GENERAL			
Age	Tier 1	Tier 2	Safety
50	1.34%	1.18%	2.00%
55	1.77%	1.49%	2.62%
60	2.34%	1.92%	2.62%
62	2.62%	2.09%	2.62%
65 and over	2.62%	2.43%	2.62%

Disability Benefit

Members with 5 years of service, regardless of age, are eligible for nonservice connected disability. The benefit is 1.8% (1.5% for Tier 2 General members) of FAS for each year of service. If this benefit does not equal 1/3 of FAS, the benefit is increased by the above percentage of FAS for the years which would have been credited to age 62 for Tier 1 General members, age 65 for Tier 2 General members and age 55 for Safety members. The total benefit in this case cannot exceed 1/3 of FAS.

If the disability is service connected, the member may retire regardless of length of service, with a benefit which is the higher of 50% of FAS or the benefit derived from the member's age and salary.

Death Benefit (Before Retirement)

In addition to the return of contributions, a lump sum death benefit is payable to the member's beneficiary or estate equal to one month's salary for each completed year of service under the Retirement System, based on the final year's average salary, but not to exceed six months' salary.

If a member dies while eligible for service retirement or non-service connected disability, the eligible surviving spouse receives 60% of the allowance that the member would have received for retirement on the day of his or her death.

If a member dies in the performance of duty, the spouse receives 50% of the member's FAS.

Death Benefit (After Retirement)

If a member dies after retirement, a lump sum amount of \$5,000 is paid to the beneficiary or estate.

If the retirement was for service connected disability, 100% of the member's allowance as it was at death is continued to the surviving spouse for life.

If the retirement was for other than service connected disability, 60% of the member's allowance is continued to the spouse for life.

Active Death Equity Benefit (ADEB)

In 2000, the Retirement Board authorized the ADEB option which provides a continuance to the surviving spouse of a member who died because of non-service connected disability equal to 100% of the member's reduced allowance.

APPENDIX A

The funding of the ADEB benefit is provided from assets held in the Supplemental Retirement Benefits Reserve. The Retirement Board reserves the right to terminate the ADEB for future recipients.

Maximum Benefit

The maximum basic benefit payable to a member or beneficiary is 100% of FAS.

Cost of Living

The increases are based on the change in the Bay Area Consumer Price Index for the calendar year prior to the April 1 effective date. The maximum increase in retirement allowance is 3% per year for Tier 1 and 2% for Tier 2 members. COLA Banks are set up for retirees and accumulated when the Bay Area CPI is greater than the maximum allowance. If banks are sufficient, they are depleted when the CPI is smaller than the maximum allowance.

Contribution Rates

Member basic rates are based on a formula reflecting the age at entry into the System. The rates are such as to provide, for each year of service, an average annuity at age 60 of 1/100 of FAS for General members under Tier 1, at age 60 of 1/120 of FAS for General members under Tier 2, and at age 50 of 1/100 of FAS for Safety members. Member cost of living rates are actuarially determined to pay for one-half of future cost of living liabilities.

For members integrated with Social Security, the above contributions are reduced by one-third of that portion of such contribution payable with respect to the first \$350 of monthly salary. Member contributions are refundable upon termination from the System.

Employer contribution rates are actuarially determined to provide for the balance of the contributions needed to fund the benefits promised under the Retirement System.

APPENDIX B
SUMMARY OF ASSUMPTIONS
AND FUNDING METHOD

SUMMARY OF ASSUMPTIONS AND FUNDING METHOD

Assumptions

Valuation Interest Rate	8.25%
Inflation Assumption	4.50%
Cost-of-Living Adjustments	for Tier 1 members: 3% for Tier 2 members: 2%
Interest Rate Credited to Active Member Accounts	8.25%
Post-Retirement Mortality	
(a) Service	
General Member	
Males	1994 Group Annuity Mortality Table with two-year setback (Male)
Females	1994 Group Annuity Mortality Table with one-year setback (Female)
Safety Members	1994 Group Annuity Mortality Table with two-year setback (Male)
Beneficiaries	1994 Group Annuity Mortality Table with one-year setback (Female)
(b) Disability	
General	1981 General Disability Mortality Table with three-year setback
Safety	1981 Safety Disability Mortality Table with no setback
(c) For Employee Contribution Rate Purposes	
General	1994 Group Annuity Mortality Table with a four-year setback (Male)
Safety	1994 Group Annuity Mortality Table with a two-year setback (Male)

Pre-Retirement Mortality	Based upon the Experience Analysis from 12/1/1998 – 11/30/2001
Withdrawal Rates	Based upon the Experience Analysis from 12/1/1998 – 11/30/2001
Disability Rates	Based upon the Experience Analysis from 12/1/1998 – 11/30/2001
Service Retirement Rates	Based upon the Experience Analysis from 12/1/1998 – 11/30/2001
Salary Scales	Total increases of 5.60% per year reflecting approximately 4.50% for inflation and approximately 1.1% for merit and longevity

Percent of Active and Inactive
Members Married

Males	80%
Females	55%

Beneficiary Age Difference

Males	3 years older
Females	3 years younger

Value of Assets for Contribution Rate Purposes	Actuarial value as developed in Actuarial Valuation Method Section of this report
---	--

Additional "Ventura" Earnable Compensation — Terminal Pay

To estimate the impact of including terminal pay as part of Earnable Compensation, we have relied on the compensation data collected in 2000 for 140 retirees who retired between October 1, 1998 and December 31, 1999.

Based on that data, the following percentages were derived to estimate the percentage increase in final average earnings that result from inclusion of terminal pay.

	<u>Terminal Pay/Final Average Earnings</u>
General Tier 1	5.62%
General Tier 2	1.49%
Safety Tier 1	5.93%
Safety Tier 2	1.49%

Conversion of Unused Sick Leave Service

We assume each active member will be able to accumulate an additional 0.008 years of retirement service credit from unused sick leave for each year of employment.

Funding Method

The County's liability is being funded on the Entry Age Normal Method with an Unfunded Actuarial Accrued Liability (UAAL). The current amortization period for the UAAL is 17 years from the valuation date. The amortization period for the 1993 Golden Handshake liabilities is 2½ years and the excess interest earned on the Pension Obligation Bonds is amortized over 8 years.

Exhibit I

NEW PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT

GENERAL TIER 1 MALE MEMBERS

Age	Withdrawal				Terminated Yested	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
	0<=X<3	3<=X<4	4<=X<5	5<=X						
20	0 12746	0 11725	0 05250	0 05250	0 00000	0 00000	0 00010	0 00055	0 00010	0 00000
21	0 12746	0 11725	0 05250	0 05250	0 00000	0 00000	0 00010	0 00055	0 00010	0 00000
22	0 12746	0 11725	0 05250	0 05250	0 00000	0 00000	0 00010	0 00055	0 00010	0 00000
23	0 12746	0 11725	0 05250	0 05250	0 00000	0 00000	0 00010	0 00057	0 00010	0 00000
24	0 12746	0 11725	0 05250	0 05250	0 00000	0 00000	0 00010	0 00060	0 00010	0 00000
25	0 12746	0 11725	0 05250	0 05250	0 00100	0 00020	0 00010	0 00063	0 00010	0 00000
26	0 12746	0 11725	0 05250	0 05250	0 00180	0 00020	0 00010	0 00067	0 00010	0 00000
27	0 12746	0 11725	0 05250	0 05250	0 00270	0 00020	0 00010	0 00071	0 00010	0 00000
28	0 12746	0 11725	0 05250	0 05250	0 00360	0 00020	0 00010	0 00075	0 00010	0 00000
29	0 12746	0 11725	0 05250	0 05250	0 00450	0 00020	0 00010	0 00078	0 00010	0 00000
30	0 12746	0 11725	0 05250	0 05250	0 00464	0 00020	0 00010	0 00081	0 00010	0 00000
31	0 12746	0 11725	0 05250	0 05250	0 00548	0 00030	0 00010	0 00084	0 00010	0 00000
32	0 12746	0 11725	0 05250	0 05250	0 00633	0 00030	0 00010	0 00086	0 00010	0 00000
33	0 12746	0 11725	0 05250	0 05250	0 00658	0 00030	0 00010	0 00088	0 00010	0 00000
34	0 12746	0 11725	0 05250	0 05250	0 00683	0 00040	0 00010	0 00090	0 00010	0 00000
35	0 12746	0 11725	0 05250	0 05250	0 00840	0 00040	0 00010	0 00091	0 00010	0 00000
36	0 12746	0 11725	0 05250	0 05250	0 00870	0 00040	0 00010	0 00091	0 00010	0 00000
37	0 12746	0 11725	0 05250	0 05250	0 00900	0 00050	0 00020	0 00092	0 00010	0 00000
38	0 12746	0 11725	0 05250	0 03287	0 00900	0 00050	0 00030	0 00093	0 00010	0 00000
39	0 12746	0 11725	0 05250	0 03069	0 00900	0 00060	0 00030	0 00096	0 00010	0 00000
40	0 12746	0 11725	0 05250	0 02851	0 00870	0 00070	0 00040	0 00101	0 00009	0 00000
41	0 12746	0 11725	0 05250	0 02025	0 00841	0 00080	0 00040	0 00108	0 00009	0 00000
42	0 12746	0 11725	0 05250	0 01345	0 00811	0 00090	0 00050	0 00115	0 00009	0 00000
43	0 12746	0 11725	0 05250	0 01059	0 00781	0 00100	0 00060	0 00124	0 00009	0 00000
44	0 12746	0 11725	0 05250	0 00827	0 00752	0 00100	0 00060	0 00135	0 00009	0 00000
45	0 07283	0 06700	0 03000	0 00366	0 00722	0 00110	0 00070	0 00145	0 00009	0 00000
46	0 07283	0 06700	0 03000	0 00261	0 00722	0 00110	0 00070	0 00157	0 00009	0 00000
47	0 07283	0 06700	0 03000	0 00250	0 00722	0 00120	0 00080	0 00170	0 00009	0 00000
48	0 07283	0 06700	0 03000	0 00250	0 00722	0 00130	0 00080	0 00185	0 00009	0 00000
49	0 07283	0 06700	0 03000	0 00250	0 00722	0 00130	0 00090	0 00204	0 00009	0 00000
50	0 07283	0 06700	0 03000	0 00250	0 00660	0 00140	0 00140	0 00226	0 00009	0 03000
51	0 07283	0 06700	0 03000	0 00240	0 00598	0 00140	0 00190	0 00250	0 00009	0 01304
52	0 07283	0 06700	0 03000	0 00220	0 00535	0 00150	0 00240	0 00277	0 00009	0 01800
53	0 07283	0 06700	0 03000	0 00200	0 00406	0 00160	0 00290	0 00309	0 00009	0 02200
54	0 07283	0 06700	0 03000	0 00180	0 00294	0 00170	0 00340	0 00346	0 00009	0 02700
55	0 07283	0 06700	0 03000	0 00160	0 00200	0 00180	0 00340	0 00385	0 00009	0 09066
56	0 07283	0 06700	0 03000	0 00140	0 00132	0 00190	0 00340	0 00428	0 00009	0 07668
57	0 07283	0 06700	0 03000	0 00100	0 00073	0 00200	0 00340	0 00476	0 00009	0 07478
58	0 07283	0 06700	0 03000	0 00070	0 00083	0 00220	0 00340	0 00532	0 00009	0 08088
59	0 07283	0 06700	0 03000	0 00030	0 00083	0 00240	0 00340	0 00600	0 00009	0 10443
60	0 07283	0 06700	0 03000	0 00000	0 00080	0 00260	0 00340	0 00677	0 00010	0 18094
61	0 07283	0 06700	0 03000	0 00000	0 00080	0 00280	0 00340	0 00762	0 00010	0 17724
62	0 07283	0 06700	0 03000	0 00000	0 00080	0 00300	0 00340	0 00858	0 00010	0 40643
63	0 07283	0 06700	0 03000	0 00000	0 00080	0 00320	0 00340	0 00966	0 00010	0 20377
64	0 07283	0 06700	0 03000	0 00000	0 00080	0 00340	0 00340	0 01091	0 00010	0 16813
65	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 01234	0 00010	0 27670
66	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 01391	0 00010	0 31133
67	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 01563	0 00010	0 23942
68	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 01746	0 00010	0 41043
69	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 01939	0 00010	0 54724
70	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000

NEW PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT

GENERAL TIER 1 FEMALE MEMBERS

Age	Withdrawal				Terminated Vested	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
	0<X<3	3<=X<4	4<=X<5	5<=X						
20	0.16309	0.10500	0.05250	0.05250	0.00000	0.00000	0.00010	0.00031	0.00000	0.00000
21	0.16309	0.10500	0.05250	0.05250	0.00000	0.00000	0.00010	0.00031	0.00000	0.00000
22	0.16309	0.10500	0.05250	0.05250	0.00000	0.00000	0.00010	0.00031	0.00000	0.00000
23	0.16309	0.10500	0.05250	0.05250	0.00000	0.00000	0.00010	0.00031	0.00000	0.00000
24	0.16309	0.10500	0.05250	0.05250	0.00000	0.00000	0.00010	0.00031	0.00000	0.00000
25	0.16309	0.10500	0.05250	0.05250	0.00094	0.00030	0.00010	0.00031	0.00000	0.00000
26	0.16309	0.10500	0.05250	0.05250	0.00170	0.00030	0.00010	0.00032	0.00000	0.00000
27	0.16309	0.10500	0.05250	0.05250	0.00254	0.00030	0.00010	0.00032	0.00000	0.00000
28	0.16309	0.10500	0.05250	0.05250	0.00339	0.00030	0.00010	0.00034	0.00000	0.00000
29	0.16309	0.10500	0.05250	0.05250	0.00424	0.00040	0.00010	0.00036	0.00000	0.00000
30	0.16309	0.10500	0.05250	0.05149	0.00638	0.00040	0.00019	0.00038	0.00000	0.00000
31	0.16309	0.10500	0.05250	0.05048	0.00754	0.00040	0.00028	0.00040	0.00000	0.00000
32	0.16309	0.10500	0.05250	0.04947	0.00870	0.00040	0.00028	0.00043	0.00000	0.00000
33	0.16309	0.10500	0.05250	0.04846	0.00986	0.00050	0.00038	0.00045	0.00000	0.00000
34	0.16309	0.10500	0.05250	0.04745	0.01100	0.00060	0.00038	0.00048	0.00000	0.00000
35	0.16309	0.10500	0.05250	0.04644	0.01500	0.00070	0.00050	0.00051	0.00010	0.00000
36	0.16309	0.10500	0.05250	0.04543	0.02000	0.00080	0.00050	0.00055	0.00010	0.00000
37	0.16309	0.10500	0.05250	0.04442	0.02000	0.00090	0.00060	0.00059	0.00010	0.00000
38	0.16309	0.10500	0.05250	0.04341	0.02000	0.00090	0.00060	0.00064	0.00010	0.00000
39	0.16309	0.10500	0.05250	0.04240	0.02000	0.00090	0.00060	0.00070	0.00010	0.00000
40	0.16309	0.10500	0.05250	0.04139	0.02000	0.00100	0.00078	0.00076	0.00009	0.00000
41	0.16309	0.10500	0.05250	0.04038	0.02000	0.00100	0.00078	0.00083	0.00009	0.00000
42	0.16309	0.10500	0.05250	0.03937	0.02000	0.00100	0.00078	0.00089	0.00009	0.00000
43	0.16309	0.10500	0.05250	0.03836	0.02000	0.00110	0.00078	0.00094	0.00009	0.00000
44	0.16309	0.10500	0.05250	0.03735	0.02000	0.00110	0.00078	0.00099	0.00009	0.00000
45	0.10873	0.07000	0.03000	0.03630	0.00906	0.00120	0.00113	0.00105	0.00009	0.00000
46	0.10873	0.07000	0.03000	0.03529	0.00906	0.00140	0.00149	0.00111	0.00009	0.00000
47	0.10873	0.07000	0.03000	0.03428	0.00906	0.00160	0.00184	0.00120	0.00009	0.00000
48	0.10873	0.07000	0.03000	0.03327	0.00906	0.00180	0.00220	0.00130	0.00009	0.00000
49	0.10873	0.07000	0.03000	0.03226	0.00906	0.00200	0.00255	0.00141	0.00009	0.00000
50	0.10873	0.07000	0.03000	0.03125	0.00906	0.00200	0.00291	0.00154	0.00009	0.03454
51	0.10873	0.07000	0.03000	0.03024	0.00906	0.00200	0.00291	0.00169	0.00009	0.02415
52	0.10873	0.07000	0.03000	0.02923	0.00906	0.00200	0.00323	0.00186	0.00009	0.02144
53	0.10873	0.07000	0.03000	0.02822	0.00906	0.00200	0.00355	0.00205	0.00009	0.02324
54	0.10873	0.07000	0.03000	0.02721	0.00906	0.00200	0.00388	0.00224	0.00009	0.02861
55	0.10873	0.07000	0.03000	0.02620	0.00906	0.00200	0.00488	0.00247	0.00009	0.07152
56	0.10873	0.07000	0.03000	0.02519	0.00906	0.00200	0.00588	0.00276	0.00009	0.06243
57	0.10873	0.07000	0.03000	0.02418	0.00906	0.00200	0.00688	0.00314	0.00009	0.07371
58	0.10873	0.07000	0.03000	0.02317	0.00906	0.00200	0.00788	0.00361	0.00009	0.09874
59	0.10873	0.07000	0.03000	0.02216	0.00906	0.00200	0.00888	0.00415	0.00009	0.10165
60	0.10873	0.07000	0.03000	0.02115	0.00906	0.00200	0.00888	0.00477	0.00009	0.19641
61	0.10873	0.07000	0.03000	0.02014	0.00906	0.00200	0.00888	0.00548	0.00009	0.18587
62	0.10873	0.07000	0.03000	0.01913	0.00906	0.00200	0.00888	0.00627	0.00010	0.21019
63	0.10873	0.07000	0.03000	0.01812	0.00906	0.00200	0.00888	0.00718	0.00010	0.18490
64	0.10873	0.07000	0.03000	0.01711	0.00906	0.00200	0.00888	0.00819	0.00010	0.08453
65	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00929	0.00010	0.25410
66	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01042	0.00010	0.22297
67	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01157	0.00010	0.31489
68	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01265	0.00010	0.19724
69	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01367	0.00010	0.46257
70	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	1.00000

NEW PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT

GENERAL TIFR 2 MALE MEMBERS

Age	Withdrawal						Terminated Vested	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
	0<=X<1	1<=X<2	2<=X<3	3<=X<4	4<=X<5	5<=X						
20	0.14518	0.09528	0.07365	0.06695	0.03000	0.03000	0.03140	0.00000	0.00010	0.00055	0.00010	0.00000
21	0.14518	0.09528	0.07365	0.06695	0.03000	0.03000	0.03140	0.00000	0.00010	0.00055	0.00010	0.00000
22	0.14518	0.09528	0.07365	0.06695	0.03000	0.03000	0.03140	0.00000	0.00010	0.00055	0.00010	0.00000
23	0.14518	0.09528	0.07365	0.06695	0.03000	0.03000	0.03140	0.00000	0.00010	0.00057	0.00010	0.00000
24	0.14518	0.09528	0.07365	0.06695	0.03000	0.03000	0.03140	0.00000	0.00010	0.00060	0.00010	0.00000
25	0.14518	0.09528	0.07365	0.06695	0.03000	0.03000	0.02940	0.00020	0.00010	0.00063	0.00009	0.00000
26	0.14518	0.09528	0.07365	0.06695	0.03000	0.03000	0.02740	0.00020	0.00010	0.00067	0.00009	0.00000
27	0.14518	0.09528	0.07365	0.06695	0.03000	0.03000	0.02540	0.00020	0.00010	0.00071	0.00009	0.00000
28	0.14518	0.09528	0.07365	0.06695	0.03000	0.03000	0.02340	0.00020	0.00010	0.00075	0.00009	0.00000
29	0.14518	0.09528	0.07365	0.06695	0.03000	0.03000	0.02140	0.00019	0.00010	0.00078	0.00009	0.00000
30	0.14518	0.09528	0.07365	0.06695	0.03000	0.03000	0.02110	0.00019	0.00010	0.00081	0.00009	0.00000
31	0.14518	0.09528	0.07365	0.06695	0.03000	0.02923	0.02080	0.00028	0.00009	0.00084	0.00009	0.00000
32	0.14518	0.09528	0.07365	0.06695	0.03000	0.02846	0.02050	0.00027	0.00009	0.00086	0.00009	0.00000
33	0.14518	0.09528	0.07365	0.06695	0.03000	0.02768	0.02020	0.00043	0.00018	0.00088	0.00009	0.00000
34	0.14518	0.09528	0.07365	0.06695	0.03000	0.02691	0.02020	0.00078	0.00026	0.00090	0.00009	0.00000
35	0.14518	0.09528	0.07365	0.06695	0.03000	0.02614	0.02000	0.00098	0.00035	0.00091	0.00008	0.00000
36	0.14518	0.09528	0.07365	0.06695	0.03000	0.02537	0.02000	0.00119	0.00043	0.00091	0.00008	0.00000
37	0.14518	0.09528	0.07365	0.06695	0.03000	0.02460	0.02000	0.00174	0.00104	0.00092	0.00008	0.00000
38	0.14518	0.09528	0.07365	0.06695	0.03000	0.02383	0.02000	0.00145	0.00137	0.00093	0.00008	0.00000
39	0.14518	0.09528	0.07365	0.06695	0.03000	0.02305	0.02000	0.00139	0.00118	0.00096	0.00008	0.00000
40	0.14518	0.08662	0.07365	0.06695	0.03000	0.02228	0.01750	0.00122	0.00132	0.00101	0.00008	0.00000
41	0.14518	0.08662	0.07365	0.06695	0.03000	0.02151	0.01750	0.00092	0.00107	0.00108	0.00008	0.00000
42	0.14518	0.08662	0.07365	0.06695	0.03000	0.02074	0.01750	0.00051	0.00102	0.00115	0.00008	0.00000
43	0.14518	0.08662	0.07365	0.06695	0.03000	0.01997	0.01750	0.00069	0.00146	0.00124	0.00008	0.00000
44	0.14518	0.08662	0.07365	0.06695	0.03000	0.01920	0.01750	0.00081	0.00170	0.00135	0.00008	0.00000
45	0.14518	0.08662	0.06695	0.06695	0.03000	0.01842	0.01750	0.00102	0.00226	0.00145	0.00008	0.00000
46	0.14518	0.08662	0.06695	0.06695	0.03000	0.01689	0.01750	0.00115	0.00254	0.00157	0.00008	0.00000
47	0.14518	0.08662	0.06695	0.06695	0.03000	0.01545	0.01750	0.00140	0.00300	0.00170	0.00008	0.00000
48	0.14518	0.08662	0.06695	0.06695	0.03000	0.01466	0.01750	0.00140	0.00300	0.00185	0.00008	0.00000
49	0.14518	0.08662	0.06695	0.06695	0.03000	0.01388	0.01750	0.00140	0.00300	0.00204	0.00008	0.00000
50	0.14518	0.08662	0.06695	0.06695	0.03000	0.01318	0.01750	0.00140	0.00300	0.00226	0.00009	0.01655
51	0.14518	0.08662	0.06695	0.06695	0.03000	0.01222	0.01750	0.00140	0.00300	0.00250	0.00009	0.01855
52	0.14518	0.08662	0.06695	0.06695	0.03000	0.01110	0.01750	0.00140	0.00300	0.00277	0.00009	0.02055
53	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.01750	0.00176	0.00376	0.00309	0.00009	0.02255
54	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.01750	0.00176	0.00513	0.00346	0.00009	0.02455
55	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.01661	0.00353	0.00671	0.00385	0.00009	0.03339
56	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.01568	0.00353	0.00851	0.00428	0.00009	0.02929
57	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.01393	0.00353	0.00900	0.00476	0.00009	0.02964
58	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.01218	0.00353	0.00950	0.00532	0.00009	0.04223
59	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.00988	0.00353	0.01000	0.00600	0.00009	0.06756
60	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.00632	0.00700	0.01050	0.00677	0.00010	0.08000
61	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.00641	0.00700	0.01100	0.00762	0.00010	0.10016
62	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.00649	0.00700	0.01100	0.00858	0.00010	0.25000
63	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.00555	0.00700	0.01100	0.00966	0.00010	0.18645
64	0.14518	0.08662	0.06695	0.06695	0.03000	0.01000	0.00461	0.00700	0.01100	0.01091	0.00010	0.10000
65	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00339	0.00000	0.00000	0.01234	0.00010	0.24583
66	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00252	0.00000	0.00000	0.01391	0.00010	0.18552
67	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00165	0.00000	0.00000	0.01563	0.00010	0.14609
68	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00165	0.00000	0.00000	0.01746	0.00010	0.25044
69	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00165	0.00000	0.00000	0.01939	0.00010	0.33391
70	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	1.00000

Note Regarding Terminated Vested Assumption

For members under age 55 and with less than five years of service, use 50% of the above probabilities.

NEW PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT

GENERAL TIER 2 FEMALE MEMBERS

Age	Withdrawal					Terminated Vested	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
	0<=X<1	1<=X<3	3<=X<4	4<=X<5	5<=X						
20	0 10000	0 10000	0 07000	0 06000	0 06000	0 02550	0 00000	0 00010	0 00031	0 00000	0 00000
21	0 10000	0 10000	0 07000	0 06000	0 06000	0 02550	0 00000	0 00010	0 00031	0 00000	0 00000
22	0 10000	0 10000	0 07000	0 06000	0 06000	0 02550	0 00000	0 00010	0 00031	0 00000	0 00000
23	0 10000	0 10000	0 07000	0 06000	0 06000	0 02550	0 00000	0 00010	0 00031	0 00000	0 00000
24	0 10000	0 10000	0 07000	0 06000	0 06000	0 02550	0 00000	0 00009	0 00031	0 00000	0 00000
25	0 10000	0 10000	0 07000	0 06000	0 05000	0 02550	0 00009	0 00008	0 00032	0 00000	0 00000
26	0 10000	0 10000	0 07000	0 06000	0 05000	0 02550	0 00019	0 00008	0 00032	0 00000	0 00000
27	0 10000	0 10000	0 07000	0 06000	0 05000	0 02550	0 00019	0 00015	0 00034	0 00000	0 00000
28	0 10000	0 10000	0 07000	0 06000	0 05000	0 02550	0 00019	0 00021	0 00036	0 00000	0 00000
29	0 10000	0 10000	0 07000	0 06000	0 04000	0 02549	0 00021	0 00069	0 00038	0 00000	0 00000
30	0 10000	0 10000	0 07000	0 06000	0 04000	0 02525	0 00021	0 00136	0 00040	0 00000	0 00000
31	0 10000	0 10000	0 07000	0 06000	0 04000	0 02550	0 00021	0 00160	0 00043	0 00000	0 00000
32	0 10000	0 10000	0 07000	0 06000	0 04000	0 02352	0 00021	0 00180	0 00045	0 00000	0 00000
33	0 10000	0 10000	0 07000	0 06000	0 04000	0 02203	0 00028	0 00200	0 00048	0 00000	0 00000
34	0 10000	0 10000	0 07000	0 06000	0 03000	0 02000	0 00023	0 00220	0 00051	0 00008	0 00000
35	0 10000	0 10000	0 07000	0 05000	0 03000	0 02000	0 00023	0 00240	0 00055	0 00007	0 00000
36	0 10000	0 10000	0 07000	0 05000	0 03000	0 02000	0 00023	0 00260	0 00059	0 00007	0 00000
37	0 10000	0 10000	0 07000	0 05000	0 03000	0 02000	0 00020	0 00272	0 00064	0 00007	0 00000
38	0 10000	0 10000	0 07000	0 05000	0 03000	0 02000	0 00020	0 00285	0 00070	0 00007	0 00000
39	0 10000	0 10000	0 06000	0 03000	0 02000	0 02000	0 00022	0 00297	0 00076	0 00007	0 00000
40	0 10000	0 10000	0 06000	0 03000	0 02000	0 02000	0 00026	0 00309	0 00083	0 00007	0 00000
41	0 10000	0 10000	0 06000	0 03000	0 02000	0 02000	0 00029	0 00322	0 00089	0 00007	0 00000
42	0 10000	0 10000	0 06000	0 03000	0 01801	0 02000	0 00029	0 00334	0 00094	0 00007	0 00000
43	0 10000	0 10000	0 06000	0 03000	0 01490	0 02000	0 00029	0 00360	0 00099	0 00007	0 00000
44	0 10000	0 08000	0 06000	0 03000	0 01407	0 02000	0 00035	0 00370	0 00105	0 00007	0 00000
45	0 10000	0 08000	0 06000	0 03000	0 01145	0 02000	0 00035	0 00380	0 00111	0 00007	0 00000
46	0 10000	0 08000	0 06000	0 03000	0 01100	0 02000	0 00035	0 00390	0 00120	0 00007	0 00000
47	0 10000	0 08000	0 06000	0 03000	0 01000	0 02000	0 00038	0 00400	0 00130	0 00007	0 00000
48	0 10000	0 08000	0 06000	0 03000	0 01000	0 01868	0 00038	0 00410	0 00141	0 00007	0 00000
49	0 10000	0 08000	0 06000	0 03000	0 01000	0 01623	0 00049	0 00420	0 00154	0 00008	0 01985
50	0 10000	0 08000	0 06000	0 03000	0 01000	0 01378	0 00049	0 00430	0 00169	0 00008	0 01775
51	0 10000	0 08000	0 06000	0 03000	0 01000	0 01133	0 00062	0 00440	0 00186	0 00008	0 02006
52	0 10000	0 08000	0 06000	0 03000	0 00940	0 01101	0 00066	0 00450	0 00205	0 00008	0 01999
53	0 10000	0 08000	0 06000	0 03000	0 00781	0 01069	0 00070	0 00460	0 00224	0 00008	0 02276
54	0 10000	0 08000	0 06000	0 03000	0 00873	0 01050	0 00102	0 00470	0 00247	0 00009	0 04721
55	0 10000	0 08000	0 06000	0 03000	0 00733	0 01050	0 00133	0 00480	0 00276	0 00009	0 03848
56	0 10000	0 08000	0 06000	0 03000	0 00603	0 01050	0 00165	0 00490	0 00314	0 00009	0 04259
57	0 10000	0 08000	0 06000	0 03000	0 00575	0 01050	0 00197	0 00500	0 00361	0 00009	0 05602
58	0 10000	0 08000	0 06000	0 03000	0 00547	0 01050	0 00228	0 00500	0 00415	0 00009	0 05667
59	0 10000	0 08000	0 06000	0 03000	0 00400	0 01050	0 00260	0 00500	0 00477	0 00009	0 08495
60	0 10000	0 08000	0 06000	0 03000	0 00300	0 01050	0 00280	0 00500	0 00548	0 00009	0 10500
61	0 10000	0 08000	0 06000	0 03000	0 00200	0 01050	0 00300	0 00500	0 00627	0 00010	0 21235
62	0 10000	0 08000	0 06000	0 03000	0 00100	0 01050	0 00320	0 00500	0 00718	0 00010	0 18006
63	0 10000	0 08000	0 06000	0 03000	0 00000	0 01050	0 00340	0 00500	0 00819	0 00010	0 19673
64	0 00000	0 00000	0 00000	0 00000	0 00000	0 00060	0 00000	0 00000	0 00929	0 00010	0 32934
65	0 00000	0 00000	0 00000	0 00000	0 00000	0 00050	0 00000	0 00000	0 01042	0 00010	0 31494
66	0 00000	0 00000	0 00000	0 00000	0 00000	0 00040	0 00000	0 00000	0 01157	0 00010	0 45491
67	0 00000	0 00000	0 00000	0 00000	0 00000	0 00030	0 00000	0 00000	0 01265	0 00010	0 64987
68	0 00000	0 00000	0 00000	0 00000	0 00000	0 00020	0 00000	0 00000	0 01367	0 00010	0 77984
69	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
70	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000

Note Regarding Terminated Vested Assumption:

For members under age 55 and with less than five years of service, use 35% of the above probabilities

NEW PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT

SAFFTY TIER 1 MALE MEMBERS

AGE	Withdrawal 0<X<5	Withdrawal 5<=X	Terminated Vested	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
20	0 15000	0 15000	0 10000	0 00000	0 00000	0 00055	0 00040	0 00000
21	0 13500	0 13500	0 10000	0 00000	0 00000	0 00057	0 00040	0 00000
22	0 12000	0 12000	0 10000	0 00000	0 00000	0 00060	0 00040	0 00000
23	0 11000	0 11000	0 10000	0 00000	0 00000	0 00063	0 00040	0 00000
24	0 10200	0 10200	0 10000	0 00000	0 00000	0 00067	0 00040	0 00000
25	0 09700	0 09700	0 10000	0 00010	0 00010	0 00071	0 00040	0 00000
26	0 09200	0 09200	0 10000	0 00010	0 00010	0 00075	0 00040	0 00000
27	0 08700	0 08700	0 10000	0 00020	0 00020	0 00078	0 00040	0 00000
28	0 08000	0 08000	0 09980	0 00020	0 00020	0 00081	0 00040	0 00000
29	0 07500	0 07500	0 09960	0 00020	0 00020	0 00084	0 00040	0 00000
30	0 06900	0 06901	0 04423	0 00020	0 00020	0 00086	0 00040	0 00000
31	0 06600	0 06302	0 03237	0 00020	0 00020	0 00088	0 00040	0 00000
32	0 06500	0 05704	0 02643	0 00020	0 00020	0 00090	0 00040	0 00000
33	0 06400	0 05105	0 01737	0 00020	0 00095	0 00091	0 00040	0 00000
34	0 06300	0 04506	0 01025	0 00030	0 00255	0 00091	0 00040	0 00000
35	0 06100	0 03907	0 00760	0 00030	0 00300	0 00092	0 00040	0 00000
36	0 05800	0 03308	0 00515	0 00040	0 00320	0 00093	0 00040	0 00000
37	0 05300	0 02710	0 00500	0 00040	0 00340	0 00096	0 00040	0 00000
38	0 04800	0 02111	0 00500	0 00050	0 00360	0 00101	0 00040	0 00000
39	0 04400	0 01512	0 00500	0 00050	0 00380	0 00108	0 00050	0 00000
40	0 04000	0 00913	0 00500	0 00060	0 00400	0 00115	0 00050	0 00000
41	0 03700	0 00845	0 00500	0 00060	0 00420	0 00124	0 00050	0 00100
42	0 03300	0 00753	0 00500	0 00060	0 00440	0 00135	0 00050	0 00100
43	0 03000	0 00685	0 00403	0 00070	0 00450	0 00145	0 00050	0 00100
44	0 02700	0 00616	0 00284	0 00070	0 00460	0 00157	0 00060	0 00100
45	0 02000	0 00378	0 00179	0 00080	0 00500	0 00170	0 00060	0 00100
46	0 01200	0 00227	0 00097	0 00080	0 00510	0 00185	0 00060	0 00150
47	0 00700	0 00132	0 00014	0 00090	0 00520	0 00204	0 00060	0 00150
48	0 00400	0 00076	0 00053	0 00090	0 00530	0 00226	0 00060	0 00189
49	0 00100	0 00019	0 00092	0 00100	0 00540	0 00250	0 00070	0 00222
50	0 00000	0 00000	0 00046	0 00100	0 00570	0 00277	0 00070	0 00703
51	0 00000	0 00000	0 00059	0 00110	0 00630	0 00309	0 00070	0 02232
52	0 00000	0 00000	0 00072	0 00110	0 00690	0 00346	0 00070	0 02483
53	0 00000	0 00000	0 00112	0 00120	0 00750	0 00385	0 00080	0 04093
54	0 00000	0 00000	0 00151	0 00120	0 00810	0 00428	0 00080	0 12393
55	0 00000	0 00000	0 00000	0 00130	0 00900	0 00476	0 00080	0 27620
56	0 00000	0 00000	0 00000	0 00130	0 01400	0 00532	0 00080	0 22294
57	0 00000	0 00000	0 00000	0 00140	0 01900	0 00600	0 00090	0 23874
58	0 00000	0 00000	0 00000	0 00140	0 02400	0 00677	0 00090	0 23547
59	0 00000	0 00000	0 00000	0 00150	0 02900	0 00762	0 00090	0 61920
60	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
61	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
62	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
63	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
64	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
65	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
66	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
67	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
68	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
69	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
70	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000

g:\retire\ace\2002\val-b\report01 clean.doc

NEW PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT

SAFETY TIER 2 MALE MEMBERS

AGE	Withdrawal 0<=X<3	3<=X<5	5<=X	Terminated Vested	Ordinary Disability	Duty Disability	Ordinary Death	Duty Death	Service Retirement
20	0 04000	0 03000	0 01000	0 00850	0 00000	0 00000	0 00055	0 00040	0 00000
21	0 04000	0 03000	0 01000	0 00850	0 00000	0 00000	0 00057	0 00040	0 00000
22	0 04000	0 03000	0 01000	0 00850	0 00000	0 00000	0 00060	0 00040	0 00000
23	0 04000	0 03000	0 01000	0 00850	0 00000	0 00000	0 00063	0 00040	0 00000
24	0 04000	0 03000	0 01000	0 00850	0 00000	0 00000	0 00067	0 00040	0 00000
25	0 04000	0 03000	0 01000	0 00850	0 00010	0 00009	0 00071	0 00040	0 00000
26	0 04000	0 03000	0 01000	0 00850	0 00010	0 00009	0 00075	0 00040	0 00000
27	0 04000	0 03000	0 01000	0 00850	0 00020	0 00017	0 00078	0 00040	0 00000
28	0 04000	0 03000	0 01000	0 00850	0 00020	0 00022	0 00081	0 00040	0 00000
29	0 04000	0 03000	0 01000	0 00850	0 00020	0 00027	0 00084	0 00040	0 00000
30	0 04000	0 03000	0 01000	0 00850	0 00020	0 00268	0 00086	0 00040	0 00000
31	0 04000	0 03000	0 01000	0 00850	0 00020	0 00313	0 00088	0 00040	0 00000
32	0 04000	0 03000	0 01000	0 00850	0 00020	0 00357	0 00090	0 00040	0 00000
33	0 04000	0 03000	0 01000	0 00850	0 00020	0 00380	0 00091	0 00040	0 00000
34	0 04000	0 03000	0 01000	0 00850	0 00030	0 00400	0 00091	0 00040	0 00000
35	0 04000	0 03000	0 01000	0 00850	0 00030	0 00420	0 00092	0 00040	0 00000
36	0 04000	0 03000	0 01000	0 00850	0 00040	0 00440	0 00093	0 00040	0 00000
37	0 04000	0 03000	0 01000	0 00850	0 00040	0 00460	0 00096	0 00040	0 00000
38	0 04000	0 03000	0 01000	0 00850	0 00050	0 00480	0 00101	0 00040	0 00000
39	0 04000	0 03000	0 01000	0 00850	0 00050	0 00500	0 00108	0 00050	0 00000
40	0 04000	0 03000	0 01000	0 00850	0 00060	0 00650	0 00115	0 00050	0 00000
41	0 04000	0 03000	0 00920	0 00850	0 00060	0 00700	0 00124	0 00050	0 00100
42	0 04000	0 03000	0 00851	0 00850	0 00060	0 00750	0 00135	0 00050	0 00100
43	0 04000	0 03000	0 00798	0 00850	0 00070	0 00800	0 00145	0 00050	0 00100
44	0 04000	0 03000	0 00740	0 00850	0 00070	0 00850	0 00157	0 00060	0 00100
45	0 04000	0 03000	0 00635	0 00850	0 00080	0 00900	0 00170	0 00060	0 00100
46	0 04000	0 03000	0 00523	0 00850	0 00080	0 00950	0 00185	0 00060	0 00150
47	0 04000	0 03000	0 00403	0 00850	0 00090	0 01000	0 00204	0 00060	0 00150
48	0 04000	0 03000	0 00265	0 00850	0 00090	0 01050	0 00226	0 00060	0 00210
49	0 04000	0 03000	0 00131	0 00850	0 00100	0 01100	0 00250	0 00070	0 00274
50	0 00000	0 00000	0 00000	0 00850	0 00100	0 01100	0 00277	0 00070	0 04248
51	0 00000	0 00000	0 00000	0 00850	0 00110	0 01100	0 00309	0 00070	0 01581
52	0 00000	0 00000	0 00000	0 00850	0 00110	0 01100	0 00346	0 00070	0 01973
53	0 00000	0 00000	0 00000	0 00850	0 00120	0 01100	0 00385	0 00080	0 02939
54	0 00000	0 00000	0 00000	0 00850	0 00120	0 01100	0 00428	0 00080	0 08107
55	0 00000	0 00000	0 00000	0 00000	0 00130	0 01100	0 00476	0 00080	0 14920
56	0 00000	0 00000	0 00000	0 00000	0 00130	0 01096	0 00532	0 00080	0 11111
57	0 00000	0 00000	0 00000	0 00000	0 00140	0 01100	0 00600	0 00090	0 25000
58	0 00000	0 00000	0 00000	0 00000	0 00140	0 01096	0 00677	0 00090	0 10671
59	0 00000	0 00000	0 00000	0 00000	0 00150	0 01100	0 00762	0 00090	0 27490
60	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
61	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
62	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
63	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
64	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
65	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
66	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
67	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
68	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
69	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000
70	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	0 00000	1 00000

g:\retire\aca\2002\val-b\report01 clean.doc

RATIO OF CURRENT COMPENSATION TO COMPENSATION
ANTICIPATED AT RETIREMENT AGE

Age	General Members	Salary Members
	Current Assumptions*	Current Assumptions*
20	052	104
21	056	112
22	061	120
23	066	128
24	072	137
25	077	147
26	083	157
27	090	168
28	096	180
29	103	192
30	110	205
31	118	218
32	126	231
33	134	244
34	142	259
35	151	273
36	160	289
37	170	304
38	180	321
39	191	338
40	202	356
41	214	376
42	226	396
43	240	417
44	254	440
45	268	464
46	284	489
47	300	516
48	317	544
49	335	573
50	354	603
51	374	635
52	395	668
53	417	703
54	440	739
55	464	778
56	490	818
57	516	860
58	543	904
59	572	951
60	602	1.000
61	633	
62	667	
63	701	
64	738	
65	776	
66	817	
67	859	
68	904	
69	951	
70	1 000	

* Salary scale of merit and longevity plus 4.50% inflation

g:\retire\lacs\2002\val-bf\report01 clean.doc

Exhibit II

**YEARS OF LIFE EXPECTANCY AFTER SERVICE RETIREMENT
General and Safety Members**

Age	Male	Female	Age	Male	Female
50	31.87	35.19	80	8.98	10.49
51	30.94	34.24	81	8.46	9.88
52	30.01	33.29	82	7.97	9.30
53	29.09	32.34	83	7.51	8.74
54	28.18	31.40	84	7.07	8.20
55	27.28	30.47	85	6.65	7.68
56	26.38	29.53	86	6.24	7.18
57	25.49	28.61	87	5.86	6.71
58	24.61	27.68	88	5.48	6.25
59	23.74	26.77	89	5.12	5.83
60	22.88	25.86	90	4.78	5.42
61	22.04	24.97	91	4.45	5.05
62	21.20	24.09	92	4.15	4.70
63	20.38	23.22	93	3.87	4.37
64	19.57	22.36	94	3.61	4.07
65	18.78	21.52	95	3.37	3.79
66	18.01	20.69	96	3.15	3.53
67	17.26	19.88	97	2.95	3.28
68	16.53	19.09	98	2.77	3.06
69	15.81	18.30	99	2.61	2.85
70	15.11	17.53	100	2.46	2.65
71	14.43	16.77	101	2.33	2.48
72	13.77	16.01	102	2.21	2.31
73	13.11	15.26	103	2.09	2.16
74	12.48	14.53	104	1.98	2.02
75	11.85	13.81	105	1.87	1.89
76	11.25	13.11	106	1.77	1.78
77	10.66	12.43	107	1.68	1.69
78	10.08	11.76	108	1.61	1.62
79	9.52	11.11	109	1.55	1.56
			110	1.50	1.51

Males and Safety: 1994 GAM Table with a 2 year setback
 Females: 1994 GAF Table with a 1 year setback

YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT
General Members

<u>Age</u>	<u>Male & Female</u>	<u>Age</u>	<u>Male & Female</u>	<u>Age</u>	<u>Male & Female</u>
20	41.73	50	22.56	80	8.28
21	40.73	51	22.06	81	7.83
22	39.73	52	21.57	82	7.41
23	38.73	53	21.08	83	7.00
24	37.98	54	20.59	84	6.63
25	37.26	55	20.11	85	6.27
26	36.56	56	19.63	86	5.94
27	35.87	57	19.16	87	5.63
28	35.19	58	18.68	88	5.34
29	34.53	59	18.21	89	5.06
30	33.87	60	17.75	90	4.80
31	33.23	61	17.29	91	4.55
32	32.60	62	16.83	92	4.31
33	31.98	63	16.37	93	4.09
34	31.37	64	15.91	94	3.87
35	30.76	65	15.45	95	3.66
36	30.17	66	14.99	96	3.46
37	29.58	67	14.53	97	3.26
38	29.00	68	14.07	98	3.07
39	28.43	69	13.60	99	2.89
40	27.87	70	13.13	100	2.71
41	27.31	71	12.66	101	2.54
42	26.76	72	12.18	102	2.37
43	26.21	73	11.70	103	2.20
44	25.67	74	11.21	104	2.04
45	25.14	75	10.72	105	1.88
46	24.61	76	10.22	106	1.72
47	24.09	77	9.73	107	1.55
48	23.57	78	9.24	108	1.38
49	23.06	79	8.76	109	1.21
				110	1.04

1981 General Disability Table with a 3 Year Setback

YEARS OF LIFE EXPECTANCY AFTER DISABILITY RETIREMENT
Safety Members

<u>Age</u>	<u>Male & Female</u>	<u>Age</u>	<u>Male & Female</u>	<u>Age</u>	<u>Male & Female</u>
20	49.29	50	23.59	80	7.00
21	48.39	51	22.80	81	6.63
22	47.48	52	22.03	82	6.27
23	46.58	53	21.26	83	5.94
24	45.68	54	20.50	84	5.63
25	44.79	55	19.77	85	5.34
26	43.89	56	19.06	86	5.06
27	43.01	57	18.40	87	4.80
28	42.12	58	17.78	88	4.55
29	41.24	59	17.20	89	4.31
30	40.36	60	16.64	90	4.09
31	39.48	61	16.11	91	3.87
32	38.61	62	15.59	92	3.66
33	37.74	63	15.08	93	3.46
34	36.88	64	14.58	94	3.26
35	36.02	65	14.09	95	3.07
36	35.16	66	13.61	96	2.89
37	34.31	67	13.13	97	2.71
38	33.45	68	12.66	98	2.54
39	32.61	69	12.18	99	2.37
40	31.77	70	11.70	100	2.20
41	30.93	71	11.21	101	2.04
42	30.09	72	10.72	102	1.88
43	29.26	73	10.22	103	1.72
44	28.43	74	9.73	104	1.55
45	27.61	75	9.24	105	1.38
46	26.80	76	8.76	106	1.21
47	25.98	77	8.28	107	1.04
48	25.18	78	7.83	108	0.88
49	24.38	79	7.41	109	0.71
				110	0.50

1981 Safety Disability Table with no Setback

APPENDIX C

SUMMARY OF MEMBERSHIP AND BENEFIT STATISTICS

Association Membership and Benefit Statistics

Active General Members

	<u>November 30, 2001*</u>	<u>December 31, 2000</u>	<u>Percent Change</u>
1 General Tier 1			
A Number	1,855	1,984	(6.5%)
B Average Age	52.14	51.66	0.9%
C Average Years of Service	21.32	21.22	0.5%
D Annual Salary			
i Total	\$114,781,384	\$112,929,479	1.6%
ii Average	\$61,877	\$56,920	8.7%
2 General Tier 2			
A Number	7,647	7,043	8.6%
B Average Age	43.09	42.72	0.9%
C Average Years of Service	6.05	6.26	(3.4%)
D Annual Salary			
i Total	\$383,518,137	\$333,981,593	14.8%
ii Average	\$50,153	\$47,420	5.8%
3 General Total			
A Number	9,502	9,027	5.3%
B Average Age	44.86	44.68	0.4%
C Average Years of Service	9.03	9.55	(5.4%)
D Annual Salary			
i Total	\$498,299,521	\$446,911,072	11.5%
ii Average	\$52,442	\$49,508	5.9%

Active Safety Members

	<u>November 30, 2001*</u>	<u>December 31, 2000</u>	<u>Percent Change</u>
1 Safety Tier 1			
A Number	373	388	(3.9%)
B Average Age	50.43	49.61	1.7%
C Average Years of Service	22.33	22.32	0.0%
D Annual Salary			
i Total	\$28,299,966	\$27,618,181	2.5%
ii Average	\$75,871	\$71,181	6.6%
2 Safety Tier 2			
A Number	1,099	1,041	5.6%
B Average Age	38.52	38.32	0.5%
C Average Years of Service	6.96	6.99	(0.4%)
D Annual Salary			
i Total	\$63,792,648	\$57,775,871	10.4%
ii Average	\$58,046	\$55,500	4.6%
3 Safety Total			
A Number	1,472	1,429	3.0%
B Average Age	41.54	41.39	0.4%
C Average Years of Service	10.85	11.15	(2.7%)
D Annual Salary			
i Total	\$92,092,614	\$85,394,052	7.8%
ii Average	\$62,563	\$59,758	4.7%

* Service and Salary projected to December 31, 2001

RETIRED AND INACTIVE VESTED MEMBERS			
	<u>November 30, 2001</u>	<u>December 31, 2000</u>	<u>Percent Change</u>
Retired Members			
A. Service Retirement			
i. Number	4,443	4,352	2.1%
ii. Annual Allowance			
Basic Only	\$77,819,944	\$74,128,258	5.0%
COLA	\$24,838,053	22,486,337	10.5%
Total	\$102,657,997	\$96,614,595	6.3%
Average Monthly Amount	\$1,925	\$1,850	4.1%
B. Disability Retirement			
i. Number	511	477	7.1%
ii. Annual Allowance			
Basic Only	\$8,800,266	\$7,733,362	13.8%
COLA	2,013,020	1,750,675	15.0%
Total	\$10,813,286	\$9,484,037	14.0%
Average Monthly Amount	\$1,763	\$1,657	6.4%
C. Beneficiaries			
i. Number	913	870	4.9%
ii. Annual Allowance			
Basic Only	\$6,576,312	\$5,651,133	16.4%
COLA	4,038,493	3,510,459	15.0%
Total	\$10,614,805	\$9,161,592	15.9%
Average Monthly Amount	\$969	\$878	10.4%
Inactive Vested Members			
A. Number	1,025	975	5.1%

**AVERAGE ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION
OF ACTIVE GENERAL TIER 1 MEMBERS
AS OF NOVEMBER 30, 2001 ***

MALES AND FEMALES

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										
20-24	4	1								5
	27,022	3,958								22,409
25-29	6	1								7
	38,752	11,617								34,875
30-34	11	1								12
	33,584	44,906								34,528
35-39	7	7	4	9	4					31
	35,870	39,093	48,891	41,625	53,842					42,288
40-44	12	8	13	37	51	2				123
	38,332	51,613	52,488	58,663	53,487	73,764				53,688
45-49	12	16	43	90	165	62	11			399
	46,305	58,580	80,212	54,869	59,982	56,300	54,366			57,659
50-54	11	19	42	119	213	166	67	3		640
	47,086	62,572	47,944	60,558	66,023	72,772	59,998	53,817		64,455
55-59	6	8	21	56	121	116	86	18	1	433
	45,782	58,623	55,951	58,657	66,689	74,674	73,664	71,909	42,019	68,375
60-64	1	2	9	30	45	34	31	11		163
	58,357	59,282	55,202	53,757	51,091	71,558	70,656	85,266		62,250
65-69	2	1	1	5	7	3	8	5		32
	47,869	60,430	53,381	37,949	51,195	48,788	54,345	65,155		52,015
70-74			1	1	4			2		8
			39,647	38,094	38,927			45,998		40,681
75+						1	1			2
						53,212	45,975			49,693
Total	72	64	134	347	610	384	204	39	1	1,855
	40,604	55,018	54,071	57,104	61,944	70,346	66,784	72,090	42,019	61,877

Total Salary	\$114,781,384
Average Age	52.14
Average Service	21.32

* Age and service projected to December 31, 2001.

**AVERAGE ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION
OF ACTIVE GENERAL TIER 2 MEMBERS
AS OF NOVEMBER 30, 2001***

MALES AND FEMALES

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19	3									3
	22,846									22,846
20-24	167	4								171
	31,314	32,493								31,341
25-29	526	46								572
	38,630	43,960								39,059
30-34	726	202	81	2						1,010
	44,804	50,365	44,262	45,275						45,874
35-39	587	244	245	68						1,144
	43,693	51,026	54,105	52,338						48,001
40-44	574	237	333	115	1					1,260
	46,345	51,709	57,162	60,238	112,499					51,539
45-49	532	249	360	152	1					1,294
	48,066	55,198	56,570	64,711	50,047					53,761
50-54	444	225	344	141	2	2				1,158
	51,836	55,856	55,302	59,662	99,346	59,805				54,619
55-59	210	155	195	92	3					655
	54,259	53,779	55,956	59,950	95,138					55,637
60-64	82	65	89	53	1	2				292
	50,870	59,289	53,276	56,088	71,395	103,222				54,853
65-69	12	13	25	13	1	1				65
	51,232	43,444	51,305	40,948	69,192	43,807				47,805
70-74	4	5	7	2						18
	47,427	62,849	44,354	96,239						55,939
75+	2		3							5
	37,749		35,548							36,428
Total	3,868	1,445	1,682	638	9	5				7,647
	45,319	52,880	55,064	59,621	87,471	73,932				50,153

Total Salary	\$393,519,137
Average Age	43.09
Average Service	6.05

* Age and service projected to December 31, 2001.

**AVERAGE ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION
OF ACTIVE SAFETY TIER 1 MEMBERS
AS OF NOVEMBER 30, 2001***

MALES AND FEMALES

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										
20-24										
25-29										
30-34										
35-39										
40-44	1	1	2	19	24					47
	82,652	79,674	67,340	74,148	78,894					76,580
45-49	1	1	3	24	56	15		1		101
	52,997	55,851	67,177	64,506	74,242	76,453	105,502			71,982
50-54	1	2	4	19	41	76		18		161
	88,697	82,553	64,716	70,127	74,156	78,851	102,619			78,791
55-59		1	5	9	12	20		4	1	52
		87,431	42,070	56,049	73,828	90,821	91,389	109,703		76,535
60-64	1		2	2	3	1		1		10
	52,559		65,819	66,655	72,604	59,985	60,939			65,624
65-69					1			1		2
					57,998			53,107		55,582
70-74										
75+										
Total	4	5	16	73	137	112	24	2		373
	69,226	69,572	58,568	67,495	74,841	80,499	99,131	81,405		75,871

Total Salary	\$28,299,966
Average Age	50.43
Average Service	22.33

* Age and service projected to December 31, 2001.

**AVERAGE ANNUAL SALARY AND MEMBERSHIP DISTRIBUTION
OF ACTIVE SAFETY TIER 2 MEMBERS
AS OF NOVEMBER 30, 2001***

MALES AND FEMALES

Age Group	YEARS OF SERVICE									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19										
20-24	23	1								24
	45,469	53,955								45,823
25-29	157	16								173
	45,912	57,946								47,025
30-34	158	46	4							208
	48,546	63,661	63,163							52,170
35-39	85	54	85	20						244
	51,881	61,470	66,435	71,303						60,658
40-44	49	22	66	51						188
	52,746	64,022	65,014	71,341						63,417
45-49	15	16	32	40						103
	55,117	60,469	66,864	65,666						63,633
50-54	20	13	33	20	1					87
	52,942	63,789	63,600	67,015	120,743					62,620
55-59	15	11	22	8	1					57
	74,175	67,880	69,130	57,424	51,004					68,217
60-64	1	9	1	2						13
	39,825	61,188	57,942	53,121						58,054
60+		1								1
		149,256								149,256
Total	523	189	244	141	2					1,099
	49,627	62,849	66,354	68,064	85,874					58,046

Total Salary	\$63,792,648
Average Age	38 52
Average Service	6 96

* Age and service projected to December 31, 2001.

**AVERAGE ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION
OF RETIRED GENERAL MEMBERS AND BENEFICIARIES**

MALES AND FEMALES

Age Group	YEARS OF RETIREMENT									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19	2									2
	9,144									9,144
20-24		1								1
		11,793								11,793
25-29	1									1
	17,951									17,951
30-34	2									2
	9,791									9,791
35-39	13	7				1				21
	18,266	20,824				2,777				18,314
40-44	15	10								25
	16,785	12,762								15,176
45-49	21	8	3	1	2					35
	19,336	16,758	14,183	9,465	2,301					16,983
50-54	136	15	4	4	1					160
	17,158	14,246	12,953	11,183	19,249					16,644
55-59	246	106	11	4	5			1		373
	26,399	15,717	19,579	15,775	11,060		3,409			22,781
60-64	332	189	81	7	2	1				612
	32,168	23,386	14,331	16,428	9,087	7,375				26,799
65-69	263	294	172	88	10	9		8		844
	27,118	27,062	20,367	10,345	10,741	8,036		5,215		23,369
70-74	117	225	287	153	107	11		8		908
	20,303	27,058	26,617	16,080	7,740	8,880		5,922		21,515
75-79	62	85	222	283	196	73		12	2	916
	17,321	14,986	21,694	19,025	11,522	7,144		8,443	5,402	16,448
80-84	38	50	66	167	248	84		10	5	667
	11,364	9,911	19,178	17,226	14,035	8,651		8,182	4,414	14,032
85-89	19	26	14	24	117	109		40	4	353
	6,824	12,838	9,932	11,887	15,075	11,279		4,632	8,398	11,614
90+	31	19	12	17	28	68		39	26	243
	7,052	6,762	9,212	7,827	10,469	9,274		8,992	4,307	8,203
Total	1,298	1,035	872	728	714	356	118	37	5	5,163
	24,515	22,216	21,725	16,348	12,326	9,237	6,878	4,823	5,859	19,129

Total Retired Benefit	\$98,765,203
Average Age	71.98
Average Years Retired	12.22

**AVERAGE ANNUAL BENEFIT AND MEMBERSHIP DISTRIBUTION
OF RETIRED SAFETY MEMBERS AND BENEFICIARIES**

MALES AND FEMALES

Age Group	YEARS OF RETIREMENT									TOTAL
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19	1			1						2
	14,996			7,311						11,154
20-24										
25-29										
30-34										
35-39	8	2								10
	30,024	22,545								28,528
40-44	11	4	2							17
	29,005	31,156	20,871							28,554
45-49	8	8	3							19
	30,054	27,178	33,371							29,368
50-54	44	10	8	4		2				68
	32,348	33,624	21,253	24,476						30,379
55-59	123	33	18	3	2					179
	50,411	32,234	24,399	26,259	19,819					43,698
60-64	39	63	28	9	1	5				145
	36,195	46,494	36,341	21,836	18,550	13,262				38,894
65-69	17	31	37	5	3	2				95
	30,568	47,006	46,674	21,577	18,528	17,680				41,080
70-74	4	7	17	18	9	1	2	1		59
	28,370	33,478	39,762	48,776	25,818	19,191	9,517	13,161		37,042
75-79	6	3	3	4	14	16				46
	19,713	16,210	14,985	29,247	35,957	20,086				25,079
80-84	4	2	1	1	6	15	2			31
	14,769	17,021	10,966	121,588	27,488	18,662	14,236			22,548
85-89	2	1	2		2	5	6			20
	13,136	11,488	12,840		11,079	21,935	17,699			16,843
90+	4	4		1		1	3			13
	13,766	13,700		8,446		6,846	13,275			12,691
Total	271	168	119	46	37	47	15	1		704
	39,638	39,028	35,740	35,074	28,017	18,659	15,262	13,161		35,967

Total Retired Benefit	\$25,320,885
Average Age	63.03
Average Years Retired	9.27

**SUMMARY OF MONTHLY ALLOWANCES BEING PAID
AS OF NOVEMBER 30, 2001**

General Members				
Service	Monthly Allowance			
	Number	Basic	Cost of Living	Total
Unmodified	3,691	\$ 4,856,295	\$ 1,641,850	\$ 6,498,145
Option 1	108	126,035	42,061	168,096
Option 2, 3 & 4	173	218,654	58,370	277,024
Total	3,972	\$ 5,200,984	\$ 1,742,281	\$ 6,943,265
Ordinary Disability				
Unmodified	130	\$ 88,473	\$ 33,799	\$ 122,271
Option 1	9	4,778	2,718	7,497
Option 2, 3 & 4	0	0	0	0
Total	139	\$ 93,251	\$ 36,517	\$ 129,768
Duty Disability				
Unmodified	230	\$ 350,952	\$ 65,049	\$ 416,001
Option 1	8	8,579	1,707	10,286
Option 2, 3 & 4	1	966	101	1,066
Total	239	\$ 360,497	\$ 66,856	\$ 427,353
Beneficiaries				
Ex-Spouse	53	\$ 31,926	\$ 9,841	\$ 41,767
Death	760	415,602	272,679	688,280
Total	813	\$ 447,528	\$ 282,520	\$ 730,048
Total General	5,163	\$ 6,102,260	\$ 2,128,174	\$ 8,230,434
Safety Members				
Service Retirement	Monthly Allowance			
	Number	Basic	Cost of Living	Total
Unmodified	445	\$ 1,228,476	\$ 316,128	\$ 1,544,604
Option 1	2	4,267	1,554	5,822
Option 2, 3 & 4	24	51,268	9,874	61,142
Total	471	\$ 1,284,011	\$ 327,557	\$ 1,611,568
Ordinary Disability				
Unmodified	4	\$ 3,995	\$ 433	\$ 4,428
Option 1	0	0	0	0
Option 2, 3 & 4	0	0	0	0
Total	4	\$ 3,995	\$ 433	\$ 4,428
Duty Disability				
Unmodified	122	\$ 262,523	\$ 60,832	\$ 323,354
Option 1	4	8,329	826	9,155
Option 2, 3 & 4	3	4,761	2,288	7,049
Total	129	\$ 275,612	\$ 63,946	\$ 339,558
Beneficiaries				
Ex-Spouse	19	\$ 22,920	\$ 3,732	\$ 26,652
Death	81	77,578	50,289	127,867
Total	100	\$ 100,498	\$ 54,021	\$ 154,519
Total Safety	704	\$ 1,664,117	\$ 445,957	\$ 2,110,074

APPENDIX D
MEMBERS' CONTRIBUTION RATES

APPENDIX D

GENERAL MEMBERS' CONTRIBUTION RATES

ENTRY AGE	Basic				COL *				Basic and COL			
	First \$161.00 of Biweekly Compensation		Excess of Biweekly Compensation Over \$161.00		First \$161.00 of Biweekly Compensation		Excess of Biweekly Compensation Over \$161.00		First \$161.00 of Biweekly Compensation		Excess of Biweekly Compensation Over \$161.00	
	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2
16	4.09%	3.24%	6.14%	4.86%	1.53%	73%	2.30%	1.09%	5.62%	3.97%	8.44%	5.95%
17	4.09%	3.24%	6.14%	4.86%	1.53%	73%	2.30%	1.09%	5.62%	3.97%	8.44%	5.95%
18	4.09%	3.24%	6.14%	4.86%	1.53%	73%	2.30%	1.09%	5.62%	3.97%	8.44%	5.95%
19	4.09%	3.24%	6.14%	4.86%	1.53%	73%	2.30%	1.09%	5.62%	3.97%	8.44%	5.95%
20	4.09%	3.24%	6.14%	4.86%	1.53%	73%	2.30%	1.09%	5.62%	3.97%	8.44%	5.95%
21	4.12%	3.26%	6.18%	4.89%	1.54%	73%	2.32%	1.10%	5.66%	3.99%	8.50%	5.99%
22	4.15%	3.29%	6.22%	4.93%	1.56%	74%	2.33%	1.11%	5.71%	4.03%	8.55%	6.04%
23	4.18%	3.31%	6.27%	4.97%	1.57%	74%	2.35%	1.11%	5.75%	4.05%	8.62%	6.08%
24	4.21%	3.34%	6.32%	5.01%	1.58%	75%	2.37%	1.12%	5.79%	4.09%	8.69%	6.13%
25	4.25%	3.37%	6.38%	5.05%	1.59%	76%	2.39%	1.13%	5.84%	4.13%	8.77%	6.18%
26	4.29%	3.40%	6.44%	5.10%	1.61%	76%	2.41%	1.14%	5.90%	4.16%	8.85%	6.24%
27	4.33%	3.43%	6.50%	5.15%	1.62%	77%	2.44%	1.15%	5.95%	4.20%	8.94%	6.30%
28	4.38%	3.47%	6.57%	5.20%	1.64%	78%	2.46%	1.17%	6.02%	4.25%	9.03%	6.37%
29	4.42%	3.50%	6.64%	5.26%	1.66%	78%	2.49%	1.18%	6.08%	4.28%	9.13%	6.44%
30	4.47%	3.54%	6.71%	5.31%	1.68%	79%	2.52%	1.19%	6.15%	4.33%	9.23%	6.50%
31	4.52%	3.58%	6.79%	5.38%	1.69%	80%	2.54%	1.21%	6.21%	4.38%	9.33%	6.59%
32	4.58%	3.63%	6.87%	5.44%	1.72%	81%	2.57%	1.22%	6.30%	4.44%	9.44%	6.66%
33	4.63%	3.67%	6.95%	5.50%	1.74%	82%	2.61%	1.23%	6.37%	4.49%	9.56%	6.73%
34	4.69%	3.71%	7.03%	5.57%	1.76%	83%	2.64%	1.25%	6.45%	4.54%	9.67%	6.82%
35	4.75%	3.76%	7.12%	5.64%	1.78%	84%	2.67%	1.26%	6.53%	4.60%	9.79%	6.90%
36	4.80%	3.81%	7.21%	5.71%	1.80%	85%	2.70%	1.28%	6.60%	4.66%	9.91%	6.99%
37	4.86%	3.85%	7.30%	5.78%	1.82%	86%	2.74%	1.30%	6.68%	4.71%	10.04%	7.08%
38	4.92%	3.90%	7.39%	5.85%	1.84%	87%	2.77%	1.31%	6.76%	4.77%	10.16%	7.16%
39	4.99%	3.95%	7.48%	5.92%	1.87%	89%	2.80%	1.33%	6.86%	4.84%	10.28%	7.25%
40	5.05%	4.00%	7.57%	6.00%	1.89%	90%	2.84%	1.35%	6.94%	4.90%	10.41%	7.35%
41	5.11%	4.05%	7.67%	6.08%	1.92%	91%	2.88%	1.36%	7.03%	4.96%	10.55%	7.44%
42	5.18%	4.10%	7.77%	6.15%	1.94%	92%	2.91%	1.38%	7.12%	5.02%	10.68%	7.53%
43	5.25%	4.16%	7.87%	6.23%	1.97%	93%	2.95%	1.40%	7.22%	5.09%	10.82%	7.63%
44	5.32%	4.21%	7.97%	6.32%	1.99%	94%	2.99%	1.42%	7.31%	5.15%	10.96%	7.74%
45	5.39%	4.27%	8.08%	6.40%	2.02%	96%	3.03%	1.43%	7.41%	5.23%	11.11%	7.83%
46	5.46%	4.32%	8.19%	6.48%	2.05%	97%	3.07%	1.45%	7.51%	5.29%	11.26%	7.93%
47	5.53%	4.38%	8.29%	6.57%	2.07%	98%	3.11%	1.47%	7.60%	5.36%	11.40%	8.04%
48	5.60%	4.44%	8.40%	6.66%	2.10%	100%	3.15%	1.49%	7.70%	5.44%	11.55%	8.15%
49	5.68%	4.50%	8.52%	6.75%	2.13%	101%	3.19%	1.51%	7.81%	5.51%	11.71%	8.26%
50	5.75%	4.56%	8.63%	6.84%	2.16%	102%	3.24%	1.53%	7.91%	5.58%	11.87%	8.37%
51	5.83%	4.62%	8.75%	6.93%	2.19%	104%	3.28%	1.55%	8.02%	5.66%	12.03%	8.48%
52	5.91%	4.68%	8.86%	7.02%	2.22%	105%	3.32%	1.57%	8.13%	5.73%	12.18%	8.59%
53	5.99%	4.74%	8.98%	7.11%	2.25%	106%	3.37%	1.60%	8.24%	5.80%	12.35%	8.71%
54	6.07%	4.81%	9.10%	7.21%	2.28%	108%	3.41%	1.62%	8.35%	5.89%	12.51%	8.83%
55	6.15%	4.87%	9.23%	7.31%	2.31%	109%	3.46%	1.64%	8.46%	5.96%	12.69%	8.95%
56	6.24%	4.94%	9.36%	7.41%	2.34%	111%	3.51%	1.66%	8.58%	6.05%	12.87%	9.07%
57	6.32%	5.01%	9.49%	7.51%	2.37%	112%	3.56%	1.68%	8.69%	6.13%	13.05%	9.19%
58	6.41%	5.21%	9.62%	7.81%	2.40%	117%	3.61%	1.75%	8.81%	6.38%	13.23%	9.56%
59 & Over	6.50%	5.42%	9.75%	8.13%	2.44%	122%	3.66%	1.82%	8.94%	6.64%	13.41%	9.95%

* COL Loading

37.49% of Basic Rates for Tier 1 and
22.42% of Basic Rates for Tier 2

Mortality

GA94 Male Set Back 4 Years

SAFETY MEMBERS' CONTRIBUTION RATES

ENTRY AGE	Section 31664 (Tier 1 and Tier 2)											
	Basic				COL *				Basic and COL			
	First \$161 00 of Biweekly Compensation		Excess of Biweekly Compensation Over \$161 00		First \$161 00 of Biweekly Compensation		Excess of Biweekly Compensation Over \$161 00		First \$161 00 of Biweekly Compensation		Excess of Biweekly Compensation Over \$161 00	
	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2
18	4.94%	4.69%	7.41%	7.04%	2.08%	1.20%	3.11%	1.80%	7.02%	5.89%	10.52%	8.84%
19	4.94%	4.69%	7.41%	7.04%	2.08%	1.20%	3.11%	1.80%	7.02%	5.89%	10.52%	8.84%
20	4.94%	4.69%	7.41%	7.04%	2.08%	1.20%	3.11%	1.80%	7.02%	5.89%	10.52%	8.84%
21	4.99%	4.73%	7.48%	7.10%	2.10%	1.21%	3.14%	1.81%	7.09%	5.94%	10.62%	8.91%
22	5.03%	4.78%	7.55%	7.17%	2.11%	1.22%	3.17%	1.83%	7.14%	6.00%	10.72%	9.00%
23	5.08%	4.82%	7.62%	7.24%	2.13%	1.23%	3.20%	1.85%	7.21%	6.05%	10.82%	9.09%
24	5.13%	4.87%	7.69%	7.31%	2.15%	1.24%	3.23%	1.87%	7.28%	6.11%	10.92%	9.18%
25	5.18%	4.92%	7.77%	7.38%	2.18%	1.26%	3.26%	1.89%	7.36%	6.18%	11.03%	9.27%
26	5.24%	4.97%	7.85%	7.46%	2.20%	1.27%	3.30%	1.91%	7.44%	6.24%	11.15%	9.37%
27	5.29%	5.03%	7.94%	7.54%	2.22%	1.29%	3.34%	1.93%	7.51%	6.32%	11.28%	9.47%
28	5.35%	5.08%	8.03%	7.63%	2.25%	1.30%	3.37%	1.95%	7.60%	6.38%	11.40%	9.58%
29	5.42%	5.15%	8.13%	7.72%	2.28%	1.32%	3.41%	1.97%	7.70%	6.47%	11.54%	9.69%
30	5.49%	5.21%	8.23%	7.81%	2.31%	1.33%	3.46%	2.00%	7.80%	6.54%	11.69%	9.81%
31	5.56%	5.28%	8.34%	7.92%	2.34%	1.35%	3.50%	2.02%	7.90%	6.63%	11.84%	9.94%
32	5.63%	5.35%	8.45%	8.02%	2.36%	1.37%	3.55%	2.05%	7.99%	6.72%	12.00%	10.07%
33	5.71%	5.42%	8.56%	8.13%	2.40%	1.38%	3.60%	2.08%	8.11%	6.80%	12.16%	10.21%
34	5.79%	5.49%	8.68%	8.24%	2.43%	1.40%	3.65%	2.11%	8.22%	6.89%	12.33%	10.35%
35	5.87%	5.57%	8.80%	8.36%	2.47%	1.42%	3.70%	2.13%	8.34%	6.99%	12.50%	10.49%
36	5.95%	5.65%	8.92%	8.47%	2.50%	1.44%	3.75%	2.17%	8.45%	7.09%	12.67%	10.64%
37	6.03%	5.73%	9.05%	8.59%	2.53%	1.46%	3.80%	2.20%	8.56%	7.19%	12.85%	10.79%
38	6.12%	5.81%	9.18%	8.72%	2.57%	1.48%	3.86%	2.23%	8.69%	7.29%	13.04%	10.95%
39	6.21%	5.89%	9.31%	8.84%	2.61%	1.50%	3.91%	2.26%	8.82%	7.39%	13.22%	11.10%
40	6.29%	5.98%	9.44%	8.96%	2.64%	1.53%	3.96%	2.29%	8.93%	7.51%	13.40%	11.25%
41	6.38%	6.06%	9.57%	9.09%	2.68%	1.55%	4.02%	2.32%	9.06%	7.61%	13.59%	11.41%
42	6.47%	6.14%	9.70%	9.22%	2.72%	1.57%	4.08%	2.35%	9.19%	7.71%	13.78%	11.57%
43	6.56%	6.23%	9.84%	9.34%	2.76%	1.59%	4.13%	2.39%	9.32%	7.82%	13.97%	11.73%
44	6.65%	6.32%	9.98%	9.47%	2.79%	1.61%	4.19%	2.42%	9.44%	7.93%	14.17%	11.89%
45	6.74%	6.40%	10.11%	9.60%	2.83%	1.64%	4.25%	2.45%	9.57%	8.04%	14.36%	12.05%
46	6.83%	6.49%	10.25%	9.73%	2.87%	1.66%	4.31%	2.49%	9.70%	8.15%	14.56%	12.22%
47	6.93%	6.58%	10.39%	9.87%	2.91%	1.68%	4.36%	2.52%	9.84%	8.26%	14.75%	12.39%
48	7.02%	6.84%	10.53%	10.26%	2.95%	1.75%	4.42%	2.62%	9.97%	8.59%	14.95%	12.88%
49 & Over	7.12%	7.12%	10.67%	10.67%	2.99%	1.82%	4.48%	2.73%	10.11%	8.94%	15.15%	13.40%

* COL Loading.

42.00% of Basic Rates for Tier 1 and
25.55% of Basic Rates for Tier 2

Mortality

GA94 Male Set Back Two Years

APPENDIX E
CAFR ACTUARIAL SCHEDULES

Attachment A
Schedule of Active Member Valuation Data

Schedule of Active Member Valuation Data						
Valuation Date	Plan Type	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay *	
12/31/1991	General	7,766	\$ 285,172,127	\$ 36,721	6.66%	
	Safety	1,203	56,369,693	46,858	10.73%	
	Total	8,969	\$ 341,541,820	\$ 38,080	7.07%	
12/31/1992	General	7,916	\$ 309,059,921	\$ 39,042	6.32%	
	Safety	1,172	58,467,579	49,887	6.46%	
	Total	9,088	\$ 367,527,500	\$ 40,441	6.20%	
12/31/1993	General	7,738	\$ 301,833,734	\$ 39,007	-0.09%	
	Safety	1,120	55,540,749	49,590	-0.60%	
	Total	8,858	\$ 357,374,483	\$ 40,345	-0.24%	
12/31/1994	General	7,933	\$ 310,459,574	\$ 39,135	0.33%	
	Safety	1,128	55,445,811	49,154	-0.88%	
	Total	9,061	\$ 365,905,385	\$ 40,382	0.09%	
12/31/1995	General	7,861	\$ 314,376,236	\$ 39,992	2.19%	
	Safety	1,196	59,227,940	49,522	0.75%	
	Total	9,057	\$ 373,604,176	\$ 41,250	2.15%	
12/31/1996	General	7,859	\$ 326,703,539	\$ 41,571	3.95%	
	Safety	1,195	62,992,218	52,713	6.44%	
	Total	9,054	\$ 389,695,757	\$ 43,041	4.34%	
12/31/1997	General	7,969	\$ 344,339,885	\$ 43,210	3.94%	
	Safety	1,278	68,705,274	53,760	1.99%	
	Total	9,247	\$ 413,045,159	\$ 44,668	3.78%	
12/31/1998	General	8,173	\$ 387,930,299	\$ 47,465	9.85%	
	Safety	1,326	74,534,770	56,210	4.56%	
	Total	9,499	\$ 462,465,069	\$ 48,686	8.99%	
12/31/1999	General	8,445	\$ 407,628,000	\$ 48,269	1.69%	
	Safety	1,414	80,358,000	56,830	1.10%	
	Total	9,859	\$ 487,986,000	\$ 49,497	1.67%	
12/31/2000	General	9,027	\$ 446,911,072	\$ 49,508	2.57%	
	Safety	1,429	85,394,052	59,758	5.15%	
	Total	10,456	\$ 532,305,124	\$ 50,909	2.85%	
11/30/2001**	General	9,502	\$ 498,299,521	\$ 52,442	5.92%	
	Safety	1,472	92,092,614	62,563	4.69%	
	Total	10,974	\$ 590,392,135	\$ 53,799	5.68%	

* Reflects the increase in average salary for members at the beginning of the year versus those at the end of the year, it does not reflect the average salary increases received by members who worked the full year

** Salary projected to 12/31/2001

Attachment B
Retirees and Beneficiaries Added To and Removed From Retiree Payroll

Plan Year	Added to Rolls		Removed from Rolls		Rolls at End of Year		% Increase in Retiree Allowance	Average Annual Allowance
	Number	Annual Allowance (in 000's)	Number	Annual Allowance (in 000's)	Number	Annual Allowance (in 000's)		
1990	N/A*		N/A*		4,509	\$ 46,891	5.39%	\$ 10,399
1991	N/A*		N/A*		4,557	\$ 50,588	7.88%	\$ 11,101
1992	N/A*		N/A*		4,642	\$ 54,450	7.63%	\$ 11,730
1993	355		(121)		4,876	\$ 63,511	16.64%	\$ 13,025
1994	241		(191)		4,926	\$ 66,392	4.54%	\$ 13,478
1995	284		(190)		5,020	\$ 71,426	7.58%	\$ 14,228
1996	248		(157)		5,111	\$ 75,966	6.36%	\$ 14,863
1997	220		(129)		5,202	\$ 81,868	7.77%	\$ 15,738
1998	324		(146)		5,380	\$ 89,724	9.60%	\$ 16,677
1999	364		(139)		5,605	\$ 101,158	12.74%	\$ 18,048
2000	381		(287)		5,699	\$ 115,261	13.94%	\$ 20,225
2001	303	\$ 10,548 **	(135)	\$ (1,723)	5,867	\$ 124,086	7.66%	\$ 21,150

* Not Available

** Includes data adjustments

Attachment C
Solvency Test
 (amounts in thousands)

Valuation Date	Aggregate Accrued Liabilities for				Portion of Accrued Liabilities Covered by Reported Assets			
	Active Member Contributions	Retired/Vested Members	Active Members (Employer Financed Portion)	Total	Actuarial Value of Assets	Active Member Contributions	Retired/Vested Members	Active Members Portion
12/31/1996	\$ 452,253	\$ 945,276	\$ 670,387	\$ 2,067,916	\$ 2,113,009	100%	100%	100%
12/31/1997	\$ 510,381	\$ 1,041,268	\$ 666,670	\$ 2,218,319	\$ 2,313,787	100%	100%	100%
12/31/1998	\$ 537,895	\$ 1,316,570	\$ 758,546	\$ 2,613,011	\$ 2,830,437	100%	100%	100%
12/31/1999	\$ 640,623	\$ 1,326,463	\$ 795,438	\$ 2,762,524	\$ 2,997,932	100%	100%	100%
12/31/2000	\$ 735,101	\$ 1,435,302	\$ 766,227	\$ 2,936,631	\$ 3,169,178	100%	100%	100%
12/31/2001	\$ 802,356	\$ 1,503,393	\$ 834,467	\$ 3,140,216	\$ 3,321,794	100%	100%	100%

NOTES:

This exhibit includes actuarially funded liabilities and assets. The Supplemental Retirees Benefit Reserve and Reserve for Interest Fluctuation are not included

Events affecting year to year comparability.

12/31/92 - Investment return assumption reduced from 8.50% to 8.25%; Inflation assumption dropped from 5.5% to 5%; changes to noneconomic assumptions.

12/31/93 - Investment return assumption reduced from 8.25% to 8%; Inflation assumption dropped from 5% to 4.75%; Golden handshake offered in 1993.

12/31/94 - Includes \$307,923 Pension Obligation Bond contribution made on 4/29/95.

12/31/95 - Inflation assumption dropped from 4.75% to 4.5%, changes to noneconomic assumptions; change in actuarial asset valuation methodology.

12/31/01 - Change in non-economic assumptions.

Attachment D

Actuarial Analysis of Financial Experience
(Amounts in millions)

	Plan Years					
	2001	2000	1999	1998	1997	1996
Prior Valuation Unfunded Actuarial Accrued Liability	\$ (233)	\$ (235)	\$ (217)	\$ (95)	\$ (45)	\$ 267
Expected Increase from Prior Valuation					\$ (1)	\$ (261) *
Salary Increase Greater (Less) than Expected	\$ 10	\$ (5)	\$ 5	\$ 36	\$ (8)	\$ (3)
Asset Return Less (Greater) than Expected	\$ 34	\$ (5)	\$ 26	\$ (110)	\$ (61)	\$ (28)
Other Experience	\$ 13	\$ 12	\$ 12	\$ 6	\$ 10	\$ (14)
Ventura Litigation			\$ (69)	\$ 259		
Actuarial Value of Assets Method Change			\$ (259)	\$ (54)		
Economic Assumption Changes				**		
Noneconomic Assumption Changes	\$ 35			**		
Data Corrections	(41)					
Dilution of Rate Credit from Surplus Assets					\$ 10	\$ (6)
Ending Unfunded Actuarial Accrued Liability	(\$182)	\$ (233)	\$ (235)	\$ (217)	\$ (95)	\$ (45)

* Included a Pension Obligation Bond Credit of \$(283).

** \$30 million is the combined impact of changes in economic and non-economic assumptions in 1998.

Attachment E
SCHEDULE OF AVERAGE BENEFIT PAYMENTS

Years Since Retirement

Retirement Effective Dates	0-4	5-9	10-14	15-19	20-24	25-29	30 & OVER
1/1/1992-12/1/2001							
Period 1/1/92-12/31/92-							
Average Monthly Benefit	\$1,634	\$1,185	\$881	\$391	\$566	\$401	\$377
Number of Active Retirants	893	895	1,109	922	484	218	121
Period 1/1/93-12/31/93							
Average Monthly Benefit	\$1,804	\$1,420	\$956	\$768	\$584	\$432	\$379
Number of Active Retirants	837	1,108	1,034	967	556	236	138
Period 1/1/94-12/31/94.							
Average Monthly Benefit	\$1,793	\$1,463	\$1,065	\$823	\$633	\$473	\$196
Number of Active Retirants	898	1,052	965	1,039	600	245	127
Period 1/1/95-12/31/95.							
Average Monthly Benefit	\$1,758	\$1,494	\$1,111	\$878	\$716	\$550	\$425
Number of Active Retirants	1,110	1,132	928	979	553	210	100
Period 1/1/96-12/31/96							
Average Monthly Benefit	\$1,670	\$1,564	\$1,181	\$954	\$758	\$616	\$428
Number of Active Retirants	1,110	1,126	912	959	612	245	110
Period 1/1/97-12/31/97.							
Average Monthly Benefit	\$1,956	\$1,739	\$1,303	\$972	\$778	\$600	\$431
Number of Active Retirants	1,100	999	845	1,021	728	331	178
Period 1/1/98-12/31/98.							
Average Monthly Benefit	\$1,918	\$1,978	\$1,373	\$1,052	\$815	\$684	\$451
Number of Active Retirants	1,047	1,173	817	995	790	363	195
Period 1/1/99-12/31/99							
Average Monthly Benefit	\$2,226	\$1,971	\$1,635	\$1,136	\$897	\$692	\$475
Number of Active Retirants	1,195	950	1,028	933	823	446	230
Period 1/1/00-12/31/00							
Average Monthly Benefit	\$2,394	\$2,439	\$1,810	\$1,342	\$1,000	\$770	\$512
Number of Active Retirants	1,304	1,023	964	872	862	441	233
Period 1/1/01-12/1/01.							
Average Monthly Benefit	\$2,261	\$2,047	\$1,951	\$1,455	\$1,092	\$861	\$597
Number of Active Retirants	1,569	1,203	991	774	751	403	176

APPENDIX F
GLOSSARY OF ACTUARIAL TERMINOLOGY

Glossary of Actuarial Terminology

AAL: See Actuarial (Accrued Liability)

Accrued Benefit: The amount of an individual's benefit (whether or not vested) as of a specified date, determined in accordance with the terms of a pension plan and based on compensation (if applicable) and service to that date.

Actuarial Accrued Liability: "Target assets" which would be on hand were the Association's current level of benefits to have been funded as a level percentage of pay each year from date of entry into the Association by all current members and interest at the current investment return assumption were credited each year. It also includes the actuarial present value of all retired members and beneficiaries future benefits.

Actuarial Asset Value: The value of Assets used by the actuary in the actuarial valuation. In order to reduce the impact of assets value fluctuation and to capture the long-term intrinsic value of the Association's assets, actuaries sometimes use smoothing methods. These methods usually reflect the current market value of assets in some manner.

Actuarial Assumptions: Those assumptions such as interest (investment return), salary increases, termination from service and mortality needed by the actuary to complete an actuarial valuation.

Actuarial Gain (Loss): The difference between actual experience and actuarial assumption anticipated experience during the period between two actuarial valuation dates.

Actuarial Present Value: The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. For purposes of this standard, 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 for a pension plan.

Actuary: A business mathematician trained in mathematics, risk analysis and finance. An actuary is assigned the task of determining the contribution required to maintain financial balance as to inflow and outflow from a retirement Association.

Assets: Underlying funds available to provide for the Association's benefits. It reflects the accumulation of all contributions and investment earnings.

Contribution to the Unfunded Actuarial Accrued Liability (UAAL): That annual contribution rate which, if paid annually over the UAAL amortization period, would accumulate to the amount necessary to fully fund the UAAL. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution is calculated to remain as a level percentage of future active member payroll (including payroll of new members as they enter the Association) assuming a constant number of active members. In order to remain as a level percentage of payroll, amortization payments are scheduled to increase at the annual inflation rate.

Entry Age Normal Actuarial Funding Method: An actuarial method for pre-funding future retirement benefits. Under this method which the member contribution stream plus the employer contribution stream is determined as that level of percentage of payroll sufficient to finance benefits and employee contribution refunds for new entrant.

GASB: The Government Accounting Standards Board which promulgates financial reporting and disclosure requirements for governmental entities, including public retirement Associations.

GASB Statement No. 25: A set of disclosures promulgated by GASB to provide users of financial standards information as to the funding status of a public retirement Association. GASB No. 25 specifies the Pension Benefit Obligation as a standardized target level of the actuarial value of assets.

Investment Return Assumption: The average rate of investment earnings which is assumed will be earned by Association funds.

Normal Cost: That annual contribution rate which, if paid annually from a member's first year of membership through the year of retirement, would accumulate to the amount necessary to fully fund the member's retirement benefits. Accumulation includes annual crediting of interest at the assumed investment earnings rate. The contribution rate is expressed as a level percentage of the member's compensation.

Pension Benefit Obligation: A standardized disclosure measure of the present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future as a result of employee service to date.

UAAL: (See Unfunded Actuarial Accrued Liability).

Unfunded Actuarial Accrued Liability: Actuarial Accrued Liability minus the Actuarial Value of Assets.



October 17, 2002

To: Members of the Board of Retirement

From: Robert Chambers
Chair, Actuarial Committee

Subject: Summary of the October 17, 2002, Actuarial Committee Meeting

The Actuarial Committee met on Thursday, October 17, 2002 at 10:00 a.m. The Committee Members present were Robert Chambers, Keith Carson, Charles Harrington, Liz Koppenhaver, The other Member of the Board in attendance was David Safer. Sandre Swanson was absent. Members of the Staff present were Charles Conrad, General Manager; Julie Crane, Associate General Counsel; Kathy Foster, Benefits Manager; Catherine Walker, Accounting Manager; Latrena Walker; Information Systems Manager and Helen Wright, Deputy General Manager.

POSSIBLE MOTION TO APPROVE THE SMOOTHED MARKET VALUE CORRIDOR POLICY

The General Manager briefly discussed the evolution of the market value concept with respect to pension fund assets and the use of a smoothing method.

Mercer Consulting's Actuary presented his memo dated October 10, 2002 to the Committee, discussing the County's request for consideration of two optional approaches to "phase-in" the market value corridor. He summarized the pros and cons associated with these alternative options. The impact on Employer's contribution rate was also discussed

Susan Muranishi, Alameda County Administrator, discussed the likely adverse budget impact of adoption of the corridor policy on Alameda County as plan sponsor.

Ms. Muranishi requested that if ACERA adopts the 80/120-corridor policy, implementation be deferred until the County and ACERA resolve the issues related to negative interest crediting.

After discussion, it was moved by Mr. Harrington, and seconded by Ms. Koppenhaver, to approve the Smoothed Market Value Corridor Policy. The motion carried 4 yes with 1 abstention (Supervisor Carson).

REVIEW OF A PROPOSED INTEREST CREDITING POLICY

Staff noted that a written proposed Interest Crediting Policy is being drafted for presentation to the Committee at its November meeting.

The Committee noted that the impact of the Smoothed Market Value Corridor Policy would depend in part on the Interest Crediting Policy adopted by the Association. The Committee urged the ACERA Staff and the County Staff to work together, if possible, in addressing the Interest Crediting Policy.

FUTURE DISCUSSION ITEMS

Review of a Proposed Interest Crediting Policy

RECOMMENDATIONS

The Committee recommends, and I move, that the Board approve the Smoothed Market Value Corridor Policy.

ESTABLISHMENT OF NEXT MEETING DATE

The next Actuarial Committee Meeting was scheduled for Wednesday, November 6, 2002, at 1:00 p.m.

ADJOURNMENT

The Committee adjourned at 11:05 a.m.



September 18, 2002

To: Members of the Board of Retirement

From: Robert Chambers
Chair, Actuarial Committee

Subject: Summary of the September 18, 2002, Actuarial Committee Meeting

The Actuarial Committee met on Wednesday, September 18, 2002 at 1:00 p.m. The Committee Members present were Keith Carson, David Safer and Robert Chambers. Other Members of the Board in attendance were Liz Koppenhaver, Charles Harrington and Sandre Swanson. Members of the Staff present were Charles Conrad, General Manager; Julie Crane, Associate General Counsel, Catherine Walker, Accounting Manager; and Helen Wright, Deputy General Manager.

PRESENTATION AND DISCUSSION OF THE SMOOTHED MARKET VALUE CORRIDOR POLICY AND POSSIBLE MOTION TO APPROVE

Representatives of Mercer Consulting presented their memo discussing the purpose and the benefits of establishing a Smoothed Market Value Corridor Policy including a presentation of scenarios utilizing various rates of return. The impact on Employer Contribution rates was also discussed.

The proposed policy is designed to ensure that extreme market volatility does not lead to a disproportionate diversion between the Actuarial and Market Value of assets. It also reflects the ERISA requirements for private sector pension plans.

Following a discussion, the Committee elected to defer any action on the proposal for a month to give all interested parties an opportunity to respond.

PRESENTATION AND REVIEW OF A PROPOSED INTEREST CREDITING POLICY

Staff discussed the purpose and use of an Interest Crediting Policy and informed the Committee that a written proposed Interest Crediting Policy is being drafted.

FUTURE DISCUSSION ITEMS

Smoothed Market Value Corridor Policy
Review of a Proposed Interest Crediting Policy

RECOMMENDATIONS

There were no recommendations at the Committee level.

ESTABLISHMENT OF NEXT MEETING DATE

The next Actuarial Committee Meeting was scheduled for Thursday, October 17th at 10 00 AM.

ADJOURNMENT

The Committee adjourned at 2 15 p.m.



**NOTICE
and
AGENDA**

ACTUARIAL COMMITTEE/BOARD MEETING

Wednesday, September 18, 2002 1:00 p.m.

**475 14th Street, Suite 1000
Oakland, California**

Committee Members: Robert Chambers, Chair
Keith Carson, Vice Chair
Charles Harrington, Liz Koppenhaver, Sandre Swanson

Discussion / Action Items

1. Possible Motion to Approve the Smoothed Market Value Corridor Policy
 - Marcia Chapman, Mercer Consulting
 - Andy Yeung, Mercer Consulting
2. Review of a Proposed Interest Crediting Policy
 - Chuck Conrad

Information Items

- None

Future Discussion Items

- None

Trustee / Public Input

- None

***Should a quorum of the Board attend this meeting, this meeting shall be deemed a joint meeting of the Board and the Committee.**

January 7, 2002

Mr. Chuck Conrad
Alameda County Employees' Retirement Association
475 14th Street, Suite 1000
Oakland, CA 94612

Subject: Smoothed Market Value "Corridor"

Dear Chuck:

The purpose of this letter is to recommend that the Board consider modifying its actuarial (and interest crediting) process. The modification will prevent the actuarial value of assets (and reserves) from straying too far from market value during extended periods when investment markets perform above or below actuarial return expectations.

Background

As you know, the Association utilizes a "market smoothing" process to establish asset values for actuarial (and interest crediting) purposes. The process prevents short term market fluctuations from impacting contribution rates (and reserve levels). The goal is to eliminate these short term fluctuations while reflecting the implicit value of the Association's investments.

This smoothing process involves deferring recognition of market gains and losses (relative to actuarial return expectations) over a period of five years. By deferring gains and losses, the smoothed value of assets will differ from market by the amount of the cumulative deferred gains or losses. If investment markets continually outperform or underperform long term actuarial return expectations for a significant stretch of time, the smoothed market value will differ more and more from market value. At some point this may raise concerns whether the smoothed value still represents the implicit value of the Association's investments.

Recent History

Over the last half of the 1990's, investment markets performed exceptionally well. This caused smoothed market values to trail market value by up to 18% at the peak of the market. Conditions have changed markedly over the last two years. As of the end of 2001, smoothed market values are typically above market values by about 10%. We expect the gap between smoothed market and market values to continue to widen, at least in the short term.

Mr. Chuck Conrad
January 7, 2002
Page 2

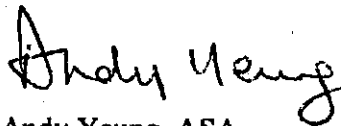
The use of a smoothed market value adds to the stability of the employer rate by buffering the employer's contributions against sudden changes due to market conditions. However, if the smoothed value becomes too far removed from the market value, contributions become artificially high or, in the case we are discussing, artificially low, causing instability in the Associations assets.

Recommendation

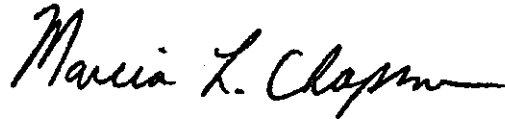
For the above reasons, we recommend that the Board consider modifying its actuarial (and interest crediting) process so that the difference between smoothed market value and market value be limited to 20% of market value. In other words, the smoothed market value could not fall below 80% of market value, nor above 120% of market value. Hopefully this modification to the method will be inconsequential, however, we believe its adoption would be a prudent preventative measure. We propose that this change be implemented as part of the December 31, 2001 actuarial valuation report.

We would be glad to discuss this recommendation with you at your convenience.

Sincerely,



Andy Yeung, ASA

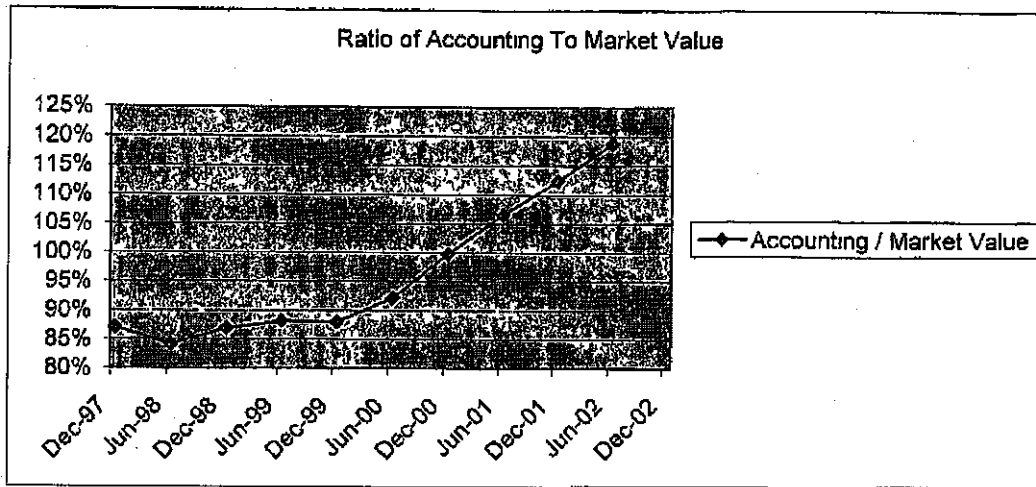


Marcia L. Chapman, FSA

MERCER

Human Resource Consulting

Comparison of Historical Accounting and Market Value of Assets (Includes All of the Association's Assets and Accounting Reserves)



Interest Crediting Date	Deferred Gains / (Losses) - \$ Million	Accounting / Market Value of Assets	Amount (Above) / Below 80-120% Corridor - \$ Million
12/31/1997	\$385	87%	\$0
6/30/1998	\$519	84%	\$0
12/31/1998	\$446	87%	\$0
6/30/1999	\$422	88%	\$0
12/31/1999	\$461	88%	\$0
6/30/2000	\$302	92%	\$0
12/31/2000	\$9	100%	\$0
6/30/2001	(\$237)	107%	\$0
12/31/2001	(\$434)	112%	\$0
6/30/2002	(\$633)	119%	\$0

Projected Values as of 12/31/2002

Scenario #1 0% Return	(\$700)	121%	(\$33)
Scenario #2 -3.2% Return*	(\$796)	125%	(\$161)
Scenario #3 4.125% Return	(\$576)	117%	\$0

* Approximate Return on Market Value of Assets During 1/1/2002 and 6/30/2002

Remarks

- Accounting assets shown above did not reflect the accelerated recognition of \$259 million in gains as of 12/31/1998 as part of the Ventura Settlement
- The impact of the application of the 80-120% corridor on the employer's contribution rate can only be determined after the Board decides on how the losses should be allocated among the following reserves. (a) Member Reserve, (b) Employer Reserve and (c) SRBR Reserve

\\sfon\501\data\retire\ace\2002\reserve\0802\80-120% market value corridor.doc